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LAW OFFICES
SOMMERS SCHWARTZ, P.C.
ONE TOWNE SQUARE • 17TH FLOOR • SOUTHFIELD, MICHIGAN 48076 • (248) 355-0300

STATE OF MICHIGAN

IN THE SUPREME COURT

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs-Appellants,

v.

DANIEL K. FAHIM, M.D.,
MICHIGAN HEAD & SPINE INSTITUTE

Defendants-Appellees,

and

* DANIEL K. FAHIM, M.D., P.C.,
* KENNETH P. D'ANDREA, D.O., and
* WILLIAM BEAUMONT HOSPITAL, d/b/a BEAUMONT HOSPITAL – ROYAL OAK*,
Jointly and Severally,

Defendants.

Supreme Court Case No.

Court of Appeals No: 352648

Oakland County Circuit
Lower Court No: 18-166129-NH

*denotes dismissed from the case

PLAINTIFFS-APPELLANTS' APPENDIX TO BRIEF

JEFFREY S. COOK (P43999)
DRIGGERS, SCHULTZ & HERBST
Co-Counsel for Plaintiffs –Appellants
3331 W. Big Beaver Road, Ste. 101
Troy, MI 48084
Phone: (248) 649-6000
Fax: (248) 649-6442
JCook@DriggersSchultz.com

DAVID R. PARKER (P39024)
SOMMERS SCHWARTZ, P.C.
Co-Counsel for Plaintiffs – Appellants
One Towne Square, 17th Floor
Southfield, MI 48076
(248) 355-0300
dparker@sommerspc.com

SCOTT A. SAURBIER (P19914)
SAURBIER LAW FIRM, P.C.
Attorneys for Defendants – Appellants
Daniel K. Fahim, M.D. &
Michigan Head & Spine Institute
400 Maple Park Blvd, Suite 402
St. Clair Shores, MI 48081
Phone: (586) 477-3727
Fax: (586) 447-3755
saurbiers@saurbier.com

DEAN ARTHUR ETSIOS (P44220)
KATHARINE GOSTEK (P80973)
KITCH, DRUTCHAS, WAGNER, VALITUTTI & SHERBROOK
Attorneys for Defendants D 'Andrea & Beaumont Hospital – Royal Oak
One Woodward Avenue, Ste. 2400
Detroit, MI 48226
Phone: (313) 965-7993
Fax: (313) 965-7403
Dean.etsios@kitch.com
Katharine.gostek@kitch.com

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PLAINTIFFS-APPELLANTS'
APPENDIX TO BRIEF

Exhibit No.	Description of Exhibit	Page Numbers
A	Trial Court Order 11/25/2019	0001-0004
B	Trial Court Order 1/21/2020	0005-0008
C	Court of Appeals Majority Opinion	0009-0016
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F	Medical Records, Royal Oak Hospital (Excerpts)	0020-0022
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H	Medical Records, Royal Oak Hospital (Excerpts)	0027-0029
I	Complaint	0030-0038
J	Dr. Christopher Koebbe CV	0039-0046
K	Deposition of Dr. Christopher Koebbe 8/7/2019	0047-0082
L	Transcript Motion 11/6/2019	0083-0088
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N	Affidavit of Dr. Christopher Koebbe	00118-00119
O	Medical articles submitted with Dr. Koebbe Affidavit	00120-00140
P	Unpublished case *Wilson-White v St. John Macomb Hosp*	00141-00146
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S	Unpublished case *Uppleger v. McLaren Port Huron*	00168-00176
T	Unpublished case *Matheson v Schmitt*	00177-00189
U	Unpublished case *Bajorek-Delater v United States*	00190-00194
V	Michigan Supreme Court Order Granting Leave	00195

Exhibit A

A

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STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF OAKLAND

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs,

-v-

Case Number: 2018-166129-NH
Honorable Nanci J. Grant

DANIEL K. FAHIM, M.D.,
DANIEL K. FAHIM, M.D., P.C.,
KENNETH P. D'ANDREA, D.O.,
WILLIAM BEAUMONT HOSPITAL
d/b/a BEAUMONT HOSPITAL –
ROYAL OAK, and MICHIGAN HEAD
and SPINE INSTITUTE,
jointly and severally,

Defendants,
_____/

ORDER AND OPINION

At a session of said Court, held in the Courthouse
in the City of Pontiac, County of Oakland, State
of Michigan on the 25th day of November, 2019.

PRESENT: HONORABLE NANCI J. GRANT, CIRCUIT JUDGE

This matter is before the Court on Defendants Daniel K. Fahim and Michigan Head & Spine Institute's Motions for Summary Disposition. Defendants filed a Motion for Summary Disposition as to the issue of causation as well as a Motion for Summary Disposition as to the issue of the standard of care. Plaintiffs oppose the Motions. The Court denies Defendants' Motion as to Causation, and grants Defendant's Motion as to the Standard of Care.

In their Motion as to causation, Defendants argue that Plaintiff's expert, Dr. Koebbe, did not establish causation. "In a medical malpractice case, plaintiff bears the burden of proving (1) the applicable standard of care, (2) breach of that standard by defendant, (3) injury, and (4) proximate causation between the alleged breach and the injury." *Wischmeyer v Schanz*, 449 Mich 469, 484 (1995). "Failure to prove any one of these elements is fatal." *Id.* To establish the element of causation, a plaintiff must prove the existence of both cause in fact and legal or proximate causation. *Weymers v Khera*, 454 Mich 639, 647 (1997). Cause in fact requires substantial

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evidence from which a jury may conclude that more likely than not, but for the defendant's conduct, plaintiff's injuries would not have occurred. *Id.* at 647-48.

It is well established that expert testimony is required to establish causation in an action for medical malpractice. *Thomas v McPherson Community Health Ctr*, 155 Mich App 700, 705 (1986). Such opinions are admissible, however, only if the trial court finds that they satisfy the requirements of MRE 702 and MCL 600.2955. See *Id.*

Defendants filed this Motion on September 5, 2019 along with a Motion to Strike Plaintiffs' purported causation expert, Dr. Bader Cassin. Defendants argued that, to the extent that Dr. Koebbe was giving causation testimony, such testimony is inadmissible under MRE 702 and MCL 600.2955. However, in their Responses to Defendants' Motions, Plaintiffs stated that Dr. Koebbe is not providing causation testimony; instead, Dr. Cassin will be providing causation testimony. Defendants attempted to argue that they would be prejudiced by Dr. Cassin's testimony because Dr. Cassin was not identified by Plaintiffs until August 12, 2019, and a deposition was not scheduled until September 10, 2019, days before case evaluation.

The Court notes that Defendants canceled Dr. Cassin's September 10th deposition and chose to file a motion and claim prejudice, despite the fact that the parties never explored a first adjournment of the scheduling order. The Court found that Defendants were not prejudiced in any way, and denied their Motion to Strike Dr. Cassin. See Opinion and Order dated November 13, 2019. Therefore, the Court denies Defendants' Motion for Summary Disposition as to causation because there is a genuine issue of material fact with respect to Dr. Cassin's proposed causation testimony.

As to their Motion Regarding Standard of Care, Defendants argue that they are entitled to summary disposition on the element of standard of care. Defendants argue that Plaintiffs failed to establish the standard of care because Plaintiff's standard of care expert's testimony is not reliable and admissible under MRE 702. MCL 600.2955 sets forth a list of factors which determine whether expert opinion testimony is reliable and admissible under MRE 702. These factors are largely like the factors in *Daubert v Merrell Dow Pharmaceuticals, Inc*, 509 US 579 (1993). These factors include whether the opinion is generally accepted in the field and whether the basis for the opinion is reliable. "Under *Daubert*, the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." *Edry v Adelman*, 486 Mich 634, 639-640 (2010) citing Daubert, 509 US 597 at 589. A lack of supporting literature, while not dispositive, is an important factor in determining the admissibility of expert witness testimony. *Id.*

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at 640. "Under MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Id.* at 642. Regarding expert testimony, the question for the court is always whether the opinion is sufficiently reliable under the principles articulated in MRE 702 and by the Legislature in MCL 600.2955. *Elher v Misra*, 499 Mich 11, 24 (2016).

The Michigan Supreme Court has held:

> Under MRE 702, the trial court had an independent obligation to review *all* expert opinion testimony in order to ensure that the opinion testimony ... was rendered by a 'qualified expert,' that the testimony would 'assist the trier of fact,' and, under the rules of evidence in effect during this trial, that the opinion testimony was rooted in 'recognized' scientific or technical principles. These obligations applied irrespective of the type of expert opinion testimony offered by the parties.

Craig ex rel Craig v Oakwood Hosp, 471 Mich 67, 82 (2004). Standard of care testimony must also meet the admissibility requirements of MRE 702 and MCL 600.2955. See *Elher*, 499 Mich 11 at 28.

Based on the foregoing caselaw, this Court must determine if Dr. Koebbe's standard-of-care testimony is rooted in recognized scientific or technical principles in order to deem it admissible. After reviewing the deposition and the parties' pleadings, the Court finds that Plaintiffs did not present any foundation as to the reliability and admissibility of Dr. Koebbe's standard of care testimony as required by MRE 702 and MCL 500.2955. Nothing was presented to the Court that evidenced Dr. Koebbe relying on any published medical journals for his opinion nor did he cite to any authority to support his conclusion that the procedure was performed incorrectly, resulting in the perforation. While he did testify that he reviewed some publications to confirm the rarity of bowel injuries during the procedure, he failed to name these publications and did not present them at his deposition. The only foundation laid as to the reliability of Dr. Koebbe's testimony was his experience and background, and his own opinion as to how he would have performed the surgery. The Michigan Supreme Court has held that experience and background alone are insufficient to establish reliability and admissibility under MRE 702. *Edry*, 486 Mich 634 at 639-640. The Court also notes that Dr. Koebbe failed to cite to any established procedure or authority as to the proper way in which an attending physician must supervise a resident physician. Again, he simply pointed to his background and experience.

While the Court recognizes that, practically, there may have been a breach of the standard of care, the law requires that expert testimony have a basis in recognized scientific or technical

principles. The Court finds that Dr. Koebbe's testimony regarding the standard of care is not sufficiently reliable for admission under MRE 702. Dr. Koebbe is Plaintiffs' sole standard of care witness. Without establishing the proper standard of care, Plaintiffs cannot maintain a claim for medical malpractice. *Weymers v Khera*, 454 Mich 639, 647 (1997); see also *Locke v Pachtman*, 446 Mich 216, 222 (1994).

Therefore, based on the evidence before it, the Court has no choice but to strike Dr. Koebbe's testimony and grant Defendant's Motion. However, if there is a basis for Dr. Koebbe's testimony of which the Court is unaware, the Plaintiffs are invited to file a motion for reconsideration of this opinion.

Defendants' Motion is granted.

This order resolves the last pending claim and closes the case.

IT IS SO ORDERED.

NANCI J. GRANT, Circuit Court Judge

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Exhibit B

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STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF OAKLAND

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs,

-v-

Case Number: 2018-166129-NH
Honorable Nanci J. Grant

DANIEL K. FAHIM, M.D.,
DANIEL K. FAHIM, M.D., P.C.,
KENNETH P. D'ANDREA, D.O.,
WILLIAM BEAUMONT HOSPITAL
d/b/a BEAUMONT HOSPITAL –
ROYAL OAK, and MICHIGAN HEAD
and SPINE INSTITUTE,
jointly and severally,

Defendants,
_____/

ORDER AND OPINION

At a session of said Court, held in the Courthouse
in the City of Pontiac, County of Oakland, State
of Michigan on the 21st day of January, 2020

PRESENT: HONORABLE NANCI J. GRANT, CIRCUIT JUDGE

This matter is before the Court on Plaintiffs' Motion for Reconsideration of the Court's November 25, 2019 Opinion and Order granting summary disposition in favor of Defendants. For the following reasons, Plaintiffs' Motion is denied.

Pursuant to MCR 2.119(F)(3), the Court may reconsider its prior ruling if the Court finds that it committed palpable error. On November 25, 2019, the Court granted Defendants' Motion for Summary Disposition, finding that Plaintiffs failed to demonstrate that their standard of care expert's testimony was reliable and admissible under MRE 702. Specifically, the Court found that Plaintiffs failed to demonstrate that their standard of care expert, Dr. Koebbe, supported his opinion with peer-reviewed, published articles, finding instead that Dr. Koebbe's opinion was

based solely on his experience and background. "Under MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Edry v Adelman*, 486 Mich 634, 642 (2010). Regarding expert testimony, the question for the court is always whether the opinion is sufficiently reliable under the principles articulated in MRE 702 and by the Legislature in MCL 600.2955. *Elher v Misra*, 499 Mich 11, 24 (2016). Expert standard of care testimony is subject to the reliability analysis under MRE 702 and MCL 600.2955. *Id.*

The Court invited Plaintiffs to file this motion and provide the Court with sufficient support for Dr. Koebbe's testimony. Plaintiffs offered an affidavit from Dr. Koebbe which included three abstracts and one published article. The Court finds the published article most persuasive. The article, published in the Journal of Nueroscience, discusses various complications observed when performing the XLIF surgery. The article demonstrates that a bowel injury, such as the one found in Lynda Danhoff, is a very rare complication of the XLIF surgery, occurring between .05-3.8% of the time. The three abstracts attached to Plaintiffs' motion also demonstrate that a bowel injury is a rare complication of the surgery. Dr. Koebbe's affidavit states that the article and abstracts support his opinion that a bowel injury is an "unacceptable" complication, and so rare as to only occur as a result of surgical error.

The Court is bound by precedent. The Michigan Supreme Court in *Edry*, supra, was extremely clear in its holding that expert testimony must be directly supported by reliable principles and methods in order to meet the admissibility requirements set forth in MRE 702 and MCL 600.2955. *Edry*, 486 Mich 634 at 640-641. The facts of this case are analogous to the facts in *Edry*.

The *Edry* defendant filed a motion for summary disposition stating that the plaintiff's oncology expert's testimony was not reliable or admissible under MRE 702. *Id.* at 638. Instead of granting the motion, the trial court issued an order barring the expert's testimony. The defendant then filed a motion to dismiss the complaint, arguing that without the expert's testimony, the plaintiff could not establish a prima facie case for medical malpractice. Simultaneously, the plaintiff filed a motion to set aside the court's order, and provided the trial court with some articles which plaintiff argued supported her expert's testimony. *Id.* at 638-39. The trial court denied the plaintiff's motion and granted the defendant's motion, dismissing the case. *Id.* The plaintiff appealed, and the Michigan Supreme Court ultimately held as follows:

> Although he made general references to textbooks and journals during his deposition, plaintiff failed to produce that literature, even after the court provided

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> plaintiff a sufficient opportunity to do so. Plaintiff eventually provided some literature in support of Dr. Singer's opinion in her motion to set aside the trial court's order, but the material consisted only of printouts from publicly accessible websites that provided general statistics about survival rates of breast cancer patients. The fact that material is publicly available on the Internet is not, alone, an indication that it is unreliable, but these materials were not peer-reviewed and did not directly support Dr. Singer's testimony. Moreover, plaintiff never provided an affidavit explaining how Dr. Singer used the information from the websites to formulate his opinion or whether Dr. Singer ever even reviewed the articles.

Id. at 640-641. In directly addressing the dissent, the *Edry* Court also stated:

> And, regardless of the peer-reviewed status of these materials, the dissent fails to acknowledge that these materials do not directly support Dr. Singer's testimony, and plaintiff never explained how or even whether Dr. Singer used the information to formulate his opinion.

Id. at n 4.

Further, the Michigan Supreme Court in *Ehler*, supra, held that a trial court did not abuse its discretion when it barred expert testimony on the basis that the plaintiff failed to establish that the expert's opinion was generally accepted within the relevant expert community. *Ehler*, 499 Mich 11 at 27. Much like in our case, in *Ehler*, the plaintiff's standard of care witness testified that it was always a breach of the standard of care to clip a bile duct during gallbladder surgery. The *Ehler* defendants established that clipping the bile duct was a known complication of the surgery. *Id.* at 17. The trial court ultimately concluded that the plaintiff's expert had not demonstrated that his opinion was widely held and accepted among experts in that surgical field. *Id.* at 18. The Michigan Supreme Court ultimately upheld the trial court's ruling, holding as follows:

> While the articles submitted by defendants may have suggested that "purists" in the field agreed with Priebe, there was still no indication regarding the degree of acceptance of his opinion. The majority conceded that there was no evidence regarding whether Priebe's view had general acceptance within the relevant expert community. This was a relevant factor for the circuit court to consider.

Id. at 27.

The Court finds that based on the article and the abstracts attached, Plaintiffs again failed to demonstrate that Dr. Koebbe's testimony is admissible pursuant to MRE 702. The Court finds that the article and abstracts do not directly support Dr. Koebbe's opinion, as required by the Michigan Supreme Court holdings in *Edry* and *Ehler*. Dr. Koebbe's opinion is that a bowel injury

is an "unacceptable" complication of the surgery, and can only result from surgical error. The article and the abstracts, however, are silent as to whether a bowel injury is an "acceptable" or "unacceptable" complication of the XLIF surgery, and they certainly do not state that a bowel injury must be or is usually the result of a breach of the standard of care. Expert testimony must be directly supported by reliable principles and methods, and be generally supported by the relevant community of experts. *Edry*, supra, at 640-641; see also *Ehler*, supra, at 27.

While Plaintiffs presented support for Dr. Koebbe's contention that the complication is rare, Plaintiffs failed to demonstrate the reliability of Dr. Koebbe's opinion that the occurrence of the complication is the result of a breach of the standard of care, as required by MRE 702, MCL 600.2955, and caselaw. Therefore, the Court finds no palpable error. MCR 2.119(F)(3). Plaintiffs' Motion is denied.

IT IS SO ORDERED.

NANCI J. GRANT, Circuit Court Judge

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Exhibit C

If this opinion indicates that it is "FOR PUBLICATION," it is subject to revision until final publication in the Michigan Appeals Reports.

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STATE OF MICHIGAN

COURT OF APPEALS

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs-Appellants,

v

DANIEL K. FAHIM, M.D. and MICHIGAN HEAD & SPINE INSTITUTE,

Defendants-Appellees,

and

DANIEL K. FAHIM, M.D., PC, KENNETH P D'ANDREA, D.O., and WILIAM BEAUMONT HOSPITAL, doing business as BEAUMONT HOSPITAL-ROYAL OAK,

Defendants.

UNPUBLISHED
May 6, 2021

No. 352648
OAKLAND CIRCUIT COURT
LC No. 2018-166129-NH

Before: TUKEL, P.J., and SERVITTO and RICK, JJ.

PER CURIAM.

In this medical malpractice action, plaintiffs Lynda Danhoff and Daniel Danhoff appeal as of right the trial court's order granting summary disposition to defendants Dr. Daniel K. Fahim, M.D. and Michigan Head & Spine Institute.[1] Plaintiffs argue that the trial court erred by concluding that their standard of care expert, Dr. Christopher Koebbe, was not qualified to testify as an expert witness because he failed to satisfy the standards for determining the reliability of

[1] Defendants Daniel K. Fahim, M.D., PC; Dr. Kenneth P. D'Andrea, D.O.; and William Beaumont Hospital, also known as Beaumont Hospital-Royal Oak, were all dismissed from this case. All references to "defendants" will refer to Dr. Daniel K. Fahim, M.D. and Michigan Head & Spine Institute. As Daniel Danhoff's alleged cause of action is derivative of his wife Lynda's claims, all of our references to "plaintiff" refer to Lynda Danhoff.

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expert testimony first established by *Daubert v Merrell Dow Pharm, Inc*, 509 US 579; 113 S Ct 2786; 125 L Ed 2d 469 (1993); the basis for the trial court's ruling was that Dr. Koebbe failed to support his opinion with medical journals or other authority to establish his opinion's reliability. We find that the trial court acted within its discretion in ruling Dr. Koebbe's testimony inadmissible, and consequently we affirm the orders of the trial court.

I. UNDERLYING FACTS

This case arises from a December 7, 2015 surgery on plaintiff's back. Dr. Fahim, a board-certified neurosurgeon, was the lead surgeon. Plaintiff's procedure was to be performed in two separate surgeries; the first surgery, which occurred on December 7, 2015, is the surgery that involved the alleged malpractice in this case. During this surgery, Dr. Fahim operated on plaintiff's L3 and L4 vertebrae.

The December 7, 2015 surgery was a minimally invasive procedure referred to as an "extreme lateral intrabody fusion" (XLIF). During an XLIF procedure, surgeons make an incision on the patient's side and reach the patient's spine by carefully moving fat and muscle out of the way. As explained by Dr. Fahim, the entire procedure should take place in the "retroperitoneal space," which is "an area of fat that is behind the peritoneum." "The peritoneum is what contains all the intraabdominal structures; the intraabdominal organs," including the sigmoid colon, which is the only organ at issue in this case. Instruments called retractors are used to keep the peritoneum space away from the location of the surgery. When done correctly, the sigmoid colon should be about "12 to 15 centimeters away" from the location of the surgery. After reaching the spine, a knife is then used on the relevant disk for the operation on the spine itself. According to Dr. Fahim, the December 7, 2015 surgery "went without complications as far as anyone could tell at the time of the procedure."

Plaintiff experienced pain the day after the December 7 surgery and had a fever that rose to a peak of 102.4 degrees Fahrenheit. Dr. Fahim, however, opined that these were normal symptoms following an XLIF surgery and were not cause for concern. As a result, Dr. Fahim proceeded with the second surgery on December 9, 2015, which took place without issue. The following day, December 10, 2015, the location of the incision from the December 7 surgery appeared red. Plaintiff's temperature and blood pressure rose to the extent that she was taken to the intensive care unit (ICU) and a computed tomography (CT) scan was taken; the CT scan revealed "free air and free material outside the colon."

Another surgery, the third, was then performed to rectify the issue. Dr. Anthony Iacco performed this surgery and observed that stool was leaking from plaintiff's sigmoid colon due to a hole in it. Dr. Iacco suctioned up the stool and performed an ostomy to divert stool from plaintiff's sigmoid colon while it healed. During the surgery, Dr. Iacco observed a perforation of plaintiff's sigmoid colon near the incision site from the December 7 surgery. In all, plaintiff required four surgeries in six days to correct the sigmoid colon issue; she was discharged from the hospital on January 6, 2016.

Plaintiffs filed a complaint alleging, in relevant part, that Dr. Fahim committed medical malpractice by puncturing plaintiff's sigmoid colon during the December 7 surgery. According to plaintiffs, Dr. Fahim's actions constituted medical malpractice and Michigan Head & Spine was

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vicariously liable for its employee, Dr. Fahim. Plaintiffs additionally alleged that Daniel Danhoff suffered the loss of plaintiff's love and affection as a result of Dr. Fahim's malpractice.

Defendants denied the allegations and after discovery moved for summary disposition, arguing that plaintiffs' standard of care expert, Dr. Koebbe, was not qualified because his standard of care opinion was based solely on his experience and background. Plaintiffs responded, arguing that Dr. Koebbe's expert testimony was reliable, but they failed to provide any scholarly authority supporting Dr. Koebbe's testimony. In reply, defendants submitted affidavits from two doctors stating that Dr. Fahim did not breach the standard of care. The trial court granted summary disposition to defendants, but informed plaintiffs it would address the issue on reconsideration if plaintiffs could provide additional authority supporting Dr. Koebbe's standard of care testimony. Plaintiffs moved for reconsideration and submitted an affidavit by Dr. Koebbe and scholarly articles in support, but the trial court nevertheless denied plaintiffs' motion. This appeal followed.

II. STANDARD OF REVIEW

A motion for summary disposition under MCR 2.116(C)(10) tests the factual sufficiency of a complaint and is reviewed de novo. *Joseph v Auto Club Ins Ass'n*, 491 Mich 200, 205-206; 815 NW2d 412 (2012). This Court reviews a motion brought under MCR 2.116(C)(10) "by considering the pleadings, admissions, and other evidence submitted by the parties in the light most favorable to the nonmoving party." *Patrick v Turkelson*, 322 Mich App 595, 605; 913 NW2d 369 (2018). Summary disposition "is appropriate if there is no genuine issue regarding any material fact and the moving party is entitled to judgment as a matter of law." *Id.* "There is a genuine issue of material fact when reasonable minds could differ on an issue after viewing the record in the light most favorable to the nonmoving party." *Allison v AEW Capital Mgt, LLP*, 481 Mich 419, 425; 751 NW2d 8 (2008). "Only the substantively admissible evidence actually proffered may be considered." *1300 LaFayette East Coop, Inc v Savoy*, 284 Mich App 522, 525; 773 NW2d 57 (2009) (quotation marks and citation omitted). "Circumstantial evidence can be sufficient to establish a genuine issue of material fact, but mere conjecture or speculation is insufficient." *McNeill-Marks v Midmichigan Med Ctr-Gratiot*, 316 Mich App 1, 16; 891 NW2d 528 (2016). "Like the trial court's inquiry, when an appellate court reviews a motion for summary disposition, it makes all legitimate inferences in favor of the nonmoving party." *Skinner v Square D Co*, 445 Mich 153, 162; 516 NW2d 475 (1994); see also *Dextrom v Wexford Co*, 287 Mich App 406, 415; 789 NW2d 211 (2010) (a court must draw all reasonable inferences in favor of the nonmoving party).

The moving party has the initial burden to support its claim with documentary evidence, but once the moving party has met this burden, the burden then shifts to the nonmoving party to establish that a genuine issue of material fact exists. *AFSCME v Detroit*, 267 Mich App 255, 261; 704 NW2d 712 (2005). Additionally, if the moving party demonstrates that the nonmovant lacks evidence to support an essential element of one of his or her claims, the burden shifts to the nonmovant to present sufficient evidence to dispute that fact. *Lowrey v LMPS & LMPJ, Inc*, 500 Mich 1, 7; 890 NW2d 344 (2016).

"The trial court's decision regarding whether an expert witness is qualified is reviewed for an abuse of discretion." *Turbin v Graesser*, 214 Mich App 215, 217-218; 542 NW2d 607 (1995). "An abuse of discretion occurs when the decision resulted in an outcome falling outside the range

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of principled outcomes." *Hayford v Hayford*, 279 Mich App 324, 325-326; 760 NW2d 503 (2008). A decision on a close evidentiary question ordinarily cannot constitute an abuse of discretion, *Barr v Farm Bureau Gen Ins Co*, 292 Mich App 456, 458; 806 NW2d 531 (2011), but an erroneous application of the law is by definition an abuse of discretion, *Gay v Select Specialty Hosp*, 295 Mich App 284, 292; 813 NW2d 354 (2012).

Finally, "[t]his Court reviews for an abuse of discretion a trial court's decision on a motion for reconsideration." *In re Estate of Moukalled*, 269 Mich App 708, 713; 714 NW2d 400 (2006). MCR 2.119(F)(3) provides:

> Generally, and without restricting the discretion of the court, a motion for rehearing or reconsideration which merely presents the same issues ruled on by the court, either expressly or by reasonable implication, will not be granted. The moving party must demonstrate a palpable error by which the court and the parties have been misled and show that a different disposition of the motion must result from correction of the error.

III. ANALYSIS

"A plaintiff in a medical malpractice action must establish (1) the applicable standard of care, (2) breach of that standard of care by the defendant, (3) injury, and (4) proximate causation between the alleged breach and the injury." *Elher v Misra*, 499 Mich 11, 21; 878 NW2d 790 (2016) (citation and quotation marks omitted). In general, "expert testimony is required in a malpractice case in order to establish the applicable standard of care and to demonstrate that the professional breached that standard." *Id.* (citation and quotation marks omitted). But an expert witness is not required "when the professional's breach of the standard of care is so obvious that it is within the common knowledge and experience of an ordinary layperson." *Id.* at 21-22 (citation omitted). Finally, "[t]he proponent of the evidence has the burden of establishing its relevance and admissibility." *Id.* at 22 (citation omitted). "The proponent of expert testimony in a medical malpractice case must satisfy the court that the expert is qualified under MRE 702, MCL 600.2955 and MCL 600.2169." *Elher*, 499 Mich at 22 (citation and quotation marks omitted).

MRE 702 incorporates the *Daubert* standard. See *Gilbert v DaimlerChrysler Corp*, 470 Mich 749, 781; 685 NW2d 391 (2004) (noting that "MRE 702 has . . . been amended explicitly to incorporate *Daubert's* standards of reliability."). It provides

> If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

The trial court's obligation under *Daubert* generally is referred to as "gatekeeping" or the "gatekeeper role." See *Gilbert*, 470 Mich at 782. MRE 702, as applied to the trial court's discharge of its gatekeeping role, "requires the circuit court to ensure that *each aspect* of an expert witness's

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testimony, including the underlying data and methodology, is reliable." *Elher*, 499 Mich at 22 (citation omitted; emphasis added). Reliability for purposes of *Daubert* is a term of art. "The objective of that requirement is to ensure the reliability and relevancy of expert testimony. It is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co, Ltd v Carmichael*, 526 US 137, 152; 119 S Ct 1167; 143 L Ed 2d 238 (1999). "The inquiry envisioned by Rule 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." *Daubert*, 509 US at 594-595. Furthermore,

> MRE 702 mandates a searching inquiry, not just of the data underlying expert testimony, but also of the manner in which the expert interprets and extrapolates from those data. Thus, it is insufficient for the proponent of expert opinion merely to show that the opinion rests on data viewed as legitimate in the context of a particular area of expertise (such as medicine). The proponent must also show that any opinion based on those data expresses conclusions reached through reliable principles and methodology. [*Gilbert*, 470 Mich at 782.]

Thus, we are called on to review whether the trial court abused its discretion in finding that Dr. Koebbe's testimony regarding the standard of care failed to establish reliability as *Daubert* defined that term.

Daubert set forth a non-exhaustive list of factors for a trial court to consider in making the reliability determination. The factors include: (1) whether the theory or technique has been tested; (2) whether the theory or technique has been subjected to peer review and publication, (3) the known or potential rate of error; and (4) the general acceptance of the scientific technique. *Daubert*, 509 US at 593-594.

In considering the medical opinion testimony of an expert in a malpractice case, our Supreme Court has held that "[a] lack of supporting literature, while not dispositive, is an important factor in determining the admissibility of expert witness testimony." *Elher*, 499 Mich at 23 (citation omitted). Furthermore, "[u]nder MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Id.* (citation and quotation marks omitted). Consequently, standard of care experts, such as Dr. Koebbe, generally must base their standard of care expert testimony on something more than their experience and background. See *id.*

The standard of care is a threshold issue that an expert witness must be qualified to testify about before a trial court even considers the expert witness's substantive testimony. See MCL 600.2912a(1). Accordingly, the trial court must first exercise the gatekeeping function regarding the applicable standard of care before determining that the witness is qualified to testify as an expert as to the applicable standard of care. MCL 600.2912)a(2); see also *Kumho Tire Co*, 526 US at 149; citing *Daubert*, 509 US at 590 and 592 (holding that Rule 702 "establishes a standard of evidentiary reliability" which "requires a valid . . . connection to the pertinent inquiry as a

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precondition to admissibility"); *Gilbert*, 470 Mich at 780 n 46 (MRE 702 provides that the trial the court's determination of the reliability of expert testimony "is a precondition to admissibility").

Plaintiffs have appealed two separate orders in this case: (1) the trial court's order granting summary disposition to defendants and (2) the trial court's order denying plaintiffs' motion for reconsideration. Because Dr. Koebbe's standard of care testimony was supported by medical literature at the motion for reconsideration stage only, we will address each order separately. See *Pena v Ingham Co Rd Comm*, 255 Mich App 299, 310; 660 NW2d 351 (2003) ("[W]e only consider what was properly presented to the trial court before its decision on the motion.").

A. MOTION FOR SUMMARY DISPOSITION

In granting summary disposition, the trial court ruled:

> While the Court recognizes that, practically, there may have been a breach of the standard of care, the law requires that expert testimony have a basis in recognized scientific or technical principles. The Court finds that Dr. Koebbe's testimony regarding the standard of care is not sufficiently reliable for admission under MRE 702. Dr. Koebbe is Plaintiffs' sole standard of care witness. Without establishing the proper standard of care, Plaintiffs cannot maintain a claim for medical malpractice. *Weymers v Khera*, 454 Mich 639, 647 (1997); see also *Locke v Pachtman*,446 Mich 216,222 (1994). Therefore, based on the evidence before it, the Court has no choice but to strike Dr. Koebbe's testimony and grant Defendant's Motion.

At the summary disposition phase of the trial court proceedings Dr. Koebbe's standard of care testimony was not supported by any literature. As explained earlier, standard of care opinion testimony must be reliable and "[a] lack of supporting literature, while not dispositive, is an important factor in determining the admissibility of expert witness testimony." *Elher*, 499 Mich at 23 (citation omitted). Furthermore, "[u]nder MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Id.* (citation and quotation marks omitted). Indeed, both the US Supreme Court and the Michigan Supreme Court have emphasized that an expert witness's mere say so, or ipse dixit, is insufficient to establish reliability of the proposed testimony. See *Gen Elec Co v Joiner*, 522 US 136, 146; 118 S Ct 512; 139 L Ed 2d 508 (1997) (noting that "nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."); *Kumho Tire*, 526 US at 137 (same, citing *Joyner*); *Gilbert*, 470 Mich at 783 (same, citing *Joyner*).

Plaintiffs argue that no case holds that a witness must support his or her opinion with scholarly articles. That is of course correct, because *Daubert*'s list of permissible factors to consider at the gatekeeping stage is non-exhaustive. But the fact that scholarly support for a position is not required is not dispositive; there must be some evidence, beyond the witness's mere say so, that establishes that the opinion is based on reliable principles. However, at the summary disposition stage in this case, Dr. Koebbe's testimony was based entirely on his background and experience. Plaintiffs and Dr. Koebbe failed to support. his standard of care testimony with

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supporting literature; and they similarly failed to establish that Dr. Koebbe's standard of care opinion was the product of any other reliable principle or methods. As such, his testimony was not admissible under MRE 702.

In his deposition, Dr. Koebbe testified that perforating the sigmoid colon is an extremely rare complication during XLIF procedures and that, because that type of injury is so rare, "more likely than not, an instrument went awry or something apparent that would, to me, violate the standard of care." Consequently, Dr. Koebbe's standard of care opinion amounted to concluding that the breach of the standard of care was based solely on the unlikelihood of such an injury. Dr. Koebbe's opinion may well be correct, as the trial court noted, as rare injuries during medical procedures are undoubtedly frequently the result of malpractice, and it may even be the case that the more rare a complication, the more likely it was due to malpractice. But Dr. Koebbe's standard of care opinion testimony was based entirely on his and his assumptions in that regard, solely as a result of his own background and experience. Indeed, at his deposition, Dr. Koebbe testified that he conducted a search for relevant medical literature, but only to confirm his preexisting notion that an injury to the sigmoid colon during such surgery is extremely unusual; Dr. Koebbe could not find any medical literature to support his standard of care opinion that *any* injury to the sigmoid colon during such surgery was *ipso facto* outside the standard of care, and in fact his research supported the opposition conclusion—although such injuries are in fact very rare, they are not non-existent. Even more to the point, no such articles or other supporting methodology were provided to the trial court before it granted summary disposition to defendants.

Consequently, at the summary dispositions stage, the information before the trial court established that Dr. Koebbe's standard of care opinion was based solely on his own knowledge and experience. As such, Dr. Koebbe's opinion was not based on any methodology other than his bare assertion that he had never heard of such an injury, and therefore, he would conclude that any such injury was caused by malpractice. But plaintiff, and by extension Dr. Koebbe, failed to establish that this opinion was shared by the broader medical community or that it was in any way a reliable method for identifying malpractice. Indeed, and even apart from the application of the *Daubert* standard, Michigan has long held that the ipse dixit of an expert is insufficient to establish the standard of care in medical malpractice cases. See *Ballance v Dunnington*, 241 Mich 383, 386-387; 217 NW 329 (1928) ("The standard of care, skill, and diligence required of an X-ray operator is not fixed by the ipse dixit of an expert, but by the care, skill, and diligence ordinarily possessed and exercised by others in the same line of practice and work in similar localities."). Furthermore, MRE 702 is not fulfilled by an expert simply having *a* methodology used to determine his or her expert opinion; rather, MRE 702 requires a showing that "the testimony is the product of *reliable* principles and methods." MRE 702 (emphasis added). Plaintiffs failed to make that showing. Consequently, at the summary disposition stage the trial court did not abuse its discretion, by concluding that Dr. Koebbe's testimony was inadmissible under MRE 702.

B. MOTION FOR RECONSIDERATION

As noted, the trial court ruled that it had "no choice" at the summary disposition stage but to rule Dr. Koebbe's proposed testimony inadmissible, because there was no basis for finding it reliable. Nonetheless, the trial court went on to invite additional briefing on the topic. The trial court stated, "However, if there is a basis for Dr. Koebbe's testimony of which the Court is unaware, the Plaintiffs are invited to file a motion for reconsideration of this opinion."

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Plaintiffs did file additional material with the trial court, consisting of some medical literature. The only fact that literature established however, was that bowel injuries, such as a perforated sigmoid colon, are exceedingly rare in XLIF procedures. Although we address that literature on the merits, as did the trial court, we first pause to note that both the trial court, and this Court, could simply deny the motion because it provided nothing which could not have been provided at the time of the motion for summary disposition. This Court has previously stated that "[w]e find no abuse of discretion in denying a motion [for rehearing] resting on a legal theory and facts which could have been pled or argued prior to the trial court's original order." *Woods v SLB Prop Mgt, LLC*, 277 Mich App 622, 629-630; 750 NW2d 228 (2008) (quotation marks and citation omitted). We agree, but we nevertheless choose to address this issue on the merits.

As explained by the trial court, the medical article and abstracts plaintiffs provided did not actually directly support Dr. Koebbe's standard of care opinion that the injury to plaintiff's sigmoid colon during the December 7, 2015 surgery was malpractice per se. Rather, those articles established that such an injury is quite rare. They did not, however, make the connection between rare occurrences in surgery and malpractice on which Dr. Koebbe based his opinion. Similarly, the articles did not address whether bowel injuries were "acceptable" or "unacceptable" complications of XLIF surgeries. Indeed, these articles did not even address medical malpractice or the standard of care; they only collected statistics on the numbers of incidences of such injuries. As such, we do not see how they could possibly support an argument that Dr. Koebbe's standard of care opinion was the product of reliable principles and methods. While Dr. Koebbe used the conclusions from these articles regarding the rarity of sigmoid colon injuries during XLIF surgeries to bolster his standard of care opinion, they failed to establish that Dr. Koebbe used any methodology to form his opinion, or that if he did so such methodology was reliable.

Finally, we additionally note that the trial court gave plaintiffs every opportunity to cure the deficiencies in Dr. Koebbe's testimony. Indeed, the trial court even invited plaintiffs to raise the issue on reconsideration and specifically asked plaintiffs to provide documentary support for Dr. Koebbe's standard of care testimony. By doing so, the trial court told plaintiffs what it deemed necessary to make Dr. Koebbe's expert testimony admissible. Nevertheless, plaintiffs still failed to establish that Dr. Koebbe's standard of care testimony was based on reliable methods, and defendant countered it with expert opinions stating that Dr. Kibbe's opinion and methodology were unreliable. Thus, the trial court certainly did not abuse its discretion by denying plaintiffs' motion for reconsideration.

IV. CONCLUSION

For the reasons stated in this opinion, the trial court's orders granting summary disposition to defendants and denying plaintiffs' motion for reconsideration are affirmed. Defendants, as the prevailing parties, may tax costs pursuant to MCR 7.219.

/s/ Jonathan Tukel
/s/ Michelle M. Rick

Exhibit D

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If this opinion indicates that it is "FOR PUBLICATION," it is subject to revision until final publication in the Michigan Appeals Reports.

STATE OF MICHIGAN

COURT OF APPEALS

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs-Appellants,

v

DANIEL K. FAHIM, M.D. and MICHIGAN HEAD & SPINE INSTITUTE,

Defendants-Appellees,

and

DANIEL K. FAHIM, M.D., PC, KENNETH P D'ANDREA, D.O., and WILIAM BEAUMONT HOSPITAL, doing business as BEAUMONT HOSPITAL-ROYAL OAK,

Defendants.

UNPUBLISHED
May 6, 2021

No. 352648
OAKLAND CIRCUIT COURT
LC No. 2018-166129-NH

Before: TUKEL, P.J., and SERVITTO and RICK, JJ.

Servitto, J. (*concurring*)

I concur in the result, but do so only because under the doctrine of stare decisis, I am bound to follow the decision and reasoning set forth in *Elher v Misra*, 499 Mich 11; 878 NW2d 790 (2016). Were I not so bound, I would find that the factors set forth in *Daubert v Merrell Dow Pharmaceuticals, Inc*, 509 US 579; 113 S Ct 2786; 125 L Ed 2d 469 (1993) do not necessarily apply to an expert's standard of care opinions, but rather only to causation issues. This case presents the precise reason why: where the perforation of the colon during the surgery at issue is admittedly exceedingly rare, it is not unsurprising that there are no articles or medical authority addressing whether the perforation of the colon during that surgery is a breach of the standard of care. That leaves plaintiffs, such as the one here, in the impossible position of attempting to prove that their injuries occurred due to substandard care when no published articles on the specifically

incurred injury are available to either prove *or* disprove that the applicable standard of care was breached.

/s/ Deborah A. Servitto

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Exhibit E

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Order

Michigan Supreme Court
Lansing, Michigan

February 4, 2022

Bridget M. McCormack,
Chief Justice

163120

Brian K. Zahra
David F. Viviano
Richard H. Bernstein
Elizabeth T. Clement
Megan K. Cavanagh
Elizabeth M. Welch,
Justices

LYNDA DANHOFF and DANIEL DANHOFF,
Plaintiffs-Appellants,

v

SC: 163120
COA: 352648
Oakland CC: 2018-166129-NH

DANIEL K. FAHIM, M.D. and MICHIGAN HEAD & SPINE INSTITUTE,
Defendants-Appellees,

and

DANIEL K. FAHIM, M.D., PC, KENNETH P. D'ANDREA, D.O., and WILLIAM BEAUMONT HOSPITAL, d/b/a BEAUMONT HOSPITAL-ROYAL OAK,
Defendants.

/

On order of the Court, the application for leave to appeal the May 6, 2021 judgment of the Court of Appeals is considered. We direct the Clerk to schedule oral argument on the application. MCR 7.305(H)(1).

The appellants shall file a supplemental brief addressing: (1) whether this Court's decisions in *Edry v Adelman*, 486 Mich 634 (2010), and *Elher v Misra*, 499 Mich 11 (2016), correctly describe the role of supporting literature in determining the admissibility of expert witness testimony on the standard of care in a medical malpractice case; (2) if not, what a plaintiff must demonstrate to support an expert's standard-of-care opinion; and (3) whether the appellants' standard-of-care expert met the standards for determining the reliability of expert testimony and was thus qualified to testify as an expert witness under MRE 702 and MCL 600.2955 or whether a *Daubert* hearing was necessary before making that decision. See *Daubert v Merrell Dow Pharm, Inc*, 509 US 579 (1993). The appellants' brief shall be filed by April 25, 2022, with no extensions except upon a showing of good cause. In the brief, citations to the record must provide the appendix page numbers as required by MCR 7.312(B)(1). The appellees shall file a supplemental brief within 21 days of being served with the appellants' brief. A reply, if any, must be filed by the appellants within 14 days of being served with the appellees' brief. The parties should not submit mere restatements of their application papers.

I, Larry S. Royster, Clerk of the Michigan Supreme Court, certify that the foregoing is a true and complete copy of the order entered at the direction of the Court.

February 4, 2022

Clerk

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Exhibit F

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OR Surgeon by Fahim, Daniel K, MD at 12/07/15 1323

Author: Fahim, Daniel K, MD | Service: Neurosurgery | Author Type: Physician
Filed: 12/07/15 1337 | Note Time: 12/07/15 1323 | Note Type: OR Surgeon
Status: Signed | Editor: Fahim, Daniel K, MD (Physician)

Date of Surgery: 12/7/2015

Surgeon(s) and Role:
* **Fahim, Daniel K, MD - Primary**
* **D'Andrea, Kenneth P, DO - Resident - Assisting**

Type of Anesthesia: General

Preoperative Diagnosis: LUMBAR DISC HERNIATION AND DEGENERATIVE DISEASE, and spondylolisthesis

Postoperative Diagnosis: LUMBAR DISC HERNIATION AND DEGENERATIVE DISEASE, and spondylolisthesis

Procedure(s): Procedure(s):
STAGE ONE: L3-4 RADICAL ANTERIOR DISCECTOMY, STRUCTURAL ANTERIOR GRAFT , ANTERIOR LUMBAR ARTHRODESIS WITH ALLOGRAFT, ANTERIOR INSTRUMENTATION, MICRODISSECTION
1. Lumbar spine radical anterior diskectomy for decompression of the nerve roots and the thecal sac.
2. Intervertebral body device placement (structural cage).
3. Anterior lumbar arthrodesis with allograft
4. Anterior lumbar instrumentation.
6. Microdissection techniques.

(SECOND STAGE WILL BE PERFORMED ON Wednesday)

Estimated Blood Loss: Estimated -100cc

Counts: **Sponge:** Correct
Needle: Correct
Sharp: Correct
Instrument: Correct

Drains and/or Packs: None

Significant Events: None

Complications: None

Condition: extubated to PACU in good condition.

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OR Surgeon by Fahim, Daniel K, MD at 12/07/15 1323 (continued)

Specimen(s) Removed: None

Post-Op Condition of Patient: Stable

FINDINGS: Due to positive EMG from all aspects of the lumbar plexus at the L4-5 level, we could NOT safely perform an XLIF there without harming the lumbar plexus. Therefore, only L3-4 was performed. No complications were noted or occurred during the case.

INDICATIONS: The patient was experiencing motion related back pain in the lumbar spine with associated lower extremity pain, correlating with imaging studies. After discussing the benefits, risks and alternatives, the patient elected to proceed with the operation. Please see H&P for more detailed information.

PROCEDURE IN DETAIL: The patient was identified in the preoperative holding area and brought to the operating room. A time-out was performed confirming the patient name and procedure to be performed and all in the room were in agreement. The patient was induced and intubated by anesthesia without incident and then placed in the lateral position with the left side up with her knees flexed and the bed flexed in order to allow for access between the rib cage and the iliac crest. Once the patient was in accurate position and secured to the bed the skin of the left flank was thoroughly washed with alcohol. The position was confirmed and reconfirmed with AP and lateral fluoroscopy.

A time-out was performed confirming the patient name, the procedure to be performed immediately prior to draping as well. The patient
was then prepped and draped in the usual sterile fashion and lidocaine with epinephrine was used to infiltrate the skin. A #15 blade was used to make the skin incision in the flank and blunt finger dissection
between the rib cage and iliac crest was used to sweep the peritoneum forward. This was followed by Bovie electrocautery to dissect through superficial soft tissues down to the lateral aspect of the spine.

The first dilator was placed into the retroperitoneal space
and guided down to the lateral aspect of the spine and the iliopsoas muscle under direct palpation and confirmed with AP and lateral fluoroscopy. Once this first dilator was docked and serial dilation was placed over it and a self-retaining retractor was then placed over the serial dilators. We then used AP and lateral fluoroscopy to confirm our location directly over the desired disk and the superior portion of the intervertebral body and the inferior portion of the superior vertebral body. Once this was completed and our location and position was confirmed overlying the disk space for a diskectomy and fusion we then secured this retractors into place with a bone pin into the vertebral body and a separate pin into the disk space. Once this was completed then light sources were placed into this tubular retractor and magnification techniques were then used to begin our operation.

The iliopsoas muscle was gently dissected anteriorly and posteriorly in order to completely expose the disk space. Nerve stimulation was used throughout the operation in order to ensure that no nerve of the lumbar plexus was anywhere within our field. We then proceeded to begin our diskectomy with a #11 blade and use a

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OR Surgeon by Fahim, Daniel K, MD at 12/07/15 1323 (continued)

combination of pituitary rongeurs, curettes, and disk space shavers in order to complete our radical diskectomy for decompression of the nerve roots and the thecal sac.

Once the diskectomy was completed we then turned our attention to preparation of the end plates for our fusion. Decortication techniques were then used to decorticate the endplates superiorly and inferiorly with the use of multiple tools including rasps. The annulus on the contralateral side was also cut sharply with a Cobb and confirmed by lateral and AP fluoroscopy. We then placed a needle directly within the vertebral body immediately below and aspirated bone marrow for augmentation of our autograft. This was then added to the autograft which was placed directly into the intravertebral body device. This was noted to be appropriate instrument and placed directly into the disk space for anterior arthrodesis. The location of this graft was confirmed with AP and lateral fluoroscopy and bridged the entire width of the vertebral bodies taking great care to extend all the way to the edges of the vertebral bodies on either side.

Once this was completed we then turned our attention to the anterior instrumentation. The anterior instrumentation was placed to the level immediately above and the level immediately below and secured into place. This was also confirmed with lateral and AP fluoroscopy. Once this was completed, we then placed additional autograft for arthrodesis lateral to the cage and anterior to the cage and then turned our attention to ensure meticulous hemostasis.

Once meticulous hemostasis of the surgical cavity was ensured, we then slowly retracted our tubular dilator after placing some Surgifoam into the surgical field followed by Gelfoam that had been soaked in a small amount of Depo-Medrol. We then removed the tubular retractor, turned our attention to closure and the incisions were closed in layers in the usual fashion.

The patient's skin was washed and dried and a sterile dressing was applied and the patient was turned back to the supine position and turned over to Anesthesia for extubation. All counts were correct at the end of the case. No complications were noted during the case. I personally performed the entire procedure from beginning to end with the help of my assistant.

Electronically signed by Fahim, Daniel K, MD at 12/07/15 1337

Users Involved:

Nsg Admit Note by Hartman, Ronald J, RN at 12/07/15 1537

Exhibit G

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STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF OAKLAND

Daniel Fahim
04/18/2019

LYNDA DANHOFF and,
DANIEL DANHOFF
Plaintiffs,

-vs- Case No. 18-166129 NH
Hon. Nanci J. Grant

DANIEL K. FAHIM, M.D.
DANIEL K. FAHIM, M.D., P.C.
KENNETH P. D'ANDREA, D.O.
WILLIAM BEAUMONT HOSPITAL, d/b/a
BEAUMONT HOSPITAL - ROYAL OAK, and
MICHIGAN HEAD & SPINE INSTITUTE
Jointly and severally
Defendants.
_____/

PAGE 1 TO 71

The Deposition of DR. DANIEL K. FAHIM, M.D.,
Taken at 25500 Meadowbrook Road, Suite 150,
Novi, Michigan, 48375,
Commencing at 4:09 p.m.,
Thursday, April 18, 2019,
Before Elizabeth Koller, CSR-7042.

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five years -- I assume he's in the program at Beaumont, correct?

A. That is incorrect.

Q. Which program was he in?

A. Beaumont at that time did not have its own residency program and we had rotating residents that came to rotate with us from another program, they came to us as senior residents or junior chiefs, but all their training had been done elsewhere up until the year they joined us. I cannot attest to or recall when Dr. D'Andrea's rotation with us began, but usually I believe they were six-month rotations, so he may have started in the summer of that year with us, or something like that, or maybe three months earlier, something along those lines.

Q. Had you ever worked with him before on cases?

A. Oh, I'm sure, yes. I doubt that was our first case. I mean, we'd have to check that, but that would be an odd time for somebody to start a rotation in early December, that would be a strange time to begin a rotation. So, I'm sure I would have worked with him before.

Q. Was he rotating just with you or with other doctors?

A. Nope. They rotate with the department and so they're -- so that following day, for example, and then there

was somebody else there who was likely operating with another surgeon, another neurosurgeon.

Q. I guess my question to you is as we sit here today, do you know what Dr. D'Andrea's skill level was at that point in time other than he was in his sixth year of the neurosurgery program?

A. Yes, I had a good sense of his skill level having operating with him previously and knowing how many years he had been in neurosurgery residency.

Q. And what was your sense?

A. That he was at his appropriate level of skill for his level of training.

Q. Okay. And I assume in the residency program it's part teaching, correct?

A. Yes.

Q. When you had these guys, these senior residents come through especially if you're limiting to senior residents, you're in a position where you're trying to teach them how to actually perform surgery, is that correct?

A. Correct.

Q. They're not just there to observe, true?

A. No, they're not just observing. They're participating in the surgery.

Q. And whenever I read operative reports it's always very

Daniel Fahim
04/18/2019

difficult to determine who did what during the procedure when there's an attending and a resident if it hasn't been videotaped, and most aren't.

Do you know as we sit here today what Dr. D'Andrea would have participated in with regard to the December 7th procedure starting at the beginning; would he have opened her up, would he have been moving aside the various organs to get at the disc; would he have been involved with the discectomy? I mean, where would he have been in this situation?

MR. ETSIOS: Object to form and foundation. If you know.

THE WITNESS: He would have been involved in all portions of the procedure because I involve the resident in the entire procedure. From positioning really, you have to begin with positioning the patient in the correct position for surgery, also preparing for the operation by measuring the patient's anatomy on the MRIs and imaging studies and figuring out what you would do and then, you know, he likely made the skin incision with me there with him, that's a traditional thing that's normally done. And then, yeah, he probably participated in the approach --

BY MR. COOK:

Q. I'm sorry, I missed that.

A. In the approach to the spine, getting to the spine, probably participated in that as well, and then placing our retractor system and then during the surgery, the assistant always does participate by holding the retractor as well, and then we both are able to look in there and work on the actual disc that's abnormal that requires our care in our surgery.

Q. Could you go through what the approach in a lateral interior discectomy involves in lumbar L3/L4 with regard to what you have to get through or out of the way to get where you want to be?

A. Sure, absolutely. We make an incision on the flank measuring just over an inch usually about four centimeters or so. That can vary sightly based on the patient's anatomy, it can be anywhere from three to five centimeters, one to two inches depending on the patient's anatomy and how overweight they are or how slender they are, and then we pass through the subcutaneous fat layers and then we identify the layers of the muscle of the abdomen. There are three layers of the muscle of the abdomen, so we separate those muscles fibers without cutting them in order to minimize postoperative pain. Once the different layers of the muscle are separated then we enter into the retroperitoneal space and that's an area of fat that is

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behind the peritoneum. The peritoneum is what contains all the intraabdominal structures; the intraabdominal organs, the vascular, all of those things are in the peritoneum. We place our finger into the retroperitoneal space to bluntly dissect the peritoneum away or forward so that we can then place our retractor, our first retractor which is a very small instrument measuring about three or four millimeters in diameter, maybe half a centimeter in diameter. Down over our finger down to the spine until we can actually palpate and feel the spine, feel the iliopsoas muscle which is the muscle that comes from the spine to the hip, dissect that back in order to place our instrument onto the disc and of course we're confirming our position during all of this with x-ray as well to see if we're in the right place and at the right level and then we're able to, once we have that dilator in place, we place larger dilators over it in order to create a large enough window, that two or three centimeter diameter minimally invasive tubular window that we used to perform the surgery.

Q. Can I stop you for one second?

A. Sure.

Q. You indicate that "we" do this and "we" stick our finger in there, and whatnot. Specifically, with

regard to December 7th, 2015 operation, do you know who would have actually done the sticking of the finger in the retroperitoneal area, and who would have done the separating the muscles and whatnot? Is that something Dr. D'Andrea would have done or is that something you would have done?

A. So we would both be scrubbed into that operation from beginning to almost the end. At the very end, the resident will close the incision without the attending being immediately across the table from him, but they're immediately in the room with them as well, if they know how to close an incision. But somebody like Dr. D'Andrea certainly would know how to do that.

During this procedure we would have both done many of those things because he also has to learn how to do that. So I would put my finger there and I would say things like put your finger here and you can feel this, feel the peritoneum, I was showing the different muscle layers of the abdomen and say we separate here and then, you know, he can separate there and I would separate there and then we would each do those steps together so that he's learning and doing and I'm watching and doing and we're treating the patient together.

Q. Would you assume that a resident neurosurgeon in the

sixth year would have already performed this type of procedure on multiple occasions or not?

MR. ETSIOS: Object to form.

THE WITNESS: I'm not sure. You'd have to ask him. I don't suspect this was his first one, but I suppose that's possible, I'm not sure. You'd have to ask him, I don't remember.

BY MR. COOK:

Q. Obviously someone has to use a scalpel to open the skin, correct?

A. Excuse me?

Q. Obviously someone uses a scalpel to open the skin.

A. Correct.

Q. And then you indicated that the muscles are separated without using any type of instrument, is that correct, you're not cutting anything?

A. You're not cutting anything, nope, you're not using anything sharp. The muscle fibers of the belly are a little bit complex, but they come in different layers, so kind of like my hand's like this, external oblique, internal oblique, and then the internal abdominal muscles and so we separate the fibers along their tracks so we place an instrument that separates called a hemostat, which is not sharp and does not cut to separate those instruments -- separate those muscle

layers apart in order to identify the next layer and separate that layer apart. And then we also of course, are checking for any nerves or any abnormalities like that.

I wrote a manuscript on safely performing lateral approaches to the spine that was featured on the cover of Journal of Neurosurgery Spine, maybe a decade ago now or more, where we talked about how to do this approach safely and to avoid injury to the patient.

Q. At what point in time do you then bring in some type of instrument that is sharp after you separate the muscles?

A. Well, once the retractor is down in place and we are looking down there then with magnification of lights, we have lights in that tube so we can look down there. The only time that we use anything sharp after that is when we bring in a light to open up the disc and to begin the discectomy.

Q. What about the retractors themselves? They're used to hold all the organs and muscle and anatomy aside so you have a clear surgical site, correct?

A. Well, that's not exactly correct. There are no organs in our surgery. We don't see any organs. We see -- all we're in is fat. There's some muscle being

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retracted in one direction which is posteriorly, that's the iliopsoas muscle. The peritoneum which is what contains the organs, but the peritoneum is not see through or anything, we don't see any organs because we're in the retroperitoneal space and the peritoneum is being retracted anteriorly, and then soft tissue or fat is being retracted superiorly and inferiorly up and down so we can isolate the disc space for the surgery.

Q. In this particular surgery where exactly would the upper sigmoid colon be in relation to where this procedure is being done?

A. In the peritoneum way in front of where the surgery's being done.

Q. When you say, "way in front", can you give me a distance in centimeters or inches or what are we talking here?

A. I wouldn't be sure because the peritoneum and its contents is more the domain of the general surgeon, but the sigmoid colon from the disc where we're working on the spine is probably 12 to 15 centimeters away maybe, something like that.

Q. It's nowhere near the surgical field, correct?

A. Near the disc, no, nowhere near the disc.

Q. Does the sigmoid colon have to be moved out of the way to get at the disc?

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A. We never see the sigmoid colon. We never touch the sigmoid colon. We work in the retroperitoneum. The sigmoid colon is contained within the peritoneum itself, and that whole peritoneal cavity with all of its contents, none of which are seen is retracted anteriorly.

Q. I'm sorry. Retracted anteriorly?

A. Anteriorly, towards the front, towards the patient's belly so to reach the spine.

Q. So the retractor's used to basically push it out of the way. Is that basically what's going on here?

A. After it's dissected out of the way bluntly with going through that fat layer of the retroperitoneum then the retractor is there to, yeah, push it out of the way and to hold it out of the way, correct.

Q. And the retractor itself, is it made of metal? Is it made of plastic?

A. Good question. We'd have to check with the manufacturer. It can't have a very high metal content because we can see though it with x-rays so we can see what we're doing on the disc itself, so if it does, I'm sure it has some metal because it has some rigidity to it, but it's certainly not sharp and it is radiolucent so we're able to see x-rays through it.

Q. Okay. With regard to the retractors themselves, is

Daniel Fahim
04/18/2019

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that usually the resident who does that?

A. Retractors are placed over the disc space.

Q. By whom?

A. By both of us, by a team working to place them. It's one step after the next and so we all work together to do that. And then once it's placed it's secured to a table mount holder that holds it in place. And then the posterior retraction is usually performed by the resident, so the resident also holds one of the retractor blades to help expose the space. The retractor doesn't have blades that -- I use the word blades, but they're not knives, they're just retractor -- I don't know what a word to use that would be helpful enough to explain it, but we call them retractor blades, but there are no knives involved in the retractors. But not all of them are able to stay in place, sometimes they have to be held in place by the resident themselves, so the resident helps with that usually or the assistant, whoever it may be.

Q. And the retractors themselves are basically holding back whatever organ --

A. Might get in our way. Again, not organs, no organs at all, we never see organs. We hold the peritoneum and the fat and the iliopsoas muscle out of the way so we can safely do the surgery on the disc.

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Q. All right. Then you perform the procedure itself on the disc and my understanding is that the knife is used on the disc itself as opposed to anything around it, correct?

A. Correct.

Q. And then in this particular case, it was going to be a two-part procedure. And I did read the operative report and my understanding is that you did what you could from the lateral side and then you were going to finish it about two days later by going in the back itself and finishing work at that angle, correct?

A. Well, the plan is always to do a two-stage operation. We were going to also treat the L4-5 level from the side like we had treated the first level, but we could not actually reach it safely because I used a stimulated probe to check to see where the nerves are of the lumbar plexus, which is the group of nerves that goes from the spine down to the leg, and we check to make sure that we're not near those nerves when we try to access the disc at L4-5. And there was no place where we could safely access the disc at L4-5 without hurting her nerves.

So obviously taking great care being a very cautious surgeon to prevent injury to her lumbar plexus which is a devastating injury, we could not safely

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Exhibit H

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Consults signed by Silverman, Jan V, DO at 12/10/15 1754 (continued)

Electronically signed by Silverman, Jan V, DO at 12/10/15 1754

Users Involved:

Dictated by: SILVERMAN, JAN V DO [807519]	Dictation date: Dec 10, 2015	Dictation time: 2:57 PM
Transcriptionist: US84995 Seda, Leticia 84995	Transcription date: Dec 10, 2015	Transcription time: 3:35 PM
Authenticated by: SILVERMAN, JAN V DO [807519]	Authentication date: Dec 10, 2015	Authentication time: 5:54 PM

OR Surgeon signed by Iacco, Anthony A, MD at 12/12/15 1345

Author: Iacco, Anthony A, MD	Service: Surgery	Author Type: Physician
Filed: 12/12/15 1345	Note Time: 12/10/15 2212	Note Type: OR Surgeon
Status: Signed	Editor: Iacco, Anthony A, MD (Physician)	
Trans ID: ES1276661	Trans Status: Available	Dictation Time: 12/10/15 2212
Trans Time: 12/11/15 0835	Trans Doc Type: Operative Report	

DATE OF PROCEDURE: 12/10/2015

SURGEON: Anthony Iacco, M.D.
ASSISTANT: Michelle Veenstra, M.D.

PREOPERATIVE DIAGNOSIS:
Peritonitis secondary to sigmoid colon perforation, soft tissue infection left flank.

POSTOPERATIVE DIAGNOSIS:
Same.

OPERATION:
Exploratory laparotomy, sigmoidectomy, left flank debridement of skin, muscle, subcutaneous tissue.

The patient is a 55-year-old female who underwent a staged procedure on her lumbar discs for herniation, stage 1 was performed on 12/07/2015 by Dr. Daniel Fahim where a L3-4 radical anterior discectomy was performed and followed by on 12/09/2015 stage 2 of this procedure, a single-level L3-4 spine posterolateral instrumented fusion with pedicle screw instrumentation via left flank incision. Postop day #1 following this, the patient developed fever and some shortness of breath on the Floor, she was noted to have cellulitis around her left flank incision, tenderness and some pain down her left leg. She was

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Users Involved: (continued)

OR Surgeon signed by Iacco, Anthony A, MD at 12/12/15 1345 (continued)

given a CAT scan which revealed pneumomediastinum, some small amount of air within her abdominal cavity. A CAT scan was then obtained with IV and p.o. contrast which revealed a large amount of extravasation of contrast within the area of the sigmoid colon leading to what appeared to be fecal matter, contrast extravasation into her left flank as well as into her retroperitoneum. Patient was consented in the room up in the Surgical Intensive Care Unit as well as the preoperative area with regards to risk, benefits, alternative treatment prior to proceeding with surgery. She understood the risks including but not limited to risk of colostomy, open abdomen, repeated interventions, ventral hernia formation, serial debridements of her flank including need for further debridement and packing and others were discussed at length. The patient consented for the procedure with her husband.

Patient was brought to the operating room, prepped and draped in the usual sterile fashion. Midline laparotomy incision was utilized. Blunt electrocautery dissection was carried out to the level of the fascia, which was sharply incised. Entrance into the abdomen was achieved. I rolled the small bowel to the right in wet blue towel and began taking the peritoneal attachments of the sigmoid and left colon down. When I did this, I was met with a large rush of stool, which was suctioned several times before I could gain control of the stool flow with vicryl suture. I was able to place an 0 Vicryl figure-of-eight x2 across the hole in the retroperitoneum to control the flow of stool. I then began making my dissection from the mid to proximal sigmoid colon. A GIA 80 stapler was used to come across the midportion of the sigmoid colon.

I followed the sigmoid colon up into the left colon, the left colon was taken down from its peritoneal reflection almost up to the splenic flexure. The mesentery was taken with the LigaSure device. Most of the dissection was done blunt taking the peritoneum off of the abdominal wall, being careful to keep the kidney down. There is a large amount of inflammation and subcutaneous emphysema within the mesentery as well as the retroperitoneum. After I was able to mobilize most of the colon, a GIA stapler was used to come across and send the specimen which was sigmoid and left colon to Pathology. I then irrigated with 3-4 liters of warm saline in my bowel mound, retroperitoneum, and rectal vault area. Due to the length of the procedure and the difficulty given her size, taking out this portion of colon I thought that it was best to keep sepsis under control, I had her on the table for what I thought to be a lengthy period of time. I elected to keep her abdomen open. After passing off the specimen, I placed two Owens gauze-wrapped sponges referred to as burritos within the retroperitoneum where the perforation had occurred after extensive irrigation. The bowel mound was placed untwisted back in the abdominal cavity with the omentum covering atop. Three pieces of Owens gauze covered the bowel mound. A black sponge was then

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cut to size and stapled to the surrounding skin, a VAC dressing was placed in a standard manner to suction.

Next, I rolled the patient on the right side, took her incision which was prepped on her left flank from previous surgery,
began by inserting the scissors and cutting previous sutures. We were met with a rush of stool on cutting the sutures from the skin. The wound was probed, the sutures were cut. We were able to put our fingers down to the muscle and likely back into the abdominal cavity through a small hole left side of the finger. There were tissue planes that were dissected between some of the muscles and subcutaneous tissue within the left flank. These were probed to healthy tissue as best we could tell. The muscle was debrided some of the fibrinous debris on top of the muscle as well as the fat, some of this muscle was debrided as well as some of the fat and skin that appeared to be necrotic. Once we were back to healthy bleeding edges, I was satisfied with the wound and wound was irrigated with several liters of saline as well. The wound was then packed with moist Kerlix with dry 4 x 4s and ABD atop for moist to dry dressing changes with the intent on changing the dressing within the next 12 hours.

I plan on taking the patient back to the operating room within the next 24-48 hours, likely to fashion a colostomy and closure of the abdomen assuming her sepsis is under control at that time. We will keep a close eye on her flank wound as there is extensive pneumatosis within the soft tissues both into her pneumomediastinum and down her leg. The skin all appeared healthy. There is some area of redness and erythema at the inferior aspect of her incision. Most of this was debrided. Her incision size was about the same size as it was for surgery, approximately 14 cm x 3 cm wide and approximately 20 cm deep. The patient tolerated the procedure well.

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Dictated by: IACCO, ANTHONY A MD [109516]	Dictation date: Dec 10, 2015	Dictation time: 10:12 PM
Transcriptionist: NMR, HBE147679	Transcription date: Dec 11, 2015	Transcription time: 8:35 AM
Authenticated by: IACCO, ANTHONY A MD [109516]	Authentication date: Dec 12, 2015	Authentication time: 1:45 PM

OR Surgeon signed by Iacco, Anthony A, MD at 12/13/15 1319

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Exhibit I

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STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF OAKLAND

LYNDA DANHOFF and DANIEL DANHOFF,

Plaintiffs,

v.

DANIEL K. FAHIM, M.D., DANIEL K. FAHIM, M.D., P.C., KENNETH P. D'ANDREA, D.O., WILLIAM BEAUMONT HOSPITAL, d/b/a BEAUMONT HOSPITAL – ROYAL OAK, and MICHIGAN HEAD & SPINE INSTITUTE, Jointly and severally,

Defendants.

_____/

2018-166129-NH

JUDGE NANCI J. GRANT

Case No. 18- NH
Hon.

This case has been designated as an eFiling case. To review a copy of the Notice of Mandatory eFiling visit www.oakgov.com/clerkrod/Pages/efiling.

DRIGGERS, SCHULTZ & HERBST
JEFFREY S. COOK (P-43999)
Attorney for Plaintiffs
2600 W. Big Beaver Road, Suite 550
Troy, MI 48084
(248) 649-6000
(248) 649-6442 fax
Email: JCook@DriggersSchultz.com

_____/

There is no other civil action between these parties arising out of the same transaction or occurrence as alleged in this complaint pending in this court nor has any such action been previously filed and dismissed.

/s/ Jeffrey S. Cook (P43999)

COMPLAINT

NOW COME the above named Plaintiffs herein, by and through their attorneys, DRIGGERS, SCHULTZ & HERBST, and for their cause of action against the Defendants, jointly and severally, state as follows:

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1. That at all times pertinent hereto the plaintiffs were residents of the City of Mio, County of Oscoda, State of Michigan.

2. That the defendant, **Daniel K. Fahim, M.D.**, is a medical doctor licensed to practice in the State of Michigan who at all times pertinent hereto held himself out to the public in general, and your plaintiffs herein in particular, as being capable of rendering medical care and treatment within the acceptable standard of care for a board certified neurosurgeon and whose principal place of business is located in the City of Royal Oak, County of Oakland, State of Michigan.

3. That the defendant, **Daniel K. Fahim, M.D., P.C.**, is a professional corporation located in the City of Royal Oak, County of Oakland, State of Michigan, which is vicariously liable for all acts of professional negligence committed by its employees, including, but not limited to, Defendants, Dr. Daniel Fahim and Dr. Kenneth D'Andrea.

4. That the defendant, **Kenneth P. D'Andrea, D.O.**, is a medical doctor who at all times pertinent hereto was licensed in the State of Michigan and was an employee and/or ostensible agent of defendants Daniel K. Fahim, M.D., P.C., William Beaumont Hospital, d/b/a Beaumont Hospital-Royal Oak, and Michigan Head & Spine Institute, and who participated in plaintiff's at issue December 7, 2015 surgery as a neurosurgical resident under the supervision of defendant, Dr. Daniel Fahim.

5. That the defendant, **William Beaumont Hospital, d/b/a Beaumont Hospital - Royal Oak,** is a medical institution located in the City of Royal Oak, County of Oakland, State of Michigan, which held itself out to the public in general, and your plaintiffs herein in particular, as being capable of rendering medical care and treatment within the acceptable standard of care by

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and through its employees, agents, and/or ostensible agents, including, but not limited to, defendants Dr. Daniel Fahim and Dr. Kenneth D'Andrea.

6. That the defendant, **Michigan Head & Spine Institute** is a professional corporation with its principal place of business located in the City of Southfield, County of Oakland, State of Michigan which is vicariously liable for all acts of professional negligence committed by its employees including, but not limited to, defendants Dr. Fahim and Dr. D'Andrea.

7. That Plaintiff, Lynda Danhoff, presented to Defendant William Beaumont Hospital on December 7, 2015, to undergo an anterior approach lumbar procedure performed by defendants, Dr. Fahim and Dr. D'Andrea.

8. That during the December 7, 2015 lumbar procedure by defendants Dr. Fahim and Dr. D'Andrea, Plaintiff's sigmoid colon was perforated and the surgical procedure was completed without repairing the perforation in plaintiff's colon.

9. That as a result of the open perforation in Plaintiff's colon, bowel contents leaked out into her abdominal cavity and caused a massive infection requiring emergency abdominal surgery on December 10, 2015.

10. That as a result of the massive infectious process proximately caused by the negligent perforation of Plaintiff's bowel during the December 7, 2015 lumbar procedure, Plaintiff has undergone multiple corrective surgeries, hospitalizations, and continued medical ramifications that are now permanent in nature.

11. That the Defendants, each and any of them, jointly and severally, owed the Plaintiff a duty, but notwithstanding said duty, breached same in the following particulars:

A. In Dr. Fahim negligently failing to perform Plaintiff's anterior approach procedure with due diligence and care so as not to injure her sigmoid colon;

B. In Dr. Fahim negligently failing to properly monitor and supervise his resident surgical assistant, Dr. D'Andrea, in the proper technique for

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exposing the surgical site without causing injury to Plaintiff's sigmoid colon;

C. In Dr. Fahim negligently failing to properly expose the surgical site, and performing the lumbar surgery, without injuring Plaintiff's sigmoid colon;

D. In Dr. Fahim negligently failing to avoid injuring Plaintiff's sigmoid colon when performing the anterior approach lumbar surgery;

E. In Dr. Fahim negligently failing to diagnose and surgically repair the injury to Plaintiff's sigmoid colon prior to closing the surgical site.

F. In Dr. D'Andrea negligently failing to properly expose the surgical site, and performing the lumbar surgery, without injuring Plaintiff's sigmoid colon;

G. In Dr. D'Andrea negligently failing to avoid injuring Plaintiff's sigmoid colon when performing the anterior approach lumbar surgery;

H. In Dr. D'Andrea negligently failing to diagnose and surgically repair the injury to Plaintiff's sigmoid colon prior to closing the surgical site;

I. In Dr. D'Andrea negligently failing to appreciate and understand that Plaintiff's colon had been injured during the anterior approach lumbar discectomy procedure and therefore negligently failed to bring that injury to the attention of the attending surgeon, Dr. Fahim, so that it could be surgically corrected prior to closing the operative field;

J. In Daniel K. Fahim, M.D., P.C., and Michigan Head & Spine Institute, negligently failing to properly hire, train, supervise, and monitor its employee surgeon, Dr. Fahim, in the appropriate standard of care in performing anterior approach lumbar procedures to avoid injury to a patient's internal organs as well as to properly recognize, and surgically correct, any internal organ injuries which do occur during an anterior approach to a lumbar surgical procedure, and to properly supervise all resident assistants;

K. In William Beaumont Hospital, d/b/a Beaumont Hospital - Royal Oak, negligently failing to properly hire, train, monitor, and supervise its resident surgeon, Dr. D'Andrea, by and through its attending surgeon, Dr. Fahim, in the proper techniques for assisting in anterior approach lumbar surgeries so as to avoid causing injury to plaintiff's sigmoid colon while he was assisting to visualize the surgical site;

L. In William Beaumont Hospital, d/b/a Beaumont Hospital - Royal Oak, negligently failing to properly train and supervise its resident surgeon, Dr. D'Andrea, in recognizing when an injury had occurred to plaintiff's sigmoid colon during his assistance in plaintiff's lumbar surgery procedure so that the attending surgeon, Dr. Fahim, would be made aware of the injury and could surgically correct the injury prior to closing the surgical site;

M. In Daniel K. Fahim, M.D., P.C., being vicariously liable for all acts of professional negligence committed by its employees, including Dr. Fahim and Dr. D'Andrea;

N. In William Beaumont Hospital, d/b/a Beaumont Hospital - Royal Oak, being vicariously liable for all acts of professional negligence committed by its employees, including Dr. Fahim and Dr. D'Andrea; and,

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O. In Michigan Head & Spine Institute, being vicariously liable for all acts of professional negligence committed by its employees, including Dr. Fahim and Dr. D'Andrea;

12. That as a direct and proximate result of the negligence of the Defendants, each and any of them, by and through their employees, agents, and/or ostensible agents, plaintiff, Lynda Danhoff, suffered severe pain and suffering, disability, emotional distress and mental anguish and in the future will continue to suffer severe pain and suffering, disability, emotional distress and mental anguish, to-wit; permanently.

13. That as a direct and proximate result of the negligence of the Defendants, each and any of them, Plaintiff, Lynda Danhoff, has suffered visible injuries and scars which have caused her embarrassment and humiliation and in the future will continue to cause her embarrassment and humiliation, to-wit; permanently.

14. That as a direct and proximate result of defendants negligence, each and any of them, plaintiff, Lynda Danhoff, has suffered loss of wages, lost earning potential, out of pocket expenses, and medical bills and liens for which she is claiming these expenses and losses as economic damages.

15. That at all times pertinent hereto Plaintiff, Daniel Danhoff, was the legally wedded spouse of Plaintiff, Lynda Danhoff, and as a direct and proximate result of the negligence of the defendants, and the injuries sustained by his wife, has lost the use, love, affection, and services of his spouse for which he claims as loss of consortium damages.

16. That this Court has Jurisdiction as the amount in controversy is in excess of $25,000.00 dollars exclusive of costs and interest.

WHEREFORE, Plaintiffs herein pray for judgment against the Defendants, jointly and severally, in an amount which this Court finds to be fair, just, and adequate to compensate them for their injuries and damages including Court costs, interest, and attorney fees.

DRIGGERS, SCHULTZ & HERBST

By: */s/ Jeffrey S. Cook*

JEFFREY S. COOK (P-43999)
Attorney for Plaintiffs
2600 W. Big Beaver Road, Suite 550
Troy, MI 48084
Telephone: (248) 649-6000
Facsimile: (248) 649-6442 fax
Email: JCook@DriggersSchultz.com

DATED: June 5, 2018

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AFFIDAVIT OF MERIT

STATE OF FLORIDA)
) SS:
COUNTY OF Hillsborough)

CHRISTOPHER J. KOEBBE, M.D., first being duly sworn, deposes and says:

1. I am Board Certified in the specialty of Neurosurgery.

2. That at the time of the deviations of the standard of care, and the year preceding, I spent a majority of my professional time in the active clinical practice of Neurosurgery.

3. I have reviewed the medical records and the Notice of Intent to File Claim with regard to Lynda Danhoff.

4. It is my opinion that the appropriate standard of care for a specialist in Neurosurgery treating a patient such as Lynda Danhoff is as follows:

   A. To perform an anterior approach procedure with due diligence and care so as not to injure any internal organs;
   B. To properly monitor and supervise all resident surgeon assistants in the proper technique for exposing the surgical site without causing injury to the surrounding organs;
   C To properly expose the surgical site without injury to any of the surrounding internal organs;
   D. To avoid injuring the patient's colon when performing an anterior approach procedure for lumbar surgery;
   E. To diagnose and surgically repair all injuries to the patient's colon prior to closing the surgical site.

5. In my opinion the applicable standard of care was breached by Dr. Fahim in his care and treatment of Lynda Danhoff in the following particulars:

   A. In negligently failing to perform Plaintiff's anterior approach procedure with due diligence and care so as not to injure her sigmoid colon;
   B. In negligently failing to properly monitor and supervise his resident surgical assistant, Dr. D'Andrea, in the proper technique for exposing the surgical site without causing injury to Plaintiff's sigmoid colon;
   C. In negligently failing to properly expose the surgical site, and performing the lumbar surgery, without injuring Plaintiff's sigmoid colon;
   D. In negligently failing to avoid injuring Plaintiff's sigmoid colon when performing the anterior approach lumbar surgery;
   E. In negligently failing to diagnose and surgically repair the injury to Plaintiff's sigmoid colon prior to closing the surgical site.

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6. In my opinion if Dr. D'Andrea performed any portion of the anterior approach procedure upon Lynda Danhoff he breached the acceptable standard of care in the following particulars:

   A. In negligently failing to properly expose the surgical site, and performing the lumbar surgery, without injuring Plaintiff's sigmoid colon;
   B. In negligently failing to avoid injuring Plaintiff's sigmoid colon when performing the anterior approach lumbar surgery;
   C. In negligently failing to diagnose and surgically repair the injury to Plaintiff's sigmoid colon prior to closing the surgical site.
   D. In negligently failing to avoid injuring Plaintiff's sigmoid colon while he was retracting/holding her internal organs away from the surgical site; and,
   E. In negligently failing to appreciate and understand that Plaintiff's colon had been injured during the anterior approach lumbar discectomy procedure and therefore negligently failed to bring that injury to the attention of the attending surgeon, Dr. Fahim, so that it could be surgically corrected prior to closing the operative field.

7. In order to comply with the appropriate standard of care Dr. Fahim should have done the following:

   A. He should have performed Plaintiff's anterior approach lumbar procedure with due diligence and care so as not to injure her sigmoid colon;
   B. He should have properly monitored and supervised his resident surgeon assistant, Dr. D'Andrea in the proper technique for exposing the surgical site without causing injury to Plaintiff's sigmoid colon;
   C. He should have properly exposed Plaintiff's surgical site without causing injury to her sigmoid colon;
   D. He should have avoided injuring Plaintiff's sigmoid colon while performing her anterior approach procedure during her lumbar surgery;
   E. He should have diagnosed and surgically repaired the leak/injury in Plaintiff's sigmoid colon prior to closing the surgical site.

8 If Dr. D'Andrea performed any portion of the anterior approach surgical procedure upon Lynda Danhoff, he should have done the following in order to comply with the appropriate standard of care:

   A. He should have properly exposed Plaintiff's surgical site without causing injury to her sigmoid colon;
   B. He should have avoided injuring Plaintiff's sigmoid colon while performing her anterior approach procedure during her lumbar surgery;
   C. He should have diagnosed and surgically repaired the leak/injury in Plaintiff's sigmoid colon prior to closing the surgical site;
   D. He should have avoided injuring Plaintiff's sigmoid colon while retracting/holding her internal organs away from the surgical site; and,

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E. He should have appreciated and understood that he had injured Plaintiff's sigmoid colon while retracting the colon to provide a clear visual field and should have brought the injury to the attention of the attending surgeon, Dr. Fahim, so that the colon injury would have been surgically corrected prior to closing the operative field.

9. In my opinion during the December 7, 2015 anterior approach lumbar procedure Plaintiff's sigmoid colon was perforated and her surgical procedure was completed without the perforation being surgically corrected. As a result of the open leak in her sigmoid colon Plaintiff developed peritonitis, infection, and sepsis. This caused a medical emergency requiring emergency surgery. The negligent failure of either Dr. Fahim, or Dr. D'Andrea, to recognize and appreciate when the sigmoid colon was perforated proximately resulted in the perforation to go undetected and therefore not surgically corrected, during the Plaintiff's surgical procedure. The open leak in Plaintiff's sigmoid colon allowed bowel contents to spill out and into her abdomen and proximately resulted in several days of infectious and purulent material to leak into her abdomen resulting in the massive infection and sepsis found three days later on December 10, 2015 during Dr. Iacco's emergency abdominal surgery. The infection and sepsis from the sigmoid colon perforation proximately resulted in necrotizing fasciitis and tissue death and led to the need for multiple surgeries and hospitalizations.

10. That my opinions are based upon the information available at this time and are subject to change as additional information becomes known through the discovery process.

I affirm to the contents of the Affidavit.

CHRISTOPHER J. KOEBBE, M.D.

Subscribed and sworn to before me this 24 day of May, 2018.

Notary Public

RHONDA LIBRADO
Notary Public - State of Florida
Commission # FF 225672
My Comm. Expires May 4, 2019
Bonded through National Notary Assn.

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Exhibit J

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CURRICULUM VITAE

Christopher J. Koebbe

GENERAL INFORMATION

PERSONAL DATA:

Address: 4940 W San Rafael St, Tampa, FL 33629
Phone Number: (210) 788-4092
Email Address: koebbec@yahoo.com

EDUCATION:

2000 MD Medicine University of Cincinnati College of Medicine, Cincinnati, OH
1996 BS Natural Sciences Xavier University, Cincinnati, OH

TRAINING:

Clinical Fellowship

Year Discipline Institution/Location

2006-2007 Cerebrovascular Neurosurgery/Interventional Neuroradiology
Thomas Jefferson University, Philadelphia, PA

Internship

Year Discipline Institution/Location

2000-2001 General Surgery University of Pittsburgh Medical Center, Pittsburgh, PA

Residency

Year Discipline Institution/Location

2004-2006 Neurological Surgery Thomas Jefferson University, Philadelphia, PA
2001-2004 Neurological Surgery University of Pittsburgh Medical Center, Pittsburgh, PA

ACADEMIC APPOINTMENTS:

11/2008 – 08/2015 Clinical Assistant Professor University of Texas Health Science Center and Baptist Health System, San Antonio, Department of Neurosurgery, San Antonio, TX
07/2006 - 06/2007 Instructor Thomas Jefferson University Hospital, Department of Neurological Surgery, Philadelphia, PA

NON-ACADEMIC APPOINTMENTS:

9/2015-present, Director of Neurosurgery, Northside Hospital and Largo Medical Center, Largo, FL
09/2013-07/2015 Chief of neurosurgery, San Antonio Military Medical Center, Ft Sam Houston, TX
10/2012-08/2015 Neurosurgeon Methodist Hospital San Antonio, TX
10/2011-04/1012 Staff Neurosurgeon Craig Joint Theater Hospital Bagram Airbase, Afghanistan
02/2008 – 01/2014 Staff Neurosurgeon Hillcrest Baptist Health System, Waco, TX
01/2008 – 01/2015 Staff Neurosurgeon Scott and White Clinics Hospital, Temple, TX
07/2007 – 07/2015 Staff Neurosurgeon Wilford Hall Medical Center/San Antonio Military Medical Center, Lackland AFB, TX
07/2006 - 06/2007 Staff Neurosurgeon Frankfort Hospitals, Jefferson Health System, Philadelphia, PA
07/2002 - 06/2004 ICU Physician St. Clair Hospital, Pittsburgh, PA
07/2002 - 06/2004 ICU Physician UPMC Passavant Hospital, Pittsburgh, PA

CERTIFICATION AND LICENSURE:

Board Certification

American Board of Neurological Surgery
Certified 06/2010 pending 12/2020

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License to Practice
FL license ME123561 issued 3/31/2015 exp 1/31/2017
TX license M9422 issued 04/2008 exp 02/2018
Physician Permit -Pennsylvania Medical Board
Certified 08/2002 MD420099 exp 12/2008

HONORS AND AWARDS:
04/2016 Frist Humanitarian Physician of the Year Award, HCA Northside Hospital
01/2004 Clinical Research Resident Award: Received at 16th Annual Pan-Philadelphia Neurosurgery Conference for "Endovascular Treatment of Ruptured Middle Cerebral Artery Aneurysms".
01/1999 Alpha Omega Alpha Medical Honor Society
01/1996 Air Force Health Professions Scholarship Recipient
01/1996 Magna Cum Laude Graduate and University Scholar
01/1996 U.S. Air Force ROTC Distinguished Graduate
01/1995 Alpha Sigma Nu Jesuit Honor Society

PROFESSIONAL DEVELOPMENT:

Administrative
Date Description C.E.
Units/Hours
05/2015 AANS annual meeting, Washington DC
2/2014 Texas Association of Neurological Surgeons annual meeting, San Antonio, TX
10/2012 CNS annual Meeting Chicago, IL
04/09/2011 - 04/13/2011 2011 AANS Annual Meeting, 2011 American Association of Neurological Surgeons 79th Annual Scientific Meeting, Denver, CO
02/24/2011 - 02/26/2011 2011 TANS Annual Meeting, Texas Association of Neurological Surgeons, 2011 Annual Meeting, Four Seasons Las Colinas, Dallas, TX.

Clinical
Date Description C.E.
Units/Hours
03/04/2011 Neurological Sciences Grand Rounds, Post Stroke Epilepsy 1.50
01/28/2011 Neurological Sciences Grand Rounds, Role of the Caspase Cell Death Pathways in Neurological Disease1.50
01/07/2011 Neurological Sciences Grand Rounds, What's New In Stroke 2011 1.50
12/10/2010 Neurological Sciences Grand Rounds, CPC 1.50
09/10/2010 Neurological Sciences Grand Rounds, CPC 1.50
09/03/2010 Neurological Sciences Grand Rounds, Current Treatment of PTSD and future directions 1.50
06/25/2010 Neurological Sciences Grand Rounds, Multi-Modality Management of Intracranial Aneurysms 1.50
05/07/2010 PBL-Chiari, UTHSCSA 1.50 / 1.50
05/07/2010 Predictors of Post-Surgical Seizure, Predictors of Post-Surgical Seizure Outcome Following a Temporal Lobectomy, UTHSCSA, Grand Rounds 1.50
03/12/2010 CPC, UTHSCSA, Grand Rounds 1.50 / 1.50
12/11/2009 CPC, UTHSCSA, Grand Rounds 1.50 / 1.50
11/20/2009 Neuropathies, Neuropathies Due to Plasma Cell Dyscrasias 1.50
11/13/2009 CPC, Grand Rounds 1.50 / 1.50
10/23/2009 Musculoskeletal Mimics, UTHSCSA, Grand Rounds 1.50
09/18/2009 Mild TBI and PTSD, A Neuroimaging Perspective, UTHSCSA Grand Rounds 1.50
09/11/2009 CPC, UTHSCSA, Grand Rounds 1.50
08/21/2009 PBL Case of the Month, UTHSCSA 1.50
08/21/2009 Pre-operative Neurosurgical Imaging, UTHSCSA, Grand Rounds 1.50

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08/14/2009 Use of MRI in Neurological Disease, UTHSCSA, Grand Rounds 1.50
08/07/2009 Endovascular Treatment, Endovascular Treatment of Head and Neck Vascular Malformations. UTHSCSA, Grand Rounds 1.50
07/08/2009 - 07/11/2009 Cerebrovascular Complications Conference, Jackson Hole, Wyoming 16.0
06/26/2009 Aggression and Psychosis in Patients with Epilepsy, UTHSCSA, Grand Rounds 1.50
06/19/2009 Neurosurgery Research Team Update, UTHSCSA, Grand Rounds 1.50
06/12/2009 CPC (Grand Rounds), UTHSCSA 1.50 / 1.50
06/05/2009 Neuropsychiatric Lupus, Clinical and Imaging Aspects, UTHSCSA, Grand Rounds 1.50
05/20/2009 ONYX HD-500, Medical & Education Research Institute (MERI) Memphis, TN 8.00
04/03/2009 - 04/04/2009 A.S.C.E.N.D. 2009 Speaker Training Meeting, Achieving Seizure Control, Embracing New Directions Atlanta, Georgia 16.00
02/24/2009 - 02/26/2009 2009 Winter Clinics for Cranial & Spinal Surgery, The Cranial Program Snowmass, CO 16.00
02/09/2009 - 02/10/2009 Endovascular Glue Course, Houston, TX 16.00

RESEARCH

PUBLICATIONS: ***('*' Indicates Peer Reviewed)***

Abstract

* 1. Koebbe CJ, Horowitz M, Jungreis C, Pless M. Alcohol embolization of ICA supply to indirect carotid-cavernous fistulas 2003. p. 717-718. (J Neurosurg; vol. 98).

Book Chapter

1. Koebbe CJ, Perez-Cruet M. Outpatient lumbar microdiscectomy In: Perez-Cruet M, Fessler RG (eds). Outpatient Spinal Surgery. St. Louis: Quality Medical Publishing; 2002. p. 133 - 157.

Journal Article

*1. Lawson BK, Jenne JW, Koebbe CJ. Cauda equina and conus medullaris avulsion with herniation after midlumbar chance fracture. Spine J. 2014 Jun 1;14(6):1060-2.

*2. McLaughlin SS, Peckham SJ, Enis JA, Koebbe C, Smith BD. Young woman with thymoma metastatic to the brain controlled with gross total resection and stereotactic radiosurgery, with a subsequent uncomplicated pregnancy. J Clin Oncol. 2011 Jan 10;29(2):

*3 Nakaya K, Niranjan A, Kondziolka D, Kano H, Khan AA, Nettel B, Koebbe C, Pirris S, Flickinger JC, Lunsford LD. Gamma knife radiosurgery for benign tumors with symptoms from brainstem compression. Int J Radiat Oncol Biol Phys. 2010 Jul 15;77(4):988-95.

*4 Pandey AS, Koebbe CJ, Liebman K, Rosenwasser RH, Veznedaroglu E. Low incidence of symptomatic strokes after carotid stenting without embolization protection devices for extracranial carotid stenosis: a single-institution retrospective review. Neurosurgery. 2008 Nov;63(5):867-72.

* 5. Veznedaroglu E, Koebbe CJ, Siddiqui A, Rosenwasser RH. Initial experience with bioactive cerecyte detachable coils: impact on reducing recurrence rates. Neurosurgery 2008 Apr;62(4):799-805.

* 6. Pandey AS, Koebbe C, Rosenwasser RH, Veznedaroglu E, Koebbe CJ. Endovascular coil embolization of ruptured and unruptured posterior circulation aneurysms: review of a 10-year experience. Neurosurgery 2007 Apr;60(4):626-636.

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*7. Koebbe CJ, Pandey A, Veznedaroglu E, Rosenwasser RH. The evolution and future directions of endovascular therapy. Clin Neurosurg 2006 Jan;53:191-195.
* 8. Koebbe CJ, Singhal D, Sheehan J, Flickinger JC, Horowitz M, Kondziolka D, Lunsford LD. Radiosurgery for dural arteriovenous fistulas. Surg Neurol 2005 Nov;64(5):392-398.
* 9. Koebbe CJ, Guidot CA, Campanella B, Balzer J, Levy EI. Preparation of the interventional suite for treatment of neurovascular diseases and emergencies. Neurosurg Clin N Am 2005 Apr;16(2):231-239.
* 10. Park HK, Horowitz M, Jungreis C, Genevro J, Koebbe C, Levy E, Kassam A, Koebbe CJ. Periprocedural morbidity and mortality associated with endovascular treatment of intracranial aneurysms. AJNR Am J Neuroradiol 2005 Mar;26(3):506-514.
* 11. Koebbe CJ, Liebman K, Veznedaroglu E, Rosenwasser R. Carotid artery angioplasty and stent placement for recurrent stenosis. Neurosurg Focus 2005 ;18(1):7-7.
*12. Koebbe CJ, Liebman K, Veznedaroglu E, Rosenwasser R. The role of carotid angioplasty and stenting in carotid revascularization. Neurol Res 2005 Jan;27 Su:53-58.
*13. Nettel B, Niranjan A, Martin JJ, Koebbe CJ, Kondziolka D, Flickinger JC, Lunsford LD. Gamma knife radiosurgery for trigeminal schwannomas. Surg Neurol 2004 Nov;62(5):435-444.
* 14. Jabbour P, Koebbe C, Veznedaroglu E, Benitez RP, Rosenwasser R, Koebbe CJ. Stent-assisted coil placement for unruptured cerebral aneurysms. Neurosurg Focus 2004 Nov;17(5):10-10.
* 15. Park HK, Horowitz M, Jungreis C, Kassam A, Koebbe C, Genevro J, Dutton K, Purdy P, Koebbe CJ. Endovascular treatment of paraclinoid aneurysms: experience with 73 patients. Neurosurgery 2003 Jul;53(1):14-23.
* 16. Koebbe CJ, Horowitz M, Jungreis C, Levy E, Pless M. Alcohol embolization of carotid-cavernous indirect fistulae. Neurosurgery 2003 May;52(5):1111-1115.
* 17. Koebbe CJ, Maroon JC, Abla A, El-Kadi H, Bost J. Lumbar microdiscectomy: a historical perspective and current technical considerations. Neurosurg Focus 2002 Aug;13(2):3-3.
* 18. Levy E, Koebbe CJ, Horowitz MB, Jungreis CA, Pride GL, Dutton K, Kassam A, Purdy PD. Rupture of intracranial aneurysms during endovascular coiling: management and outcomes. Neurosurgery 2001 Oct;49(4):807-811.
* 19. Levy EI, Horowitz MB, Koebbe CJ, Jungreis CC, Pride GL, Dutton K, Purdy PD. Transluminal stent-assisted angiplasty of the intracranial vertebrobasilar system for medically refractory, posterior circulation ischemia: early results. Neurosurgery 2001 Jun;48(6):1215-1221.
*20. Koebbe CJ, Sherman JD, Warnick RE. Distant wounded glioma syndrome: report of two cases. Neurosurgery 2001 Apr;48(4):940-943.
* 21. Gustafson LM, Hartley BE, Liu JH, Link DT, Chadwell J, Koebbe C, Myer CM, Cotton RT, Koebbe CJ. Single-stage laryngotracheal reconstruction in children: a review of 200 cases. Otolaryngol Head Neck Surg 2000 Oct;123 (4):430-434.

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Not Specified

1. Koebbe CJ, Veznedaroglu E, Jabbour P, Rosenwasser RH. Endovascular management of intracranial aneurysms: current experience and future advances. Neurosurgery 2006 Nov;59(5 Sup):93-102.

* 2. Levy EI, Hanel RA, Lau T, Koebbe CJ, Levy N, Padalino DJ, Malicki KM, Guterman LR, Hopkins LN. Frequency and management of recurrent stenosis after carotid artery stent implantation. J Neurosurg 2005 Jan;102 (1):29-37.

* 3. Koebbe CJ, Horowitz MB. A rare case of a ruptured middle meningeal aneurysm causing intracerebral hematoma in a patient with moyamoya disease. AJNR Am J Neuroradiol 2004 Apr;25(4):574-576.

* 4. Koebbe CJ, Horowitz MB, Jungreis C, Dutton K, Park H, Purdy P. Endovascular coiling of anterior communicating artery aneurysms: Review of clinical and angiographic outcomes Contemporary Neurosurgery 2003 Jul;25 (14)

* 5. Levy EI, Horowitz MB, Koebbe C, Jungreis CC, Koebbe CJ. Target-specific multimodality endovascular management of carotid artery blow-out syndrome. Ear Nose Throat J 2002 Feb;81(2):115-118.

* 6. Koebbe CJ, Horowitz MB, Levy IE, Dutton K, Jungreis C. Intraarterial thrombolysis associated with endovascular aneurysm coiling Interventional Radiology 2002;8:151-158.

* 7. Koebbe CJ, Horowitz M, Levy EI, Adelson D, Jungries C. Endovascular particulate and alcohol embolization for near-fatal epistaxis from a skull base vascular malformation. Pediatr Neurosurg 2001 Nov;35(5):257-261.

* 8. Horowitz MB, Levy EI, Koebbe CJ, Jungreis CC. Transluminal stent-assisted coil embolization of a vertebral confluence aneurysm: technique report. Surg Neurol 2001 May;55(5):291-296.

PRESENTATIONS:

07/2016 "Stroke update 2016:Management of ischemic and hemorrhagic stroke", Northside hospital annual stroke conference, St. Petersburg, FL (sole presenter)
04/2016 "Management of vertebral compression fractures", Orthopedic and Spine conference, St. Petersburg College, FL (sole presenter)
02/2016 "Neurosurgical support for cranial and spinal trauma in Afghanistan wartime" Winter Clinics Conference Aspen, CO (sole presenter)
12/2015 "Acute stroke update 2015" Largo Medical Center grand rounds
05/2014 "Update on intracranial aneurysm treatment strategies", Grand rounds, UTHSCSA Dept of Neurosurgery
05/2013 "Clinical Practice guidelines for management of traumatic brain injury: lessons learned from combat in Iraq and Afghanistan", 15th annual trauma symposium, Atlantic City, NJ (sole presenter)
03/2013 Visiting Professor, University of Buffalo Department of Neurosurgery, "NATO role for neurosurgical care of combat casualties in Operation Enduring Freedom", Buffalo, NY (Sole Presenter)
11/2012 Neurosurgical Support of Operation Enduring Freedom, 2nd annual Stroke Summit, Atlantic City, NJ (sole presenter)
05/2010 Endovascular and Radiosurgical AVM Treatment, 78th Annual Meeting, American Association of Neurological Surgeons, Philadelphia, PA (Sole Presenter)
03/2010 Vascular Conference, Conference, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)
02/2010 Vascular Conference, Vascular Conference, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)
02/2010 Radiosurgery for dural AV fistulas, AANS/CNS, Joint Section of Cerebrovascular Disease, 2010 Annual Meeting - Plenary session, San Antonio, TX (Sole Presenter)
01/2010 Vascular Conference, Vascular Conference, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)

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01/2010 Endovascular Neurosurgery Presentation, Neurosurgery Presentation, Department of Neurosugery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)
12/2009 Endovascular Neurosurgery Presentation, Conference Presentation, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)
11/2009 Endovascular Neurosurgery Presentation, Conference Presentation, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Anotonio, TX (Sole Presenter)
11/2009 Endovascular Neurosurgery Presentation, Conference Presentation, Department of Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX (Sole Presenter)
06/2009 Vascular Conference, Neurosurgery Conference, Neurosurgery Faculty & Residents, University Texas Health Science Center San Antonio, San Antonio, TX (Sole Presenter)
02/2008 Carotid artery stenting and angioplasty: David vs. Goliath, Winter Clinic Meetings, Snowmass, CO (Sole Presenter)
09/2007 Neurosurgical emergencies, Emergency War Surgery Course, Wilford Hall Medical Center, Lackland AFB, TX (Sole Presenter)
03/2007 Endovascular approaches to revascularization of cerebrovascular occlusive disease, Jefferson Sixth Annual Cerebrovascular Update, Philadelphia, PA (Sole Presenter)
02/2006 Stent-assisted coil embolization of wide-neck aneurysms: Analysis of clinical and radiographic outcomes at 1-2 years, 10th Annual Joint Section Meeting, AANS/CNS Section on Cerebrovascular Surgery and the ASITN, Orlando, FL
Details: *Authors: Koebbe CJ, Veznedaroglu E, Liebman K, Benitez R, Siddiqui A, Jabbour P, Rosenwasser RH*
07/2005 Stent-assisted coil embolization for recurrent wide-neck aneurysms, Pennsylvania State Neurosurgical Society Annual Meeting, Hershey, PA
Details: *Authors: Koebbe CJ, Veznedaroglu E, Benitez R, Rosenwasser RH*
12/2004 Endovascular treatment of ruptured middle cerebral artery aneurysms., 16th Annual Pan-Philadelphia Neurosurgical Society, Philadelphia, PA
Details: *Authors: Koebbe CJ, Veznedaroglu E, Benitez R, Rosenwasser RH*
01/2003 A prospective randomised trial protocol for deep brain stimulation in dystonia; techniques and preliminary results, Quadrenial Meeting, American Society for Stereotactic and Functional Neurosurgery, New York, NY
Details: *Poster Authors: Koebbe CJ, Kondziolka D, Albright AL, Ferson S*
01/2003 Alcohol embolization of internal carotid supply to indirect carotid-cavernous fistulas, 7th annual meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN, Phoenix, AZ
Details: *Authors: Koebbe CJ, Horowitz MB, Jungreis C, Pless M*
01/2002 Endovascular coiling of anterior communicating artery aneurysms: preliminary clinical and angiographic outcomes., Rocky Mountain Neurosurgical Society Annual Meeting, NM
Details: *Authors: Koebbe CJ, Horowitz MB, Jungreis C, Purdy PD, Pride GL, Dutton K*
02/2001 Rupture of intracranial aneurysms during endovascular coiling: management and outcomes, 5th Annual Meeting of AANS/CNS and American Society of Interventional and Therapeutic Neuroradiology, HI
Details: *Authors: Levy E, Koebbe CJ, Horowitz M, Jungreis CM, Purdy PD, Pride GL, Dutton K, Kassam A*
02/2001 Transluminal stent-assisted angioplasty of the intracranial vertebrobasilar system for medically refractory posterior circulation ischemia: Early results, 5th Annual Meeting of AANS/CNS and American Society of Interventional and Therapeutic Neuroradiology, HI
Details: *Authors: Levy E, Horowitz M, Koebbe CJ, Jungreis CM, Pride GL, Dutton K, Kassam A, Purdy PD*

08/1999 The Cost Effectiveness of Computer-Aided Endoscopic Sinus Surgery, Otolaryngology- Head and Neck Surgery Grand Rounds, University of Cincinnati Medical Center, Cincinnati, OH (Sole Presenter)
07/1999 Pineal Region Tumors, Neurosurgery Grand Rounds, University of Cincinnati Medical Center, Cincinnati, OH (Sole Presenter)

SERVICE

SERVICE TO THE PUBLIC:
Dates Type Description Role
05/2016 "Stroke awareness month discussion" Health Education WFTS 6 ABC Tampa
06/2011-06/2011 Health Education
'Super Glue' for the Brain: Doctor's have new way to treat aneurysms "KENS 5 television Interview Spea ker
KENS 5 San Antonio, TX television interview
06/2011-06/2011 Health Education
Aneurysms: Super-glue-like fluid gives new hope
Speaker
CBS News The Early Show television interview
07/2009-07/2009 Health Education
"Brain Aneurysm- The Worst
Headache of My Life"
Speaker
"An Hour with the Expert" Monthly Series
St. Luke's Baptist Hospital
San Antonio, Texas

PROFESSIONAL AFFILIATIONS:
Dates Organization
2/2016- present Florida Medical Association
01/2010-2015 Texas Association of Neurological Surgeons (TANS)
-2/2013-2/2014 Vice president, TANS
07/2009-present Member, Cerebrovascular section, AANS/CNS
07/2009-2015 Texas Medical Association/Bexar County medical Society
01/2003-01/2005 Young Neurosurgeons Committee, AANS

Additional Details: *Member, Elected*
01/2001-Present American Association of Neurological Surgeons
01/2000-Present Congress of Neurological Surgeons
01/2000-Present Alpha Omega Alpha Medical Honor Society

COMMITTEES (OTHER):
5/2012-2015 Material Standardization Committee, SAMMC, Physician voting member
01/2009-2014 Pharmacy and Therapeutics, University Health System, Member
07/2004-06/2006 Graduate Medical Education Committee, Thomas Jefferson University Hospital Member

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EXHIBIT H

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Exhibit K

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DANHOFF, ET AL. v. FAHIM, M.D., ET AL.

CHRISTOPHER KOEBBE, M.D.

August 7, 2019

Prepared for you by



Bingham Farms/Southfield • Grand Rapids
Ann Arbor • Detroit • Flint • Jackson • Lansing • Mt. Clemens • Saginaw • Troy

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STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF OAKLAND

LYNDA DANHOFF and
DANIEL DANHOFF,
Plaintiffs, Case No.: 2018-166129-NH
vs. HON. NANCI J. GRANT
DANIEL K. FAHIM, M.D.,
KENNETH P. D'ANDREA, D.O.,
WILLIAM BEAUMONT HOSPITAL
d/b/a BEAUMONT HOSPITAL -
ROYAL OAK, and MICHIGAN
HEAD & SPINE INSTITUTE,
jointly and severally,
Defendants.
_____/

DEPOSITION OF CHRISTOPHER KOEBBE, M.D.
(Pages 1 to 139)

August 7, 2019
1:00 - 5:20 p.m.
U.S. Legal Support, Inc.
4200 West Cypress Street
Suite 750
Tampa, Florida 33607

Stenographically reported by:
Renee L. Gilkes, RPR

APPEARANCES

APPEARING ON BEHALF OF THE PLAINTIFFS:

JEFFREY S. COOK, ESQUIRE
Driggers, Schultz & Berbst
2600 West Big Beaver Road
Suite 550
Troy, Michigan 48084
jcook@driggerschultz.com

APPEARING ON BEHALF OF THE DEFENDANTS MICHIGAN HEAD & SPINE INSTITUTE AND DANIEL K. FAHIM, M.D.:

SCOTT A. SAURBIER, ESQUIRE
Saurbier Law Firm, P.C.
400 Maple Park Boulevard
Suite 402
St. Clair Shores, Michigan 48081
saurbiers@saurbier.com

APPEARING ON BEHALF OF THE DEFENDANT BEAUMONT HOSPITAL AND KENNETH P. D'ANDREA, D.O.:

DEAN A. ETSIOS, ESQUIRE
Kitch, Drutchas, Wagner, Valitutti & Sherbrook
One Woodward Avenue
Suite 2400
Detroit, Michigan 48226
dean.etsios@kitch.com

* * *

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* * *

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None		

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PROCEEDINGS

The deposition of CHRISTOPHER KOEBBE, M.D., was taken pursuant to notice by counsel for the Defendants on August 7, 2019, commencing at 1:00 p.m. at U.S. Legal Support, Inc., 4200 West Cypress Street, Suite 750, Tampa, Florida 33607. Said deposition was reported by Renee L. Gilkes, Registered Professional Reporter, Notary Public, State of Florida at Large.

* * *

THE COURT REPORTER: Please raise your right hand.

Do you swear or affirm the testimony you're about to give is the truth, the whole truth and nothing but the truth?

THE WITNESS: Yes.

THEREUPON,

CHRISTOPHER KOEBBE, M.D.,

the witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SAURBIER:

Q So the record should reflect that this is the deposition of Christopher Koebbe, M.D., scheduled on a -- for Wednesday, August 7, 2019 at 1:00 p.m. The location is U.S. Legal Support at 4200 West Cypress

Street in Tampa, Florida.

Would you state your name for the record, please?

A Christopher Koebbe.

Q Dr. Koebbe, my name is Scott Saurbier. I am representing Dr. Fahim in this case at Michigan Head & Spine Institute. And I've got a number of questions to ask you today. If at any time you have any questions of me or you don't understand my question or you want me to rephrase it, just let me know and I'll be happy to do so.

Otherwise, we'll all assume you've understood the question and your answer is in fair response to the question; is that okay with you?

A Yes.

Q I should reflect that on the telephone with me is Dr. Fahim, and he is listening in. He won't have anything to say during the deposition. And I will probably take a break or two just to consult with him about matters that may come up or questions that he may think I should be asking that I have not done so.

And I have -- in the deposition notice duces tecum, this is set to be taken for discovery purposes only under MCR 2.302(B)(4)(ii) and also in accordance with 2.306.

So in part of this deposition duces tecum, I know you've seen that. You've shown me your copy of that and I know that you've gone through that. And we can go through it. So you can tell me what you have and what you don't have.

And perhaps what -- maybe to move this along, I should go through the materials you have already given me that I've premarked for the deposition and make a record of those. Then we can refer back to them.

So can you slide those back over to me? I'll tell you what, let's just take them one at a time. You can talk about them a little bit and we'll go from there. So first, I have asked you for a copy of your CV, and we have that here somewhere. Can we put our fingers on that?

A Is it in that pile?

(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 1 WAS MARKED FOR IDENTIFICATION)

BY MR. SAURBIER:

Q So it may be -- yes. So I marked your CV as Exhibit 1 and I -- let me just go through some background matters at this point in time. You are currently employed by who?

A So the updates to the CV that I can send you electronically pertain to my employment. My current

employer is Advocate Health Partners, and so that's been updated on my current CV.

Q Advocate Health Partners. I think that you were employed by the Florida Spine Institute?

A Yes.

Q And when did that change?

A June 30, 2019.

Q And what is the reason for that change?

A That was a group practice for which I was an employee of the group. And so I decided to leave that group and start my own practice, which is what Advocate Health Partners is.

Q So group -- the group practice you were with was with Northside Hospital at the Largo Medical Center?

A Those were hospitals that I practiced at and still do even in my current employment situation.

Q Okay. And how many individuals are at Advocate?

A It's myself and I have one partner. His name is Dr. Christopher Grace. He is an anesthesia-trained pain management specialist.

Q And what is the address of that entity?

A We have four office locations, but our main address is 5800 49th Street North, St. Petersburg, Florida.

Q So besides you and Christopher Grace, are there

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any other employees?
A No other physician employees. We have office staff and one physician assistant.
Q Okay. And how many total are in this office?
A We have -- I would say we have eight, I think, total employees.
Q And so running through your personal information, you've given me the address of 4940 West San Rafael Street in Tampa. What is that?
A That's my home address.
MR. SAURBIER: Okay. And so will you -- however you want to do this, Jeff. You can either update his CV by sending it to you and you can send it to me.
MR. COOK: That's fine.
MR. SAURBIER: So we'll just keep track of these things.
BY MR. SAURBIER:
Q Your background. I -- as I'm reading this, you did your -- looks like your -- so you came out of the Cincinnati College of Medicine for your MD in 2000. And then you did your, what, general surgery internship?
A Yes.
Q And that was at University of Pittsburgh?
A Yes.
Q And then you from 2001 -- seeing your residency

begins in 2004. So what happened after 2001?
A So I started at PGY 2 in neurosurgery, 2001 till 2004. I was at the University of Pittsburgh. I elected to transfer residency programs while still in good standing in Pittsburgh to Thomas Jefferson University program in Philadelphia, and basically left Pittsburgh on June 30th of 2004 and started in Philadelphia July 1, 2004 to continue my residency.
Q And that continued until what year?
A 2006.
Q Okay. And what happened at that time?
A I completed the residency program at Jefferson in 2006 and went into a one year clinical instructor/fellowship in cerebrovascular and endovascular neurosurgery at Jefferson.
Q And then it looks like I pick you up '06 to '07 staff neuro -- neurosurgeon at Frankfurt Hospitals Jefferson Health System?
A That one of the affiliated hospitals I worked at in my capacity as a clinical instructor.
Q Okay. Are you currently aligned with any type of university system as an instructor?
A Yeah. I still have, I would say, a loose affiliation as a clinical instruction of the University of Texas Health Science Center in San Antonio.

Q You moved from Texas in 2015?
A Yes.
Q And so do you actually do any teaching back in Texas at this point?
A I go back about every three months for, typically, a one week kind of work assignment, if you want to call it that.
Q Okay. And what do you actually do as a clinical instructor in Texas?
A While I'm there for the week, I typically cover emergency room calls at hospitals that are affiliated with, as well as interact with, the residents in those capacities, supervising during surgery and during conferences over the course of that week.
Q And what hospitals do you work out of in Texas?
A The University Hospital is the main affiliate of the UT Health System in San Antonio. They also provide coverage to St. Luke's Baptist Health System and North Central Baptist Health System. Those are private hospital systems in San Antonio.
Q Do you know Carlos Bagley who is a neurosurgeon?
A I don't know that name, no.
Q He was just censored by the AANS for giving improper testimony up in Michigan in a trial, but he's from down there. So how long do you intend to continue

going back to Texas for a week at a time?
A As long as they request me to perform those duties.
Q And you spend how many weeks there in the year?
A The last time I was there was in July. So it's averaged about every three months I'll go back for a week. My next assignment most likely will be in either December or January. We haven't worked out the dates.
Q So -- and then why don't you bring me up to speed as to what you were actually doing on -- or when you went to Texas and who you're working for in Texas until you came here in August of 2015?
A So my practice in Texas from 2007 to 2015, my main responsibilities were as an active duty neurosurgeon in the United States Air Force. And so I was assigned to --
Q You were at Lackland?
A Wilford Hall Medical Center on Lackland Air Force Base from 2007 to 2011. So during that time is when my affiliation with the University of Texas system began in 2008. So I worked at multiple hospitals in those capacities.
In 2011, I deployed to Afghanistan for about seven months, came back in 2012. I was at Bagram Air Base in Afghanistan as the only neurosurgeon in the

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theater in that region.

And so when I came back, the base realignment and closure had relocated my office and the surgeons to Brook Army Medical Center. So I found out I had a new home. And so spent the remainder of that time from 2012 to 2015 at Brook Army Medical Center, still on Fort Sam, Houston, still as an active duty Air Force neurosurgeon.

Q And so the percentage breakdown when you were in Texas and also involved in a sharing agreement with the hospitals, as I understand it. How did you break your practice down?

A Well, I essentially would spend about 40 hours a week to 50 hours a week with my military duties. Seeing patients in clinic there, performing surgeries. Both cranial and spinal and endovascular.

Providing call. We were a level one trauma center. So providing call, neurosurgical call duties for the facility for civilian trauma patients that would come in.

And then I would spend another, typically, 20 hours or so a week working in the other facilities, either after hours or on a day during the week, I would take leave from military duties or on Saturdays became an elective schedule day for me at those facilities.

Q So the percentage work you were doing in cranial

versus spine would have been what?

A I would say overall it was about 50/50 percent split.

Q And with the sharing agreement, what percentage of the time did you spend working in a military capacity and what percent of your time in a civilian capacity or at least with civilian patients?

A I would say my 80-hour work weeks were split based on the hours I gave you. About 75 percent in the military facility and 25 percent in civilian facilities.

Q And then you decided to leave Texas in August of 2015 for what reason?

A So my active duty service commitment had been completed in July of 2015. And after performing a job searching contemplating staying there, I decided to take a job here in the Tampa, Florida area, which is why I relocated.

Q And that's when you were employed by the hospital system at that point?

A No. I came here and my first employment was with Florida Spine Institute.

Q So at the -- why don't you bring me up to speed from 2015 through now and tell me where you have been working, what hospitals and so forth?

A So when I did move here and began employment

with Florida Spine Institute, I affiliated with two hospitals. Largo Medical Center and Northside Hospital. Where I provided and continue in my current employment situation to be providing call coverages and doing elective surgeries.

As I mentioned earlier, about a month and a half ago, I left my employment position with Florida Spine Institute to start, basically, my own group as a self-employed neurosurgeon in this current practice.

Q So -- and then Northside Hospital, is Northside Hospital part of Largo Medical Center?

A Those are two separate hospitals, but under the same parent company.

Q So which hospitals, let's say in 2015, were you primarily working out of?

A Those two.

Q And the -- at Largo, what percentage of your time did you spend at Largo?

A I would say it was a pretty equal 50/50 split.

Q So 50/50 with Largo and 50/50 with Northside?

A Correct.

Q Were you doing the same types of neurosurgical activities at both of them?

A I practiced spine surgery at both facilities. Northside is a comprehensive stroke program, which is

different than what Largo is. So my endovascular cases and call duties were done at Northside Hospital.

Q As you -- you -- well, tell me a little bit about the Northside hospital. First of all, how about trauma level?

A It is not a trauma facility.

Q Okay. So is it level two, three, community hospital? How would you --

A It's not a -- there's no level assignment. It does not do trauma.

Q Okay.

A But it is a comprehensive certified stroke center.

Q Okay. How many beds does it have?

A I'd be guessing but around 200, I want to say.

Q And how many neurosurgeons were on staff there?

A When I got there, there was a private group of three neurosurgeons. And then myself and my partner at Florida Spine Institute is a neurosurgeon. So there were five.

Q And then let's turn the same questions over to the Largo Medical Center. About how many beds are there?

A About 350.

Q And that is what type of a trauma center?

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A It is not a trauma center.
Q Okay. Does it have a designation as a trauma level two, three or --
A It's not designated.
Q No designation there either?
A No.
Q Okay. And about how many neurosurgeons were on staff?
A When I got there, I was the third neurosurgeon on staff.
Q And those are still the two -- only the two hospitals that you practiced at in 2015 with the exception of what you did before in Texas --
A Correct.
Q -- before you moved and is that still true today?
A Over the past four years, I did get credentials at St. Anthony's Hospital, which is in St. Petersburg. I do very limited -- maybe two days a month at that facility, only spine. It is not a trauma nor is it a comprehensive stroke center.
Q So the two days. Are one of those days a clinical day and another day an operating day or how does that you work?
A It would be operative days. It's part of a

different health system. So some patients referred to me prefer that health system and that's what led to my affiliation with that hospital.
Q Okay. They are all located in Tampa?
A In --
Q Well, St. Petersburg?
A Correct.
Q Okay.
A In Pinellas County.
Q Okay. Got it.
So your current -- how would you describe your current practice? Are you a general neurosurgeon or do you have specific areas? How would you break down your practice for me?
A I would say I'm a general neurosurgeon about 70 to 80 percent of the time. The other 20 percent of the time would involve doing endovascular or open vascular.
Q Is there specific training to do endovascular?
A Yes.
Q And where did you get that?
A At Thomas Jefferson Philadelphia.
Q Okay. Then as you break down your general, the other 70 or 80 percent of your time, apart from the vascular, what percentage of the time are you devoting to spine versus cranium?

A Of that general time, I would say 80 percent is spent doing spine and 20 percent would be doing, let's say, like, brain tumors or hematoma evacuations.
Q And I see on here you say nine -- September of 2015 till the present, you've got an nonacademic appointment as the director of neurosurgery at Northside Hospital and Largo Medical Center?
A Yes.
Q Is that an elected position or an appointed position?
A It was appointed position.
Q And do you receive reimbursement from those hospitals?
A Yes.
Q How much of your time do you spend as director of neurosurgery outside the direct practice of medicine?
A Initially, in 2015, it was probably about 10 percent of my time. I would say presently in 2019. It's less than five percent. And those positions may actually be going away soon for me.
Q Why would that be?
A Mainly due to just the limited amount of time I have to put into it.
Q You're a member of the AANS?
A Yes, I am.

Q So I see that you've done a book chapter here. You've listed it yourself with Perez-Pruitt and also with, looks like Dr. Fessler; is that correct?
A Yes.
Q So this is the same Dr. Fessler you're criticizing in this case?
MR. COOK: This case?
BY MR. SAURBIER:
Q Oh, I'm sorry. I'm talking of Dr. Fahim, but they are in the same practice. Do you understand that?
A I'm not sure.
Q Okay.
A I think that's a different Dr. Fessler than the one you're thinking of, because the Dr. Fessler, I think, on that book chapter is in Chicago.
Q Okay. So this book chapter was written in 2002. If you -- have you talked with Dr. Perez-Pruitt lately?
A I usually see him at a national meeting that we tend to go to each year in February.
Q That's interesting.
A That would be the last time I saw him.
Q He's the one that took Dr. Bagley to the AANS. What a coincidence. And -- so do any of these journal articles have anything to do with the type of surgery that was done in this case?

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A No. At least not specifically to a lateral approach to a spine surgery.

Q Do any of these articles on some specified -- and you've got a category of non-specified. Do any of these articles pertain to lumbar type of surgery at all?

A I think there's some. A couple articles that I wrote some review articles as a resident about lumbar microdiscectomy.

Q Yes. So that was the one that I just was just looking at that is -- so you've got it listed as outpatient lumbar microdiscectomy with Perez-Pruitt and Fessler, and outpatient spinal surgery in St. Louis. I want to hand that back to you. And you can take a look at both that and see if there's anything else that would pertain.

A Yeah. There's one here, number 17, on lumbar microdiscectomy, A Historical Perspective and Current Technical Consideration from 2002.

Q Anything else?

A There's a presentation I gave about vertebral compression fractures that can occur in the lumbar spine.

Q And what year was that?

A That would have been in 2016.

Q Who did you give that to?

A It was given to a group of multi-discipline providers here in Pinellas County, Florida.

Q So apart from -- what other, either professional or academic, administrative or clinical, positions do you have, if any, other than what we've talked about?

A I don't think there's any others we haven't discussed.

Q And in Texas do you have a title with a medical school or whoever that you're working through there?

A Just I'm a clinical instructor or assistant whatever. Professor instructor.

Q And in your -- do you have a list of professional memberships here?

A It should be there wherever you found the AANS membership.

Q Actually, I just saw you attended an annual meeting there in 2015. Okay. So I see that Florida Medical Association. I -- and I see Texas Association of Neurosurgeons, TANS. Are you still a member of that or did you drop that?

A I'm not a member of that anymore, no.

Q And on July 2009, member of the cardiovascular section AANS/CNS. Are you still a member of -- I'm sorry. Cerebral vascular section, are you still a member of that?

A Yes.

Q And you were a Texas Medical Association/Bexar County Medical Society. I assume you dropped that?

A Yes.

Q And '03 to '05 you were at the Young Neurosurgeon Committee AANS. I assume that is over?

A Yes.

Q And you're an elected member present American Association of Neurological Surgeons. Also from 2000 present Congress of Neurological Surgeons; is that true?

A Yeah. My Congress membership, I did not renew as of 2018. So I guess I need to update that.

Q Okay. And 2000 to present Alpha Omega Alpha Medical Honor Society. Still a member of that?

A Yes.

Q So the committees that you have on here, it looks like the last one ended in from 2012 to 2015 the Material Standardization Committee at SAMMC. So no other committees or hospital responsibilities other than what you've already told me?

A I was the chief of surgery for about a year at Northside Hospital. That ended in 2018. That appointment also came with an appointment on the medical executive committee at the hospital, which also expired after the one year term.

Q Have you been in -- I don't know if they do it down here, but is there an election by physicians to the best docs or best doctors in an area such as neurosurgeon?

A I have no idea.

Q Okay. Never received that type of award?

A I've not pursued that type of award, no.

Q Have you ever participated in neurosurgery department morbidity and mortality meetings?

A I do when I go back to Texas at the University department.

Q Nothing here?

A There is no formal department of neurosurgery at either of the facilities.

Q Have you presented at any of if AANS annual meetings, either by poster or presentation?

A Just what's listed there. The answer would be yes. The specifics are in the CV there.

Q Okay. Can you pick that up and show me where that is?

A So I think the -- under the representation section in May of 2010 was my last presentation at the ANNS meeting.

Q I saw that you were an office holder in one group at one time. What was that group and when?

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A I'm not sure what you're referring to.
Q I think that it might have been something in Texas where you were the vice president or something?
A Oh, right. Yeah. The Texas Association of Neurological Surgeons. I had a one year term as the vice president within that organization.
Q Okay. And as far as peer review papers, your last peer review paper was what on there?
A It would have been this paper in, I guess it was, 2014.
Q And you ever see Dr. Fahim or see any of his presentations through the Texas Association of Neurological Surgeons?
A I may have, but his name didn't strike any cord in terms of recollection of the particular talk.
Q And you don't do any type of formal teaching, do you?
A I'm not sure what you mean by formal teaching.
Q So, again, that would be, like, formal teaching to residents.
A I don't -- we don't have a residency program at either of the facilities. I still do some teaching for some of the companies that produce, you know, products, whether it be spinal or vascular. So I may instruct residents in that capacity. Typically, it's surgeons

that are out in current practice, though, in those courses.
Q So do you have any type of a syllabus on that or PowerPoint or is that just strictly verbal as you see them, more or less, clinically?
A It can be a combination of both.
Q So what would the PowerPoint be that you would -- that you would have?
A The one I do most frequently is for cervical artificial disc replacement surgery. And so there is kind of a slide deck provided by the manufacturer of the device for which I modified to include some of my own cases in that slide deck.
Q And that manufacturer is what?
A The device is called Mobi-C, and the manufacturer/owner of it currently is Zimmer Biomet.
Q Do you have any -- do you participate in any editorial reviews?
A I occasionally, about every three months or so, get asked to review cerebrovascular articles for the Red Journal Neurosurgery.
Q Okay. The last one that I would find published would be when?
A I don't know when it's been published. I would say the last one I reviewed was about three months ago.

But there's a process that it goes through before it, you know, the final decision is made and when it arrives to the journal. Typically, it's long after I've reviewed it.
Q Any -- anything else about this Red Journal that you're talking about?
A That's the only journal that I currently review articles for.
(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 2 WAS MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q Okay. Number 2 -- Exhibit No. 2 is the affidavit of merit that I'm going to hand you. And what -- first of all, when were you contacted in this case?
A I think it's around the time I got this letter here in May of 2018.
Q Okay. And who contacted you?
A Mr. Cook did.
Q Had you ever worked with Mr. Cook before?
A No.
Q You ever work with anybody in Michigan before?
A I have currently, yeah. I think in May of 2018. I'd have to go back and look at my list of cases. But I think I had looked at a couple in Michigan as of that

time.
Q And did you bring that list of cases with you?
A Did.
Q Can I see that?
MR. COOK: Off the record.

(WHEREUPON, A BRIEF DISCUSSION WAS HELD OFF THE RECORD)
BY MR. COOK:
Q So let's just continue. So what -- who are your Michigan contacts here?
A Looking back over the list, I knew there was one a while ago that I first looked at. First Michigan case I had looked at was in 2013. It was sent to me from an attorney, Randy Blau, B-L-A-U. And I did not accept the case.
There was another case that he sent to me in 2015 for which I did do an affidavit. And I may not have moved it from one slot on my sheet here to the other, but I'm pretty sure there was a deposition done in that case.
Q And do you keep track of the cases that you review and then testify in?
A I maintain it myself. I try to keep up with it as best I can.
Q Okay. Is that part of the -- what we were just

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talking about that you e-mailed on?
A Yes.
(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 3 WAS MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q Okay. So we should be able to talk about that more fully, shortly. So let's just go through this. In your Exhibit -- is it 3?
A This one, the letters?
Q So let's just briefly look at this. So Exhibit 3 is a letter from Mr. Cook going to you, Dr. Christopher Koebbe, setting -- confirming this deposition today, but you have some notes written on here.
And can you just read us those notes and tell us what that -- where those come from or what the context of this is?
A This letter was sent along with some depositions, which I reviewed, which have also been marked and that I brought with me today. So I made some notes as I went through those.
The request for the -- your request that you made for items was also a part of this package. And so that's why I wrote, "Number one, items requested for deposition not available, not possible."

Then "Number two, D'Andrea doesn't do lateral surgeries."
"Number three, Fahim, possible diverticulum rupture? Peritoneal hole? Iacco deposition."
Those are my written notes on that piece of paper.
(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 4 WAS MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q Exhibit 4, I believe it is, reflects -- this is a May 11, 2018 letter, again, from Jerry Cook to you with enclosures of Beaumont Hospital records, nursing notes of 12/7 through 12/12, six radiology CDs, and a note of intent to file a claim.
And then it is, "I received" -- "Dear Dr. Koebbe, I received your contact information from Guy Saponaro, S-A-P-O-N-A-R-O."
Do you list yourself with Guy Saponaro?
A I don't know whether I'm listed with him or not. He has contacted me via e-mail. The first time he did, I'm not sure how he got my contact information. I've not really asked him. But he will occasionally refer or connect me with attorneys with cases. But I don't know the nature of his business or what his relationship with the attorneys is.

Q So how many times has this Guy Saponaro lined you up with attorneys?
A I think the first one probably was about three years ago, I want to say. I say maybe over those three years I've received about 10 different cases from him.
Q What is the business relationship there? In other words, what do you pay him or does he pay you?
A I don't pay him anything and he doesn't pay me anything.
Q Okay. How does he get reimbursed to the best of your knowledge?
A I have no idea. I've never asked him, again, how he got my information or how he runs his business.
Q Okay. And do you currently receive cases from him?
A Yeah. I've received some this year, yes.
Q So how many cases have you received in total pertaining to medical legal affairs?
A Over what time period?
Q Well, when did you first start reviewing medical legal cases?
A The first review I did was back in 2011.
Q Okay. And how many have you received since?
A I can't say that I have a specific running count of the total number. I would say, if I had to estimate,

in the past five years, on average, I've received one to two cases, I'd say, quarterly. And so that would put the annual total somewhere about eight to 12. So that would put the five year total somewhere around 60.
Q Do you have all of those cases listed on this document that we're going to get and make an exhibit that you e-mailed?
A I can't say it's a complete summation. What I really keep track of is the trial testimonies I've provided and deposition testimonies I've provided.
Q How many times have you given depositions? Maybe we can be more specific when we see this document, but you can give me a general answer.
A How many times have I -- this would be the 17th time in a medical malpractice case as a witness that I've provided deposition testimony.
Q And how many times have you have been to trial?
A Once.
Q And where was that and what case was that?
A That trial took place in Lubbock County, Texas. It would have been in 2016, in the summertime, that I went to trial there. In the case, I was testifying at the request of the plaintiff's attorneys, involving spinal -- lumbar spinal surgery that resulted in a neurologic injury, nerve injury that caused paralysis to

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a patient.
Q How do you break down your -- the cases you received by state, from what different states do they come from?
A Well, when I started this, it was at the request of the chairman of our neurosurgery department to review a case. That was in 2011. And so from really the first three years of doing it, almost all were from the State of Texas and almost all were defense. I started receiving some from a few plaintiff's attorneys in Texas.
And then I would say about 2014, '15, I started receiving cases from other states. The bulk of which -- and when you see the list, you'll get it. Probably the most prominent one is Georgia.
Since I've moved to Florida, I've received a number of cases, obviously, from Florida. More of those have been from defense attorneys than plaintiff's attorneys. So from outside of Texas and Florida, more are plaintiffs than defense.
Some of the states I can recall cases I've looked at from Oklahoma. I've looked at from South Carolina, Kansas. I mentioned the ones in Michigan, but I've not -- other than the one case been deposed in. New York and Illinois.

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Q Is there -- so as you're looking there on your computer at this list, what number of cases have you testified in or reviewed for a doctor or a hospital and -- versus the plaintiff's side of the case?
A Well, overall, my general sense of what I do is about 60 to 70 percent plaintiff and about 30 to 40 percent defense.
Q If this case goes to trial, will you appear at the time of trial?
A Yes, if requested.
Q Let's go through this Exhibit 4. It looks like -- so one of the things it says on here from Mr. Cook, it says, "The notice of intent contains the factual basis for my claim based on my review of the medical records and the client's recitation of the facts as they know them."
And it says, "I'm enclosing your retainer fee in the amount of $3,000.00;" is that what your retainer is?
A Yes.
Q Do you have a retainer statement or what you charge for the various aspects of what you do medical legally?
A I do maintain a fee schedule.
Q Yes.
A It would have been sent to you, I believe, as

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part of the request for payment for the deposition. But if you don't have the copy, I can e-mail one and we can print one out.
Q Yup. I would appreciate that.
But can you just tell me -- so you take your retainer $3,000. What do you charge for review of records?
A $1,000 dollars an hour.
Q And then what do you charge for this deposition? My understanding is, basically, a flat fee for four hours.
A For deposition testimony it's $1,000 an hour. When blocking a half day, which is typically every deposition I've done, I charge a $5,000 minimum. If the request is to charge to block an entire day, then I would charge $8,000 minimum. And this particular deposition, I think was part of your question, is, I'm being compensated $2,500.
Q And as far as your charge for reviewing records, do you charge $1,000 an hour for everything you do in a medical legal case?
A Yes.
Q And if you go to trial, what is your charge?
A It's $10,000 a day. That would be out of town. If it happens to be here in the Tampa area, it's $1,000

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an hour.
Q Then plus cost and expenses, I assume?
A Yes.
MR. COOK: Here's an extra copy.
THE WITNESS: Yeah, I had that as well.
MR. SAURBIER: Okay.
(WHEREUPON, DEFENDANT'S EXHIBIT NUMBERS 5, 6, 11 AND 12 WERE MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q So I think we're up to number 12. We'll mark your fee schedule as Exhibit 12.
So the other thing then that we have -- let's just keep it in order. So Exhibit No.5 -- got 3, 4.
So Exhibit 5 is a documentation of our check for $2,500 for the deposition.
Exhibit 6 is -- this is the notice of intent from Mr. Cook. Did you read the notice of intent?
A Yes.
Q And here, there are a list of actions in the notice of intent in which it is claimed that Dr. Fahim breached the acceptable standard of care. I'm going to hand that to you. You can look at any portion of it.
But did you participate in the preparation of the notice of intent?
A Well, the document, as it stands here, was

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included in the mailing of the medical records.

Q Okay. So you did not participate in that?

A Correct.

Q And then if you can find your affidavit of merit. So this is Exhibit No. 2. If you look at -- in the affidavit -- well, let's just go to the back first of all. So is that your signature on the affidavit?

A Yes.

Q And that was signed when?

A May 24, 2018.

Q Did you participate in making this affidavit?

A Yes.

Q And how did that work?

A Well, I can read through it --

Q Sure.

A -- and tell you how it was generated. So at the time the affidavit was created, I had obviously reviewed the medical records and items I felt pertinent to creating this opinion that's stated within the affidavit of merit.

I spoke with Mr. Cook. And so together the document was drafted, obviously, to meet the legal standards, I guess, within the State of Michigan that Mr. Cook is far more familiar of than I am.

(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 9 WAS MARKED FOR IDENTIFICATION)

BY MR. SAURBIER:

Q So let's talk about the medical records you reviewed, because I have a packet I marked as Exhibit 9. And this is from Beaumont Hospitals. And -- I'm just going to let you tell me what we've got here. I know that you've been there, and I've looked at that. You made some marks in it.

(WHEREUPON, DEFENDANT'S'S EXHIBIT NUMBER 10 WAS MARKED FOR IDENTIFICATION)

BY MR. SAURBIER:

Q And also Exhibit 10, you can look at in conjunction with that and tell us what those records are that you reviewed before formulating the affidavit of merit.

A Well, the medical records from Beaumont Hospital would have pertained to the admission for surgery that was performed on 12/7/15, including operative reports, laboratory studies, clinical notes, consults, discharge summary, some discharge instructions, radiologic reports and then the nursing notes -- or, I believe, in Exhibit 10 from the same hospital admission and same hospital.

Q Now, did those notes encompass that entire

hospitalization until the patient was discharged?

A Yes. The discharge summary would have included and been done at the time of discharge from the hospital.

Q Okay. And are there subsequent treatment or hospital records also in that packet you've been furnished?

A No.

Q So you have just seen the notes regarding -- beginning with, what, December the 7th?

A Yes.

Q And concluding on what date?

A It looks like the date of discharge goes to 1/6/2016.

Q And you have no records following that discharge of 1/6/2016?

A Not here in this file, no. But also it was provided -- there are some notes from subsequent medical care provided --

Q Okay.

A -- along with the depositions.

Q Okay. We will go into that.

At any time did you receive the pathology report that was collected on December 12th of 2015?

A I don't specifically recall. I mean, I can flip

through every one of these pages to see if it's in here. But --

Q No. Maybe I can refresh your recollection. So this was pathology that was taken from the sigmoid colon in the segmental resection where it was reported that there was diverticulitis with a diverticular rupture, with some description of the abscess and neurosis with the colonic perforation. Did you see that?

A I'm looking at it right now, yes.

Q Okay. You had reviewed that prior to today had you not?

A Again, I'd have to thumb through here to see whether it's here or not.

Q Okay. So you -- the copy you have received, Mr. Cook just provided you; is that right?

A What I'm looking at now, yes.

Q Okay. And do you know when this patient -- as you reviewed the records, did the patient reflect any type of a history of diverticulosis or diverticulitis to anybody?

A I discovered that in review of the depositions.

Q Okay. It wasn't -- she did not provide that history in the medical records; is that true?

A Not that I can recall from any of the notes that were in this inpatient chart.

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(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 8 WAS MARKED FOR IDENTIFICATION)

BY MR. SAURBIER:

Q Did you also see where in subsequent records -- well, let's -- let's just go through this. I don't want to get things out of kilter. I marked as Number 8 -- what is this that I'm handing you that's Exhibit No. 8?

A This was a summary of her temperature charting.

Q Okay.

A From 12/8 through 12/9.

Q And Mr. Cook said he prepared that list and gave that to you?

A Yes.

Q And let's just go through the remaining medical records that you have. Apart from the exhibit that would pertain to subsequent treatment, can you put your finger on those? I don't know if I put an exhibit sticker on those or not.

A There aren't -- no. There aren't stickers on this.

Q Are there any medicals records there?

A I think there was one provided as an exhibit. There's one from October 26, 2016.

Q That was an exhibit from an earlier deposition. There's already a Xerox tag on there is it not?

A Yes.

Q And so --

(WHEREUPON, THE COURT REPORTER INTERRUPTS FOR CLARIFICATION)

MR. SAURBIER: It's quite possible. Thank you for noticing that. Unmute it, Scott. See if he's still there. Dr. Fahim, are you still there?

DR. FAHIM: Yes.

MR. SAURBIER: Okay. Yeah. So we had -- this thing was blinking red.

DR. FAHIM: I lost you for a while. So I just assumed you would come back in. And you just came back on when you said, "Dr. Fahim, are you still there".

MR. SAURBIER: Okay. Well, there we go. So we are just going through the medical records right now. Try to see what is --

DR. FAHIM: Are you -- are on break right now?

MR. SAURBIER: No. No, we're not. We're not.

DR. FAHIM: Do you have a question for me that I missed? I'm sorry.

MR. SAURBIER: Nope. You can go back on mute.

DR. FAHIM: Oh, okay. Thanks.

BY MR. SAURBIER:

Q Any other medical records there that --

A There's a couple notations here from, I think it's an orthopedic spine surgeon, appear to be medical records.

Q Okay.

A These two attachments, like you said, part of deposition exhibits.

Q So other things that have been reviewed, which I've not specifically marked, but I'll rely on the earlier markings. This is an October 26, 2016 exhibit marked on the 12/6/18 deposition of Danhoff.

Then there's Exhibit 13 from the same deposition. There is Exhibit 14 from the same deposition, which is a letter going to Dr. Shelnutt. Exhibit 15, another premarked exhibit from the same deposition to Dr. Shelnutt.

Exhibit 17 is a March 23, 2017 letter going to Dr. Fahim from that deposition. Exhibit No. 18 from that deposition, March 28, 2016 letter from Donna Jay (sic), R.N., a nurse clinician with the heading of Beaumont Hospital. And then we have some depositions -- we might as well go through those. So what -- I'm going to hand you back that pile. What depositions have you reviewed?

A The depositions of Ms. Danhoff, of Mr. Danhoff, of Dr. Fahim, and of Dr. D'Andrea.

Q I went through those. I did not see any corners folders over or any of those writing in any of those depositions. Did you make any marks or notes in any of those depositions?

A Probably just the handwritten notes that I put on that letterhead that we discussed.

Q That we've already read?

A Right.

Q Okay. Is there anything that stands out, and let's start with the Danhoff deposition, that you consider particularly or just significant to your analysis and testimony here today.

A I think that it provided me a more clear picture of what her medical care has been from the time of her hospital discharge. From the initial spine surgery.

Q Did you see that, apart from the repair of the initial problem or hole in the colon that we talked about, through the pathology report that she had additional leakage from places in her colon or intestinal tact?

A I think she had had some issues with persistent drainage from her abdominal wall and I would assume from her colon.

Q Right. So some of those followed surgeries. Is it your position that just because she has a problem

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related with her colon, given her underlying condition of diverticulitis, that every time she gets a hole after surgery, that somebody has violated the standard of care?

A I'm not sure I follow your question.

Q Sure. She's had a number of different surgeries apart from the one that Dr. Fahim did, true?

A Correct.

Q And some of those were after her discharge from this initial hospitalization that we're focusing on where she's had surgeries and follow-ups; is that what you got out of this information?

A Yes.

Q And in conjunction with some of those surgeries and hospitalizations, she's also had some fistulas and problems with her colon. Have you seen that?

A Yes.

Q And so my question is, apart from this case where there was a problem of leakage from her colon, in those cases, is it your position that because she had leakage from the colon, that somebody has done something wrong to cause that or is this just one of her underlying problems in a complication of her diverticulitis?

A I don't know. As a neurosurgeon and not as a

general surgeon, who would do colon repair surgery on a regular basis, whether the etiology of her problems down the road would have been related to her initial repair of the colon, whether it just didn't heal properly and, you know, had persistent leakage and holes, which I know can happen from a bowel resection procedure, an ileostomy, or whether she had, you know, evidence of ruptured diverticulum in the future. I don't know which of the two it is.

Q Operative perforations are known complications, aren't they?

A Perforations of --

Q Could be any number of things that get --

A -- structures?

Q -- perforated at different times, that at least I've seen in my life and I've been told. Although, I'm certainly not a physician. That perforations can occur despite the best medical care. And because there's a perforation does not mean that there's been a violation of the standard of care.

A Is that a question or a statement?

Q It's a question.

A I missed the question.

Q Do you --

A I heard the statement.

Q Do you agree with that?

A Do I agree with the statement? Yeah. And the statement is --

Q Because there is a perforation during an operation, do you consider that to be a violation of the standard of care?

A It would depend on the context of the case.

Q Okay.

A Particular type of perforation, the type of surgery that's being done. That's a very general question that I can't really answer.

Q Sure. So this may be way out of your field. But during a colonoscopy, if there's a perforation of the colon, I -- would that be the type of thing that you would consider to automatically mean that somebody has done something wrong in violation of the standard of care?

A I don't think I've ever been asked to render an opinion on a colonoscopy case before.

Q Okay. So that's the general gist of my question. So if I -- let me just say it is this way. Because there was a hole found in this patient's colon after the surgery by Dr. Fahim -- because there was a hole found in the colon as described by the pathologist, does that automatically mean to you that Dr. Fahim or

someone violated the standard of care?

A I would say that my position in this case is that the standard of care was violated by the occurrence of a perforation to the colon with this particular surgery by this particular surgical team.

Q So my question is a little broader than that. So is it within your realm of knowledge that holes or perforations of the colon, when in surgical hands, automatically means there's a violation of the standard of care?

A I would contest that perforations to the colon that occur during lumbar spine surgery are extremely rare. I can't say that I've been asked to look at a case particular to that subject matter where I've felt that there was not a breach of the standard of care.

Just because you get a complication doesn't necessarily mean the care was within the standard of care or just because a complication can happen doesn't mean that because it happened, it still meets the standard of care.

Q Or contrary. Just because it happened doesn't mean that there's a violation of the standard of care, does it?

A I guess in a hypothetical situation that could be true.

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Q Have you ever done -- have you done any reading or research regarding any aspects of this case?

A Not that I rely on for my opinions that I formulated, no.

Q Okay. The question is broader as to whether you rely upon them. Did you do any research regarding any aspect of this case?

A I did a single pub. med-surg on bowel perforation with lateral lumbar surgery and looked at one or two abstracts. None of which I brought with me nor pulled for -- that I felt particular to support my opinion or relying upon my opinion. Mainly to find the incidence and make sure it was what I thought it was from my training.

Q What did you find?

A A few articles that I looked at abstracts show the complication is extremely rare, which is what I thought it was. So that's why I was looking.

Q When you use the word "complication," what does that mean?

A Well, meaning, that if someone decides to publish their series of occurrences of bowel perforation during lateral lumbar surgery or posterior lumbar surgery, whatever it may be, that those typically are published described as complications.

Q What relevance, if any, does the pathology report that we were just talking about have to do with this particular problem that this patient had?

A Again, I'm not a pathologist. So I suppose that between the two counsels here, you can speak to the pathologist involved or anyone else that has reviewed the pathology to come up with a strict discussion about what they found.

I read the report. But, again, I think it's a fairly broad description and doesn't really impact my opinions on this case. Different than what you'd find in the affidavit and what I'll tell you here today.

Q So let me just go back to that for a second. So if you have that pathology report there in front of you, where this was collected on 12/10/15, what is the scenario of gathering this as you recall it from your review of all the records?

A I'm not sure what you're asking.

Q Right. So we see this as collected on December the 12th of 2015, and you know when Dr. Fahim's surgery was and the follow-up. And so I would like you just to give me a rendition of your memory of the events leading up to the collection of this surgical pathology?

A Well, this would have been collected on December 10, 2015 at the time a Dr., I guess it's, Iacco, I don't know if I'm saying that correctly. His surgery where he performed the resection of this portion of the sigmoid colon that provided for this pathology report.

Q And this shows that -- from this particular pathology it looks like -- it said, "Received labeled sigmoid colon, 18-centimeters in length and five centimeters circumference." And it's got a color description.

And on it, it says, "Located 3.5-centimeters from one end of the margin. There are two transmural defects, 0.8 times five -- times 0.5-centimeters and 2.1 times 0.7-centimeters." And so when he's talking about these two transmural defects, what is your interpretation of what he is -- what this pathologist is telling us?

A Again, I can -- I'm not speaking as a pathologist. I don't necessarily speak their language, especially when it comes to looking at colon resection specimens. It just says there's two defects here, as you just read.

Doesn't specify whether it's perhaps they're on opposite sides of each other. Perhaps that an instrument could go through-and-through. That would have made two defects in the colon. It doesn't

specifically state. Although there were diverticulitis present, as you read later on in the report, that these transmural defects were in direct proximity or not to the diverticula.

Q So is it your belief that during the surgery there were two defects that occurred in the colon?

A I think it's quite possible that that would explain what's described here.

Q Okay. You don't have any idea one way or the other, though, do you?

A Again, based on what we see here, my thoughts would be that an instrument likely -- and again, this is where talking to a pathologist probably would be more important that talking to me, because I didn't create this report. But if there's defects on opposite sides of the wall, that might indicate that an instrument went through one end and out the other side.

Q Does the report say that?

A It doesn't.

Q That the defects were on the opposite side of the wall?

A It doesn't say one way or the other.

Q What if the defects were located maybe some millimeters or centimeters apart from each other on the same plane?

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A Well, I think it still could be explained by an instrument, but likely would have involved two separate incidences of perforating through.

Q So you would say that, in your words, if I understand them, that that would mean that there are two separate incidences of violations of the standard of care?

A Well, I think perforating the bowel with an instrument during a surgery like this -- and we can go through the affidavit if you want to. The subsequent events that occurred and failure to recognize and subsequently represent in this particular case, my opinions, as breaches in the standard of care.

Q I think we'll do that. But I want to understand the foundation for your thought process. So what is your knowledge of diverticulitis?

A Obviously it's a disease entity that we learn about in medical school that we learn more about on our general surgery rotations and internships. So I would say I have a general understanding of the condition. I'm not a GI physician nor am I a general surgeon. So I wouldn't say that it's something that someone would walk into a neurosurgery clinic to seek treatment from me for.

Q So when they talk about -- then towards the end

of this, they say that, "Few diverticula are present within the specimen measuring up to 0.4-centimeters." So it sounds like there may have been what?

When they say "few" to me, you can differ from me, but that means more than two. And they're also talking about two others that we've been focusing on. So we're talking about at least, what, four or more diverticula present within the specimen?

A Well, the two transmural defects, which are described above, don't specifically state whether they were associated with or not with a diverticulum in this report.

Q So let me make sure I understand this. 0.8 times 0.5-centimeters means that as they're referring to this, there is an 8 by 5-millimeter hole or defect; is that --

A I think you and I are left to read this and interpret it the same way without the pathologist being --

Q So is my conversion correct on that, 8 by 5-millimeters?

A Yes.

Q What kind of an instrument would create a defect 8 by 5-millimeters by size?

MR. COOK: Objection to the form, because this

is three days after. And you have --

MR. SAURBIER: You can make an objection as to form. You don't have to educate the witness.

THE WITNESS: I don't find him educating me at all in that. I do this surgery in my own practice. So I know what instruments are involved in this particular surgery and there are some, including a K-wire, which the tip of a wire is on the order of 2 to 3-millimeters.

BY MR. SAURBIER:

Q Okay. Was that used in surgery?

A Instruments -- Dr. Fahim wasn't specifically asked in his deposition. I found the operative note to be very brief and general in terms of the description of instruments used to perform the exposure. So without me specifically asking him, I don't know the answer to that. It's part of my typical method in doing this surgery.

Q So -- so when you do this surgery, what are the instruments you use?

A Well, I use a skin knife to open the skin. Then I typically use a cautery device to move through some of the subcutaneous fat tissue. When I encounter the layer of muscles within the abdominal wall, which there are three. Typically, I'll bluntly dissect through those

with a combination of a curved hemostat and finger dissection, which then allows me to sweep into the retroperitoneal space, palpate the transverse process and lateral edge of the vertebral bodies and disc space. And at that point, we'll use a first narrow dilator.

I can't say I specifically measured the tip of the dilator, but I would give the jury the analogy of the tip of my pinky being about the diameter of that first dilator. Typically, that's placed along finger dissection onto the lateral edge of the spine in combination with fluoroscopic guidance.

Then dock, so to speak, that first dilator over the midpoint of the disc on a lateral x-ray view. And obviously the AP view would be to confirm you're at the right level of the disc that you intend to remove. At which point, I would take a K-wire through that dilator that has a center hole and place it into the disc. Typically done under fluoroscopic guidance to confirm that it doesn't slip.

You have to remember the lateral edge of this disc space is very rounded, almost like a speed bump on the road. So the instruments do tend to want to slide one way or the other off the top of that speed bump.

They can also slide forward and backwards which would be towards the abdominal contents. Backwards

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towards the nerve roots and thecal sack. And so that's where the use of fluoroscopic guidance to place that wire.

The wire then basically creates a constant, a steady anchor into the disc that you can place a series of larger dilators sort of like going from your pinky to your middle finger to your thumb in terms of the diameter in of some of these dilators.

And once that's done, the expandable retractor is placed over the largest dilator and then expanded. All of this typically done under some fluoroscopic guidance. That's typically the exposure portion of the procedure.

Q So of the things that you use what would be capable of creating an 8 by 5-millimeter rent or defect in the sigmoid colon?

A I think it could be done with a -- certainly with a K-wire. I think it could be done easily with the first dilator.

Q And what is the size of a K-wire?

A Again, it's, you know, it's like the tip of this pen.

Q So if we look at a tip of a pen, is that a half millimeter in size? I mean, as you deal with medical instruments, how would you size that?

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A I would say it's probably about 1 millimeter.

Q Okay. And then when you're talking about the first dilator, what's the size of that?

A Again, typically it's kind of the tip of your pinky. So I don't have a ruler on me to measure it, but I'd ballpark that at about 5 to 6-millimeters.

Q And so when you make the incision, where do you make the incision?

A When I do these lateral approaches, I say 95 percent of the time do it from a left-sided approach. So the patient would be right side down, left side facing up in a lateral position. And then incision would typically being made in a horizontal fashion for a one level surgery. I know this was an intended two level surgery.

In my hands, I would make a vertical incision then if I were doing two levels. And it's made, you know, based on positioning and fluoroscopic guidance over the levels of interest for the surgery.

Q So coming back to diverticulitis. With a diverticular rupture -- what is a diverticular rupture?

A Well, he describes diverticulum with diverticular rupture. What's really out -- without any further specific details to, I think, backup that diagnosis. Nowhere in the gross description does it use

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the term diverticular rupture.

Q So are you saying that there is no diverticular rupture here in this case?

A That's not what I said.

Q Okay. Well, do you disagree with what this pathology report says and believe that this is not a diverticular rupture?

A Again, I'm not going to get into an expert opinion about a pathological analysis of the colon specimen. That's not what I do on a daily basis. I'm simply going to tell you, as my opinion states earlier throughout the case and in the affidavit, that these transmural defects described under the gross description, more likely than not, came from the time of the surgery on the 7th. Most likely from one of the instruments we discussed already or an instrument used during the disc removal or cage implantation.

Q So I want to be clear. So we have a pathology report which says that this was diverticulitis with a diverticular rupture with mural abscess and necrosis with colonic perforation. And do you believe that that reference refers to what the -- what is found in this diagnosis refers to information that comes from the gross description found below?

A Again, I think this is the -- Colleen Lamb, who

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the pathologist here on this report, is, I think -- this is obviously her interpretation of what she found in the specimen. I'm not going to argue that it's not her opinion of that, no.

Q So you never did any type of pathological review of the tissue in this case, did you?

A No, I did not.

Q And so do you have expertise in determining what skin tissue looks like around a diverticular rupture when looking at the color and necrosis in the area?

A Again, I think I already mentioned earlier in the last question or the one before that, that I'm not here as an expert in pathologist to render opinion on this specimen.

Q But you're here to disagree with the pathologist expertise. Although, you don't have the same expertise in analyzing tissue as a pathologist does; is that true?

A That's not true.

Q So you do have the same expertise in analyzing tissue concerning diverticulitis with a diverticular rupture as a pathologist who reviews everything under a microscope?

A That's not what I said nor is that true.

Q So -- but you would not defer to an expert pathologist? You're not board certified in pathology,

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are you?
A No, I'm not.
Q And do you know how many years a pathologist studies before becoming assuming board certified to be able to do this type of tissue removal and analysis and write reports like this?
A Somewhere in the three- to five-year range, I would suspect.
Q And you don't have any of that type of education to differ from an opinion of a pathologist with that type of expertise, do you?
A Again, I'm not here to speak as an expert witness in pathology. I think you and Mr. Cook can take that up with the pathologist in the case.
(WHEREUPON, THE COURT REPORTER REQUESTS A BREAK.)
MR. SAURBIER: Of course, sorry.
(WHEREUPON, A BRIEF RECESS WAS TAKEN)
BY MR. SAURBIER:
Q So it think it's a pretty simple question and answer. Really, it's a yes or no answer. Do you have the same education, knowledge, training and background as a pathologist such as the person that has written this report is assumed or not?
A Not in the field of pathology, no.
Q And you're certainly not board certified in

pathology. I don't mean to be facetious, but I want to make sure this is clear.
A We've answered that, yes. And the answer is no.
Q But you do differ from the pathologist's written opinion in this case to your own opinion, which is different, and that's true, too, isn't it?
A I think that what you're trying to do is apply a gross, and I suspect microscopic -- although, it doesn't specify here -- interpretation of a colon that was taken during surgery and put in front of a pathologist who analyzed it and produced this report.
I think you're trying to apply that particular opinion of what the pathologist saw within this colon as to what led to the events of the pathologic findings. And so I think that's where the disagreement occurs.
I'm not here to, again, render an opinion as an expert in pathology. I understand Mr. Cook has an expert witness in that field. And so we can beat this report to death all you want, but I'm not here to argue whether the colon specimen showed a defect or whether the mucosa was green, yellow and necrotic.
Q So you differ and do not accept the diagnosis that is written on this collected report of sigmoid colon of December the 10th of 2015 as it's stated? That's all I'm asking.

A Again, I'm not here to render if this diagnosis is made off of the specimen that this pathologist looked at. I have not looked at the pathologist's slides nor am I an expert in pathology.
Q You don't know if there's an assumption that there was a hole made by -- during the surgery by Dr. Fahim. You don't know when the hole occurred looking at all the medical records you have been furnished, which would be, as I've looked at those, at least the operative note by Dr. Fahim.
I don't know whether you've seen the anesthesia note. But I'm really asking you when this happened, what time this happened in your opinion?
A My opinion is that the hole or two holes produced in the colon happened during the surgery on December 7, 2015.
Q You don't know what time it happened except in this broad category that you think it happened during the surgery?
A My opinion is that more likely than not. And that opinion is based on my experience and my training, having performed many of these exact same surgeries that the perforation or hole in the colon was produced during that surgery.
I think we talked about either happened during

the exposure portion, which we went through the series of instruments that are utilized there, or it could have been happened during the discectomy that also involves many instruments that are very narrow at the tip and fairly sharp to remove the disc material or, less likely -- but, possible, could have occurred during the implantation of the hardware. But at some point during that surgery at one of those phases is where my opinion stands that that's where it occurred.
Q Is it important -- I think -- let me rephrase that.
I think it is important for you to tell us -- I hear you're talking about instruments, but how this occurred. And I asked when this occurred. So we can try to get down to specifics. But as I get it, you're unable to do that.
A Again, I think I was fairly specific with the portions of this procedure, at which any interval, this could have occurred. It's not described by any of the surgeons having been observed, that would obviously pinpoint when it happened.
But what I can tell you, again, is based on my experience having done these surgeries before, these are the portions of the procedure where I suspect -- I've never personally caused this type of injury from this

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surgery, but I suspect that's when it -- where it could have occurred.

Q So do diverticula or diverticulosis ever spontaneously rupture?

A My understanding is yes. That can occur.

Q Do you know why or under what circumstances that can occur?

A My understanding is that it tends to happen in folks who have chronic diverticulitis where the inflammation on the wall of the colon obviously leads to a perforation at some point.

Q Do you know when she was first diagnosed with diverticulitis?

A Well, again, because it's not really discussed in any detail by any of the physicians during the inpatient hospital stay, I'm really left to come up with some conclusions based on the deposition testimony that she and her husband provided. And so we can look specifically at that if you want to answer that question.

Q Yeah. I would like to know. While you're looking at that, as you've gone through these hospital records, did she ever provide information to anybody that she had and knew she had diverticulitis?

A Again, I have the -- the medical records I

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reviewed pertain to her inpatient hospital stay, including even the general surgery consult notes. The general surgeons didn't note that she had diverticulitis.

So I don't know whether they asked her the question specifically or whether, you know, the information wasn't volunteered or it was never asked for. Typically, you only get information you ask for in a history and physical. So if you don't specifically ask that, you may not get it.

Q So you ask for past medical history, right?

A Correct.

Q And would it be a fair expectation of a surgeon that if somebody had diverticulitis, that that would be a condition, among other things, that would be described to them?

A You know, after doing this for 12 years following the end of my residency, I found that patients, even with a medical record form with 15 conditions to check, may omit or errantly check some checklist. So I think if you don't specifically ask about a specific condition of concern as you as a physician, then you may not get that information from a patient.

Q Sure. How many conditions are there in -- what

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are we up to now, ICD9? So how many conditions are there that might affect a surgery like this that would be listed in ICD9? 1,000 or more?

A Probably.

Q So do you expect a surgeon to go through a thousand different possible conditions that may, in some way, affect the surgery or is it appropriate with the standard of care to ask the patient if, you know, what do you have in the past, what is your medical history what is your condition?

A That's within the standard of care to gather that information by a surgeon, yeah.

Q Okay. Is it within the standard of care to go through the thousand or more possible conditions that a patient would have that might affect a surgery?

A I don't think that you necessarily need to ask about a thousand conditions to meet the standard of care in terms of one's past medical history before surgery, no. I found the reference too, if you want me to read through the deposition.

Q I would -- I would like you to hear what the patient --

A So the patient answered these questions -- and this was on, what I have as, page 18 and 19 of the deposition transcript.

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"When were you first told you had diverticulitis?"

The answer is, "When I had my 50-year-old colonoscopy." Question (sic) -- "I forgot the date.

Do you remember approximately when that was?"

Answer, "I think it would have been April of 2010 or close to it.

Question, "At that time I think that you were told what? Have a return visit in about a year?"

Answer, "Uh-huh, ten years."

Question, "In ten years?"

Answer, "Uh-huh."

Question, "So when was the first time you believe you began having problems with diverticulitis?"

Answer, "I never had any symptoms. They said it was a very mild, mild case when they showed when I had the colonoscopy. I've never had any issues."

Question, "Is that still your belief today?"

Answer, "That I have diverticulitis?"

Question, "That you may have a mild case of diverticulitis."

Answer, "Only because a health professional told me. I have not had any."

Q Okay.

A I can keep going, but that's kind of the gist of

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it.
Q And so she knew that she had this from, apparently 2010, and it was not disclosed to any of the physicians or in the medical records that you have read, correct?
A That's correct.
Q The -- before we go any further, I've marked as Exhibit 18 (sic) what you furnished to us today. It's the plaintiff's KSA60-226B6 expert disclosures. It looks like that was in the case of C-L-E-O-L-A Ward versus Stephen Eichert, E-I-C-H-E-R-T, D.O., and Stormont Vail Health Care, Inc., out of the third judicial district -- District Court Suwanee County, Kansas; is that correct?
A So I think they printed out three attachments. I only needed two. I don't think you need my opinions in the case of C-L-O Ward.
Q Well, we marked that as an exhibit.
A That has to do with --
Q So --
A -- another case. This is what I was -- I had three attachments to an e-mail that I forwarded them to print out. This is what you were looking for. You're welcome to that if you want. But --

(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 13 WAS MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q Okay. Then we will remark this. So I've marked that as Exhibit 13, which begins oral courtroom testimony. It looks like there are -- well, it's no longer stapled, but it looks like depositions of medical malpractice.
It looks like there are 15 cases through Ward versus Eichert dated 1/2019. And then medical malpractice expert reports affidavit in addition to the above cases. Those are listed one through 12.
And then there are medical malpractice consults only, those are listed 1 through 10. And then there are no nonmedical malpractice testimony, those cases are listed one through five. And it looks like -- I'm sorry. It looks like there's also a contract involved by -- that you have as part of your practice package; is that true?
A It's typically attached to my fee schedule.
(WHEREUPON, DEFENDANT'S EXHIBIT NUMBER 7 WAS MARKED FOR IDENTIFICATION)
BY MR. SAURBIER:
Q So this is Exhibit 7. And what is Exhibit 7, if you will?

A It's a titled consulting and fee agreement.
Q And then we've gone through the aspects of that as well as the cost involved. We've already done that; is that true?
A Yes.
Q One of the things that I haven't asked you is, how much time have you put into this case up until the deposition today?
A I've spent 11 hours reviewing the documents, prepping the affidavits and preparing for the deposition and corresponding with Mr. Cook and his firm.
Q In the depositions, did you make any marks? I'm sorry if I asked you that before. Did you make any marks, highlights or underlines?
A I think I found a few. You said you had looked through them, but I had not. But I think I found a few.
Q If you could point those out to me. I just did not see any as I reviewed them.
(WHEREUPON, THE COURT REPORTER INTERRUPTS FOR CLARIFICATION)
MR. SAURBIER: No, I think he went into surgery. Thank you, though.
THE WITNESS: There's this one page I had put a mark. I don't know how you want to flag these.
MR. SAURBIER: I'll just take a look at it.

THE WITNESS: I'll find some other ones here. This one is from Dr. Fahim's deposition. There's none in Dr. D'Andrea's.
MR. SAURBIER: Hang on one second, please.
MR. COOK: Can we just take a quick break?
(WHEREUPON, A BRIEF RECESS WAS TAKEN)
BY MR. SAURBIER:
Q Okay. So one of the things that you have furnished me is you've got this dog-eared page. It's actually four pages, 58 through 61. And it looks like what you've marked is -- well, for clarification for everybody, let me read it in the record.
So the question is -- actually, I think I've got to go back to the answer. So the question was -- I'm going to summarize this a little bit. "Did you speak to Dr. Iacco afterwards about his thoughts -- about how this perforation could have happened"?
The answer of Dr. Fahim was, "I feel we've already addressed this, but the patient seemed to have had a severely constipated state. And just a simple act retracting the contents of the peritoneum could have caused a diverticulum on this brink to somehow leak stool or the subsequent use of opioid medications, which caused further constipation could have caused the diverticulum to rupture."

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And then question, this is what you have marked, "Is that what you and Dr. Iacco talked -- Dr. Iacco talk about or is that your interpretation"?

And reading his answer he says, "Oh, I can't remember if we talked about that. I mean, we likely talked about the fact that any defect in the peritoneum likely, almost certainly, would have occurred from the surgery itself. Because of the diverticulitis does not cause a hole or a nick in the peritoneum.

So I suspect the time the hole occurred at some point during the procedure in some way and, obviously, was too small for us to even see. But as to how the sigmoid colon had a perforation, I don't think anyone knows the answer to that."

And so you've highlighted that. And so tell me why you highlighted that.

A Well, I think I highlighted because the best I can tell, it's this discussion with the general surgeon who did the case to come up with some explanation in their minds as to what caused this all to go down.

The interesting point was that they had this discussion about the patient being severely constipated. And so I guess if it was recognized prior to surgery, prior to this type of approach that's very close to the retroperitoneum, if you had a patient who is severely

constipated with dilated bowel, knowing that the bowel is one of the organs you hope to avoid in the surgery.

Perhaps maybe not doing the surgery on the date they did it would have been the appropriate thing to do or at least would have minimized the risk if that's truly in their minds what happened. I think that was the significance of that statement in the answer/question series.

Q So that goes back to some of my earlier questions. They did not know she had diverticulum when she came in. And so the significance is if they would have known that she had diverticulum, and taking your position on it that if she was severely constipated, maybe they should have waited a few days for surgery.

But if you don't know that, is it okay to operate on a patient for this disc problem as they did if somebody is constipated?

A Again, I would say that -- that was a long statement. I think a question, right?

Q Yeah.

A Is it appropriate to operate on someone who is constipated?

Q Yeah.

A I say I've done spine surgery many times before on a constipated patient.

Q Sure. With diverticulum, does the tissue get thin?

A You know, again, my last time at studying what exactly diverticulitis was and how to manage colon disease was probably as a third-year medical student or general surgery resident, which would have been 2002, 2000. My general recollection is that diverticulitis is an inflammation of the wall of the colon. And any time there's inflammation, obviously could lead to thinning of the wall of the colon.

Q And so I just -- I want to understand where you're coming from on this. But, hypothetically, if somebody has diverticulitis, as the pathology report says, and let's assume that there is no small hole or rent or whatever in it.

During the surgery, is there -- would there be some sort of pressure, possible pressure being, put on the colon, either from positioning or through what necessarily needs to be done during surgery, that could cause a thinned area to -- in a small -- I would say hypothetically, a small pinhole to cause a leak at that point, which could then further expand in, let's say, the time or the days following; is that something that can happen?

A I can only say that in my own experience and

having done this surgery and speaking to other surgeons who have done this surgery, I'm not aware of that particular situation pertaining to someone having this type of surgery being a problem.

Q How about during another type of surgery, though? Where nobody is physically injuring the bowel, but because of pressure or whatever, that you can get a coexisting diverticulum to begin leaking even though nobody has injured it with an instrument or whatever?

A I suspect that's probably a better question for a GI physician or a general surgeon who deal with fixing problems like holes in the bowel. I don't do that routinely.

Q Let's go back to your affidavit, which we have marked here. And I will find mine. So we can work off of two separate pages. Do you have it there?

A Uh-huh.

Q And what is our exhibit number on that for everybody's reference?

A I think -- is that a two right underneath here? Okay.

BY MR. SAURBIER:

Q So going through Exhibit 2 in your affidavit. And we talked about when you did this and signed it and what you have reviewed. You basically state -- it looks

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like your paragraph four and your paragraph five, and your paragraph six and your paragraph seven, and your paragraph eight, all list the same A through E paragraphs.

So can I just concentrate on the one pertaining to Dr. Fahim in paragraph seven and find that these are all the repetitive allegations here?

A Okay.

Q Is that what you're finding, also?

A I'm looking at number seven.

Q Okay. And so in seven you say, "In order to comply with the appropriate standard of care Dr. Fahim, should have done the following:

A, he should have performed plaintiff's anterior approach lumbar procedure with due diligence and due care so as not to injure her sigmoid colon."

Now, what is an anterior approach?

A Well, an anterior approach is one in which the spine itself can be approached from either a direct incision that's on the anterior abdominal wall or the lateral abdominal wall.

Q I need to find something here. So what you were talking about when you're talking about an anterior lumbar interbody fusion, that is an anterior entry?

A No. I think I answered your last question with

a fair description that an anterior approach to the lumbar spine can be done by either an anterior abdominal wall incision or a lateral wall incision.

And if we look at Dr. Fahim's note, he dictated the procedure similar to what I would for a same operation. An anterior discectomy with anterior lumbar arthrodesis and anterior lumbar instrumentation.

Q And what you said in your affidavit in 7A, "He should have performed plaintiff's anterior approach lumbar procedure with due diligence so not -- as to not injure her sigmoid colon."

And so when I read about an anterior approach I read about an anterior lumbar interbody fusion, which sometimes is designated as an ALIF. And what I understand is that the surgeon can approach the lower back from the front through an incision in the abdomen. And you would go on to say, oh, no. You can also do that laterally; is that true?

A Yes.

Q And so what literature supports that you can do this laterally?

A Well, I think I can find literature if you want. But I can take the surgeon Dr. Fahim's operative report where he describes the procedure as being anterior fusion instrumentation and discectomy to support my

argument that this was an anterior lumbar procedure done through the lateral wall of the abdomen.

Q So there is a difference, though, in the operative procedure as to what is recognized in the medical profession as the ALIF, the anterior lumbar interbody fusion. And you've called this in your affidavit -- what Dr. Fahim did was an anterior approach.

So what is the name then of what you would call Dr. Fahim's surgical procedure?

A I'll use his own words. He describes this as an L3-4 radical anterior discectomy. Anterior lumbar arthrodesis with allograph, anterior instrumentation.

Q Is there a specific name for the type of procedure that he did?

A The typical laymen's terms and in the medical community is described in two fashions. It could be LLIF or XLIF.

Q And what did he do?

A Those two terms are fairly synonomous for the same thing, which is a lateral approach to perform an anterior lumbar procedure.

Q So would you call an XLIF an anterior approach?

A Again, we can sit here and do this all day if you want. But I'm pretty clear in my opinions that the

procedure was done, as described by Dr. Fahim himself, as an anterior discectomy, anterior lumbar arthrodesis. That can be done through an incision that's made on the front of the abdomen or it can be made on the lateral aspect of the abdomen.

In this particular case, the incision was made on the lateral aspect of the abdominal wall. But the procedure that was done was an anterior discectomy with anterior lumbar arthrodesis with anterior instrumentation.

Q Is that the way it would be billed out under ICD9?

A That's the way that I would, and Dr. Fahim, both, dictate these types of procedures. And it's done that way for billing purposes, yes.

Q And so what is the actual medical name for the procedure that Dr. Fahim did?

A It can -- again, described as an extreme lateral interbody fusion. It can be described as a lateral lumbar interbody fusion. I believe he termed the -- he used the terminology "XLIF" in his operative report under the findings.

Q And you called it anterior in your affidavit, correct?

A And that's because this -- from the procedural

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standpoint of billing coding and the specifics of the description of the surgery, under procedures is described as an anterior procedure, yes.

Q So XLIF is short for what?

A Extreme lateral.

Q Extreme lateral what?

A Interbody fusion.

Q And how many extreme lateral interbody fusions have you done in the last month?

A In the last month? Since July first when I left my practice, I haven't exactly done a whole lot of surgeries in my new practice in one month's timeframe. If you want to go over the course of the year, this is a surgery I typically do two times a month. Last being done in May.

Q So in accordance with HIPAA, if we eliminate all of the patient specific information, would you have any problem of us going back to the medical records of the hospital that you operate -- the hospitals you operate on and getting this information for since you came from Texas?

A I'll leave that up to Mr. Cook to determine if -- from a legal perspective, whether that's --

Q Okay. But you would have no objections to it?

A No.

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Q And so how many XLIF procedures do you believe you have done by -- at the time that you were in Texas?

A I didn't perform -- to think about when I got trained on the technique. This is not a technique that I learned during my residency. This is a technique that really evolved 2008, 2009 and exploded.

If I had to go back to the time in Texas, I would say I really started doing them towards the end of 2014, which would have been about a short time window there, about six months where I may have done one a month or assisted.

Typically, in the military hospital, we would operate as co-surgeons. It's a fairly low volume institution in military medicine. So to keep your readiness and skills up, we'd operate together.

Q And so given that Texas you would have done, what, maybe six?

A That's probably fair.

Q And then --

A As surgeon or co-surgeon.

Q And then since coming here, give me an estimate of how many XLIFs you would have done.

A I would say I don't know. I would have to pull the numbers. Probably 30 or 40.

Q And so why do you do these XLIFs as opposed to a

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straight anterior?

A Well, it -- there are several different reasons in each particular case that this might be a more advantageous approach. The particular levels of L3-4 or L4-5 are more difficult to expose around the major blood vessels at these levels.

So a lateral approach allows to avoid that difficult dissection at these particular levels. Some patients may have an abnormal curvature that can be corrected better from a lateral approach than necessarily an anterior approach. A lateral approach versus a posterior approach tends to avoid retraction on the thecal sack and nerve root. So again, there may be some advantage.

If someone's had a prior posterior dissection, a lateral approach allows you to not have -- allows you to avoid going back through scar tissue and increasing the risk of a nerve injury if they're having a revision-type surgery.

Q Is there a time difference in operation for XLIF versus ALIF?

A I would say the actual skin-to-skin time in an XLIF tends to be shorter than in an ALIF. But the time spent positioning the patient, if you were to add that to the skin-to-skin time on a lateral case, tends to

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equal the amount of time as it takes for an ALIF.

Q Is that doing first and second stage together? Or are you just talking about doing the first stage?

A In my own practice I routinely do them as a staged procedure. I've, only on a handful of occasions, done them combined.

Q So you do them in two stages like Dr. Fahim?

A That's my typical routine. There are certain circumstances where I may do it all at once.

Q And so why do you do it in two stages?

A I typically do it in two stages because a lot of these patients have some mild instability. They've got some degree of spinal stenosis. They've got some degree of disc collapse.

And so from a lateral approach alone, removing the disc, stretching the disc space open with the interbody spacer, actually corrects the problem of the spinal stenosis such that they don't need a posterior approach whatsoever.

So in my experience, that's been why I typically do these as a staged procedure so that I'll walk the patient on postoperative day two. And if their neurogenic symptoms of claudication and radiculopathy have resolved from what I've done in a lateral approach, I may forego the posterior aspect altogether.

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Q Did you see where after the first stage with Dr. Fahim the patient said that she was not having any pain? And basically he cured the pain and the radiculopathy going to the legs, and decided he could change the second stage from what was initially proposed to do a lesser operation and just stabilize stage one, basically?

A Yes.

Q In 7A, you say, "Dr. Fahim should have performed the anterior approach lumbar procedure with due diligence and care so as not to injure her sigmoid colon."

But from what you've told me, you can't say with any specificity what Dr. Fahim did or didn't do to match this general statement that you're making. You can't say whether it was with a K-wire or whether it was the wire slipping off the rounded, I guess, disc area. Whether it was with one of the cones you're talking about. You really can't say with any specificity; is that true?

A Again, I've provided an overview of my surgical technique with possible points of the procedure that an injury like this could occur.

Q Right.

A And -- right. In the absence of, you know,

having done the procedure myself to know exactly what happened, I can't give you a specific.

Q So as a member of the AANS, I assume that you're familiar with the ethics related to testimony?

A Very familiar with them, yes.

Q And so you agree, I assume, that when you're called upon to provide expert medical testimony that it's essential that the testimony you give is nonpartisan and scientifically correct and clinically accurate?

A Yes.

Q Are you doing that today?

A Yes.

Q And you know that in providing expert opinion services, the AANS member shall comply with in all respects the AANS rules of neurosurgery medical legal opinion services?

A Yes.

Q That this requires you to provide essentially straightforward opinions that can be scientifically backed?

A Again, you can read the definitions there if you want for the specifics. But that's my general understanding of what their guidelines are saying, yeah.

Q And if there is a minority opinion versus a

majority opinion that are still accepted within the standard of care, it's your duty to disclose both?

A I suppose that's what is indicated in there.

Q The other thing that you're saying about Dr. Fahim in 7B is that, "He should have properly monitored and supervised his resident surgeon assistant, Dr. D'Andrea, in the proper technique for exposing the surgical site without causing injury to the plaintiff's sigmoid colon." Did I read that correctly?

A Yes.

Q You have no idea what Dr. D'Andrea did or did not do regarding this diverticular occurrence, according to the pathology report, while he was assisting in the surgery, do you?

A I've read the depositions of the surgeons that were involved. As best I could tell from their answers, neither of them really recalls what specific portions each of them did during the procedure that they worked in tandem.

Q So you can't say one way or the other whether Dr. D'Andrea was even involved in this hole or perforation?

A I can say that he indicated he was involved in all aspects of the surgical care during the procedure involving the exposure, disc preparation removal and the

interbody fusion.

Q But when you say, "In the proper technique for exposing," you can't tell us or Dr. D'Andrea or his attorney what technique you're talking about?

A I think we've talked about what techniques that I suppose, at some point during this procedure, led intraoperatively to the colon perforation. So without a specific recollection by the surgeons themselves, which was not provided in their depositions, as to exactly which steps as we went through them one by, I think, maybe 25 earlier in this deposition.

They didn't do that themselves. They didn't pick -- I did number one. I did number two. They said, in general, they worked together during the surgery and their recollection was that they would each have participated in all aspects of the surgery together in tandem.

Q In 7C you say, "Dr. Fahim should have properly exposed plaintiff's surgical site without causing injury to her sigmoid colon." And my question is how did he improperly expose the surgical site?

A Well, the proper technique to expose the surgical site, obviously, is to avoid injuring the adjacent structures, which was not done in this case based on my opinion.

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Q When you do an XLIF surgery, and you're talking to the patient, how do you describe that surgery to the patient?

A I'm pretty specific in detail with them. I explain to them that they will be positioned on their side, typically the right side down, left side up. I often show them on their own body what the incision will look like with a little drawing. Then I go through the details of the surgical exposure, talk to them about why I think this is the best approach for their particular problem.

And then description of the surgical technique, which includes, again, the three portions of exposure, discectomy/disc prep and instrumentation. I talk to them about potential risks and benefits of the procedure.

Q I take it that you're not contending that Dr. Fahim should have -- let me put it this way.

Are you agreeing that Dr. Fahim recommended and did the correct procedure on the patient. Although, you're contending that within the procedure that he did something inappropriate?

A My criticisms here are really limited to what's within the affidavit. So nowhere in here have I listed any criticisms of his preoperative clinical decision

making.

Q Okay. So when you describe to the patient the benefits and the risks, do you discuss risks and complications?

A Yes.

Q And is this discussion of benefits, risks and complications part of an informed consent procedure?

A Yes.

Q Tell me as -- if I am the patient going to have this procedure, what risks and complications you would tell me about to meet the standard of care?

A I would discuss the risks that would involve bleeding hematoma formation, infection postoperatively, the wound. I would talk to them about injury to the neurologic structures, whether that would lead to numbness.

Paralysis in this area can lead to incontinence. It can lead to spinal fluid leakage. I talk to them about the adjacent structures. I explain to them that there are blood vessels, that there are a muscle belly with nerves, that there are bowel contents. All of them are at risk during a procedure like this.

I also talk to them about the fact they're getting instrumentation and fusion and that sometimes the bone doesn't adequately grow and the fusion may

fail, leading to the need for additional surgeries.

Q So --

A I always talk to them about the bladder and the ureter as adjacent structures as well. So in addition to the potential for bowel or digestive complications, also neurologic.

Q So if any of these complications occur -- are you saying that if a complication occurs, that is somebody's or maybe your violation of the standard of care?

A I think that a complication can occur with a breach in the standard of care as well as without a breach in the standard of care.

Q And how can an injury to a nerve or a blood vessel or bowel contents or the bladder occur without a breach of the standard of care during this XLIF procedure?

A Do you want me to specifically walk through each structure?

Q Sure.

A So I think you used nerve first. A nerve can be injured during the exposure. These procedures are done, as Dr. Fahim described in his operative note, with neurophysiologic monitoring.

And passing through the muscle belly on the

lateral aspect, there are nerves inside of this that are monitored for. Even with the best monitoring techniques, a retractor can cause some sort of injury that results to the patient waking up with numbness on the front of their thigh. That would be an insult that with best neurophysiologic monitoring, best surgical technique, all meeting the standard of care, where you might have a nerve injury.

We can take, I guess, a bowel injury. I tend to look at bowel injuries, along with your neurologic injuries in the same respect that these are extremely rare complications.

And if they are encountered, I would say, more often than not, there's some form of breach of standard of care. Because these structures should be adequately mobilized and moved out of the region.

Q So if you ever have a bowel injury during any of your surgeries, you would basically say you have violated the standard of care, correct?

A I would say that more likely than not, a bowel injury would be the result of a breach in the standard of care.

Q Okay. That would apply to you, too?

A Correct. And like I said, I fortunately have not experienced that in my practice.

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Q So you tell patients that these are -- that the physician doing something wrong is a risk of the surgery. You're telling the surgery -- you're telling the patient then, "I may violate the standard of care and cause you to have these things. This is why I'm telling you. This is a risk and a complication"?

A I don't really have a discussion ahead of surgery with the patient of whether what I'm doing does or doesn't meet the standard of care. I don't think that's part of the informed consent.

Q So if -- you're saying that any time you've got a bowel injury or a bladder injury, that is a violation of the standard of care?

A I'm saying that based on the extremely rare nature and the fact that these structures are not directly in the way, like we talked about earlier, nerve and muscle being in the way that has to be moved out. These are structures that should easily be mobilized to avoid injury.

And so if there is an injury and it occurs in one out of every 1,000 of these procedures, then I would say, more likely than not, an instrument went awry or something apparent that would, to me, violate the standard of care occurred to have that sort of complication.

Q Well, XLIF is done to avoid nerves that are found in just and abdominal procedure; isn't that true?

A They're -- part of the approach is to avoid the thecal sack and the nerve roots from a posterior approach.

Q Isn't that true? Don't you have the same problems if you do an abdominal approach, an ALIF?

A If you do a midline anterior approach to the lumbar spine, you typically don't encounter the actual thecal sack or nerve roots. That's behind the disc space. And so you would rarely encounter those structures. You're coming from the point for that reason alone.

Q But you usually -- also then, if you're doing an ALIF, you've got another surgeon to move the bowel and to move the blood vessels and so forth. That can be in the way of the neurosurgeon. So it's usually a two-person procedure, as opposed to an XLIF where that is not true. It's just a one person procedure?

A I would say in my own practice, if what you just stated was true, I have seen other surgeons, neurosurgeons do both procedures as a single surgeon. Them being that single surgeon.

Q So basically you're saying -- I just want to make sure I get this. You're saying that if and

whenever, and in this case, during an XLIF procedure, there is a bowel injury of any type, that it is a violation of the standard of care of the neurosurgeon?

A I'm saying that in this particular case, that is my opinion. And I've already said earlier when you asked me that this is an extremely rare occurrence to a surgery. And it -- usually complications that are rare occurrences tend to be the unfortunate outcome of some form of breach in standard of care. Some violation of surgical technique, preoperative planning.

Q So how often do bowel injuries occur during XLIFs?

A Well, from the few abstracts I pulled, it's an extremely rare complication. It happens less than one percent of time. Some which even gave .1 to .5 percent occurrences.

Q And with complications -- the other complications that you have listed here, would you say most of those occur more than one percent of the time?

A I would say the complications of nerve injuries leading to anterior thigh numbness or anterior thigh weakness is a very common event that happens about, probably 10 to 20 percent.

Q Okay. And how about injuries to the bladder?

A I would say that's also a very rare occurrence.

Q And for this surgery that Dr. Fahim did, what would you say the risk of infection is?

A I would typically describe that as any perioperative skin infection from a surgery like a spinal surgery. It's about one to two percent.

Q How about bleeding?

A I would say that hematoma formation, again, is in that one to two percent of any sort of perioperative surgical risk.

Q How about death?

A I would think that death is pretty uncommon from a surgery like this without some type of a major vascular injury or -- I've never encountered it in my own practice or those of my partners.

Q So the percentage of death, you would estimate to be at one in a million, one in 2 million, one in 5 million?

A I would say it's probably one in 10,000, just based on the risk of general anesthesia alone probably is there.

Q And how about heart attack during the procedure?

A That would be that risk of death that goes along with it.

Q What about pneumonia?

A I usually lump these types of medical

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complications as a -- from a surgery within the risk of anesthesia.

Q So you don't think that the neurosurgeon needs to cover that with the patient?

A I often, when I talk to patients, talk to them about some of the complications from anesthesia. Meaning, that they can wake up with dysphasia. They don't -- or they can be dysphonic from the intubation. Depending on how sick the patient is going into the surgery would probably vary how long I talk to them about other medical comorbidities and whether I think it's more likely they may or may not encounter them. Pneumonia, urinary tract infection, heart attack.

Q So do you attach a percentage to pneumonia?

A Not typically when I discuss that with patients.

Q One in 10,000 then for us?

A It's pretty unusual.

Q I mean, what are we talking -- what are you talking about, not what am I talking about?

A When I talk about pneumonia?

Q Yeah. If a patient asks you, oh, what are my chances?

A What's the risk of getting pneumonia from going to sleep for an hour and laying on your side? Again, it would vary based on their risk factors. If they have

COPD and they smoke a lot, I'd tell them that's probably on the order of a few percentage points.

Q How about with this patient?

A You know, a middle-aged, relatively healthy person, I'd tell them it's less than one percent they're going to get pneumonia after surgery.

Q And how about a stroke?

A Again, stroke discussions come in more. I worry that much more when I'm doing an anterior cervical disc approach where I'm near the carotid artery that could lead to a stroke or the vertebral artery. So I have, in those particular surgeries much more in depth discussions. But even stroke from a surgery like that is typically one in a 1,000 to one in 10,000 occurrence.

Q If a stroke occurs when -- like you're talking about, that would be a violation of the standard of care, right?

A I would say more often than not it would be, yeah.

Q And how about blindness? Can blindness occur during this procedure?

A I would say that's pretty uncommon. Blindness, I spend more time counseling patients who would be in the prone position or basically laying on their head, because just pressure alone on the eyes can lead to

blindness. But again, that's another one of those one in 10,000. I think I've heard of it once or twice over 12 years of doing hundreds, if not thousands, of spine surgeries.

Q So you don't tell patients about that risk? That's not one of the things you listed for me.

A If they're in the prone position, I spend more time talking to them about it. If they're in the lateral or in the supine position, I don't typically spend a lot of time on it.

Q You don't spend a lot of time or you don't tell them?

A Again, I think with each patient it's, you know, they're individually counseled. Do I tell every patient that they're going to have a risk of blindness if they're laying on their back from spine surgery, no.

Q Okay. So we're talking about this patient and what you would tell this patient and what the risks of this happening to this patient would be. Okay. So the risk of blindness for this patient would be what percentage?

A I'm not going to give you a percentage, but I would tell them it's extremely rare.

Q And if blindness does occur, that would be a violation of the standard of care?

A I don't know. I never been asked to look at a case about that.

Q Okay.

A I don't have an opinion on that.

Q How about deep vein thrombosis with possible pulmonary embolism, is that a risk in this case?

A That's a risk of every spine surgery including this one, yes.

Q That was not something you listed that you would go through in the informed consent with a patient; is that true?

A I don't routinely unless, again, the patient has increased risked factors. Hypercoagulable state. History of DVT.

Q So the injury to the nerve roots resulting in temporary or permanent pain, numbness, you said would be 10 to 20 percent possibility?

A Yes. More often than not it's temporary, not permanent, in a surgery like this.

Q Okay. What about the risk of weakness or paralysis? Do you cover that with patients?

A I do.

Q And what's the percentage chance of that with this type of surgery?

A I typically describe sensory loss and motor

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loss, more or less, in the same context or sentence. Because with any nerve injury, you can get one or the other or both. And so I, typically, will counsel them of the risk of a permanent motor paralysis in a surgery like this. It's unusual in the order of one to two percent. They may work up with some transient numbness and/or paralysis in the order of ten to 20 percent.

Q So one or two people out of 100 will end up with some paralysis after doing an a XLIF procedure?

A Uh-huh.

Q That's a yes?

A Yes.

Q So that's something that you did not tell me you warned about, but is that something that you don't need to warn about?

A I did mention that earlier. We can go back to the question if you want.

Q The record will speak for itself.

A You asked me about nerve injury. I mentioned nerve injury as part of the nerve, bowel, bladder vascular structures. So a nerve injury is numbness or paralysis. And so I described a nerve injury causing numbness or paralysis when I do my informed consents with all of these patients.

Q So do you tell a patient, we've covered some of

this, that a risk is having a bowel, bladder or even sexual dysfunction? Are all of those potential risks of this procedure?

A Yes.

Q And would it be within the standard of care to inform a patient like this that there is a risk of injury to the blood vessels within the abdomen resulting in injury or death?

A Yes.

Q And would it be appropriate within the standard of care to tell the patient that there is a risk of injury to the bowels or other intra-abdominal organs resulting in infection or death?

A Yes.

Q Would it be appropriate to tell the patient that there's a risk of dural tear with possible cerebral spinal fluid leak?

A Yes. I've mentioned that before.

Q Is it appropriate to tell the patient that after this procedure there's possible need for further surgery?

A I believe I mentioned that as well earlier. Yes, again.

Q Did you read anything in Ms. Danhoff's testimony about what she was told or not told in the consent

process?

A Yes, I did read about that.

Q Okay. And what do you recall her telling you -- telling anyone?

A I think that her perception of what she was told or understood from the informed consent was different than what Dr. Fahim understood having described to her. But I mentioned earlier the number of malpractice cases I've reviewed, I would say every one of them there's some conflict into understanding of consent.

And so I think that's pretty typical in a case like this. So that didn't really surprise me that there was some disagreement as to what the understanding was.

Q You find this typical in your patients when you give an informed consent when it later comes up, even though you know you did it and likely documented it, that the patient doesn't remember it or even denies it was said?

A I've certainly had circumstances like that occur, yes.

Q So have you ever seen the study where uninformed consent -- where actually they took patients and actually recorded exactly the uninformed consent. And within six months the patient couldn't recite either the risks and complications told to them, including the very

most important risks of the surgery, which would include death.

A I've not seen that study, no.

Q So I take it that because I'm not seeing that specifically written in your affidavit, that there's any concern regarding the risks and complication and informed consent provided by Dr. Fahim to the patient; is that true?

A That's correct. I have no criticisms over standard -- I mean, of informed consent in this case.

Q Now, in 7E you say, "Dr. Fahim should have diagnosed and surgically repaired the leak injury in plaintiff's sigmoid colon prior to closing the surgical site."

And tell me the evidence that you find in the medical records or in any of the testimony which indicate that there was any possible finding of a leak or injury to the sigmoid colon prior to closing the surgical site.

A Again, there's nowhere in the operative report where it's documented that a hole was observed during the surgery. But I like in the old antics (sic) that I learned in my residency and fellowship training that, you know, the eyes will only see what the mind knows. And so sometimes, even as a very diligent surgeon, if

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you're not looking for it, you may not see it. It was not documented, you're absolutely right. It's not in the medical record.

Q Well, he did indicate in his -- Dr. Fahim did indicate in the surgical record that when the patient closed there were no complications. Do you remember seeing that?

A That's his statement, yes.

Q Right. So is it your assumption that he did not look for possible complications and just wrote that or -- did look for possible complications and didn't see any?

A I think that that's his statement that during the surgery he did not feel he encountered any complications.

Q Okay. So what do you believe or what are you going to testify to that, more probably than not, was there to observe by Dr. Fahim before closing the patient that he should have seen?

A Again, I think that my opinion is that this bowel perforation or hole was created during the surgical procedure at one of those points in time we've already discussed. And that it should have been recognized at some point during the surgery, whether at the time it occurred, removing the retractor. But at some point should have been -- the suspicion should have

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come up long before we get to the 10th when she, you know, basically becomes septic and grossly infected.

Q Okay. But that's a little bit different scenario, which we'll talk about than what you say. Because you're saying that he should have found it and surgically repaired the leak injury before closing. So there's a difference before closing and then before the 10th.

So are you saying that -- are you going to back away from the point that there was some reason he should have found this before closing as opposed to perhaps before the 10th?

A I think --

Q I'm being very clear to you at this point, but I want to really know what your opinion is here.

A Yeah. I think that the -- again, the perforation occurred during surgery. That there was time to recognize it at the time of surgery, which was not done.

Q Okay.

A And there was time to recognize it after the surgery, which was not done.

Q So recognizing it during surgery, is that based on some recording of through anesthesia, the heart rate or blood pressure?

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A No. It would be the surgeon or someone on the surgical team who is in there doing the surgery with these instruments having noted something either not feeling right or, you know, visually seeing stool perhaps come into the field if there's been a breach to the peritoneum or bowel.

And so all of these activities or events, I think, could have led to an intra-heightened, interoperative concern that would have either led to a repair at the time or led to urgent imaging immediately after surgery that would have allowed for a much sooner repair.

Q So I take it you're saying that Dr. Fahim saw stool before closing and ignored it?

A That's not what I said.

Q Okay. So are you saying that there was no stool -- more likely than not, there was no stool to be seen by Dr. Fahim before closing?

A I'm only stating that he obviously did not note seeing it one way or the other.

Q But you're saying -- are you saying that there was something there for him to see and he failed to see it?

A That's not what I said.

Q Okay. That's what I'm trying to understand.

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I'm trying to understand why you're saying he should have done something. That you're talking about seeing stool and I'm trying to understand where is it, who saw it.

Are you believing he saw it and ignored it or that it wasn't there to be seen? But you said that if he was seeing stool -- so I'm not understanding what you're saying at all.

A I didn't say he saw stool. I'm saying that these are potential red flags that could have been observed if they were present during the surgery.

Q Right. So you're not telling us that there was stool that could have been observed before closing. Am I getting that right?

A Again, my eyes weren't in the surgery.

Q Right. So you have to believe Dr. Fahim's eyes, correct?

A You have to -- again, that's his statement. There were no complications noted during the surgery.

Q Right. And so if he's saying no complications seen during surgery, is it your estimation -- are you going to tell the jury that, more likely than not, Dr. Fahim was either lying about that or ignoring things that were there to be seen, and just closing because he was in a hurry or going to dinner or whatever it was and

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just wanted to get out of there?
A That's not my statement at all.
Q Okay.
A I have not said that.
Q So what is it that you're saying he should have seen something and fixed it before closing the surgical site?
A Again, at some point during the surgery, okay, my opinion, which we've gone through, is that an instrument is likely what led to this perforation through the peritoneum and through the colon.
So my point being is that whether it was his hands on the instruments or Dr. D'Andrea's hands on the instruments, but at some point some instrument caused this breach. And it wasn't recognized at the time it occurred. That's my statement.
Q And so you've told me that the size of the hole -- sounds like the maximum size of the hole, if it occurred through an instrument, would have been about one millimeter?
A Again, it could have been an instrument that had a one millimeter tip or it could have been an instrument that had a one centimeter tip. I've talked about all the different instruments that could have possibly gone down the retractor, perhaps inherently found another

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pathway, and led to this perforation.
Q So is there also a possibility that with this lady having diverticulitis and having thinner bowel tissue than what normally would be found, that a small impression -- or perhaps another way I might be able to say is a bruise, which would not have caused any type of perforation at the time of surgery.
But because the blood flow was lessened to this already damaged tissue, subsequent necrosis could have taken place within the next day or two days or three days then allowing a hole to open?
A I think that's possible, but very unlikely to have occurred here. Because you've got when Dr. Iacco goes back in, a gross communication from the intraperitoneal space to the retroperitoneal space. And if a diverticulum to -- to rupture into an intraperitoneal structure, I would find that very unusual that it would be able to then breach through the peritoneal layer.
Q If you make an assumption under one of your scenarios that this was a one millimeter hole made in the bowel, why would that hole expand to where the pathologist talked about, and I think we're talking about 5 to 8-millimeters?
A Well, because there's contents within the bowel

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that create pressure transitions and changes. There's gas. Gas being air. There's stool contents, there's liquid materials, and there's peristalsis occurring within the colon. So you have pressure gradients that occur across the wall of the colon where a small hole can then transition into a much larger hole.
Q So do you give it a medical likelihood that there could be a hole there that would be unnoticeable to Dr. Fahim or any bowel contents at that point coming out, and the bowel and hole would increase after surgery was closed?
A I think that is a possibility, yes.
Q Do you think that's a likelihood in this case?
A Again, I'm only left with the general surgeon's description of what he finds three days later to try to piece this back together where there was enough of a disruption in the peritoneum to allow stool to fill from the peritoneal cavity into the entire operative -- the section bed that Dr. Fahim made.
Q But from neurosurgeon, being you, to neurosurgeon, being Dr. Fahim, and Dr. Fahim saying that he did this surgery and found no complications, and you not finding any evidence to be seen of a complication, it's still your position and criticism of him that he should have surgically seen something and surgically

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repaired this leak and injury before he closed? I got it right, because then I'm moving on.
A That is one of my criticisms, yes.
Q Okay. And again, sorry to beat the horse a little bit. But you do not -- you cannot tell us what there was to be seen that would have caused him to note there was a leak or injury and cause for repair at that time before closing?
A Again, I think the statement stands for itself and I've tried to expand on it, to explain to you that there's not only the possibility that it could have been recognized at the time of the surgery, but that it could have been recognized immediately after surgery.
Q Okay. But you said in your affidavit, "To be recognized and corrected prior to the closing of the surgical site."
A That's what it says there. And I've gone on now, as we sit here in deposition, to give you additional testimony to expand on that opinion.
Q Okay. So what is it after the closing of the surgical site and when that you believe that there should have been -- actually, you do not have an allegation here that subsequent to the closing that there should have been recognition by Dr. Fahim of a leaking colon, correct?

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You're not making that allegation. You didn't make that allegation at the time that you studied these medical records and wrote this affidavit. So that is not one of your allegations?

A Not as the affidavit reads. But, again, I think we sit here, having reviewed depositions in addition to the medical records, and I think I've made it very clear what my opinion is. That it is expanded beyond just this statement alone.

Q Well, in the depositions -- let me backtrack.

You had the medical records which described the surgery and the aftermath, including the pathology from the tenth. And so you know and knew at the time you did this affidavit that there was a problem -- or an ongoing problem after closing, correct?

A Correct.

Q And so this was a thorough review, correct, by you at the time and you did not feel that that was a violation of the standard of care or you would have put it in here?

A It's not specifically stated in this affidavit. You're correct.

Q Well, is it generally stated?

A Again, we've gone through what this statement says. And I've gone on to tell you that in my opinion,

not only should it have been recognized prior to closing the surgical site, but in absence of that, should have been recognized either immediately after the surgery -- so that's my opinion. And that's what I plan to give at trial.

Q So you know that the AANS requires by its ethical guidelines that before giving an opinion or writing an affidavit, that the neurosurgeon must make a thorough and careful review of all records to come up with the opinion. Do you know that?

A Yes.

Q Well, you didn't do that in this particular case and when you wrote this affidavit. And now as we sit here in deposition, you're providing me new allegations; is that fair to say also?

A That's not.

Q Oh, it's not. So if that is your opinion today, that there should have been a determination of leakage by Dr. Fahim after he closed, that is nowhere stated in your affidavit that we've been talking about and nowhere alleged before this deposition; isn't that true?

A Again, in preparing this affidavit, when I made that statement, it reads as you've read and that we've gone over --

Q Sure.

A -- ad nauseam.

Q It's not there.

A It does not say in words "in a timely manner after surgery," but that is my opinion that I'm telling you. And if it requires an amended affidavit, I'm happy to provide that.

Q So what's the first date and time that he should have believed that there was some sort of leakage that needed to be followed up?

Assuming, of course, that he ignored what you said, that he should have seen during surgery and corrected it before closing, what else is there?

A My point being is that there was some instrument that breached the peritoneum and the bowel that led to this occurrence.

Q Yup. I get that.

A Which was not recognized during surgery.

Q I get that.

A That was the point of the statements here. So after the surgery, if the surgeons failed to acknowledge that that occurred, it prevented them from getting an immediate CT scan with contrast, which could have been done right after the surgery had it been appreciated.

There's evidence in the chart, in the subsequent 24 to 48 hours, of fevers, which I would consider in my

opinion to be beyond normal postoperative fevers that can be explained by atelectasis or other much more mild things other than a significant infection issue going on.

Q Well, let's talk about the list Mr. Cook put together for you. Do you have that there?

A The temperature chart?

Q Yeah.

A Yeah. This was put together by him, but also supported by the deposition testimony and also the nursing records.

Q Okay. But you didn't put that together?

A I did not --

Q And --

A -- write that out, no.

Q And you had all of that information available to you on the time that you put together the affidavit back on May 24 of 2018?

A Correct.

Q Okay. Let's talk about this exhibit. Do you have it?

A These are all the depositions.

Q So this is Exhibit 8. And so post surgically, is it your position that temperatures -- that it is unusual for temperatures to rise after a surgery?

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A Patients can have postoperative fever.
Q Okay. And what --
A That's not atypical.
Q And what are the parameters of a postoperative fever?
A Well, usually within the first 24 hours a postoperative fever can be very mild or a one-time episode. That's typically attributed to atelectasis, I think Dr. Fahim even discussed that in his deposition.
Q Sure.
A Typically, once you move from the 24 to 48, 72 hour window and you start to see temperature spikes that are more than just a one-time occurrence, but become a repetitive or prolonged period of time. It tends to indicate often an infectious ideology. It can either be from the wound, a urinary tract infection. It can be from pneumonia.
In this particular case, there's no evidence of a urinary tract infection or pneumonia. But there is some evidence that the wound was erythematous at the same time that this persistent 12-;hour period of temperatures that I would call more than just a mild elevation occurred.
Q So when you use the word "erythematous," are you talking about some reddening at the wound?

A Yes.
Q Can you find me that piece of support?
A I see it noted by the general surgery team in consultation on the 10th as the one particular instance where it was noted.
Q Well, on the 10th, suspicions were raised and that's why the surgery team was there; isn't that true?
A That is true.
Q So I'm looking at Exhibit 8. And on here there is, "12/8/15 at 3:28 a.m., temperature is 99-degrees and blood pressure, 120/67." Is that an indication of a postsurgical infection in this case?
A In fact, it actually was -- my notes reading through the nursing record, as well as the neurosurgery note from 12/9/15, there was a 39.1 and a 38.6.
Q And what do those correlate to?
A I would call it significant fevers.
Q 39.1 and 38.6 what time is that?
A Followed by a 38.1. This was at 8:00 p.m --
Q 8:00 p.m. what day?
A -- and at midnight.
Q What date?
A This note was recorded on 12/9 at 0027.
Q So that's 27 minutes after midnight on the ninth?

A Yes.
Q Okay.
A Okay. And there's a nursing note on 12/10 at 2:18 a.m. under skin integrity where it says there's, "Left flank incision with steristrips has increased redness. P.A. aware and ordered IV antibiotics." This is again noted at 8:57 a.m. on 12/10 in a neurosurgical progress note.
Q 8:57 a.m. on 12/10?
A Well, it says here that the date of the note is 12/9/2015. But the timestamp suggests it may have actually been on 12/10, but then it's signed 12/9. So I would probably take the time stamp of 12/9 at 11:32 a.m --
Q So --
A -- to perhaps view when that note was created.
Q Again, so I'm asking -- let's look at 12/8 at 1:21 in the morning. The vital signs were 99.7 as a temperature. And is that an indication that there is an infection going on?
A At what time?
Q 1:21 in the morning on 12/8.
A No. That's not a temperature nor, like I said in the first 24 hours timeframe where I would be suspicious for a wound infection.

Q The -- in the first 24 hours, what would be the parameters of a rise in temperature that would be concerning for infection or would just be considered to be a normal postoperative infection or, I'm sorry, a normal postoperative rise in temperature?
So another one you have, "12/8/15 at 3:28 a.m., 99 degrees. Blood pressure, 120 over 67." And so is that an indication that there is an infection going on that somebody ought to be jumping on?
A You're talking about on 12/8?
Q Yeah. 12/8, 3:28 a.m, 99 degrees.
A No.
Q Then at 12/8/15 at 7:32 a.m., you have here on Exhibit 8, temperature is 98.8, blood pressure 112/56. Is that an indication that there's a postoperative infection going on?
A What time?
Q 7:32 in the morning.
A No.
Q On 12/8 at 12:00, noon, temperature is 102 -- I'm sorry, 100.2. And blood pressure is 115 over 63. Is that a concerning change?
A Again, we can fast forward if you want to or take the time. But my point is that you follow the fever trend -- the "fever curve," we call it.

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Q Okay.
A So isolated events. One here, one there is not necessarily a focal point in time that I would say it is. But when this note is done on 12/9 at 12:30 in the morning, and you've now got consecutive temperatures, which I would describe not as low grade fevers, like what you described, but rather high grade temperatures of 39.1, 38.6. And by the time the note is created, there's another 38.1. That's when I would start to become concerned.
Q So on 12/9 at 14:30, there is a note by Dr. Fahim, preoperative history and physical. And he is looking at the patients' change where she's not having any extremity problems. And -- said she's got "Complete resolution of her bilateral lower extremities symptoms after stage one." And he discusses this with the patient and is deciding to go forward with stage two.
And tell me all of the indications you believe as to why the opinion of Dr. Fahim should not have been to go forward with stage two, but instead diagnosis her with a postoperative infection at that point?
A Again, I'm not providing a specific criticism to his decision to proceed with the stage two surgery at that time.
Q Okay.

A I probably would have done things differently. But there are different ways to do things in a medical practice and in neurosurgery. My point being is that the repetitive high grade fevers that occurred overnight were not really even documented in his note.
They do comment, at least as nurse practitioner in this note, that there's leukocytosis with fever, which they've described as atelectasis. I would disagree that that's the etiology of three subsequent high grade temperature readings. And then you move forward to 12/10 at 2:18, where you start to see notations of the wound being with increased redness.
Q So define for me what you consider to be a high grade fever.
A Typically in my practice, it's 100.5 or 38.0 Celsius, depending how it's recorded.
Q And the three high grade fevers you're talking about are what and when?
A Well, there was one documented if we go forward to 12/10 at 8:00 a.m., she's 101.7.
Q 12/10 -- I'm sorry, 12/10.
A At 2:00 a.m. on 12/10, she's 38.2. I'm just going to walk backwards for me, because that's where I am in the record.
Q Okay.

A On 12/9 at 4:00 a.m., she's now had three subsequent fevers at 39.1, 38.6 and 38.1. Typically, those are recorded every four hours. I think that's consistent with the document that Mr. Cook produced.
Q Okay. So you would consider those three temperatures an indication that everything should have stopped, patient should have had a CT scan at that point in time; is that true?
A I think that, again, these are concerning temperatures along with an increasing white count. You know, as a surgeon, if I had some active suspicion of some type of a bowel injury going on, I would have expected a CT scan of the abdomen obtained, certainly.
Q And if there's no suspicion of a bowel injury, you would send the patient to get a CT scan on these findings that you're telling me about?
A Again, I suspect in this case the surgeons obviously didn't share that concern and so they did not obtain one.
Q Okay. So without --
A My opinion, though, is that this perforation occurred at surgery. It could have been recognized and could have raised suspicions for it postoperatively if nothing is seen at the time of surgical closure. And these certainly are those such red flags that would have

raised that suspicion to the level of obtaining imaging.
Q And yet after reading and evaluating all of these records before signing the affidavit, you did not feel that you needed to put that in the affidavit as a violation of the standard of care, true?
A That's true. It's not in my affidavit.
Q And now you do believe that they are violations of the standard of care?
A I think that, again, the answer to that would be yes. I do think that they are --
(WHEREUPON, A PHONE WAS RINGING)
BY MR. SAURBIER:
Q Take care of that. Go ahead.
A I said, Yeah. I do think they are. And again, I think they expand upon the statement I was making in the affidavit.
(WHEREUPON, THE COURT REPORTER REQUESTS A BREAK)
MR. SAURBIER: Of course.
(WHEREUPON, A BRIEF RECESS WAS TAKEN)
MR. SAURBIER: Okay. So time is going on. I'm going to defer. It sounds like the arrangement is going to be that due to the lateness of the day, whatever remains, we're going to continue by telephone at a later date. So I'm deferring right now to counsel.

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CROSS-EXAMINATION

BY MR. ETSIOS:

Q Okay. Dr. Koebbe, my name is Dean Etsios. I represent Dr. D'Andrea and the hospital in this case. We've been here a long time and we've agreed that we're not going to keep you here that much longer. But I'm going to ask you some questions today.

The first question I'm going to ask you is, it comes down to the new allegations that you've brought up with Mr. Saurbier concerning the postoperative care. You have indicated that before -- that when you signed the affidavit, you didn't have the depositions of Dr. Fahim and Dr. D'Andrea, correct?

A Correct.

Q Okay. You've read Dr. D'Andrea's deposition, correct?

A Yes.

Q You read Dr. Fahim's deposition?

A Correct.

Q Do you understand that Dr. D'Andrea was not involved in the patient's care on the night and he was not involved in the subsequent surgery?

A Yes.

Q So you have no criticisms of Dr. D'Andrea's care on the 9th if he was not there?

A Correct.

Q Okay. So that's clear, right?

A Yes.

Q All right. You also note on one of these exhibits, one of the 13 or 14, that you noted in one of those exhibits that Dr. D'Andrea does not do this type of procedure, correct?

A Correct.

Q What was the basis of that? Why did you want to note that?

A I just noticed that it was asked at the time of his deposition and that was his response. And so I made that notation to just discuss that with Mr. Cook.

Q Okay. And you understand from his deposition that this was not a procedure that he performed during his residency many times, correct, assisted it?

A Correct.

Q Knowing Dr. D'Andrea's role, reading his deposition, do you understand that Dr. D'Andrea was a resident at the time?

A Yes.

Q He was not a specialist at the time?

A Correct.

Q He was in training to become a specialist?

A Yes, I understand that.

Q And your affidavit of merit indicates that the standard of care you're talking about in paragraph four is of a specialist of neurosurgery?

A Correct.

Q Okay. You also note from -- noted, I'm sure from reading his deposition, that he wasn't involved in the any of the preoperative care, correct?

A Yes.

Q He didn't do the operative report, correct?

A As far as I know, he did not.

Q Okay. He didn't assist in the second part of the procedure, correct?

A The second stage --

Q Second stage of the procedure, correct.

A -- he was not there, no.

Q So he was just involved as a resident with regard to assisting Dr. Fahim in the performance of this procedure?

A That's my understanding, yes.

Q Is that unreasonable for a resident to assist in such a procedure?

A No. That's a very common occurrence.

Q And in your residency is that how you learned, by performing or assisting procedures with other attendings?

A Yes.

Q And that's a key to becoming a specialist, correct?

A That's how all medical education occurs, exist with a resident in conjunction with a faculty.

Q You understand that a resident is held to a different standard of care than a specialist. Do you understand that?

A To some extent that's true, yes.

Q That's based upon the lack of experience and training and being supervised and monitored by an attending, correct?

A That's true, yes.

Q Okay. In this case, in your affidavit I saw allegations against Dr. Fahim. That Dr. Fahim failed to properly monitor and supervise Dr. D'Andrea. In reading the depositions, are you going to retract that statement? Was there any evidence that Dr. Fahim did not supervise or monitor Dr. D'Andrea?

A I don't plan to retract that statement necessarily, no.

Q Do you plan on expanding that statement? What did Dr. Fahim do that didn't monitor and supervise him during this procedure? You've already testified that they worked in tandem.

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A Correct.
Q So what did he -- what -- where was the lack of supervision?
A Again, I can't pinpoint based on their descriptions of each person's role in the surgery, which was fairly nondescript and nonspecific as to exactly who had the instrument at exactly which point in time this occurred.
Q Right.
A So --
Q And you're only speculating on what -- what actual instrumentation caused this rupture as you're -- perforation, correct?
A I'm providing an opinion, yes.
Q An opinion of maybe A through at least F, different points of a procedure that could have led to this type of perforation, correct?
A Correct.
Q Okay. You can't tell -- you can't say with any certainty or more likely than not it was caused by using a retractor versus any other instrumentation?
A Again, the retractor in these cases is an expandable retractor that essentially has three curved blades. Typically, these blades are fairly dull on the end of them unlike some of the other instruments we

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described. So -- and the retractor itself is actually placed over those dilators. So you've kind of created a channel already that should be a very safe, smooth path to put the dilator -- or the retractor in place and expand it.
Q You indicated in your affidavit, BD, that Dr. D'Andrea should have avoided injuring the sigmoid colon while retracting or holding the internal organs away from the surgical site. You can't sit here with any certainty and indicate that this mechanism caused the injury, correct?
A Which mechanism?
Q Retracting or holding the internal organs. That's just one of the many aspects of the procedure that you indicate could have caused a perforation, correct?
A That is one aspect that's possibly involved, yes.
Q Possibly involved. But.
You can't tell us with any certainty sitting here, and I know Mr. Saurbier asked you, what exact mechanism caused it in your list of A through E?
A Again, I can't pinpoint it because it's not documented anywhere in the record.
Q Do you understand that your affidavit never

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describes the discrete standard of care as to a resident? You don't have a discrete standard of care that applies to a resident versus the attending, they're just kind of lumped together, correct?
A That's correct.
Q As an attending, are you responsible for the actions of a resident?
A At all times. For better or worse, as we say in residency training.
Q So if you're -- let me ask you this. Did doctor -- in reading the records, the depositions, did Dr. D'Andrea do anything rogue or untoward that wasn't expected of him or that wasn't directed to him in this case?
A He certainly didn't provide a description of any such event in his deposition.
Q Did Dr. Fahim's deposition describe some type of rogue event by Dr. D'Andrea?
A Again, my understanding is that they were both in the room together during the surgery. But beyond that, there's not a lot of specifics of who did what and when.
Q So you can't tell us if it was Dr. D'Andrea's action or Dr. Fahim's actions, with any certainty, more likely than not, that caused the perforation? You can't

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say which specific action or which action by whom did it, correct?
A My opinion is that it occurred at some point during the surgery and both physicians -- surgeons were involved in the surgery.
Q Right. They're both involved. But did Dr. D'Andrea do everything that Dr. Fahim did?
A Again, it's not -- it's not clear from the operative note or even the depositions exactly which portions of the procedure were done by which specific individual.
Q Dr. D'Andrea indicated that he didn't do certain portions of the procedure, correct?
A He didn't specify which ones.
Q He didn't tell us that he doesn't do the blunt dissections?
A It may have been in his deposition about the superficial dissection, but it's kind of unclear at what point the transition occurred.
Q So I'm just trying to get this clear. In terms of pinpointing exactly who, in your opinion, caused the perforation, whether it was Dr. Fahim or Dr. D'Andrea under the supervision of Dr. Fahim, you can't tell us here today -- you can't pinpoint exactly without speculating who did -- who created the injury?

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A Again, my opinion is based, as I've said, that this occurred during the window of the time the surgery started with the skin incision to ended with a skin closing. And they were both involved in that.

Q Do you have -- you say don't have residency programs at Largo and, what is it, Northside?

A There are medical education programs. There's no specific neurosurgical training program. I've have orthopedic residents scrub on surgeries, but really -- and their capacity is to observe.

Q In your role as an attending, if there is a complication during the procedure, would you -- and you've already admitted that the attending is ultimately responsible. Would you blame the resident for that?

A No.

Q You already testified that you cannot establish whether or not there was a visible injury and whether or not there was a -- you know, there was evidence of any complication at the end of the procedure. But you're affidavit, including Exhibit E, basically says that Dr. D'Andrea should have appreciated such an injury?

A Again --

Q If there was no complication, and Dr. Fahim and Dr. D'Andrea were assisting -- Dr. D'Andrea was assisting Dr. Fahim, why would you assess that standard

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of care violation only to Dr. D'Andrea?

A I think you're talking about recognizing it --

Q Yeah.

A -- before the closure. I think it's been assigned to both of the surgeons that were involved.

Q But you said that Dr. D'Andrea should have brought it -- the injury to the attention of the attending surgeon. If the attending surgeon is there, and the attending surgeon is visualizing the bowel and the -- you know, before closing, what evidence do you have that Dr. D'Andrea should have done something differently or should have known there was a perforation that Dr. Fahim wouldn't have known?

A Again, it's based on my opinion of this perforation occurring at some point during the surgical procedure from start to finish with both of those surgeons being involved. And then that places the responsibility of -- on each of them, I think, to recognize a complication like this.

Q But as a resident, you're ultimately not responsible for the complication, correct, because you're under the supervision and control and monitoring of an attending?

A You know, again, I've been in surgeries with residents for the eight years I was in Texas and watched

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a complication occur at the hands of a resident. And yes. The attending physician is responsible for the aftermath -- for taking responsibility for what occurred during the surgery.

Q But this is not one of these cases where there's a known complication that someone just covered up. You're not establishing or not trying to testify that there was a coverup in this case, are you?

A I have not said that, no.

MR. ETSIOS: Okay. I am going to, because of the timeframe, defer to another day. But I just wanted to ask you a few of those questions. There's a lot of other questions that I, potentially, could ask you. But since it's almost 20 after, I'm going to reserve the right to ask you additional questions later on.

MR. COOK: That's fine.

MR. SAURBIER: That's fine. E-tran, please.

MR. ETSIOS: E-tran, also.

MR. COOK: Same.

(The deposition adjourned at 5:20 p.m.)

(Reading and signing of the transcript was not waived by the witness and all parties.)

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CERTIFICATE OF OATH

STATE OF FLORIDA
COUNTY OF HILLSBOROUGH

I, the undersigned notary authority, certify that CHRISTOPHER KOEBBE, M.D., personally known to me and/or provided photo identification in the aforesaid proceedings, appeared before me and were duly sworn under oath.

WITNESS my hand and official seal this day of August 7, 2019.

Renee L. Gilkes, RPR
Notary Public, State of Florida
Commission No. GG077578
Expires: 02/27/2021

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CERTIFICATE OF REPORTER

I, Renee L. Gilkes, Registered Professional Reporter, Notary Public for the State of Florida at large, do hereby certify that I stenographically reported the proceedings at the time and place so indicated and that my notes were hereinafter reduced to a computer-generated transcript.

I further certify that I am not an employee or relative of any of the parties and am not an employee or relative of either counsel, and further certify that I am not financially interested in the outcome of this litigation.

I hereby affix my signature this 13th day of August, 2019, in Tampa, Hillsborough County, Florida.

Renee L. Gilkes, RPR

ERRATA SHEET

DO NOT WRITE ON TRANSCRIPT -- ENTER CHANGES ON THIS PAGE

IN RE: LYNDA DANHOFF, ET AL
vs.
DANIEL K. FAHIM, M.D.
Christopher Koebbe, M.D.
August 7, 2019
(U.S. Legal Job No. 1970592)

PAGE	LINE	CHANGE	REASON

Under penalties of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.

_____ _____
CHRISTOPHER KOEBBE, M.D. DATE

August 13, 2019
Jeffrey S. Cook, Esquire
Driggers, Schultz & Herbst
2600 West Big Beaver Road
Suite 550
Troy, Michigan 48084
IN RE: LYNDA DANHOFF, ET AL vs. DANIEL K. FAHIM, M.D., ET AL

Deposition of CHRISTOPHER KOEBBE, M.D., taken on August 7, 2019 (U.S. Legal Support Job No. 1970592)

Dear Mr. Cook:

The transcript of the above-referenced proceeding has been prepared and is being provided to your office for review by the witness.

We respectfully request that the witness complete their review within 30 days and return the errata sheet to our office.

Sincerely,

Renee L. Gilkes, RPR

CC: Scott A. Saurbier, Esquire
Dean A. Etsios, Esquire

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Exhibit L

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STATE OF MICHIGAN

SIXTH JUDICIAL CIRCUIT COURT (OAKLAND COUNTY)

LYNDA DANHOFF and
DANIEL DANHOFF,

Plaintiffs,

-vs- Case No. 18-166129-CH

DANIEL K. FAHIM, M.D., and
MICHIGAN HEAD & SPINE INSTITUTE,

Defendants.
_____/

MOTION

BEFORE THE HONORABLE NANCI J. GRANT, CIRCUIT JUDGE

Pontiac, Michigan - Wednesday, November 6, 2019

APPEARANCES:

For the Defendant: MADELINE R. YOUNG (P82140)
400 Maple Park Boulevard
Suite 402
St. Clair Shores, Michigan 48081
(586) 477-3727

TRANSCRIBED FROM VIDEOTAPE BY:
Marguerite H. Anderson, CER, CSR-2334
(248) 935-5190

TABLE OF CONTENTS

WITNESSES:

None Called.

EXHIBITS: RECEIVED:

None Marked.

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Pontiac, Michigan

Wednesday, November 6, 2019 - 9:32 a.m.

THE CLERK: Your Honor, now calling docket number three. Lynda Danhoff versus Daniel Danhoff. 2018-166129-NH.

MS. YOUNG: Good morning, your Honor. Madeline Young, on behalf of Dr. Fahim and MHSI.

This is an unopposed motion. It's just our motion for permission to use the Zoom video conferencing technology. Yeah. The --

THE COURT: When -- oh, you haven't been -- so what, you're going in three days to --

MS. YOUNG: Yes. Yeah. So we just have to kind of do this. I know that your pretrial order also says we have to figure out all this technology before the 12th, so I'm just trying to get ahead of that --

THE COURT: Okay.

MS. YOUNG: -- file the motions --

THE COURT: Are you telling me that I'm probably going to try it?

MS. YOUNG: I don't know.

THE COURT: Or you're going in -- going in with a good attitude?

MS. YOUNG: You know -- yeah. As long as

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you can go in, we're going to --

THE COURT: Okay.

MS. YOUNG: -- you know, we'll see what's reasonable and then -- I mean, if we don't -- we just want to be prepared. We are preparing for --

THE COURT: I think to use this they need to just set up in a doctor -- but what you should really do is if it doesn't resolve -- and obviously I wish -- I hope it does.

MS. YOUNG: Right.

THE COURT: But if it doesn't, call us two days before trial or a day before trial.

MS. YOUNG: Okay.

THE COURT: Because we just did use it yesterday, I just know they need -- there's a way to set it up with the other party. Okay?

MS. YOUNG: Okay. Okay. Yeah.

THE COURT: All right. So that's no problem. Motion granted.

MS. YOUNG: All right. Great. Thank you.

THE COURT: Thanks for coming in today. Good luck.

MS. YOUNG: Thank you.

(At 9:33 a.m., proceedings concluded.)

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STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, Marguerite H. Anderson, CER, CSR-2334, do hereby certify that this transcript, consisting of 5 pages, is a complete, true and correct rendition of the videotape of the proceedings as recorded in this case on November 6, 2019.

/s/ Marguerite H. Anderson

Marguerite H. Anderson, CER, CSR-2334
78 Bobolink Street
Rochester Hills, Michigan 48309
(248) 935-5190

Dated: March 23, 2020.

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EXHIBIT J

Exhibit M

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STATE OF MICHIGAN

SIXTH JUDICIAL CIRCUIT COURT (OAKLAND COUNTY)

LYNDA DANHOFF and
DANIEL DANHOFF,

Plaintiffs,

-vs- Case No. 18-166129-CH

DANIEL K. FAHIM, M.D., and
MICHIGAN HEAD & SPINE INSTITUTE,

Defendants.
_____/

MOTION

BEFORE THE HONORABLE NANCI J. GRANT, CIRCUIT JUDGE

Pontiac, Michigan - Wednesday, November 13, 2019

APPEARANCES:

For the Plaintiff: JEFFREY S. COOK (P43999)
2600 W. Big Beaver Road
Suite 550
Troy, Michigan 48084
(248) 649-6000

For the Defendant: SCOTT A. SAURBIER (P19914)
MADELINE R. YOUNG (P82140)
400 Maple Park Boulevard
Suite 402
St. Clair Shores, Michigan 48081
(586) 477-3727

TRANSCRIBED FROM VIDEOTAPE BY:
Marguerite H. Anderson, CER, CSR-2334
(248) 935-5190

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TABLE OF CONTENTS

WITNESSES:

None Called.

EXHIBITS: RECEIVED:

None Marked.

Pontiac, Michigan

Wednesday, November 13, 2019 - 8:33 a.m.

THE CLERK: Your Honor, now calling docket number two. Lynda Danhoff versus Daniel Danhoff. 2018-166129-NH.

MR. COOK: Good morning, your Honor. Jeff Cook, appearing on behalf of the plaintiff.

MR. SAURBIER: Good morning, your Honor. Scott Saurbier, on behalf of the defendant Dr. Daniel Fahim.

MS. YOUNG: Good morning, your Honor. Madeline Young, also on behalf of Dr. Fahim and Michigan Head & Spine Institute.

THE COURT: I think somebody may have given something to my staff this morning?

MS. YOUNG: Yes, that was me.

THE COURT: I didn't read it.

MS. YOUNG: I figured --

THE COURT: It's Wednesday -- it's Wednesday at 8:30.

MS. YOUNG: Right. I figured. We didn't get our responses until yesterday so we couldn't file them until yesterday, so it's --

THE COURT: Let's start with the motion in limine to strike Dr. Cassin. How are you

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prejudiced?

MS. YOUNG: Well, your Honor, Dr. Cassin is plaintiff's only causation expert and we did not receive his report until it was attached to the case evaluation summary.

So in this case there's a lot of, you know, issue as to what was the true cause of the perforation here. And without being able to depose Dr. Cassin after I have asked for his deposition eight times before I filed the motion to compel, had a motion to compel -- and this was the ruling where they had to identify their expert witness before a certain time. They identified Dr. Cassin as their expert pathologist.

We then the same day requested his deposition. They --

THE COURT: How didn't you -- what -- I don't understand what happened on September 10th.

MS. YOUNG: So September 10th is after motion for summary disposition cutoff, after discovery cutoff and after case evaluation summaries were received. So at that point in time, I mean, there's no point --

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THE COURT: You would rather --

MS. YOUNG: -- in going forward --

THE COURT: -- just take a risk and not deposing him, then say you're prejudiced?

MS. YOUNG: Well, we were prejudiced and it wasn't a risk of not deposing him, it was more of the principle of okay, well, now what am I going to do? You know, we're going to take --

THE COURT: Right.

MS. YOUNG: If you take his deposition now --

THE COURT: You don't under -- you don't see that that's a risk by saying, well, I should probably get what I need from him or sit on it; I will cancel it, then sit on it and then somehow argue I've been prejudiced because I don't know what he's going to say?

MS. YOUNG: Well, the strategy that we chose was --

THE COURT: Right. It's a strategy that you're choosing. So you chose a strategy that included then coming in today and saying oh, we're prejudiced because we don't know what he's going to say.

MS. YOUNG: Well, because, I mean --

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THE COURT: And this was --

MS. YOUNG: -- a deposition --

THE COURT: -- up two months ago.

MS. YOUNG: A deposition at that time, what am I going to do?

THE COURT: I don't know, it's two months ago.

MS. YOUNG: I can't conduct --

THE COURT: It's two months before trial and you cancelled the deposition, and then two months later say I'm prejudiced because I didn't take his deposition.

MS. YOUNG: I mean, it was also a risk on plaintiff's end for not producing him.

THE COURT: Okay.

MS. YOUNG: And it's also not --

THE COURT: Well, I think it's a risk on your end because you're the one arguing to strike it now, when you're the one that didn't show up on September 10th, right?

MS. YOUNG: The plaintiff is the one who is obligated to produce this deposition at a timely point.

THE COURT: The point being --

MS. YOUNG: Pursuant to the Court Rule.

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THE COURT: -- it was scheduled for September 10th.

MS. YOUNG: Yes.

THE COURT: You chose to say well, it's after the dispositive motion so -- which -- know your judge. I am here -- I have always said this. I understand that a lot of judges say no, that's the cutoff for SDs.

But the law is -- the judges shouldn't be saying it because the law is, established law is you can hear -- trial judges are supposed to hear SDs literally up until the day of trial or through the trial, then it's just simply called a directed verdict motion.

So what I'm saying is you can say all that, but the way I'm looking at it, as a practical point of view, you had two months before trial and you cancelled the deposition.

MS. YOUNG: The other point that I would like to add is just the fact that we have also requested expert interrogatory answers that have never been produced. I don't even have Dr. Cassin's CV. So --

THE COURT: Okay. So where is the CD and why didn't you produce the -- why didn't you

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respond to interrogatories?

MR. COOK: Your Honor, we sent them the report which had all the answers in it. I can certainly supplement interrogatory answers, but it's -- his report basically says everything. I believe that the CV was sent, but if it wasn't, we can do that.

They -- they have Dr. Cassin's CV from times when they've used him. I mean, this is not an expert that was anybody that's any surprise. He had requested, let's just do our -- my deposition in Scott's office if it's easier.

THE COURT: Why did it take so long to schedule it?

MR. COOK: Well, simple, your Honor, because we took Dr. Koebbe's deposition, the one down -- the neurosurgeon. They didn't finish it. They went four and a half hours and wanted another hour and a half.

So we spent about a week to 10 days back here rescheduling Dr. Koebbe's deposition and getting that scheduled. We then finally got that done and then they cancelled it. Okay. So we never did finish Dr. Koebbe's deposition.

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In the meantime, we then asked -- we were asking Dr. Cassin, what dates did you have? We offered dates and the date of September 10th was the only one when all the -- all attorneys, the two defense attorneys at the time were available. That's the day they chose of the dates that were given and it was before the case evaluation to be heard.

It was within about two weeks or three weeks of your order of when we had to determine who the experts were.

We tried to do everything we could. We gave them the report, we got a date that everyone could go to and then they cancelled it the day before.

And that's -- and now we're here and they're claiming prejudice so --

MS. YOUNG: Your Honor --

MR. COOK: -- I don't get it.

MS. YOUNG: -- may I respond to that?

THE COURT: Mm-hmm.

MS. YOUNG: First of all, I don't understand why a pathologist's deposition has anything to do with scheduling Dr. Koebbe's deposition. That is a position we've always

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taken from our office.

And secondly, the continued deposition had nothing to do with our case. That was co-defendants requesting it. They decided not to go forward with it.

I mean, I requested Dr. Cassin's deposition on August 12th, the same day they identified it and I couldn't get it scheduled until September 10th. And like I said, that just doesn't do us any good. I need to understand the foundation for his opinions. That was a big part of this.

THE COURT: All right. Next one is motion in limine to preclude allegations and new theories of negligence not pled.

MR. SAURBIER: Good morning, your Honor. Scott Saurbier.

So in short, I think that you understand what this XLIF procedure is. Everybody calls it XLIF. This is really a procedure that's done through something like a large straw, maybe a total of one inch of -- to get down to the vertebrae.

So this is a single person that they have brought, that's Christopher Koebbe. I took his deposition, it was just mentioned. Actually, we

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-- just as a little clarification, that deposition did go long. He danced around a lot and we had to catch a plane and our co-defendant, who has now settled out of the case for Dr. D'Andrea --

THE COURT: I'm sorry. What do you think -- what new allegations or theories do you think he --

MR. SAURBIER: So he came up with -- with three new theories. So one, he wants to come up with a res ipsa theory, that because this happened, that we have to go forward with the burden of proof.

And first of all, it's -- Dr. Fahim was the resident, employed by Beaumont, paid by Beaumont, assigned by Beaumont to this. So he and Dr. -- and Beaumont has settled out.

So under the theory of res ipsa, what Dr. Koebbe testified to is I don't know who did this, I don't know whether it's Dr. Fahim, I don't know whether it's Dr. D'Andrea, I don't know when it happened. I don't know how it happened.

So -- so he, as the expert -- and he cannot say, secondly, that this doesn't happen in the

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absence of negligence because there's all kinds of literature that say when you're doing an XLIF, this is one of the complications.

And if you look at the informed consent before the surgery, the informed consent specifically talks about what's been published in peer review writings about the complications of exactly this sort of thing happening. And in fact, when I -- when I --

THE COURT: What do the notes say where Dr. Fahim was during the surgery?

MR. SAURBIER: What do the notes say?

THE COURT: The medical notes. The medical records. What does it -- does he say he was in the room? Does he say he was in the room when this was happening or did he step out of the room?

MR. SAURBIER: No, no. Dr. Fahim was there the entire time.

THE COURT: Does his -- his notes say that he was here. And did he -- did he sign off on those notes?

MR. SAURBIER: Yeah. I believe he did. I haven't looked at it but I'm --

THE COURT: Well, it's your client.

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MR. SAURBIER: Recently. Sure.

THE COURT: Did he sign off on the medical notes saying that he remained next to the resident the entire time?

MR. SAURBIER: I think that is the testimony.

THE COURT: That's his testimony under oath?

MR. SAURBIER: Well, yeah. I mean, he said he was there --

THE COURT: I just -- I just want to know --

MR. SAURBIER: No, no.

THE COURT: -- what he said under oath.

MR. SAURBIER: I appreciate it.

THE COURT: Okay.

MR. SAURBIER: I think he's there the entire time.

THE COURT: Okay.

MR. SAURBIER: And so -- so the --

THE COURT: Dr. Koebbe testified due to the rarity of the bowel perforation during spinal surgery. Did the surgery go -- did it go in through the back or through the front?

MR. SAURBIER: Neither. You go through the

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side.

THE COURT: Okay.

MR. COOK: The left side, your Honor.

THE COURT: Thank you. So he -- he said in his opinion due rarity of perforation during the surgery, perforation during the surgery was a breach of standard of care, quote:

> "I'm saying that based on the extremely rare nature and the fact that these structures are not directly in the way that we talked about -- like we talked about earlier, nerve and muscle being in the way that has to be moved out. These are structures that should easily be mobilized to avoid injury. And so if there's an injury and it occurs in one out of every thousand of these procedures, then I would say more likely than not an instrument went awry or something apparent that would to me would violate the standard of care that -- sort of complication."

MR. SAURBIER: He just jumps to a conclusion.

THE COURT: Well, the -- pardon me?

MR. SAURBIER: He just jumps to a

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conclusion. There's no facts to support it and it literature all outlines -- and at one point I asked him, do you have any literature to support your theory? And he said, well, I looked and the only thing I found was not supportive of my theory. So even the literature he looked up didn't support what he's saying.

THE COURT: And didn't Dr. Fahim have an obligation to watch the resident to make sure everything was going --

MR. SAURBIER: So -- yeah. And so that -- that is another area. So -- so this resident is assigned to him --

THE COURT: Let me make it clear. I want to make it clear, because I'm not going to do gamesmanship.

MR. SAURBIER: Mm-hmm.

THE COURT: I like -- I like to be practical about these things.

It doesn't matter for the purpose of my question, I don't care that the resident was an employee of Beaumont or was an employee of Fahim. I understand that he was not an employee of Fahim. I understand that Fahim didn't pick him, all this other stuff.

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But what Fahim does do is say I am in a, essentially a teaching hospital. Therefore, I will be having someone next to me that it will be my obligation to teach, to make sure that they understand the procedure.

MR. SAURBIER: Absolutely correct.

THE COURT: So to keep saying, he's an employee of Beaumont so Fahim doesn't have any responsibility is a nonstarter, don't you think?

MR. SAURBIER: No. Fahim's duty is to train the resident and teach the resident how to do this.

THE COURT: Okay.

MR. SAURBIER: And they worked hand in hand, he met all those obligations and training --

THE COURT: So now you do say that Fahim should have been there and watching it. So this --

MR. SAURBIER: And he was.

THE COURT: -- resident was messing up or starting to mess up, Fahim was there to stop him.

MR. SAURBIER: Well, so --

THE COURT: I mean, wouldn't that --

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wouldn't you want that if you were having to -- I would certainly say, make sure -- I would want to make sure the attending, who I think is doing the surgery, may not be doing the surgery -- I mean, frankly, I learned 23 years ago to always ask because of these cases.

But I would certainly want to make sure there's the attending there and if he's going to have the resident touch me, the attending better be watching out what's going on.

MR. SAURBIER: Sure.

THE COURT: Okay.

MR. SAURBIER: And so he was there.

THE COURT: Yeah.

MR. SAURBIER: And so nobody knows how or when this happened, whether it was --

THE COURT: So Fahim there was and watching the resident. This is -- don't you find that interesting? Fahim is there, watching the resident, but when asked he doesn't know what happened, the resident doesn't know what happened. That's scary.

MR. SAURBIER: Well, and neither does their expert. Because you're looking down through --

THE COURT: Right, because the expert is

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depending on -- can we just stop talking about the expert, because I'm not there right now.

MR. SAURBIER: Okay.

THE COURT: I want to make it clear for the record, the two people that were directly involved in the surgery say I don't know who did it, I don't know how it happened, I don't know what's going on.

The expert can only rely on what the people that were there say. The people that were there say, I don't know how it happened, correct?

MR. SAURBIER: That is correct.

THE COURT: Okay.

MR. SAURBIER: Can I -- can I add to that?

THE COURT: You may.

MR. SAURBIER: So with the XLIF -- and you have a one-inch incision.

THE COURT: Mm-hmm.

MR. SAURBIER: You're really looking down a little straw. And so what happens is, when this hole is made the surgeon puts his or her -- but it's his in this case --

THE COURT: Right.

MR. SAURBIER: -- finger actually down the hole and tries to move things away. When you're

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moving things away, obviously nobody can see what you're doing or what's going on, but that's the proper technique. And so Dr. Fahim did that and then he had Dr. D'Andrea do that.

And so to say that maybe it was Fahim, maybe it was D'Andrea. If you have a weakened area due to diverticulitis, a small hole can be made doing the proper thing.

And at some point a small hole was made. But that is one of the complications and just because it may have happened with Dr. Fahim, it may have happened with Dr. Andrea, does not mean anything was done wrong.

And that's where, I don't want to jump to the plaintiff's expert, but that's where the expert jumps to. Because this rarely happens. I'm saying it's wrong.

THE COURT: Okay. The motion in limine to preclude evidence of unpled claims of vicarious liability. This is the captain of the ship thing, right? Okay.

Captain of the ship, at least in the cases that cite it, are all about you can't say that the doctor is the captain of the ship if the nurses are doing negligence.

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This is not captain of the ship, this is exactly what I was talking about before. Fahim is supposed to be looking at the resident. That's not captain of the ship.

MS. YOUNG: Well, your Honor, the Brown --

THE COURT: Now, if you were to say Fahim is responsible for the nurses in the OR, I mean, I'm right -- I'm right there with you. I agree, he is not captain of the ship. But he's responsible to teach the person standing next to him.

MS. YOUNG: Well, that would be the direct liability claims, right? Responsible for teaching, supervising and monitoring.

What plaintiff is trying to add is this vicarious liability theory by saying -- I mean, Dr. Fahim is also supposed to monitor the nurses that are handing him the surgical instrument tools, all of that as well.

THE COURT: No, he's not -- he's not -- he's only talking about the resident. I don't know why you've extrapolated that. I don't know what you -- you're trying to -- my concern is this: If you think you're trying to extrapolate it and then say, so therefore, he's also not

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responsible for the resident because the resident is not his employee, that's not what the law says.

MS. YOUNG: Well, your Honor, the Cox v Board of Hospitals do say that and same with Brown v Bennett. I mean, Brown v Bennett case talks about the different positions. And I have the short cite for you if you would like it.

But that case talks about a head physician and several assisting physicians as well. And they try to impute liability onto one physician for the actions of the assisting physicians. And the Michigan Supreme Court --

THE COURT: In which case?

MS. YOUNG: The Brown v Bennett.

THE COURT: The 1909 case?

MS. YOUNG: Yes, 1909. And that was when we were first discussing, you know, Michigan courts were first --

THE COURT: I would like -- I believe that cases of a hundred years ago are precedent, but I would still like something more recent.

MS. YOUNG: Sure. And then -- so the same principles is actually in the Cox v Flint Board of Hospitals, which is a 2002 case, where they

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basically say imputing liability is --

THE COURT: Wait. I don't have Cox --

MS. YOUNG: It is -- one moment.

THE COURT: And what are the facts in Cox?

MS. YOUNG: So Cox is a -- a case where the plaintiff basically tried to sue an entire hospital unit by saying something went wrong during the procedure.

THE COURT: Okay. Again, where is the case that says you're a teaching hospital and the attending does not have responsibility for the resident?

MS. YOUNG: Well, first, I don't know if this is a teaching -- I don't know if Beaumont is a teaching hospital. I can't speak to that.

Secondly --

THE COURT: You can't? You ever hear of Oakland University Beaumont, William Beaumont?

MS. YOUNG: Yeah.

THE COURT: It's a medical school. So therefore, they use Beaumont as their hospital.

MS. YOUNG: But I know that -- so -- so -- in this specific case Dr. D'Andrea is as neurosurgeon and I don't think that Beaumont has a neurosurgery residency program.

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But Dr. D'Andrea testified in his deposition that he was with Ascension, they would do rounds at Beaumont and --

THE COURT: Do you have a resident case?

MS. YOUNG: Well, I have this case.

THE COURT: Okay.

MS. YOUNG: And -- but basically, Dr. Fahim should not be considered the captain of the ship because this is a -- a type of doctor that has never been recognized in Michigan and the hospital has always been responsible for the residents, always.

And, you know, in this case where basically plaintiff is trying to now create vicarious liability claims which is separate than direct liability, failure to monitor, failure to supervise. And these rights that we have, just because they settled out with Beaumont, does not mean that they can sever our rights, the vicarious liability.

THE COURT: Okay.

MS. YOUNG: I mean, we would have cross-claimed, we would have counter-claimed earlier if this were the case, if they pled this originally.

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But, I mean, the bottom line is D'Andrea is not an employee of Dr. Fahim and the only way to impute this operation of law of vicarious liability is through either the doctrine of respondeat superior or basic agency principles. And here Dr. D'Andrea is just simply not an agent of Dr. Fahim or MHSI.

THE COURT: What's your response?

MR. COOK: Your Honor, I think you hit right on it. The -- the case law that's cited is basically attendance -- attending physicians can't be held responsible for other attending physicians.

This is not that situation. There's a trainee and an attendant physician. It's like a master and servant respondeat superior, however you want to say it in the legal terms.

The bottom line is that Dr. Fahim, as the attending physician, is responsible for the entire surgery upon his patient. Dr. D'Andrea is a resident, a trainee. He can't do that surgery on his own, he has no -- he can't walk in and say I'll do the whole thing. I can't do any of it without the direct supervision of Dr. Fahim.

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They -- Dr. Fahim is responsible for anything that goes wrong during the surgery upon his patient, whether it was in his own hands or the hands of the resident that he's supervising.

The bottom line here is that you can't have Dr. D'Andrea having separate negligence in this case upon Mrs. Danhoff.

THE COURT: Okay. But you only -- you only pled failure to supervise against Fahim, correct?

MR. COOK: We -- yeah, failure to supervise, failure to -- basically, yeah.

THE COURT: And you did vicarious -- you did vicarious liability against Michigan Head & Spine but not against Dr. Fahim.

MR. COOK: Correct. Because at the time we thought that Dr. D'Andrea may have been an employee of Michigan Head & Spine as opposed -- and also Beaumont Hospital.

But yeah, it's the same theory. They've been on notice since the very beginning of the case that that's one of the plaintiff's claims.

THE COURT: Well, it's not exactly the same thing because you've got different -- you pointed the finger at different entities.

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What damages specifically are you all arguing that are speculative?

MS. YOUNG: Well, they're attaching medical liens, your Honor, and the majority of these medical liens deal with Ms. Danhoff's subsequent hip surgeries, things like that.

They have no expert that they're producing to be able to relate these medical issues back to the alleged negligence in this case. That's the essence of our motion.

MR. COOK: Your Honor, she underwent 11 abdominal surgeries after the original one, which all obviously are included in this.

If there isn't testimony with regard to any of the hip issues or the heart issues or what have you from the treaters, fine, we can try and mince those out of whatever the overall -- because when we send in the lien we give them a date and they just give us everything. And we can go through that and take out what isn't relevant to the case. That's not a big deal. We do that in every case.

THE COURT: Okay.

MR. COOK: Yeah. That shouldn't be a big problem.

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THE COURT: All right.

MS. YOUNG: Your Honor, may I go back to the captain of the ship? Just one last comment --

THE COURT: Sure.

MS. YOUNG: -- I would just like to make in that regard.

You know, plaintiff is trying to basically say because Dr. Fahim should have supervised Dr. D'Andrea he's vicariously liable. There's no case law that says that. That's not how vicarious liability operates under the law. They don't have anything to cite to that. They didn't cite any case law in their motion.

THE COURT: So what you're saying is that if I'm being operated on and the attending steps away, they let the resident do whatever the resident is going to do --

MS. YOUNG: Well, no, but that's --

THE COURT: -- because the attending --

MS. YOUNG: But that's different.

THE COURT: I don't know --

MS. YOUNG: Because --

THE COURT: -- it's different because I've got -- I've got two people swearing up and down

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they don't know what happened. And they're the only two people that were there.

MS. YOUNG: Well, but it's because with this specific procedure, as Mr. Saurbier was touching on earlier, you know, you're operating out of a tube. So as much as Dr. Fahim couldn't go there with a microscope and try to look at everything Dr. D'Andrea does, it's just not possible.

THE COURT: Right.

MS. YOUNG: And they don't know how this perforation caused.

THE COURT: Right.

MS. YOUNG: Was caused.

THE COURT: I understand. You keep saying that. Okay.

You want to all three of you approach, please?

(At 8:55 a.m. until 8:57 a.m., bench conference held.)

(At 8:57 a.m., proceedings concluded.)

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STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, Marguerite H. Anderson, CER, CSR-2334, do hereby certify that this transcript, consisting of 29 pages, is a complete, true and correct rendition of the videotape of the proceedings as recorded in this case on November 13, 2019.

/s/ Marguerite H. Anderson

Marguerite H. Anderson, CER, CSR-2334
78 Bobolink Street
Rochester Hills, Michigan 48309
(248) 935-5190

Dated: March 23, 2020.

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Exhibit N

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AFFIDAVIT

STATE OF FLORIDA)
) SS:
COUNTY OF HILLSBOROUGH)

CHRISTOPHER J. KOEBBE, M.D., first being duly sworn, deposes and says:

1. I am Board Certified in the specialty of Neurosurgery.

2. That at the time of the deviations of the standard of care, and the year preceding, I spent a majority of my professional time in the active clinical practice of Neurosurgery.

3. That on August 7, 2019 I gave a partial deposition that was not completed due to time constraints.

4. That counsel for defendants both requested additional time to finish their questions and counsel for plaintiff did not have any opportunity to ask me questions.

5. That my deposition was rescheduled for September 3, 2019 but was subsequently cancelled and was never finished.

6. That on August 7, 2019 I indicated in my testimony that I had done research into peer reviewed articles and had found several articles that confirmed my opinions regarding the standard of care.

7. That on August 7, 2019 I did not have those articles with me at my deposition.

8. That it was my intention to bring those articles to the conclusion of my deposition that was rescheduled to take place on September 3, 2019.

9. That I have provided the peer review articles and abstracts to plaintiff's counsel and they are attached as Exhibit 1 to this Affidavit.

10. That at my deposition on August 7, 2019 I explained the difference between acceptable known complications of the lumbar procedure performed on Ms. Danhoff and unacceptable known complications that almost always occur as a result of medical negligence.

11. By way of example I testified regarding the known acceptable complication of transient nerve damage to the anatomical structures which need to be moved to gain access to the lumbar spine.

12. I also testified regarding the known complication of a bowel injury that was an unacceptable complication of this procedure as this type of injury almost always occurs as a result of medical error.

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13. The medical articles attached as Exhibit 1 to this Affidavit support my standard of care opinions.

14. These articles looked to the complication rates of various injuries occurring during the type of procedure that Ms. Danhoff underwent utilizing thousands of patients. By way of example one study looked at 2,998 patients, one looked at 13,004 patients, and a third looked at 6,581 patients.

15. The attached articles found that the incident of a bowel injury, similar to what happened to Ms. Danhoff, occurred in 0.03%, 0.08%, and 0.05% respectively. (3 to 8 bowel injuries for every 10,000 surgeries).

16. The studies also found that the acceptable known risk of transient nerve injury or weakness was between 9% and 21% in this same group of patients which is also consistent with my opinion testimony.

17. That the articles attached as Exhibit 1 to this Affidavit confirm my standard of care opinion that a bowel injury caused during the type of procedure performed upon Ms. Danhoff is not an acceptable known complication of this procedure but rather is so rare as to only occur as a result of surgical error.

I affirm to the contents of the Affidavit.

CHRISTOPHER J. KOEBBE, M.D.

Subscribed and sworn to before
me this 11 day of December, 2019.

Notary Public

Notary Public State of Florida
Christine H Baglio
My Commission GG 277087
Expires 11/15/2022

Exhibit O

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- **Format**: Abstract

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- Email sent to koebbec@yahoo.com

Spine (Phila Pa 1976). 2017 Oct 1;42(19):1478-1484. doi: 10.1097/BRS.0000000000002139.

Complications Associated With Lateral Interbody Fusion: Nationwide Survey of 2998 Cases During the First 2 Years of Its Use in Japan.

Fujibayashi S[1], Kawakami N, Asazuma T, Ito M, Mizutani J, Nagashima H, Nakamura M, Sairyo K, Takemasa R, Iwasaki M.

Author Information

1

*Department of Orthopedic Surgery, Graduate School of Medicine, Kyoto University, Shogoin Kawahara-cho, Sakyo-ku, Kyoto, Japan †Department of Orthopedics and Spine Surgery, Meijo Hospital, Sannomaru, Naka-ku, Nagoya, Japan ‡Department of Orthopedics, Murayama Medical Center, Gakuen, Musashimurayama, Tokyo, Japan §Department of Orthopedic Surgery, National Hospital Organization Hokkaido Medical Center, Yamanote, Nishi-ku, Sapporo, Japan ¶Department of Rehabilitation Medicine and Orthopedic Surgery, Nagoya City University, Graduate School of Medical Sciences, Kawasumi, Mizuho-Cho, Mizuho-Ku, Nagoya, Japan ||Department of Orthopedic Surgery, Faculty of Medicine, Tottori University, Nishi-cho, Yonago, Tottori, Japan **Department of Orthopedic Surgery, Keio University School of Medicine, Shinanomachi, Shinjuku, Tokyo, Japan ††Department of Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan ‡‡Department of Orthopedic Surgery/Spine Center, Kochi Medical School, Kohasu, Okoh-cho, Nankoku-city, Kochi, Japan §§Department of Orthopedic Surgery, Osaka Rosai Hospital, Nagasone-cho, Kita-ku, Sakai, Osaka, Japan.

Abstract

STUDY DESIGN:

Retrospective nationwide questionnaire-based survey of complications.

OBJECTIVE:

To elucidate the incidence of complications and risk factors associated with lateral interbody fusion (LIF).

SUMMARY OF BACKGROUND DATA:

After its introduction to Japan in February 2013, the numbers of LIF cases have increased substantially because of the advantages of this minimally invasive procedure. However, LIF has the potential risk of several complications unique to the procedure. Although there are many reports of complications, no nationwide survey has been conducted.

METHODS:

Questionnaires were sent to all Japanese Society for Spine Surgery and Related Research (JSSR) members. Questionnaires requested information about surgical procedures (XLIF or OLIF), patient characteristics, preoperative diagnosis, complications, salvage procedures, final outcomes, and the surgeon's experience of LIF. The data from replies received between March 2013 and April 2015

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were recorded on a web site and the details of complications were analyzed by a JSSR research team.

RESULTS:

Seventy-one institutions (12.3%) answered "yes" to LIF experience and 2998 cases (1995 XLIF and 1003 OLIF) were enrolled in this study. The response rate was 86.1%. A total of 540 complications were reported, of which 474 (84.8%) could be further analyzed. The overall complication rate was 18.0%. The most frequent complications were sensory nerve injury (5.1%) and psoas weakness (4.3%) and the majority resolved spontaneously. The rates of major vascular injury, bowel injury, and surgical site infection were 0.03%, 0.03%, and 0.7%, respectively. The overall reoperation rate was 2.2%. Higher rates of sensory nerve injury and psoas weakness were reported for XLIF and higher rates of peritoneal laceration and ureteral injury were reported for OLIF.

CONCLUSION:

A nationwide survey of complications associated with LIF was conducted. Although the majority of complications were minor, a relatively high rate of complications was reported. Approach-related specific features of the two procedures were identified.

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Item 1 of 1 (Display the citation in PubMed)

1. Spine (Phila Pa 1976). 2017 Oct 1;42(19):1478-1484. doi: 10.1097/BRS.0000000000002139.

Complications Associated With Lateral Interbody Fusion: Nationwide Survey of 2998 Cases During the First 2 Years of Its Use in Japan.

Fujibayashi S[1], Kawakami N, Asazuma T, Ito M, Mizutani J, Nagashima H, Nakamura M, Sairyo K, Takemasa R, Iwasaki M.

Author information:
1. *Department of Orthopedic Surgery, Graduate School of Medicine, Kyoto University, Shogoin Kawahara-cho, Sakyo-ku, Kyoto, Japan †Department of Orthopedics and Spine Surgery, Meijo Hospital, Sannomaru, Naka-ku, Nagoya, Japan ‡Department of Orthopedics, Murayama Medical Center, Gakuen, Musashimurayama, Tokyo, Japan §Department of Orthopedic Surgery, National Hospital Organization Hokkaido Medical Center, Yamanote, Nishi-ku, Sapporo, Japan ¶Department of Rehabilitation Medicine and Orthopedic Surgery, Nagoya City University, Graduate School of Medical Sciences, Kawasumi, Mizuho-Cho, Mizuho-Ku, Nagoya, Japan ||Department of Orthopedic Surgery, Faculty of Medicine, Tottori University, Nishi-cho, Yonago, Tottori, Japan **Department of Orthopedic Surgery, Keio University School of Medicine, Shinanomachi, Shinjuku, Tokyo, Japan ††Department of Orthopedics, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan ‡‡Department of Orthopedic Surgery/Spine Center, Kochi Medical School, Kohasu, Okoh-cho, Nankoku-city, Kochi, Japan §§Department of Orthopedic Surgery, Osaka Rosai Hospital, Nagasone-cho, Kita-ku, Sakai, Osaka, Japan.

Abstract

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OBJECTIVE:

To elucidate the incidence of complications and risk factors associated with lateral interbody fusion (LIF).

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RESULTS:

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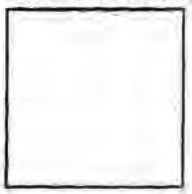
CONCLUSION:

A nationwide survey of complications associated with LIF was conducted. Although the majority of complications were minor, a relatively high rate of complications was reported. Approach-related specific features of the two procedures were identified.

LEVEL OF EVIDENCE:

4.

PMID: 28252557 [Indexed for MEDLINE]



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Eur Spine J. 2015 Apr;24 Suppl 3:386-98. doi: 10.1007/s00586-015-3806-4. Epub 2015 Feb 27.

Visceral, vascular, and wound complications following over 13,000 lateral interbody fusions: a survey study and literature review.

Uribe JS[1], Deukmedjian AR.

Author information

[1] Department of Neurosurgery and Brain Repair, University of South Florida, 2 Tampa General Circle, 7th Floor, Tampa, FL, 33606, USA, juansuribe@gmail.com.

Abstract

PURPOSE:

Minimally invasive lateral interbody fusion (MIS-LIF) has become a popular less invasive treatment option for degenerative spinal disease, deformity, and trauma. While MIS-LIF offers several advantages over traditional anterior and posterior approaches, the procedure is not without risk. The purpose of this study was to evaluate the incidence of visceral, vascular, and wound complications following MIS-LIF performed by experienced surgeons.

METHODS:

A survey was conducted by experienced (more than 100 case experience) MIS-LIF surgeons active in the society of lateral access surgery (SOLAS) to collect data on wound infections and visceral and vascular injuries. Of 77 spine surgeons surveyed, 40 (52 %) responded, including 25 (63 %) orthopedic surgeons and 15 (38 %) neurosurgeons, with 20 % practicing at an academic institution and 80 % in community practice.

RESULTS:

Between 2003 and 2013, 13,004 patients were treated with MIS-LIF by the 40 surgeons who responded to the survey. Of those patients, 0.08 % experienced a visceral complication (bowel injury), 0.10 % experienced a vascular injury, 0.27 % experienced a superficial wound infection, and 0.14 % experienced a deep wound infection.

CONCLUSION:

The incidence of surgical site infections and vascular and visceral complications following MIS-LIF in this large series was low and compared favorably with rates for alternative interbody fusion approaches. Although technically demanding, MIS-LIF is a reproducible approach for interbody fusion with a low risk of vascular and visceral complications and infections.

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JNS SPINE

LITERATURE REVIEW

J Neurosurg Spine 30:446–460, 2019

Complications for minimally invasive lateral interbody arthrodesis: a systematic review and meta-analysis comparing prepsoas and transpsoas approaches

*Corey T. Walker, MD, S. Harrison Farber, MD, Tyler S. Cole, MD, David S. Xu, MD, Jakub Godzik, MD, Alexander C. Whiting, MD, Cory Hartman, MD, Randall W. Porter, MD, Jay D. Turner, MD, PhD, and Juan Uribe, MD

Department of Neurosurgery, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, Arizona

OBJECTIVE Minimally invasive anterolateral retroperitoneal approaches for lumbar interbody arthrodesis have distinct advantages attractive to spine surgeons. Prepsoas or transpsoas trajectories can be employed with differing complication profiles because of the inherent anatomical differences encountered in each approach. The evidence comparing them remains limited because of poor quality data. Here, the authors sought to systematically review the available literature and perform a meta-analysis comparing the two techniques.

METHODS A systematic review and meta-analysis was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A database search was used to identify eligible studies. Prepsoas and transpsoas studies were compiled, and each study was assessed for inclusion criteria. Complication rates were recorded and compared between approach groups. Studies incorporating an analysis of postoperative subsidence and pseudarthrosis rates were also assessed and compared.

RESULTS For the prepsoas studies, 20 studies for the complications analysis and 8 studies for the pseudarthrosis outcomes analysis were included. For the transpsoas studies, 39 studies for the complications analysis and 19 studies for the pseudarthrosis outcomes analysis were included. For the complications analysis, 1874 patients treated via the prepsoas approach and 4607 treated with the transpsoas approach were included. In the transpsoas group, there was a higher rate of transient sensory symptoms (21.7% vs 8.7%, $p = 0.002$), transient hip flexor weakness (19.7% vs 5.7%, $p < 0.001$), and permanent neurological weakness (2.8% vs 1.0%, $p = 0.005$). A higher rate of sympathetic nerve injury was seen in the prepsoas group (5.4% vs 0.0%, $p = 0.03$). Of the nonneurological complications, major vascular injury was significantly higher in the prepsoas approach (1.8% vs 0.4%, $p = 0.01$). There was no difference in urological or peritoneal/bowel injury, postoperative ileus, or hematomas (all $p > 0.05$). A higher infection rate was noted for the transpsoas group (3.1% vs 1.1%, $p = 0.01$). With regard to postoperative fusion outcomes, similar rates of subsidence (12.2% prepsoas vs 13.8% transpsoas, $p = 0.78$) and pseudarthrosis (9.9% vs 7.5%, respectively, $p = 0.57$) were seen between the groups at the last follow-up.

CONCLUSIONS Complication rates vary for the prepsoas and transpsoas approaches owing to the variable retroperitoneal anatomy encountered during surgical dissection. While the risks of a lasting motor deficit and transient sensory disturbances are higher for the transpsoas approach, there is a reciprocal reduction in the risks of major vascular injury and sympathetic nerve injury. These results can facilitate informed decision-making and tailored surgical planning regarding the choice of minimally invasive anterolateral access to the spine.

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KEYWORDS minimally invasive; lateral interbody; transpsoas; prepsoas; antepsoas; arthrodesis; complications; subsidence; pseudarthrosis; oblique lateral; extreme lateral; direct lateral; lumbar

ABBREVIATIONS DLIF = direct lateral interbody fusion; LLIF = lateral lumbar interbody fusion; OLIF = oblique lateral interbody fusion; PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses; XLIF = extreme lateral interbody fusion.

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* C.T.W. and S.H.F. contributed equally to this work.

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Over the last decade, the utilization of minimally invasive anterolateral retroperitoneal approaches for lumbar interbody arthrodesis has increased. Advantages over a posterior approach include 1) direct visualization of a large amount of disc space and more extensive endplate preparation,[67] 2) larger interbody devices that span the entire vertebral body width and decrease the likelihood of subsidence,[37,46] 3) greater indirect decompression and restoration of disc height, particularly for coronal angulations,[57] and 4) an ability to avoid the thecal sac and posterior soft tissue structures, which can be particularly beneficial in instances of prior laminectomy defects or wound healing issues.[26] Moreover, they share many of the advantages of other minimally invasive spine techniques, such as low blood loss, decreased pain, fewer infections, and minimized devascularization/denervation that comes with traditional open approaches.[33,61,64,78]

Approaching the vertebral body from the patient's side can be accomplished through a direct (or extreme) lateral approach in a transpsoas fashion (lateral lumbar interbody fusion [LLIF], direct lateral interbody fusion [DLIF], extreme lateral interbody fusion [XLIF], etc.) or in an oblique prepsoas manner (oblique lateral interbody fusion [OLIF], antepsoas, etc.). An immense amount of focus has been placed on improving both of these techniques and expanding their application to various spine pathologies. Subtle anatomical differences affect the complication profiles of these approaches and have created polarizing opinions about which is safer. Proponents of the transpsoas approach assert that an orthogonal trajectory to the vertebral body allows for better interbody placement while more successfully avoiding critical anterior structures including the major vessels, the ureter, and the sympathetic neural plexus. Contrarily, advocates of the prepsoas approach wish to avoid retraction of the lumbar plexus that runs within the psoas muscle, particularly at L4–5 where the femoral nerve courses most anteriorly (Fig. 1).[70]

While a number of studies have documented the outcomes and complication profiles for both approaches, the majority of available data comes from case series and retrospectively reviewed cohorts.[76] Unfortunately, randomized comparison seems unlikely and would be inherently biased because of the variability in surgeons' technical skill and familiarity with each approach. Thus, we sought to systematically review the literature for each approach and compile the reported complication rates to directly compare the two approaches. We hypothesized that each approach would have a distinct complication profile related to its unique anatomical path.

Methods

Systematic Review of the Literature

A systematic literature review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[50] We queried the database for articles from database inception up to January 2018. For the prepsoas search, the following strategy was used: ("OLIF" or "oblique lumbar interbody fusion" or "anterior to psoas"). For the transpsoas search, the following strategy was used: ("DLIF" OR "LLIF" OR "XLIF" OR "transpsoas" OR "extreme lateral interbody fusion" OR "lateral lumbar interbody fusion" OR "direct lumbar interbody fusion"). Included papers' references were also inspected to identify any additional studies that may have been excluded. Searches for both approaches included only articles written in the English language. To be eligible for inclusion, studies had to have at least ten patients. Studies that did not mention complications or pseudarthrosis or subsidence were excluded. Articles from the same authors or institutions were assessed for overlapping patient data sets, and duplicates were excluded. Only studies reporting modern minimally invasive interbody techniques were included. The manufacturer of the interbody systems or retractors was not included in this analysis, and all techniques were listed simply as prepsoas or transpsoas. Studies focusing on anterior column release were not included in this study.

Data Extraction and Comparison of Outcomes

The following data were extracted from all studies if available: author name, publication year, specific procedure studied, indications for the procedure, number of patients, average age, percent males/females, location and number of levels, percent of patients with subsequent posterior fixation, operating room time, estimated blood loss, hospital length of stay, follow-up interval, and postoperative complications. The complications were categorized as transient thigh/sensory symptoms, hip flexion weakness, motor neural injury (lasting weakness at last follow-up), sympathetic dysfunction (autonomic symptoms of ipsilateral lower limb), gastrointestinal ileus, major vessel injury, peritoneal or bowel injury, urological (ureter or kidney) injury, infection, or approach-related hematoma. In studies reporting that no major complications occurred, we recorded a value of zero for major vessel injury, bowel injury, and urological injury. All other values not specifically mentioned were reported as unknowns and were not included in the analysis. Additionally, if a major vessel injury described in a prepsoas study occurred at the L5–S1 level, it was not counted toward the complication rate.

The primary outcome of the study was to determine the rates of the specific complications mentioned above. Secondary outcome measures included assessing rates of subsidence and pseudarthrosis. Studies that did not mention these parameters were excluded from the secondary analysis. Subsidence was considered as settling of more than 2 mm or as determined by the authors of each study at the time of the last follow-up. Variable practice patterns in obtaining follow-up imaging at various time points after surgery made it impossible to determine an exact imaging follow-up duration for each group; however, a minimum of 12 months' follow-up was required for the inclusion of fusion rates. Dynamic flexion-extension radiography or CT was required for the determination of successful fusion. The presence of pseudarthrosis did not necessarily indicate a symptomatic complication or failure necessitating surgical revision.

The potential for research and reporting bias was evaluated for each study through the systematic review and meta-analysis process, including during the preparation of search terms and the identification of inclusion crite-

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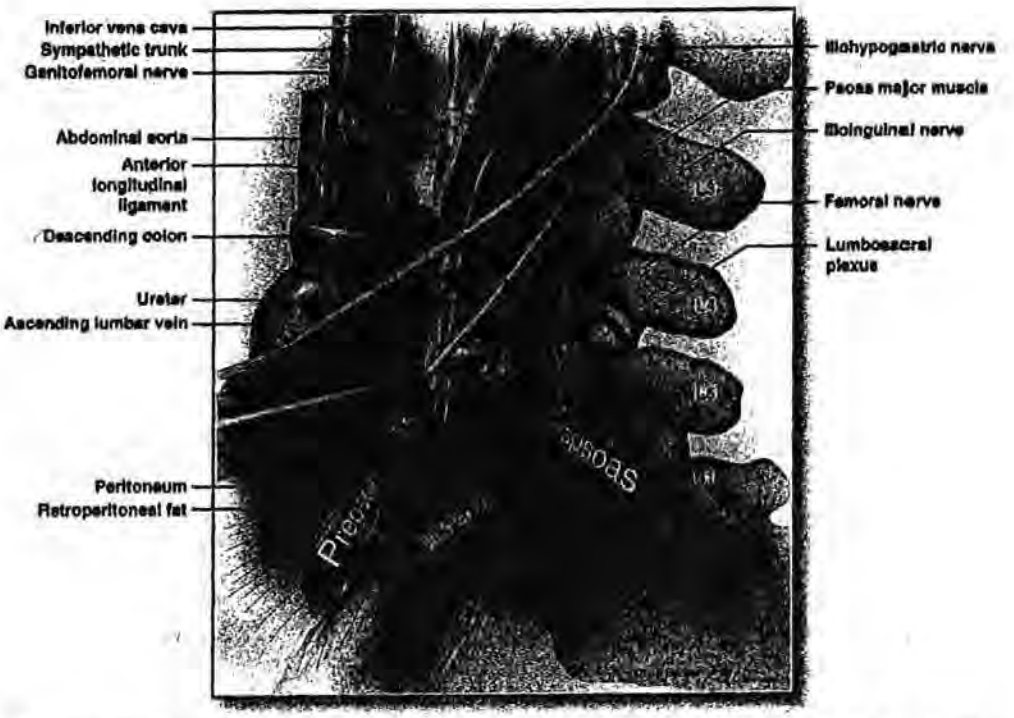

FIG. 1. Anatomical illustration depicting the critical visceral, vascular, muscular, and neural structures at risk during the approach of minimally invasive retroperitoneal interbody arthrodesis procedures. Copyright Barrow Neurological Institute. Published with permission.

ria. Evaluation of blinding, sequence generation, and allocation concealment was not performed, as all included studies lacked randomized controls. The potential for incomplete outcome data and selective data reporting was noted throughout for each included study. In addition to individual study biases, the risk of bias across all the studies was examined.

Statistical Analysis

Given the nature of the study design, institutional review board review was not necessary for this research. Statistical analysis was performed on the two approach groups to compare baseline patient characteristics. Data were analyzed using chi-square tests and independent samples t-tests as appropriate to assess differences between groups. Given complication data heterogeneity, a random effects model with Hartung-Knapp test statistic adjustment was used for the meta-analysis of complication proportions to obtain overall proportions using the logit transformation. The Clopper-Pearson method was used to calculate exact binomial confidence intervals. Studies with zero complication events underwent a continuity correction in order to calculate individual study results with confidence limits, which was required for the inverse variance method used. All statistical analysis was performed in R statistical software (version 3.4.2) or SPSS Statistics for Windows (version 22.0, IBM Corp.). Only p values < 0.05 were considered statistically significant.

Results

Systematic Review Study Selection

The prepsoas literature review yielded a total of 81 studies through the database search (Fig. 2). All of these studies were screened and assessed for eligibility. Thirty-four studies were then deemed eligible and underwent full text review. Fourteen articles were excluded from the analysis of complications after full text review, and 26 were excluded from the analysis of subsidence and pseudarthrosis. Reasons for exclusion included an unsuitable study design (review articles, cadaver or anatomical studies, letters to the editor, videos, and case series with less than ten patients). We also excluded any study assessing a procedure specifically at the level of L5–S1, as this level is not approachable from a transpsoas approach. Articles not mentioning complications or subsidence/pseudarthrosis were excluded. Any articles in which data were combined with other fusion procedures were excluded. A total of 20 studies were included for the meta-analysis of complications and 8 studies for the analysis of subsidence and/or pseudarthrosis. These studies consisted of prospective and retrospective cohort studies and case series.

The transpsoas literature review yielded a total of 254

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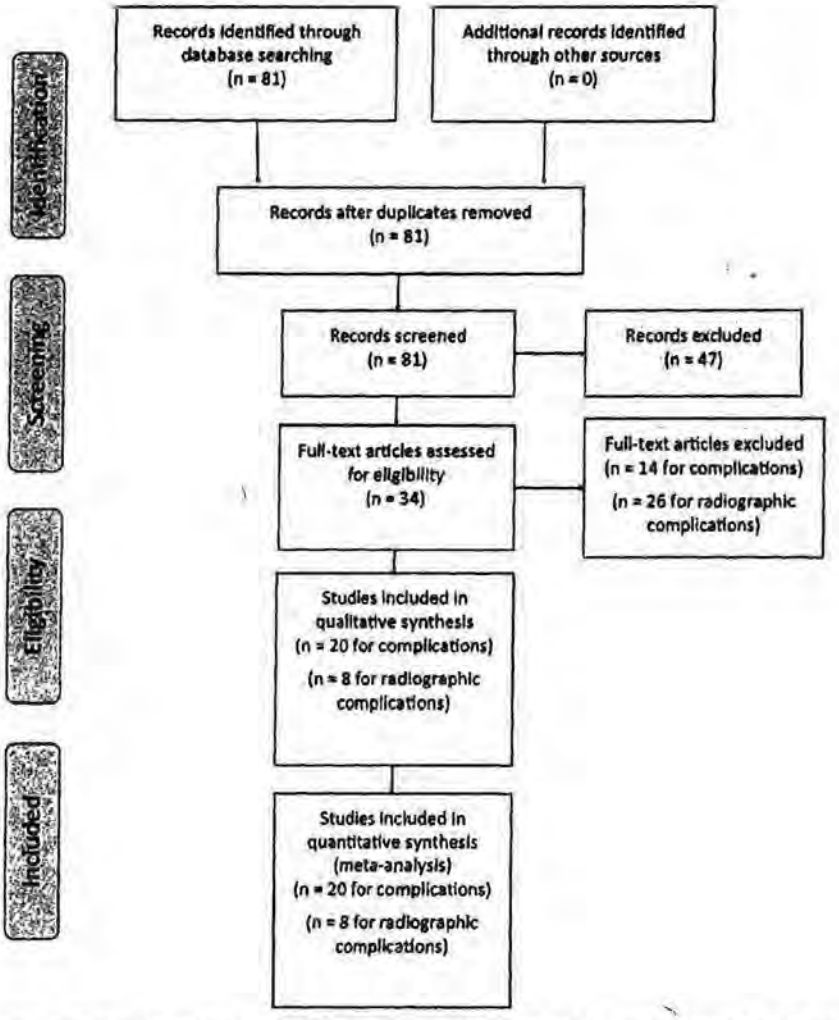

FIG. 2. Flowchart demonstrating systematic review of the literature, study selection, and inclusion for analysis for the prepsoas approach. Data added to the PRISMA template (from Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7): e1000097) under the terms of the Creative Commons Attribution License. Figure is available in color online only.

studies through the database search (Fig. 3). Again, all of these studies were screened and assessed for eligibility. Fifty-eight studies were then deemed eligible and underwent full text review. Nineteen articles were excluded from the analysis of complications after full text review, and 39 articles were excluded from the analysis of subsidence and/or pseudarthrosis. Exclusionary criteria similar to those described for the prepsoas review were used for the transpsoas review. A total of 39 studies were included for the meta-analysis of complications and 19 studies for subsidence and/or pseudarthrosis. These studies consisted of prospective and retrospective cohort studies and case series.

Risk of Bias

All studies included in the review had been published in peer-reviewed journals with English as the primary language. Therefore, they were inherently susceptible to the publication biases that result from preferential selection of studies with positive results. However, similar search strategies and inclusion criteria were applied to both approach groups to maintain consistency and reduce the potential for a global bias from this.

Individually, all of the studies had significant risk of bias related to their design and outcome reporting. The lack of controls and observational nature of the studies created a significant bias across all studies included in the

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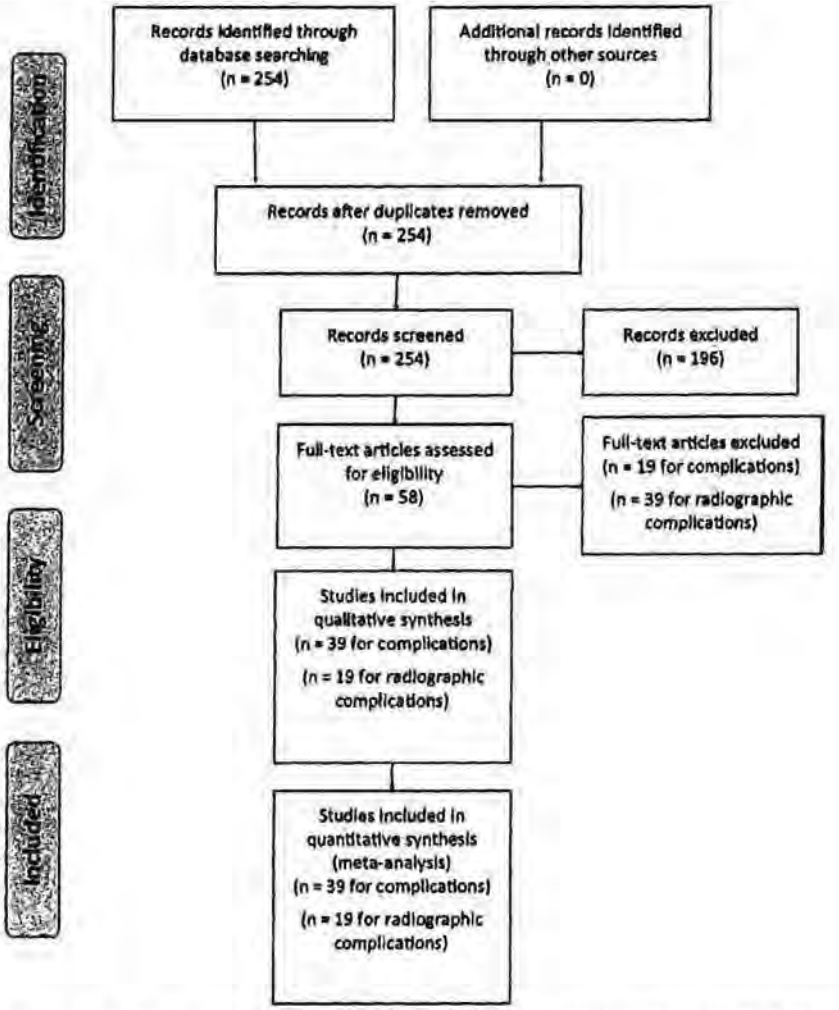

FIG. 3. Flowchart demonstrating systematic review of the literature, study selection, and inclusion for analysis for the transpsoas approach. Data added to the PRISMA template (from Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6(7): e1000097) under the terms of the Creative Commons Attribution License. Figure is available in color online only.

analysis. Five of 20 studies in the prepsoas group and 6 of 40 in the transpsoas group consisted of level III evidence, while the remaining studies consisted of level IV evidence. Thus, all the studies in both groups were susceptible to biases related to both selective outcome and incomplete data reporting.

Complication-Related Outcomes

A complete list of prepsoas and transpsoas studies and their complication rates is shown in Table 1. A comparison of patient population characteristics and surgical details for each approach group is shown in Table 2. A total of 1874 patients and 4607 patients was identified in the prepsoas and transpsoas studies, respectively. Recorded data for the two patient groups were similar for the variables of age, sex, follow-up duration, number of levels treated, and estimated blood loss (all $p > 0.05$). Operative duration was reported to be statistically significantly higher for the transpsoas approach (mean ± SD, 203.6 ± 64.8 vs 120.5 ± 64.8 minutes, $p < 0.001$). Hospital length of stay was reported to be statistically significantly shorter for the transpsoas studies (3.8 ± 2.5 vs 7.0 ± 1.7 days, $p = 0.001$).

Variable reporting of specific complications was seen among the included studies; therefore, the number of patients included for the analysis of each complication was different (Table 3). Differences in neurological complica-

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TABLE 1. List of prepsoas and transpsoas studies included in analysis and complication rates

Authors & Year	LOE	No. of Pts (levels)	Levels Treated	Indication	Complication Rate (%)									
					Transient Thigh or Groin Numbness/ Pain	Transient Hip Flexor Weakness	Motor Neurological Deficit	Sympathetic Plexus Injury	Major Vascular Injury	Peritoneal (bowel) Injury	Urological Injury (kidney, ureter)	Postop Ileus	Infection	Hematoma (psoas, subcutaneous)
Prepsoas studies														
Abbasi et al., 2017	IV	36 (67)	L1–S1	Scoliosis	—	—	—	—	—	—	—	—	0	0.0
Abe et al., 2017	IIIB	155 (155)	T10–S1	Degenerative & scoliosis	7.1	6.5	1.3	—	3.9	0.0	0.6	0.0	1.9	—
DiGiorgio et al., 2017	IV	49 (86)	L2–5	Degenerative	6.0	2.0	0.0	—	0.0	0.0	0.0	6.0	0.0	2
Fujibayashi et al., 2015	IIIB	28 (52)	L1–5	Degenerative & scoliosis	21.4	7.1	0.0	—	0.0	0.0	0.0	—	0.0	0
Gragnaniello & Seex, 2016	IV	21 (32)	L1–S1	Degenerative	9.5	9.5	4.8	4.8	0.0	0.0	0.0	—	—	—
Heo & Kim, 2017	IV	14 (14)	L2–5	Degenerative	14.3	—	—	—	—	—	—	—	—	—
Hynes, 2014	IV	186 (279)	L1–S1	Degenerative & scoliosis	16.0	6.5	0.0	—	1.1	0.0	0.0	—	0.0	0.0
Jin et al., 2018	IIIB	21 (21)	L4–5	Degenerative	9.5	0.0	0.0	—	0.0	0.0	0.0	18.0	0.0	4.8
	IV	29 (37)	L1–S1	Degenerative	9.4	—	0.0	—	0.0	6.3	0.0	—	0.0	0.0
Kim et al., 2018	IV	32 (122)	L4–5	Scoliosis	10.3	0	10.3	13.5	—	—	—	—	—	—
Mayer, 1997	IIIB	20 (25)	L2–5	Degenerative	—	—	0	—	0	0	0	—	0	0.0
Mehren et al., 2016	IV	98 (145)	L1–5	Degenerative & scoliosis	0.7	0	0.4	—	0.4	0	0	0.2	0.6	1.4
Ohtori et al., 2015[54]	IV	35 (51)	L1–5	Degenerative	11.4	0	2.9	—	2.9	0	0	0	0	0.0
Ohtori et al., 2015[53]	IV	12 (35)	L1–5	Scoliosis	25	—	0	—	0	0	0	—	0	—
Patel et al., 2010	IV	23 (36)	T9–L4	Degenerative	—	—	—	4.3	—	—	—	—	—	—
Saraph et al., 2004	IIIB	23 (23)	L2–5	Degenerative	4.3	—	0	8.7	8.7	0	0	8.7	4.3	—
Sato et al., 2017	IV	20 (20)	L2–5	Degenerative	5.0	0.0	0.0	—	0.0	0.0	0.0	—	0.0	—
Silvestre et al., 2012	IV	179 (319)	L1–5	Degenerative & scoliosis	0.6	0.6	1.1	1.7	1.7	0.6	0.0	0.6	0.0	—
Woods et al., 2017	IV	137 (340)	L1–S1	Degenerative & scoliosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0
Zhang et al., 2017	IV	42 (84)	L1–L5	Degenerative & scoliosis	35.7	—	0.0	—	0.0	0.0	0.0	0.0	2.3	—

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TABLE 1. List of prepsoas and transpsoas studies included in analysis and complication rates

Authors & Year	LOE	No. of Pts (levels)	Levels Treated	Indication	Complication Rate (%)									
					Transient Thigh or Groin Numbness/ Pain	Transient Hip Flexor Weakness	Motor Neurological Deficit	Sympathetic Plexus Injury	Major Vascular Injury	Peritoneal (bowel) Injury	Urological Injury (kidney, ureter)	Postop Ileus	Infection	Hematoma (psoas, subcutaneous)
Transpsoas studies														
Ahmadian et al., 2013	IV	31 (31)	L4–5	Degenerative	22.5	0.0	0.0	0.0	0.0	0.0	0.0	—	—	0.0
Ahmadian et al., 2015	IV	59 (96)	T11–L5	Degenerative & scoliosis	17.0	20.0	0.0	—	—	—	—	—	—	—
Aichmair et al., 2013	IV	293 (557)	T12–L5	Degenerative & scoliosis	43.1	—	—	—	—	—	—	—	—	—
Alimi et al., 2014	IV	90 (145)	T10–L5	Degenerative & scoliosis	4.4	—	2.2	—	0.0	0.0	0.0	1.1	—	—
Cahill et al., 2012	IV	118 (201)	T12–L5	Degenerative & scoliosis	—	—	1.7	—	—	—	—	—	—	—
Castro et al., 2014	IV	24 (107)	T10–L5	Scoliosis	—	—	0.0	—	—	—	—	—	—	—
Dakwar et al., 2010	IV	25 (53)	T10–L5	Scoliosis	12.0	—	0.0	—	0.0	0.0	0.0	0.0	0.0	—
Domínguez et al., 2017	IV	97 (138)	L1–5	Degenerative & scoliosis	29.8	—	3.1	—	0.0	0.0	0.0	10.0	0.0	0.0
Du et al., 2017	IV	20 (20)	L1–5	Degenerative	—	—	—	—	—	—	—	—	—	—
Formica et al., 2014	IV	39 (41)	T10–L5	Degenerative & scoliosis	41.0	—	0.0	—	0.0	0.0	0.0	0.0	2.6	0.0
Grimm et al., 2016	IV	108 (193)	T10–L5	Degenerative & scoliosis	17.6	17.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Isaacs et al., 2010	IIIB	107 (471)	T11–L5	Scoliosis	—	27.1	0.9	—	0.0	0.9	0.0	—	2.8	0.0
Jin et al., 2018	IIIB	22 (22)	L4–5	Degenerative	40.9	9.1	—	—	0.0	0.0	0.0	4.5	4.5	4.5
Kepler et al., 2011	IV	13 (13)	L3–5	Degenerative	7.7	23.0	0.0	—	—	—	—	—	—	—
Khajavi & Shen, 2014	IV	21 (69)	T12–L5	Scoliosis	14.0	24.0	4.8	—	—	—	—	—	—	—
Khajavi et al., 2015	IV	160 (197)	L1–4	Degenerative	14.0	9.0	1.9	0.0	—	—	—	—	1.9	0.0
Kim et al., 2012	IV	8 (20)	L1–5	Scoliosis	50.0	25.0	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0
Knight et al., 2009	IV	58 (79)	T12–L5	Degenerative	10.3	—	3.4	—	0.0	—	—	—	—	—
Kotwal et al., 2015	IV	118 (237)	T12–L5	Degenerative	47.4	16.9	—	—	0.0	0.0	0.0	3.4	0.0	0.0
Kueper et al., 2015	IV	900 (1746)	T9–L5	Degenerative & scoliosis	—	—	—	—	0.6	—	—	—	—	—
Le et al., 2013	IV	71 (129)	L1–5	Degenerative & scoliosis	19.7	54.9	1.4	—	—	—	—	—	—	—
Lee et al., 2014[41]	IIIB	81 (106)	T12–L5	Degenerative	7.4	12.3	0.0	0.0	0.0	0.0	0.0	—	0.0	0.0

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TABLE 1. List of prepsoas and transpsoas studies included in analysis and complication rates

Authors & Year	LOE	No. of Pts (levels)	Levels Treated	Indication	Complication Rate (%)									
					Transient Thigh or Groin Numbness/ Pain	Transient Hip Flexor Weakness	Motor Neurological Deficit	Sympathetic Plexus Injury	Major Vascular Injury	Peritoneal (bowel) Injury	Urological Injury (kidney, ureter)	Postop Ileus	Infection	Hematoma (psoas, subcutaneous)
Transpsoas studies (continued)														
Lee et al., 2014[42]	IV	90 (116)	T12–L5	Degenerative & scoliosis	6.6	12.2	0.0	0.0	0.0	0.0	0.0	—	0.0	1.1
Lykissas et al., 2014	IV	451 (919)	T12–L5	Degenerative & scoliosis	38.5	—	2.3	—	—	—	—	—	—	—
Malham et al., 2012	IV	30 (42)	L1–L5	Degenerative & scoliosis	16.7	—	3.3	—	0.0	3.3	0.0	—	—	—
Malham et al., 2016	IIIB	40 (40)	L1–L5	Degenerative	10.0	—	15.0	—	0.0	2.5	0.0	0.0	7.5	—
Marchi et al., 2013	IV	46 (98)	L1–L5	Degenerative	—	—	—	—	—	—	—	—	—	—
Moller et al., 2011	IV	53 (103)	T12–L5	Degenerative	25.0	36.0	0.0	0.0	0.0	—	—	—	—	1.9
Na et al., 2012	IV	30 (45)	L1–5	Degenerative & scoliosis	16.7	10.0	3.3	0.0	—	—	—	—	3.3	—
Ozgur et al., 2010	IV	62 (113)	T10–L5	Degenerative & scoliosis	—	—	0.0	—	0.0	0.0	0.0	3.2	1.6	1.6
Pumberger et al., 2012	IV	235 (444)	T12–L5	Degenerative & scoliosis	41.0	13.1	2.9	—	—	—	—	—	—	—
Rodgers et al., 2010	IV	66 (88)	L1–L5	Degenerative	—	—	—	—	—	—	—	—	—	—
Rodgers et al., 2011	IIIB	600 (741)	T10–L5	Degenerative & scoliosis	—	—	0.7	—	0.0	0.0	0.0	1.0	0.0	—
Sharma et al., 2011	IV	43 (87)	L1–L5	Degenerative & scoliosis	34.9	25.6	2.3	0.0	0.0	—	—	—	5.3	2.3
Sofianos et al., 2012	IV	45 (69)	L1–L5	Degenerative & scoliosis	17.8	22.2	6.7	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Tessitore et al., 2017	IV	20 (22)	L2–5	Degenerative	15.0	—	—	—	0.0	0.0	0.0	—	—	—
Tohmeh et al., 2014	IIIB	140 (224)	T11–L5	Degenerative & scoliosis	—	—	—	—	—	—	—	—	—	—
Waddell et al., 2014	IV	21 (54)	T12–L5	Degenerative & scoliosis	28.6	—	9.5	—	0.0	0.0	0.0	0.0	0.0	0.0
Wang et al., 2014	IV	21 (25)	L1–5	Degenerative	—	—	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0

Degenerative = degenerative pathologies; LOE = level of evidence; pts = patients.

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TABLE 2. Comparison of patient characteristics for each approach group

Variable	Prepsoas Group	Transpsoas Group	p Value
Total no. of pts	1874	4607	—
Mean age in yrs (SD)	58.9 (6.2)	63.3 (3.3)	0.77
Female sex, % (SD)	74.6 (11.0)	65.9 (7.4)	0.11
Mean FU time in mos (SD)	10.6 (2.3)	21.2 (4.9)	0.64
Mean no. of levels per patient (SD)	1.8 (0.2)	2.3 (1.2)	0.71
Op duration in mins (SD)	120.5 (112.0)	203.6 (64.8)	**<0.001**
Estimated blood loss in ml (SD)	132.0 (59.4)	173.6 (167.9)	0.23
Hospital length of stay in days (SD)	7.0 (1.7)	3.8 (2.5)	**0.001**

FU = follow-up.
Boldface type indicates statistical significance.

tions were seen between approach groups. Significant increased rates of transient thigh or groin sensory symptoms (numbness/pain; 21.7% [95% CI 17.2–27.0] vs 8.7% [95% CI 4.9–15.0], p = 0.002) and transient hip flexor weakness (19.7% [95% CI 14.6–26.0] vs 5.7% [95% CI 3.9–8.2], p < 0.001) were seen for the transpsoas approach (Fig. 4). Likewise, a significant increase in lasting motor neurological weakness at the last follow-up was reported in the transpsoas studies (2.8% [95% CI 1.9–4.0] vs 1.0 [95% CI 0.5–1.8], p < 0.01). Conversely, while no reported cases of sympathetic plexus injury were noted for transpsoas cases (95% CI 0.0–3.2), there was a reported rate of 5.4% (95% CI 2.2–12.6) in the prepsoas studies (p = 0.03). While not specifically described in all studies, this complication was manifested as loss of temperature regulation in the ipsilateral lower limb.

Other approach-related complications were higher in the prepsoas group, for example, a higher risk of major vascular injury (1.8% [95% CI 0.9–3.5] vs 0.4% [95% CI 0.2–1.0], p = 0.01). Urological (ureter or kidney) injury rates were similar (1.1% [95% CI 0.3–3.9] vs 0.0 [95% CI 0.0–0.9], p = 0.05). Only one ureteral injury was noted in the complication studies,[2] and only three excluded case reports described this phenomenon (two cases for the prepsoas approach;[35,40] one series of two ureter and one renal injury for the transpsoas approach[7]). No difference between the two approaches was seen for peritoneal/bowel injury either (p = 0.64). Postoperative complications in the form of ileus or hematoma (subcutaneous or psoas) were no different between the groups (p = 0.79 and 0.13, respectively), but infection rates were statistically higher for the transpsoas group (3.1% [95% CI 1.9–5.1] vs 1.1% [95% CI 0.6–2.0], p = 0.01).

Arthrodesis-Related Complications

Subsidence and pseudarthrosis rates were also subject to variable reporting (Table 4). Prepsoas studies included 446 patients spanning 791 levels treated. Transpsoas studies included 1131 patients spanning 2077 levels treated. Regarding radiographic reports, subsidence rates were included in 5 of 8 prepsoas studies analyzing 566 levels with a weighted average rate of 12.2% (95% CI 5.6–24.7.0) and 13 of 19 transpsoas studies analyzing 1537 levels with a rate of 13.8% (95% CI 9.4–19.7), which were not significantly different (p = 0.78). Notably, the reported subsidence rates had significant variability, ranging from 4.4% to 21.6% in the prepsoas studies and from 0% to 31.3% in the transpsoas studies. Pseudarthrosis rates were included in 4 of 8 prepsoas studies analyzing 262 levels with a rate of 9.9% (95% CI 4.1–21.7) and 14 of 19 transpsoas studies analyzing 1275 levels with a rate of 7.5% (95% CI 4.9–11.4), which were not significantly different (p = 0.57).

TABLE 3. Complication rates of prepsoas and transpsoas studies

Complication	Prepsoas Studies (n = 20)			Transpsoas Studies (n = 39)			p Value
	No. of Events	Total No. of Pts	Incidence, % (95% CI)	No. of Events	Total No. of Pts	Incidence, % (95% CI)	
Transient thigh or groin numbness/pain	93	1795	8.7 (4.9–15.0)	680	2352	21.7 (17.2–27.0)	**0.002**
Transient hip flexor weakness	18	1672	5.7 (3.9–8.2)	262	1295	19.7 (14.6–26.0)	**0.001**
Permanent motor neurological deficit [permanent neurological weakness]	9	1801	1.0 (0.5–1.8)	43	2842	2.8 (1.9–4.0)	**0.005**
Sympathetic plexus injury	11	412	5.4 (2.2–12.6)	0	641	0.0 (0.0–3.2)	**0.03**
Major vascular injury	21	1772	1.8 (0.9–3.5)	5	2709	0.4 (0.2–1.0)	**0.01**
Peritoneal (bowel) injury	3	1772	1.9 (0.6–5.5)	3	1655	1.3 (0.5–3.8)	0.64
Urological injury (kidney, ureter)	1	1772	1.1 (0.3–3.9)	0	1655	0.0 (0.0–0.9)	0.05
Postop ileus	16	1453	3.3 (1.0–10.2)	15	1199	2.8 (1.3–5.9)	0.79
Infection	10	1766	1.1 (0.6–2.0)	13	1807	3.1 (1.9–5.1)	**0.01**
Hematoma (psoas, subcutaneous)	14	1398	1.5 (0.9–2.5)	5	1196	1.7 (0.7–3.9)	0.13
Subsidence	56	241 (566*)	12.2 (5.6–24.7)	201	761 (1537*)	13.8 (9.4–19.7)	0.78
Pseudarthrosis	24	120 (262*)	9.9 (4.1–21.7)	103	796 (1275*)	7.5 (4.9–11.4)	0.57

Boldface type indicates statistical significance.
* Number of levels evaluated.

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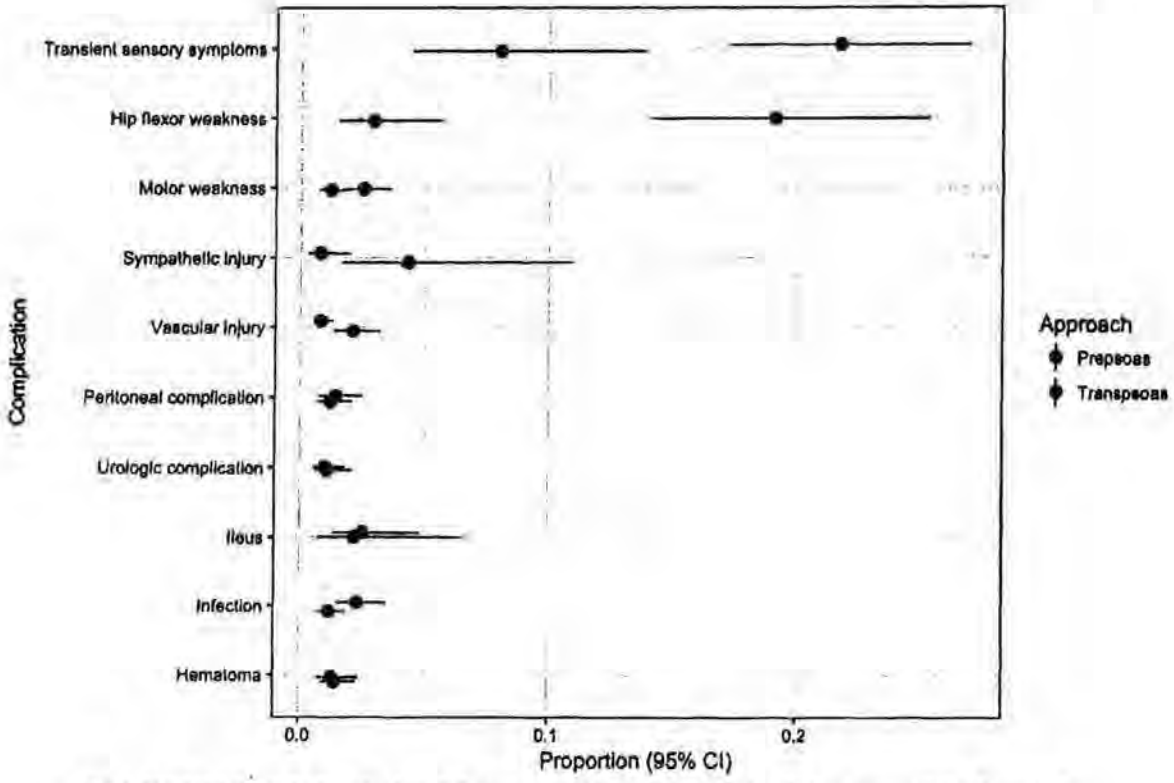

FIG. 4. Forest plot of complication rates for both the prepsoas and transpsoas approaches. Data are represented as the proportion of patients with that complication and the 95% confidence interval. Figure is available in color online only.

Discussion

To date, the literature comparing prepsoas and transpsoas complication profiles for minimally invasive anterolateral retroperitoneal approaches to interbody arthrodesis has not demonstrated the superiority of either approach. Surgeons are left with uncertainty regarding which approach to use in practice. Safety then becomes a product of surgeon expertise with a particular method rather than an evidence-based decision. In this study, we hoped to combine the existing evidence to create a higher level of evidence that directly compares complication profiles to more clearly illuminate the advantages and disadvantages of each approach.

Proponents of the prepsoas approach suggest that entering the interbody space in front of the psoas major muscle avoids retraction-related trauma to the nerves contained within (genitofemoral, femoral, obturator, lateral femoral cutaneous) and to the muscle itself. Our results indicate that the transient symptoms of sensory numbness/dysesthesias and hip flexor weakness, as well as long-lasting motor weakness, are significantly reduced with the prepsoas approach. A technical focus on reducing retractor time is the priority of most transpsoas surgeons; however, the risk for these symptoms is evident throughout all studies examined. Functional intraoperative real-time neuromonitoring with triggered electromyography has significantly improved the ability to detect motor neurological changes during transpsoas procedures, particularly at the L4–5 level where the femoral nerve courses most anteriorly.[72] Unfortunately, the heterogenous data reporting, inconsistent use of neuromonitoring, and poor granularity of the surgical level in the included studies make the assessment of crucial improvements in technique difficult to incorporate into the current analysis.

However, it should be noted that the risk of neurological injury is not completely avoided with a prepsoas approach. This likely relates to the fact that some dorsal retraction of the psoas muscle is typically required in order to obtain an orthogonal graft orientation from an oblique angle. Additionally, the oblique entrance trajectory also places the contralateral neural foramen at risk either in cases in which tools and the implant are inadvertently advanced too far or during maneuvers to release the contralateral disc annulus.[65] Our data also suggest that it is more common for prepsoas patients to experience a sympathetic nerve injury resulting in ipsilateral leg autonomic dysfunction. This complication was not reported in any of the transpsoas studies; however, it seems likely that this symptom may be under-reported, as it is often missed in the routine neurological examination. Similarly, subcostal, ilioinguinal, and iliohypogastric nerve palsy resulting in abdominal wall paresis can occur during muscle dissection, yet

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TABLE 4. List of studies for analysis of the radiographic complications of subsidence and pseudarthrosis

Authors & Year	No. of Pts (levels)	Rate of Subsidence (%)	Pseudarthrosis Rate (%)
Prepsoas studies			
Abbasi et al., 2017	36 (67)	—	0.0
Abe et al., 2017	155 (155)	18.7	—
Heo & Kim, 2017	14 (14)	14.3	—
Kim et al., 2016	29 (37)	21.6	7.0
Kim et al., 2018	32 (122)	—	16.4
Patel et al., 2010	23 (36)	—	2.8
Sato et al., 2017	20 (20)	10.0	—
Woods et al., 2017	137 (340)	4.4	—
Transpsoas studies			
Ahmadian et al., 2015	59 (96)	31.3	5.2
Alimi et al., 2014	90 (145)	—	18.8
Castro et al., 2014	24 (107)	0.9	15.9
Dakwar et al., 2010	25 (53)	1.9	0.0
Du et al., 2017	20 (20)	7.1	—
Kepler et al., 2011	13 (13)	—	0.0
Knight et al., 2009	58 (79)	1.3	—
Kotwal et al., 2015	118 (237)	14.3	11.8
Le et al., 2012[37]	140 (238)	14.3	—
Lee et al., 2014[42]	90 (116)	13.8	12.2
Lykissas et al., 2014	87 (313)	8.3	—
Malham et al., 2016	40 (40)	—	5.0
Marchi et al., 2013	46 (98)	22.4	8.2
Na et al., 2012	30 (45)	24.4	—
Rodgers et al., 2010	66 (88)	—	3.4
Sharma et al., 2011	43 (87)	27.5	5.7
Tohmeh et al., 2014	140 (223)	—	0.9
Waddell et al., 2014	21 (54)	0.0	1.9
Wang et al., 2014	21 (25)	—	0.0

this complication has been seldom, if ever, discussed or listed under complications in the various reports.[13] Consequently, we are unable to determine which route places these nerves at greatest risk.

Working in the retroperitoneal space places adjacent anatomical structures at risk. In our analysis, the risk of major vascular injury was nearly five times higher for the prepsoas group. While entry from the left side typically creates a corridor between the great vessels and insertion of the psoas muscle, a reported rate of 1.8% still exists among the included studies. We excluded vascular injuries at the L5–S1 level reported in prepsoas studies to avoid falsely elevating the injury rate for the prepsoas approach and to allow for a more direct comparison with rates associated with the transpsoas approach, which is not routinely performed at that level.[75] Certainly, as major vascular injury is the most life-threatening complication in our study, the seemingly small disparity in its risk between approaches merits significant clinical attention. The transpsoas approach, when done properly with special care to maintain fluoroscopic orthogonality to the vertebral body, rarely brings the great vessels into play, with the anterior longitudinal ligament serving as a shield from working instruments. Our calculated low major vascular injury rate of 0.4% in the transpsoas group is consistent with the rate previously reported in a large multicenter study (0.1%).[71] The exception to this low rate of vascular injury for the transpsoas procedure is when an anterior column release procedure is performed, which adds significant vascular injury risk and technical difficulty. Accordingly, we excluded clinical studies that focused on this higher-risk procedure.

In both approaches, sweeping the bowel anteriorly and retracting the peritoneum forward is performed, and this commonality was reflected by an equivalent and very low rate of related injury for the two approaches. In the prepsoas approach, the relatively anterior entry of the oblique approach may theoretically place the ureter at a higher risk of injury, but the rate of urological injury was not statistically significant in our analysis, with one ureteral injury for the prepsoas group. Several excluded case series and reports have indicated the possibility of this complication for both approaches.[7,35,40] It has been suggested that preoperative dual-phase contrast-enhanced CT is useful in assessing the location of the ureter, kidney, and vascular structures simultaneously during surgical preparation to help surgeons avoid injury.[19] We did not see any differences in peritoneal/bowel injury or rates of ileus between the two approaches.

In our analysis of surgical outcomes, we saw that a longer operative time was required for the transpsoas approach (203.6 ± 64.8 vs 120.5 ± 112.0 minutes, $p < 0.001$). This may relate to the relatively higher number of levels being treated (2.3 vs 1.8), although the difference in levels between the two approaches was not statistically significant. It may also relate to the operative duration required for positioning, fluoroscopy, and setting up the intraoperative neuromonitoring to perform triggered electromyography. Interestingly, the hospital length of stay was much shorter for the transpsoas group (3.8 ± 2.5 vs 7.0 ± 1.7 days, $p = 0.001$). It seems unlikely that any specific complication would explain this difference given the relative infrequency at which complications occurred. It is possible that more single-stage stand-alone procedures were performed in the transpsoas approach, and we did account for this. Lastly, there was an increased risk of infection noted with the transpsoas approach (3.1% [95% CI 1.9–5.1] vs 1.1% [95% CI 0.6–2.0], $p = 0.01$). It is possible that this difference correlates to the increased operative duration; however, the exact reason otherwise remains unclear.

In our analysis of reported radiographic complications for the two approach groups, subsidence and pseudarthrosis rates were similar. Significant variability in the range of reported subsidence rates existed for both groups, and this likely relates to how each study defined subsidence. Fusion rates were overall very high, providing further evidence of the value of lateral interbody arthrodesis as a whole. The clinical impact of radiographic subsidence remains uncertain. In the absence of a direct clinical study comparing approaches, little can be concluded from these

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results other than to suggest that neither approach is obviously superior for improving interbody arthrodesis. Future studies should prospectively evaluate differences in subsidence and pseudarthrosis and the effects on local and global radiographic parameters.

Study Limitations

There are several limitations to our study. First, while our work attempts to bring together outcomes from multiple studies to gain perspective on a larger scale regarding the complication profiles for each approach, the results of our analysis are fundamentally limited by the low-level evidence of the contributing cohort studies and case series included in the study. Unlike a meta-analysis of prospectively collected, large, controlled clinical trials, which is often considered the highest level of evidence, the sum of the data we included here remains limited in its value and is prone to significant biases. This includes a reporting bias that occurs by including only those studies in which the specific complications being evaluated were analyzed. Second, over the past 10 years, the experience with these approaches has greatly improved with enhanced instrumentation, neuromonitoring, and understanding of the anatomy-related complications. Thus, it is highly likely that the historical summative complication profile described in our results may not be perfectly representative of complication rates today, especially for master surgeons who now have completed hundreds of these cases. We were unable to control and account for these chronological advances. Third, we know that the level of surgery greatly affects outcomes for lateral transpsoas complications,[38] and this could not be examined in our analysis. Likewise, some of the prepsoas studies included cases performed at the L5–S1 level, and we could only globally exclude vascular complications that occurred at that level, as they were commonly focused on in the results section of the texts. A direct comparison of the surgical risks for a one-level surgery at L2–3 likely differs substantially from the risks for a multilevel procedure that includes L4–5, where the plexus is at greatest risk and the great vessels' bifurcations occur. Our study combines the results from all of these combinations and does not help to answer those specific questions. Last, we could not account for the variability that pertained to surgeon experience, retractor time (for transpsoas procedures), case complexity, or surgical indications, all of which may affect outcomes.

With regard to the evaluation of subsidence and pseudarthrosis, heterogeneity in reporting existed, and differing definitions of these variables likely explain the significant rate ranges described. This is particularly true for subsidence, where subtly different thresholds can drastically affect rates and asymmetrical settling can create subjectivity and interobserver variability.[37,69] Similarly, unanimous grading of fusion remains difficult across the spine literature, and these rates were not measurements of symptomatic nonunion or instances requiring reoperation.[10] Optimally, all radiographic assessments would have been performed with thin-cut CT scans at a specified time point after surgery. It is well-established that a significant change in the amount of settling and fusion can occur with time.[11,69] In this study, uniformity in the time at which follow-up imaging was performed could not be achieved, making it impossible to perform truly direct comparisons.[49] We also could not account for the percentage of patients in each treatment group that had stand-alone versus supplementary fixation or lateral plating, which would undeniably affect pseudarthrosis and subsidence outcomes (and possibly complication rates).[39] Thus, for each approach, only crude approximations regarding these outcomes can be made.

Conclusions

Minimally invasive retroperitoneal anterolateral approaches to the interbody space come with specific complication profiles because of approach-related anatomical considerations. Both procedures demonstrate very low rates of permanent motor weakness and overall major complications. While the transpsoas approach comes with a higher risk of permanent motor injury, there is a reciprocal increase in the risk for major vascular and sympathetic plexus injury with the prepsoas procedure. Similar rates of subsidence and pseudarthrosis were evident. We believe these data provide surgeons with a greater understanding of the intrinsic risks of each surgical approach. Further studies, particularly prospective comparative trials or registries, would provide higher-quality evidence regarding outcomes.

Acknowledgments

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Disclosures

Dr. Uribe receives consulting fees and royalties from NuVasive Medical Inc. and is a consultant for Masonix Inc. and SI Bone Inc. Dr. Turner receives consulting fees from NuVasive Medical Inc. and SeaSpine Inc. Dr. Porter is the owner and founder of Medical Memory Inc. The other authors have no competing interests to disclose related to this study.

Author Contributions

Conception and design: Walker, Xu, Porter, Turner, Uribe. Acquisition of data: Walker, Farber. Analysis and interpretation of data: Walker, Farber, Cole, Turner, Uribe. Drafting the article: Walker, Farber, Godzik. Critically revising the article: Xu, Godzik, Whiting, Hartman, Porter, Turner, Uribe. Reviewed submitted version of manuscript: Farber, Cole, Xu, Godzik, Whiting, Hartman, Porter, Turner, Uribe. Approved the final version of the manuscript on behalf of all authors: Walker. Statistical analysis: Walker, Cole. Administrative/technical/material support: Whiting. Study supervision: Porter, Turner, Uribe.

Correspondence

Corey T. Walker: Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, AZ. corey.walker@barrowbrainandspine.com.

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A case report of a rare complication of bowel perforation in extreme lateral interbody fusion.

Balsano M[1], Carlucci S, Ose M, Boriani L.
Author information
1
Spinal Regional Department, Santorso Hospital, ULSS 4, 36015, Santorso, VI, Italy, massimo.balsano@gmail.com.

Abstract

Over the past decade, extreme lateral interbody fusion (XLIF) has gained in popularity as a minimally invasive alternative to direct anterior lumbar interbody fusion (ALIF), and ALIF's associated morbidity. Most notably, XLIF largely avoids vascular and visceral structures that are required to be mobilized in ALIF. In this case report, the authors describe a rare complication of a bowel injury in a 70-year-old male who underwent an L3-4 and L4-5 lateral transpsoas approach for interbody fusion.

Exhibit P

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UNPUBLISHED OPINION. CHECK COURT RULES BEFORE CITING.

UNPUBLISHED
Court of Appeals of Michigan.

ESTATE OF Bobbie Jean WILSON-WHITE, BY James E. WHITE, Personal Representative, Plaintiff-Appellant,
v.
ST. JOHN MACOMB HOSPITAL, Diagnostic Radiology Consultants, PC, Philip A. Adler, M.D., and Aaron Smith, D.O., Defendants,
and
Tri-County Urologists, PC, and Gregory V. McIntosh, D.O., Defendants-Appellees.

No. 341093
|
July 30, 2019

Macomb Circuit Court, LC No. 2011-004467-NH

Before: Gadola, P.J., and Servitto and Redford, JJ.

Opinion

Per Curiam.

*1 In this medical malpractice case, plaintiff appeals as of right the trial court's November 2017 order granting summary disposition in favor of defendants Tri-County Urologists, P.C. ("Tri-County") and Gregory V. McIntosh, D.O. ("McIntosh") (collectively "defendants"), pursuant to MCR 2.116(C)(10).[1] On appeal, plaintiff also challenges the trial court's August 2017 order in which the court, for the second time, disqualified plaintiff's proffered expert witness, Michael E. Lustgarten, M.D. We reverse and remand for further proceedings.

I. BACKGROUND

This case is before this Court for the second time. The trial court previously granted summary disposition in favor of defendants in 2013, after ruling that Dr. Lustgarten lacked qualification to testify as an expert on the applicable standard of care. Respecting the previous appeal, this Court reversed that decision and remanded the case to the trial court. *Estate of Bobbie Jean Wilson-White v. St. John Macomb Hosp.*, unpublished per curiam opinion of the Court of Appeals, issued February 19, 2015 (Docket No. 316751), lv. den. 499 Mich. 854 (2016), rec. den. 499 Mich. 931 (2016). The underlying facts are summarized in this Court's previous opinion as follows:

> On April 27, 2009, McIntosh and urology resident Aaron Smith, D.O. ("Smith") [who was dismissed from the action by stipulation and is not a party on appeal] performed a percutaneous nephrolithotripsy ("PCNL") on Bobbie Jean Wilson-White ("Wilson-White") to remove a kidney stone from her right kidney. Approximately four weeks prior to the surgery [on April 2, 2009], Wilson-White had undergone a preoperative blood analysis pursuant to McIntosh's instructions. The analysis indicated a higher-than-normal prothrombin time ("PT") of 16.4, a higher-than-normal activated partial thromboplastin time ("APTT") of 40.1, and a low platelet count of 100. According to plaintiff, these were "clear indicators that [Wilson-White] had a clotting deficiency." It does not appear that McIntosh considered the results of Wilson-White's blood tests before proceeding with the PCNL operation. Wilson-White began to hemorrhage during the surgery. The doctors were able to remove the kidney stone and Wilson-White was placed in a recovery area where she could be closely monitored. She then began to hemorrhage again, required numerous units of blood and blood products, and was taken back into the operating room twice during the course of the night, once to remove her right kidney. She died at 6:30 a.m. on the morning of April 29, 2009. Thereafter, plaintiff filed this medical-malpractice action alleging, among other things, that McIntosh had breached the standard of care by continuing with the PCNL despite the results of the preoperative blood analysis and without consulting a hematologist or obtaining clearance to operate.

*2 Plaintiff's affidavit of merit was executed by Michael E. Lustgarten, M.D. ("Lustgarten"). During his deposition, Lustgarten opined that McIntosh should

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have reviewed Wilson-White's laboratory results and obtained a hematologic consultation before conducting the PCNL. Lustgarten testified that, in light of Wilson-White's blood-test results, he would not have performed the surgery without first consulting a hematologist. He opined that Wilson-White "was at high risk for a problem based on the blood work that was obtained." He noted that the procedure was purely elective for Wilson-White, opined that a patient with a platelet count of 100 was "not ... a candidate for a PCNL electively," and testified that "an intelligent urologist would not have gone forward with this case." Lustgarten opined that McIntosh had never reviewed Wilson-White's preoperative laboratory results before conducting the surgery. If McIntosh had reviewed the laboratory results, and had still proceeded with the PCNL, this would not have conformed to "the standard of practice of most urologists" in Lustgarten's opinion. Under examination by defense counsel, Lustgarten admitted that he could not point to any textbook or other medical literature to support the proposition that a PCNL should not be performed on a patient with a PT of 16.4, an APTT of 40.1, and a platelet count of 100. In response to another of defense counsel's questions, Lustgarten stated, "I'm not sure what the standard of practices are." However, Lustgarten later confirmed that he was aware of the standard of care applicable to board-certified urologists performing PCNLs and opined that McIntosh had violated this standard.

After the deposition, defendants moved for summary disposition under MCR 2.116(C)(10), arguing that Lustgarten did not know the standard of care and, therefore, was not qualified under Michigan law to serve as an expert witness. The circuit court granted defendants' motion. [*Id.*, unpub. op. at 1-2].

On appeal, this Court held that the trial court "abused its discretion by striking Lustgarten as an expert witness." *Id.*, unpub. at 6. This Court concluded that Dr. Lustgarten's "deposition testimony was reliable, supported by training and experience, and sufficient to assist the trier of fact" and that Dr. Lustgarten "was qualified to provide expert testimony on the standard of care in this case." *Id.* Accordingly, this Court reversed the trial court's order granting summary disposition and remanded the case to the trial court. *Id.*

On remand, defendants continued to challenge the admissibility of Dr. Lustgarten's standard-of-care testimony. Defendants initially argued that our Supreme Court's decision in *Elher v. Misra*, 499 Mich. 11; 878 N.W.2d 790 (2016), which was issued after this Court's previous decision, constituted a change in the law that permitted the trial court to revisit the admissibility of Dr. Lustgarten's testimony.[3] The trial court disagreed. On reconsideration, however, the trial court agreed with defendants that *Craig v. Oakwood Hosp.*, 471 Mich. 67; 684 N.W.2d 296 (2004), required it to hold an evidentiary hearing to reconsider the reliability of Dr. Lustgarten's proposed testimony.[4] At the evidentiary hearing defendants revisited the standard-of-care issue, presented their proposed expert's testimony, and relied on articles that had not been presented before this Court's previous decision. Dr. Lustgarten testified regarding his opinions that the decedent's coagulopathic condition revealed by her blood tests before the surgery required consideration of the constellation of individual abnormal test results before proceeding with the surgery and that McIntosh breached the standard of care applicable to urologists by proceeding with the surgery under the circumstances. The trial court ruled that Dr. Lustgarten lacked qualification to testify. Thereafter, the trial court granted defendants' renewed motion for summary disposition under MCR 2.116(C)(10), finding that, without Dr. Lustgarten's testimony, plaintiff could not present the requisite standard-of-care testimony to support his malpractice claim.

II. STANDARD OF REVIEW

***3** We review de novo a trial court's decision on a motion for summary disposition under MCR 2.116(C)(10). *Kennedy v. Great Atlantic & Pacific Tea Co.*, 274 Mich. App. 710, 712; 737 N.W.2d 179 (2007). A motion brought pursuant to MCR 2.116(C)(10) tests the factual support of a plaintiff's claim and is reviewed "by considering the pleadings, admissions, and other evidence submitted by the parties in the light most favorable to the nonmoving party. Summary disposition is appropriate if there is no genuine issue regarding any material fact and the moving party is entitled to judgment as a matter of law." *Latham v. Barton Malow Co.*, 480 Mich. 105, 111; 746 N.W.2d 868 (2008), reh. den. 481 Mich. 882 (2008). When opposing a properly asserted and supported motion for summary disposition under MCR 2.116(C)(10), the nonmoving party cannot rely on mere allegations or denials in his or her pleadings to establish a question of fact. See *Quinto v. Cross & Peters Co.*, 451 Mich. 358, 362; 547 N.W.2d 314 (1996). Rather, the nonmoving party must present at least some evidentiary proof, some statement of specific fact upon which to base his case. *Maiden v. Rozwood*, 461 Mich. 109, 120-121; 597 N.W.2d 817 (1999), reh. den. 461 Mich. 1205 (1999); *Skinner v. Square D. Co.*, 445 Mich. 153, 161; 516 N.W.2d 475 (1994). A genuine issue of material fact exists "when reasonable minds could differ on an issue

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after viewing the record in the light most favorable to the nonmoving party." *Allison v. AEW Capital Mgt., LLP*, 481 Mich. 419, 425; 751 N.W.2d 8 (2008).

We review for an abuse of discretion a trial court's ruling regarding the qualifications of an expert witness to testify. *Gonzalez v. St. John Hosp. & Med. Ctr.*, 275 Mich. App. 290, 294; 739 N.W.2d 392 (2007). A trial court abuses its discretion when it chooses an outcome that falls outside the range of principled and reasonable outcomes. *Id.* We also review de novo whether and to what extent the law of the case doctrine applies. See *Kasben v. Hoffman*, 278 Mich. App. 466, 470; 751 N.W.2d 520 (2008).

III. ANALYSIS

On appeal, plaintiff raises a number of claims of error, chief among them that the law of the case doctrine precluded the trial court from revisiting this Court's previous determination that Dr. Lustgarten qualified to provide expert testimony on the standard of care in this case. We agree.

Plaintiff, as the proponant of expert testimony, had the burden of establishing its admissibility, including the requirement of reliability. *Edry v. Adelman*, 486 Mich. 634, 639; 786 N.W.2d 567 (2010); *Gilbert v. DaimlerChrysler Corp.*, 470 Mich. 749, 789; 685 N.W.2d 391 (2004). As explained in this Court's previous decision, the admissibility of Dr. Lustgarten's testimony required examination of MRE 702, MCL 600.2955, and MCL 600.2169:

> The admissibility of expert testimony on the applicable standard of care in medical-malpractice actions is governed by several different provisions. MRE 702 generally provides for the testimony of experts:
>
> > If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.
>
> MCL 600.2955, which is largely derived from the United States Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593-594; 113 S.Ct. 2786; 125 L. Ed. 2d 469 (1993), provides in pertinent part:
>
> > (1) In an action for the death of a person or for injury to a person or property, a scientific opinion rendered by an otherwise qualified expert is not admissible unless the court determines that the opinion is reliable and will assist the trier of fact. In making that determination, the court shall examine the opinion and the basis for the opinion, which basis includes the facts, technique, methodology, and reasoning relied on by the expert, and shall consider all of the following factors:
> >
> > ***4** (a) Whether the opinion and its basis have been subjected to scientific testing and replication.
> >
> > (b) Whether the opinion and its basis have been subjected to peer review publication.
> >
> > (c) The existence and maintenance of generally accepted standards governing the application and interpretation of a methodology or technique and whether the opinion and its basis are consistent with those standards.
> >
> > (d) The known or potential error rate of the opinion and its basis.
> >
> > (e) The degree to which the opinion and its basis are generally accepted within the relevant expert community. As used in this subdivision, "relevant expert community" means individuals who are knowledgeable in the field of study and are gainfully employed applying that knowledge on the free market.
> >
> > (f) Whether the basis for the opinion is reliable and whether experts in that field would rely on the same basis to reach the type of opinion being proffered.
> >
> > (g) Whether the opinion or methodology is relied upon by experts outside of the context of litigation.
> >
> > * * *
> >
> > (3) In an action alleging medical malpractice, the provisions of this section are in addition to, and do not otherwise affect, the criteria for expert testimony provided in section 2169.
>
> In turn, MCL 600.2169 provides in relevant part:
>
> > (2) In determining the qualifications of an expert witness in an action alleging medical malpractice,

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the court shall, at a minimum, evaluate all of the following:

(a) The educational and professional training of the expert witness.

(b) The area of specialization of the expert witness.

(c) The length of time the expert witness has been engaged in the active clinical practice or instruction of the health profession or the specialty.

(d) The relevancy of the expert witness's testimony.

(3) This section does not limit the power of the trial court to disqualify an expert witness on grounds other than the qualifications set forth in this section. [*Wilson-White*, unpub. op. at 3-4.]

At the outset, we note that although defendants' arguments on appeal are couched in terms of Dr. Lustgarten's inability to testify concerning causation, their motion for an evidentiary hearing sought specifically to redetermine whether he should be able to testify about the relevant standard of care on the basis of an alleged change in the law, namely, our Supreme Court's decision in *Elher*, and the presentation of "new" evidence. Moreover, after this Court's decision, the trial court entertained a separate motion for summary disposition concerning causation and, after reconsideration of its earlier order it found that, through the testimony of Dr. Lustgarten and Dr. Spitz, plaintiff had established a question of fact concerning causation as it related to the decision to operate. Defendants have not appealed that decision.

The trial court's August 2, 2017 decision did not discuss Dr. Lustgarten's qualification to testify about proximate cause, but only again determined the issue whether he could testify about the standard of care. Thus, the instant appeal, like this Court's earlier decision, again pertains to the question whether the trial court erred by deciding that Dr. Lustgarten lacked the qualifications to testify about the standard of care. We agree with plaintiff that the law of the case doctrine prohibited the trial court from revisiting the admissibility of Dr. Lustgarten's standard-of-care testimony.

***5** In *Brownlow v. McCall Enterprises, Inc.*, 315 Mich. App. 103, 110-111; 888 N.W.2d 295 (2016) (quotation marks and citations omitted), this Court explained:

> The law of the case doctrine provides that a ruling by an appellate court with regard to a particular issue binds the appellate court and all lower tribunals with respect to that issue, but only if the facts remain materially the same. The doctrine's purpose is the need for finality of judgments and the lack of jurisdiction of an appellate court to modify its judgments except on rehearing.

A trial court on remand possesses the authority to take any action that is consistent with the opinion of the appellate court. *VanderWall v. Midkiff*, 186 Mich. App. 191, 196; 463 N.W.2d 219 (1990). The purpose of the law of the case doctrine is to "maintain consistency and avoid reconsideration of matters once decided during the course of a single continuing lawsuit." *Ashker v. Ford Motor Co.*, 245 Mich. App. 9, 13; 627 N.W.2d 1 (2001) (citation omitted). Once an appellate court has resolved a legal question and remanded the case for further proceedings, the legal question will not be determined differently in subsequent proceedings in the same case where the facts remain materially the same. *Grievance Administrator v. Lopatin*, 462 Mich. 235, 259; 612 N.W.2d 120 (2000). "[A]s a general rule, an appellate court's determination of an issue in a case binds lower tribunals on remand and the appellate court in subsequent appeals." *Id.* at 260 (citation omitted).

The law of the case doctrine is not a limit on this Court's power and this Court may under some circumstances disregard it. See *Locricchio v. The Evening News Ass'n*, 438 Mich. 84, 109; 476 N.W.2d 112 (1991). However, this Court has repeatedly held that it is obligated to apply the law of the case doctrine when there has been no material change in the facts or an intervening change in the law. *Duncan v. State*, 300 Mich. App. 176, 188-189; 832 N.W.2d 761 (2013); *Foreman v. Foreman*, 266 Mich. App. 132, 138; 701 N.W.2d 167 (2005); *Reeves v. Cincinnati, Inc. (After Remand)*, 208 Mich. App. 556, 560; 528 N.W.2d 787 (1995). "Even if the prior decision was erroneous, that alone is insufficient to avoid application of the law of the case doctrine." *Duncan*, 300 Mich. App. at 189 (citation omitted).

Initially, contrary to some of defendants' arguments below, this Court's previous decision specifically resolved not only the question of Dr. Lustgarten's qualification as an expert witness, but also found that the basis for his testimony "was reliable, supported by training and experience, and sufficient to assist the trier of fact." *Wilson-White*, unpub. op. at 6. This Court specifically held that Dr. Lustgarten "was qualified to provide expert testimony on the standard of care in this case" under MRE 702, MCL 600.2955, and MCL 600.2169. *Id.* The trial court should have found, as it did initially, that it was bound by this Court's decision.

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The essential facts of this case have not changed materially since this Court issued its decision. Nothing new has been presented about the decedent's condition, treatment, or cause of death. Plaintiff's theory of medical malpractice liability and breach of the standard of care also remain the same, although we note that Dr. Lustgarten testified at the evidentiary hearing that other factors in the decedent's chart would also support his opinion.

*6 Among their other arguments below, defendants maintained that the law of the case doctrine did not apply because, after this Court issued its decision, the Michigan Supreme Court decided *Elher*. However, *Elher* does not serve as an "intervening change in the law" permitting the trial court to avoid application of the law of the case doctrine in this case.

In *Elher*, which also involved a medical malpractice claim, the plaintiff offered a standard of care expert and the defendants moved for summary disposition on the ground that the expert failed to meet the requirements of MRE 702 and MCL 600.2955. *Elher*, 499 Mich. at 17. The trial court granted the motion, but this Court reversed. *Id.* at 18. The Supreme Court reversed this Court's decision. It explained that this Court "rejected as irrelevant the three guideposts relied on by the circuit court—the absence of scientific testing and replication, the lack of evidence that [the expert's] opinion and its basis were subjected to peer-reviewed publication, and plaintiff's failure to demonstrate the degree to which [the expert's] opinion and its basis were generally accepted in the relevant expert community." *Id.* at 18-19. In analyzing the issue, our Supreme Court first considered the *Daubert* standard, and noted that, to determine the reliability of a proposed expert's testimony, "[a] lack of supporting literature, while not dispositive, is an important factor in determining the admissibility of expert witness testimony" and that " '[u]nder MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible.' " *Id.* at 22, quoting *Edry*, 486 Mich. at 642. The Court found that the plaintiff's expert qualified to testify as an expert because of his extensive qualifications. *Elher*, 499 Mich. at 24. The Court also acknowledged that the *Daubert* factors "may or may not be relevant in assessing reliability, depending on the nature of the issue, the expert's expertise, and the subject of the expert's testimony," and that the United States Supreme Court "has stated that, in some cases, 'the relevant reliability concerns may focus upon personal knowledge or experience[.]' " *Id.* at 24-25, quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150; 119 S.Ct. 1167; 143 L. Ed. 2d 238 (1999).

Our Supreme Court, however, then noted that the United States Supreme Court had held that, even in those cases, reference to the *Daubert* factors could be helpful. *Elher*, 499 Mich. at 25. The Court held that the trial court did not abuse its discretion when it relied on two *Daubert* factors to find that the expert witness's testimony would not be reliable. Our Supreme Court noted that this Court had erred when it determined that the peer-review articles supporting the defendants' position were not in fact peer-reviewed, and thus found that this Court erred when it determined that the trial court could not have relied on the articles in making its determination. *Id.* In contrast, the Court noted that the expert had admitted that he knew of no one who shared his opinion and thus the trial court did not abuse its discretion by relying on the lack of evidence regarding the degree to which the expert's opinion was generally accepted. *Id.* at 26. Although our Supreme Court agreed with this Court that the trial court erred by relying on the lack of scientific testing and replication because the factor lacked relevance, it ultimately agreed with the trial court that the expert's opinion was not "based on reliable principles or methods" under MRE 702. Specifically, our Supreme Court held:

> *7 Plaintiff merely pointed to [the expert's] background and experience in regard to the remaining factors, which is generally not sufficient to argue that an expert's opinion is reliable. [The expert] admitted that his opinion was based on his own beliefs, there was no medical literature supporting his opinion, and plaintiff failed to provide any other support for [the expert's] opinion.
>
> The circuit court also did not abuse its discretion by concluding that [the expert's] testimony was deficient because it did not conform to MRE 702. We find this Court's decision in *Edry v. Adelman* to be instructive. In *Edry*, this Court concluded that an expert failed to meet the requirements of MRE 702 because his opinion "was not based on reliable principles or methods"; his opinion was contradicted by the opinion of the defendant's expert and published literature on the subject that was admitted into evidence, which even he acknowledged as authoritative; and there was no literature supporting the testimony of plaintiff's expert admitted into evidence. As in *Edry*, [the expert's] opinion "was not based on reliable principles or methods," his opinion was contradicted by the opinion of defendant's expert and published literature on the subject that was admitted into evidence, and there was no literature supporting the testimony of plaintiff's expert admitted into evidence. Plaintiff failed to provide any support for [the expert's] opinion that would demonstrate that it had some basis in fact and

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> that it was the result of reliable principles or methods. While peer-reviewed, published literature is not always necessary or sufficient to meet the requirements of MRE 702, the lack of supporting literature, combined with the lack of any other form of support, rendered [the expert's] opinion unreliable and inadmissible under MRE 702. [*Elher*, 499 Mich. at 27-28 (footnotes omitted).]

Close analysis of the *Elher* decision establishes that it did not create new law. Our Supreme Court relied entirely on existing law, such as *Daubert* and, more particularly *Edry*, the case cited by this Court in its previous decision in this case for analysis whether Dr. Lustgarten's testimony was reliable. In *Elher*, our Supreme Court did not explicitly or implicitly overrule any precedent. Rather, it applied existing precedent to the facts presented. Even if defendants can show that this case is factually similar to *Edry* or *Elher* and that this Court may have erroneously analyzed Dr. Lustgarten's proposed standard of care testimony to determine its reliability and admissibility, the trial court remained bound by this Court's decision. The law of the case doctrine precluded it from revisiting the admissibility of Dr. Lustgarten's expert testimony. *Duncan*, 300 Mich. App. at 189.

Therefore, the trial court erred by revisiting the issue of the admissibility of Dr. Lustgarten's testimony, abused its discretion by thereafter declaring Dr. Lustgarten's expert testimony regarding the applicable standard of care inadmissible, and erred by granting defendants' motion for summary disposition on that basis. Accordingly, we reverse the trial court's orders and remand for further proceedings. Given our holding, it is unnecessary for us to consider plaintiff's other claims of error.

***8** Reversed and remanded for further proceedings consistent with this opinion. We do not retain jurisdiction.

All Citations

Not Reported in N.W. Rptr., 2019 WL 3432536

Footnotes

1 The circuit court previously granted summary disposition in favor of defendants St. John Macomb Hospital, Philip A. Adler, M.D., and Diagnostic Radiology Consultants, P.C. Plaintiff does not challenge the dismissal of these defendants, who are not parties to this appeal.

2 From this Court's decision, defendants sought review by our Supreme Court. The Court denied their application for leave to appeal on February 2, 2016 and defendants' motion for reconsideration of that order on May 24, 2016. *White v. St. John Macomb Hosp.*, 499 Mich. 854 (2016), rec. den. 499 Mich. 931 (2016).

3 Defendants, in their motion for reconsideration before our Supreme Court, argued extensively that *Elher*, which was decided February 8, 2016, required a different result than that reached by this Court. Nonetheless, our Supreme Court denied their motion for reconsideration on May 24, 2016.

4 Before defendants' motion for an evidentiary hearing, the trial court, in accordance with this Court's remand instructions, determined that testimony from Dr. Lustgarten and another physician, Dr. Daniel Spitz, M.D., could be used to support plaintiff's theories of proximate cause. No party has appealed that ruling.

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2019 WL 2517861
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UNPUBLISHED OPINION. CHECK COURT RULES BEFORE CITING.

UNPUBLISHED
Court of Appeals of Michigan.

Raschelle GOFF, Plaintiff-Appellant,
v.
Karen L. NIVER, M.D., and Northpointe OB/GYN, P.C., Defendants-Appellees.

No. 343315
|
June 18, 2019

St. Clair Circuit Court, LC No. 16-001788-NH

Before: Gadola, P.J., and Boonstra and Swartzle, JJ.

Opinion

Per Curiam.

*1 Plaintiff, Raschelle Goff, appeals as of right the order of the trial court dismissing her claim against defendants, Karen L. Niver, M.D. (Niver) and Northpointe OB/GYN, P.C. (Northpointe). We affirm.

I. FACTS

This case involves a claim of medical malpractice arising out of medical care and treatment provided to plaintiff by Niver and her professional corporation, Northpointe, following the delivery of plaintiff's baby on July 10, 2014. Plaintiff alleges that during the birth of her baby, who at birth weighed 11 pounds, 4 ounces, she suffered three injuries: a second-degree tear in the perineum, a rectovaginal fistula, being a tear from the vagina into the rectum, and a fourth-degree tear of the anterior wall of the external anal sphincter. At the time Niver delivered plaintiff's baby, Niver identified the second-degree tear in the perineum and surgically repaired the tear immediately after the delivery of the baby. Niver testified that she did examine plaintiff for additional injuries, but did not identify any other injury. Plaintiff was discharged from the hospital on July 12, 2014.

On July 17, 2014, plaintiff called Niver, complaining of fever, nausea, vaginal bleeding, diarrhea, and the inability to control her bowels. Niver prescribed antibiotics for plaintiff, but did not examine plaintiff or talk to her personally. On July 19, 2014, plaintiff went to the emergency room at Port Huron Hospital with continuing symptoms. Concerned about the possibility of a fourth-degree tear, doctors at Port Huron Hospital sent plaintiff to the University of Michigan emergency department. There, she was diagnosed with a possible compromised anal sphincter, but was told to follow up with Niver. She saw Niver on July 21, 2014, at which time Niver diagnosed a tear in the external anal sphincter, but did not diagnose a rectovaginal fistula.

On July 31, 2014, plaintiff was seen at University of Michigan Medical Center, where she was diagnosed with a "chronic third-degree laceration," being a "separation of her external anal sphincter." Dr. Dee Ellen Fenner performed surgery to repair the external anal sphincter, and during that surgery confirmed the presence of a suspected rectovaginal fistula. The rectovaginal tear was repaired surgically by Dr. Fenner at University of Michigan Medical Center on August 4, 2014. After the surgeries, plaintiff underwent physical therapy beginning in September 2014. Plaintiff continued to experience fecal leakage and underwent additional surgical procedures in December 2015 and May 2016, but continued to have some bowel control problems and to periodically experience fecal leakage.

Plaintiff brought this action alleging that Niver violated the standard of care by failing to recognize and surgically repair the external sphincter tear and the rectovaginal tear following the delivery. Plaintiff alleged that as a result of the delay in diagnosis and treatment, she now suffers from fecal incontinence and pelvic floor issues. Before the trial court, plaintiff presented Dr. Robert Dein as an expert on the issues of standard of care and causation. Dein opined that Niver's care of plaintiff fell below the standard of care, and that the delay in repairing the tear of the external anal sphincter decreased the likelihood of a successful repair, and thus decreased the likelihood that plaintiff would make a total recovery. Dein testified that his opinion was based upon his own experience and expertise, not upon any specific scientific literature or studies. Plaintiff did not introduce any scientific literature or studies to support Dein's opinion.

*2 Defendants filed a motion in limine seeking to exclude

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Dein's testimony regarding causation, arguing that plaintiff had not presented medical or scientific data to support Dein's opinion that earlier repair of the lacerations would have made a difference in the long-term outcome. The trial court granted defendants' motion in limine, holding that plaintiff had not demonstrated that Dein's opinion regarding causation was based on reliable principles and methods. The trial court noted that plaintiff had not provided any scientific literature or study to support Dein's causation testimony, and Dein could not give reliable foundation for his opinion other than his own experience. The trial court found that Dein's causation testimony therefore was not reliable under MRE 702 and MCL 600.2955(1). The trial court directed defendants to submit a proposed order reflecting the trial court's decision.

Defendants submitted a proposed order under MCR 2.602, and plaintiff objected to the proposed order because it not only excluded Dein's causation testimony, but also dismissed plaintiff's claim in its entirety. Plaintiff, however, did not submit an alternative proposed order, nor did plaintiff notice the hearing on the proposed order and objection as required by MCR 2.602(B)(3)(c). Defendants eventually moved for entry of their proposed order, responding to plaintiff's objections. At a hearing on the motion, the trial court entered defendants' proposed order granting defendants' motion in limine and also dismissing plaintiff's claim. The trial court thereafter denied plaintiff's motion for reconsideration. Plaintiff now appeals to this Court.

II. DISCUSSION

A. MOTION IN LIMINE

Plaintiff contends that the trial court abused its discretion by granting defendants' motion in limine and excluding the testimony of Dr. Dein, plaintiff's expert witness on causation and standard of care. We disagree.

This Court reviews for an abuse of discretion a trial court's decision to grant or deny a motion in limine, see *Elezovic v. Ford Motor Co.*, 472 Mich. 408, 431; 697 N.W.2d 851 (2005), and similarly reviews a trial court's decision to admit or exclude evidence for an abuse of discretion. *Edry v. Adelman*, 486 Mich. 634, 639; 786 N.W.2d 567 (2010). An abuse of discretion occurs when the trial court chooses an outcome outside the realm of reasonable and principled outcomes. *Kalaj v. Khan*, 295 Mich. App. 420, 425; 820 N.W.2d 223 (2012). This Court also reviews for an abuse of discretion the trial court's decision regarding the qualification of an expert. *Clerc v. Chippewa Co. War Mem. Hosp.*, 267 Mich. App. 597, 601; 705 N.W.2d 703 (2005). "[A]ny error in the admission or exclusion of evidence will not warrant appellate relief unless refusal to take this action appears ... inconsistent with substantial justice, or affects a substantial right of the [opposing] party." *Craig v. Oakwood Hosp.*, 471 Mich. 67, 76; 684 N.W.2d 296 (2004) (quotation marks and citation omitted).

A medical malpractice claim is one that arises during the course of a professional medical relationship and hinges upon a question of medical judgment. *Lockwood v. Mobile Med. Response, Inc.*, 293 Mich. App. 17, 23; 809 N.W.2d 403 (2011). To establish medical malpractice, the plaintiff bears the burden of proving "(1) the applicable standard of care, (2) a breach of that standard by the defendant, (3) an injury, and (4) proximate causation between the alleged breach of duty and the injury." *Rock v. Crocker*, 499 Mich. 247, 255; 884 N.W.2d 227 (2016). " 'Proximate cause' is a legal term of art that incorporates both cause in fact and legal (or 'proximate') cause." *Craig*, 471 Mich. at 86. A court is required to first determine whether a defendant's negligence was a cause in fact of the plaintiff's injuries before determining whether the defendant's negligence was the legal cause of those injuries. *Ray v. Swager*, 501 Mich. 52, 64; 903 N.W.2d 366 (2017). Proximate cause must be proved by a preponderance of the evidence. *Craig*, 471 Mich. at 86.

***3** To establish cause in fact, the plaintiff must present substantial evidence from which the jury could conclude that, but for the defendant's conduct, the plaintiff's injuries would not have occurred. *Weymers v. Khera*, 454 Mich. 639, 647; 563 N.W.2d 647 (1997). A plaintiff establishes cause in fact sufficient to create a genuine issue of material fact if the plaintiff establishes "a logical sequence of cause and effect, notwithstanding the existence of other plausible theories, although other plausible theories may also have evidentiary support." *Patrick v. Turkelson*, 322 Mich. App. 595, 617; 913 N.W.2d 369 (2018) (quotation marks and citation omitted). "Circumstantial evidence can be sufficient to establish a genuine issue of material fact, but mere conjecture or speculation is insufficient." *McNeill-Marks v. MidMichigan Med. Ctr.-Gratiot*, 316 Mich. App. 1, 16; 891 N.W.2d 528 (2016).

In a medical malpractice action, expert testimony is required to prove causation. *Kalaj*, 295 Mich. App. at 429. The proponent of the expert testimony must establish that the expert is qualified under MCL 600.2169, and also

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that the opinion is reliable under MRE 702 and MCL 600.2955. See *Elher v. Misra*, 499 Mich. 11, 22; 878 N.W.2d 790 (2016). In this case, the parties do not dispute Dein's qualifications, but do dispute whether his opinion on causation was reliable.

MRE 702 requires a trial court to determine that each aspect of a proposed expert witness's testimony, including the underlying principles and methodology, is reliable. *Id.* That rule provides:

> If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. [MRE 702.]

Our Supreme Court has stated that a lack of supporting medical literature is an important consideration in determining the admissibility of expert witness testimony, but not necessarily dispositive. *Edry*, 486 Mich. at 640. Our Supreme Court has also said, however, that an expert in a medical malpractice lawsuit is expected to justify his or her opinion with authoritative materials supporting the opinion, and that generally, it is not sufficient under MRE 702 to argue that expert testimony is reliable, and therefore admissible, based solely on the expert's experience and background. *Id.* at 642.

In addition to MRE 702, MCL 600.2955 requires the trial court to determine, by examining the expert's opinion and its basis, whether an expert's opinion is reliable and will assist the finder of fact. *Elher*, 499 Mich. at 23. The trial court is required to consider the facts, technique, method, and reasoning upon which the expert relied, considering:

> (a) Whether the opinion and its basis have been subjected to scientific testing and replication.
>
> (b) Whether the opinion and its basis have been subjected to peer review publication.
>
> (c) The existence and maintenance of generally accepted standards governing the application and interpretation of a methodology or technique and whether the opinion and its basis are consistent with those standards.
>
> (d) The known or potential error rate of the opinion and its basis.
>
> (e) The degree to which the opinion and its basis are generally accepted within the relevant expert community. As used in this subdivision, "relevant expert community" means individuals who are knowledgeable in the field of study and are gainfully employed applying that knowledge on the free market.
>
> ***4** (f) Whether the basis for the opinion is reliable and whether experts in that field would rely on the same basis to reach the type of opinion being proffered.
>
> (g) Whether the opinion or methodology is relied upon by experts outside the context of litigation. [MCL 600.2955(1).]

The trial court, as gatekeeper regarding expert testimony, is obligated to ensure that expert testimony is both relevant and reliable, *Edry*, 486 Mich. at 640, by conducting a "searching inquiry." *Gilbert v. DaimlerChrysler Corp.*, 470 Mich. 749, 782; 685 N.W.2d 381 (2004). Ultimately, the trial court must rule on the strength of the record presented, see *Edry*, 486 Mich. at 640-642, and it is the burden of the party introducing the expert testimony to demonstrate that the evidence is sufficiently reliable. *Figurski v. Trinity Health-Michigan*, 501 Mich. 1051, 1053; 909 N.W.2d 445 (2018) (MARKMAN, C.J., dissenting). As gatekeeper, the trial court is not required "to search for absolute truth, to admit only uncontested evidence, or to resolve genuine scientific disputes." *Chapin v. A & L Parts, Inc.*, 274 Mich. App. 122, 127; 732 N.W.2d 578 (2007). However, the trial court must ensure that admitted expert opinion testimony is derived from a sound foundation. *Id.*

In this case, Dr. Dein testified that Niver violated the standard of care by failing to diagnose and treat the rectovaginal tear and the anal external sphincter tear at the time of delivery. Dein further testified that this breach of the standard of care was the cause in fact of plaintiff's ongoing impairment:

> So the goal is to repair tissue before it becomes inflamed. We know that Mrs. Goff by day seven, after delivery, developed a high fever up to 103 degrees. We know that when she was examined by, I believe, Dr. Slay, she called the tissue [friable]. So it was very inflamed tissue. And when you have inflamed tissue, the likelihood of a successful repair is much lower. So the whole issue here is not that there was a hole in her rectum or an injury to the sphincter that can happen with a large baby. The issue is that that was not recognized, and by not being recognized, the patient got inflamed and the likelihood of future stool function being normal goes down.

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* * *

So the best chance of having long-term normal function is to repair the injuries before intense inflammation sets in. And when you have a rectovaginal fistula, you basically have stool, and more importantly, the bacteria from stool in spaces that are not designed to handle it, such as the vagina. And what happens then is you have an intense inflammatory state and tissue tends to break down.

So had you been – I'm sorry – had the patient had the injuries recognized and been repaired in the delivery room on July 10, 2014, yeah, she still could have had issues down the line, and there's no question that sometimes that happens, but the chances of having normal stool function significantly decreases because she had a – a significant delay in diagnosis.

Dein, however, agreed that some women who have the repair surgery immediately nonetheless fail to fully recover, and that there was no way to quantify the risk of incomplete recovery. In response to questioning, he testified:

***5** Q: ... Where there is a sphincter tear in a female that's birth related, a certain percentage of those women go on to have problems regardless, right?

A: As I stated on direct, yes, that's true.

Q: And there is really no way to quantify, is there, whether or not Mrs. Goff fell into a different category as opposed to somebody who had – a woman who had a fourth-degree sphincter tear as a result of a birth?

A: By quantifying, you mean is there a number we can assign to it?

Q: Exactly.

A: There's no number we can assign to it.

Q: I mean it is – and you may disagree – but it is conceivable that despite this alleged delay in repair, Mrs. Goff could have gone on to have the same problems today totally unrelated to the delay in the repair procedure? [objection]

A: Well, I mean, I think we talked about that on direct, that some women will have continuing problems, but that a delay leading to an intense inflammation is going to increase the risk that that repair will not hold. So, yes, it is possible that she could have had it, but she has reduced her opportunity to have normal function by having the delay in recognition.

Q: And we don't know how much reduction within a reasonable degree of medical certainty?

A: No.

Dein conceded that he was relying solely upon his own experience and expertise as the basis for his opinion, and not upon specific scientific literature or studies. Regarding whether support existed for Dein's testimony that delay in diagnosing and repairing the tears resulted in plaintiff having a lesser chance of full recovery,[1] Dr. Fenner testified that there was no data to support the opinion that a delay of three or four weeks before performing the repair surgery would result in an increased risk of incomplete recovery.

Defendants filed a motion in limine to exclude Dein's causation testimony, arguing that it was not reliable because plaintiff had failed to support Dein's opinion with any scientific data. The trial court granted the motion, and held, in relevant part:

Dr. Dein stated that he based his opinion on his personal experience and not on any specific scientific literature or study. He testified that a portion of women who suffer a fourth-degree tear will still go on to have bowel problems in the future, but he believes that the delay in this case reduced Plaintiff's opportunity to have normal bowel function. However, Dr. Dein could not quantify that reduction within a reasonable degree of medical certainty. Further, Plaintiff has not provided any scientific data to support Dr. Dein's opinion. In fact, Dr. Fenner, who performed Plaintiff's repair, stated in her deposition that there is inadequate scientific data to support Dr. Dein's opinion.

The only foundation that Dr. Dein offered for his opinion is that if the repair is not made at the time of delivery, then the surrounding tissue will become inflamed and friable. When that happens, Dr. Dein opined, the subsequent repair is much more likely to break down. However, once again, Dr. Dein did not provide any evidence or literature to support his reasoning.

***6** After reviewing Dr. Dein's testimony and examining his opinion and its basis, including the facts, technique, methodology, and reasoning relied on by Dr. Dein, pursuant to MRE 702 and MCL 600.2955(1), this Court finds that Plaintiff has not shown that Dr. Dein's opinion is based on reliable principles and methods. Plaintiff has not provided any scientific literature or study to support Dr. Dein's opinion, and Dr. Dein himself could not give a reliable foundation for his opinion other than his experience. As stated previously,

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> "Under MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Id.* [*Elher*, 499 Mich.] at 23. There is no testimony to support the finding that Dr. Dein's testimony is the product of reliable principles and methods. Therefore, this Court finds that Dr. Dein's causation testimony is not reliable pursuant to MRE 702 and MCL 600.2955(1) and will not assist the trier of fact.

Trial courts are in the best position to conduct the searching inquiry into the reliability of expert testimony, and this Court will not overturn the trial court's ruling to exclude or admit expert testimony absent an abuse of the trial court's discretion. *Figurski*, 501 Mich. at 1053 (MARKMAN, C.J., dissenting), citing *Craig*, 471 Mich. at 76. Here, a review of the record indicates that the trial court was acting within its reasonable discretion when it excluded the testimony of Dr. Dein. The trial court considered the factors set forth in MCL 600.2955(1), and determined that Dein did not present any scientific literature or studies to support his opinion that the alleged delay in diagnosing and repairing plaintiff's injuries negatively affected her ability to completely recover.

Plaintiff argues that there are no studies to support Dein's opinion that the delay in plaintiff's treatment decreased the odds of her fully recovering because to conduct a study where the treatment of patients was delayed would be unethical. Plaintiff argues that she should not be penalized for the non-existence of an unethical study. But in this case, plaintiff did not introduce any data to support Dein's testimony in any regard. For example, Dein testified that the failure to repair the injuries at the time of delivery resulted in increased inflammation, which then made repairing the injuries more difficult. Plaintiff, however, did not present any data to support these underlying propositions. Plaintiff is therefore unable to argue that she has met any of the reliability factors of MCL 600.2955(1).

Generally, it is not sufficient under MRE 702 to rely only upon an expert's experience and background to argue that the expert's opinion is reliable. *Edry*, 486 Mich. at 642. "The whole point of *Daubert* [*v. Merrell Dow Pharm. Inc.*, 509 U.S. 579; 113 S. Ct. 2786; 125 L. Ed. 2d 469 (1993)] is that experts can't speculate. They need analytically sound bases for their opinions, and it is axiomatic that an expert, no matter how good his credentials, is not permitted to speculate." *Edry*, 486 Mich. at 642 n. 6 (quotation marks and citation omitted). The proponent of evidence bears the burden of establishing its admissibility, and a trial court may only admit expert testimony after it ensures the reliability of the evidence under MRE 702. Here, plaintiff failed to provide scientific support for any aspect of Dein's opinion. Given the authority supporting exclusion of testimony when there is no support for the theory beyond the expert's own opinion, it cannot be said that the trial court's decision was outside the range of reasonable and principled outcomes.

B. DISMISSAL OF CLAIM

*7 Plaintiff next contends that the trial court erred in dismissing the entirety of her complaint. We review de novo a trial court's decision to grant or deny a motion to dismiss. *Mouzon v. Achievable Visions*, 308 Mich. App. 415, 418; 864 N.W.2d 606 (2014).

After the trial court issued its opinion granting defendants' motion in limine, plaintiff objected to the proposed order submitted by defendants that included language dismissing her claim in its entirety. Plaintiff argued that she should be allowed to proceed on a claim for damages she incurred before her injuries were properly treated. The trial court noted that plaintiff had waived her objection to the proposed order because she had not followed the proper procedure for objecting. The trial court also determined that the proposed order properly reflected the trial court's ruling.

Plaintiff now contends that the trial court erred in dismissing the entirety of her claim and that she should be permitted to proceed on a claim for damages for the period between when her injury occurred and when she obtained proper medical care. Plaintiff argues that the evidence before the trial court supported a claim for damages for this period. A review of the complaint, however, demonstrates that plaintiff did not specifically allege damages for that period. Although the complaint does reference past pain, suffering, wage loss and medical expenses, the complaint does so in the context of seeking damages for ongoing pain and disability related to her incomplete recovery.

Because plaintiff's complaint did not specifically seek the damages she now wishes to seek, it appears that essentially plaintiff wanted to amend her complaint in the face of dismissal. Yet plaintiff never submitted a motion to amend the complaint in the trial court. At the time of dismissal in this case, plaintiff required leave of the trial court to amend her complaint. MCR 2.118(A)(2) provides that leave to amend "shall be freely given when justice so requires." The trial court must then give a particularized

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reason for denying leave, such as undue delay, bad faith, or dilatory motive, repeated failures to cure deficiencies after allowed amendment, undue prejudice, or futility. *Miller v. Chapman Contracting*, 477 Mich. 102, 105; 730 N.W.2d 462 (2007). Further, if a trial court grants summary disposition under MCR 2.116(C)(8), (9), or (10), the trial court is required to give the parties an opportunity to amend their pleadings unless it would be futile to do so. *Jawad A. Shah, MD, PC v. State Farm Mut. Auto. Ins. Co.*, 324 Mich. App. 182, 209; 920 N.W.2d 148 (2018).

In this case, in the face of the proposed order of dismissal, plaintiff could have sought leave to amend her complaint. However, although a plaintiff may have a right to amend a complaint under MCR 2.116(C)(1)(5), that court rule does not require the trial court to "sua sponte offer plaintiff an opportunity to amend." *Kloian v. Schwartz*, 272 Mich. App. 232, 242; 725 N.W.2d 671 (2006). Plaintiff in this case objected to the proposed order of dismissal, but did not seek leave to amend her complaint. The trial court therefore did not err in dismissing plaintiff's claim, absent a motion by plaintiff to amend the complaint to include the claim she now raises on appeal.

***8** Affirmed.

All Citations

Not Reported in N.W. Rptr., 2019 WL 2517861

Footnotes

1 Dr. Fenner testified that plaintiff had fully recovered from the rectovaginal fistula and Fenner considered that surgery to have been successful. Her testimony regarding plaintiff's ongoing recovery related to the injury to the external anal sphincter.

2 Plaintiff presupposes that the only way to create the data would be to delay medical treatment to some women who need the surgery, overlooking the possibility that some women might have had medical treatment delayed incidentally, as was potentially true in the case of plaintiff's care, and thus their cases could be studied. In fact, Dr. Fenner's testimony suggested that some data did exist regarding women whose repair surgery was delayed for as long as 10 to 30 years, and she opined that in those cases, the chance of full recovery was not as great as compared with patients who had the surgical repair immediately. There is no suggestion that the study referenced was unethical or that patients were intentionally denied treatment.

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Exhibit R

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2016 WL 4069459
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UNPUBLISHED OPINION. CHECK COURT RULES BEFORE CITING.

UNPUBLISHED
Court of Appeals of Michigan.

Alexander FIGURSKI, minor, by his conservator, Howard Linden, Plaintiff–Appellant,
v.
TRINITY HEALTH–MICHIGAN, d/b/a/ Saint Joseph Mercy Livingston Hospital, William Bradfield, M.D., and Catherine McCauley Health Services Corporation, a/k/a Saint Joseph Medicine Faculty Associates, a/k/a Saint Joseph Mercy Primary Care, Defendants–Appellees.

Docket No. 318115.
|
July 28, 2016.

Synopsis
Background: Conservator, on behalf of minor patient, brought medical malpractice action against hospital, alleging that patient suffered a hypoxic-ischemic brain injury and a left middle cerebral arterial ischemic stroke during labor and delivery. The Livingston Circuit Court granted hospital's motion in limine to exclude patient's causation expert and granted partial summary disposition on patent's perinatal malpractice claim, and appeal was taken.

[Holding:] The Court of Appeals held that patient's causation expert should have been allowed to testify.

Reversed and remanded.

West Headnotes (2)

[1] **Evidence**—Medical Testimony

Minor patient's causation expert should have been allowed to testify in medical malpractice action as to the mechanism of patient's hypoxic-ischemic brain injury and left middle cerebral arterial ischemic stroke since expert presented sufficient scientifically reliable data to advance her causation theory; expert's opinion was based not only on her own vast personal experience, but on literature that formed the basis for her opinion, she explained that, while not one particular individual article supported her theory, a combination of the articles and the information extracted therefrom supported her ultimate opinion, and expert's causation theory was that injudicious use of medication, compounded by the other factors at birth, resulted in compression of patient's head and lack of blood flow to the brain, or ischemia.

[2] **Evidence**—Medical Testimony

Medical malpractice plaintiff's burden at the *Daubert* hearing was to show that his medical expert was qualified to render an opinion on causation and that expert's opinion was reliable and relevant, and such an inquiry had to focus on principles and methodology, not the conclusions they generated.

Livingston Circuit Court; LC No. 11–026466–NH.

Before: SAAD, P.J., and OWENS and K.F. KELLY, JJ.

ON REMAND

Opinion

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PER CURIAM.

*1 Plaintiff sued defendants, alleging that he suffered a hypoxic-ischemic brain injury and a left middle cerebral arterial ischemic stroke during labor and delivery. The trial court granted defendants' motion in limine to exclude plaintiff's causation expert concerning claims of perinatal malpractice. As a result, the trial court granted partial summary disposition as to those claims. On application for leave to appeal, we reversed the trial court's order, concluding that the trial court exceeded its role as gatekeeper and, instead, acted as the ultimate trier of fact. We concluded that there was sufficient reliable scientific data to support plaintiff's expert's opinion and that the motion in limine and summary judgment were improperly granted. *Figurski v. Trinity Health–Michigan*, unpublished order of the Court of Appeals, entered March 5, 2015 (Docket No. 318115).

As part of our original decision, we cited this Court's opinion in *Elher v. Misra*, 308 Mich.App. 276, 870 N.W.2d 335 (2014):(1) as part of our standard of review[1]; (2) as part of our general review of the law on expert testimony[2]; and, (3) as part of our general review of the role of a trial court as the gatekeeper for expert testimony. *Figurski v. Trinity Health*, unpublished per curiam opinion of the Court of Appeals, issued March 5, 2015 (Docket Nos. 318115 and 319086), slip op pp 5–7, 15–17. We quoted *Elher* at length near the end of our general discussion:

> Recently our Court reviewed the admissibility of expert opinion in *Elher v. Misra*, — Mich.App —; — NW2d — (Docket No. 316478, issued December 2, 2014). In *Elher*, (unlike the case at bar) there was no dispute as to the injury or the mechanism of the injury. At issue was whether the particular conduct (clipping both the bile and cystic ducts during gallbladder surgery) breached the standard of care. *Elher*, slip op, pp 1, 7. Nevertheless, Judge Gleicher cited many of the foregoing cases and noted that, in acting as gatekeeper, " '[t]he standard focuses on the scientific validity of the expert's methods rather than on the correctness or soundness of the expert's particular proposed testimony.' " *Id.* at slip op, p 8, quoting *People v. Unger*, 278 Mich.App. 210, 217–218, 749 N.W.2d 272 (2008). Judge Gleicher wrote:
>
> > We draw from *Kumho* and *Edry* several important lessons. A court screening scientific evidence must ensure that proposed scientific or technical testimony is reliable as well as relevant. But the algorithm for this analysis cannot be scripted in advance or applied in a vacuum. Rather, a court must determine which factors reasonably measure reliability given the specific factual context and contours of the testimony presented. [*Id.* at slip op, p 10.]
>
> Because the focus must be on methodology and *not* the expert's ultimate conclusion:
>
> > If an expert's reasoning is based on scientific principles, knowledge, experience and training, the testimony may fulfill the reliability standards even in the presence of conflicting conclusions predicated on precisely the same data, and an identical quantum of practical wisdom. This holds true even when a judge finds one side's approach more persuasive. The clashing standard of care opinions in this case are exactly the sort that "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof" is designed to resolve. [*Id.* at slip op p, 14, quoting *Daubert*.]
>
> *2 Moreover, the courtroom door should not be closed on medical experts whose opinions are often supported by extensive relevant experience. *Elher*, slip op, p 18. In fact, the rule of evidence "expressly contemplates that an expert may be qualified on the basis of experience." *Id.* Judge Gleicher concluded:
>
> > Gatekeeping courts are not empowered "to determine which of several competing scientific theories has the best provenance." *Ruiz–Troche v. Pepsi Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 85 (C.A.1, 1998). The test is whether the expert's *reasoning* is scientifically sound.
>
> * * *
>
> Ultimately, the gatekeeping inquiry asks whether the expert has reached his or her conclusions in a sound manner, and not whether the expert's conclusions are correct. "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert*, 590 U.S. at 597. Alternatively stated, the trial judge is "a gatekeeper, not a fact finder." *United States v. Sandoval–Mendoza*, 472 F.3d 645, 654 (C.A.9, 2006). Here, application of immaterial *Daubert* factors led the trial court to exclude expert testimony possessing none of the hallmarks of "junk science." "[N]o one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience." *Kumho*, 526 U.S. at 156. *Elher*, slip op, pp 19–20. [*Figurski v.*

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> *Trinity Health*, unpublished per curiam opinion of the Court of Appeals, issued March 5, 2015 (Docket Nos. 318115 and 319086), slip op pp 15–17.]

However, following our original decision in *Figurski* and while defendants' leave application was pending in the Michigan Supreme Court, the Supreme Court reversed the Court of Appeals' reasoning in *Elher* and held that the expert's opinion in *Elher* was not sufficiently reliable where the expert "admitted that his opinion was based on his own personal beliefs, there was no evidence that his opinion was generally accepted within the relevant expert community, there was no peer-reviewed medical literature supporting his opinion, plaintiff failed to provide any other support for [the expert's] opinion, and defendant submitted contradictory, peer-reviewed medical literature." *Elher v. Misra*, 499 Mich. 11, 878 N.W.2d 790; — NW2d —— (2016), slip op, pp 2 and 16. More specifically, the Supreme Court held:

> We conclude that the circuit court did not abuse it discretion by relying on two of the factors listed in MCL 600.2955 and by concluding that [plaintiff's expert's] opinion was not reliable. First, the Court of Appeals erred by concluding that the issue debated by the experts was not studied in peer-reviewed articles and, therefore, that the circuit court abused its discretion when it relied on this factor. The majority conceded that the article authored by [Dr. Lawrence] Way was peer-reviewed. Way concluded, after analyzing 252 operations, that 97% of injuries occur because of misperception and that such misperception errors do not constitute negligence. Thus, the issue being debated has been studied. Plaintiff, however, failed to submit any peer-reviewed medical literature in support of [her expert's] opinion, and [the expert] admitted that he knew of none.
>
> ***3** The circuit court also did not abuse its discretion by relying on the lack of evidence regarding the degree to which [plaintiff's expert] opinion was generally accepted. The Court of Appeals majority misinterpreted this factor. The majority concluded that there was no widespread acceptance of any standard-of-care statement. But this factor requires the court to consider "[t]he *degree* to which the opinion and its basis are generally accepted within the relevant expert community." [Plaintiff's expert] admitted that he knew of no one that shared his opinion. While the articles submitted by defendants may have suggested that "purists" in the field agreed with [plaintiff's expert], there was still no indication regarding the degree of acceptance of his opinion. The majority conceded that there was no evidence regarding whether [the expert's] view had general acceptance within the relevant expert community. This was a relevant factor for the circuit court to consider.

* * *

> Plaintiff merely pointed to [her expert's] background and experience in regard to the remaining factors, which is generally not sufficient to argue that an expert's opinion is reliable. [Plaintiff's expert] admitted that his opinion was based on his own beliefs, there was no medical literature supporting his opinion, and plaintiff failed to provide any other support for [her expert's] opinion.
>
> The circuit court also did not abuse its discretion by concluding that [plaintiff's expert's] testimony was deficient because it did not conform to MRE 702. We find this Court's decision in *Edry v. Adelman* to be instructive. In *Edry*, this Court concluded that an expert failed to meet the requirements of MRE 702 because his opinion "was not based on reliable principles or methods;" his opinion was contradicted by the opinion of the defendant's expert and published literature on the subject that was admitted into evidence, which even he acknowledged as authoritative; and there was no literature supporting the testimony of plaintiff's expert admitted into evidence. As in *Edry*, [plaintiff's expert's] opinion "was not based on reliable principles or methods," his opinion was contradicted by the opinion of defendant's expert and published literature on the subject that was admitted into evidence, and there was no literature supporting the testimony of plaintiff's expert admitted into evidence. Plaintiff failed to provide any support for [her expert's] opinion that would demonstrate that it had some basis in fact and that it was the result of reliable principles or methods. While peer-reviewed, published literature is not always necessary or sufficient to meet the requirements of MRE 702, the lack of supporting literature, combined with the lack of any other form of support, rendered [plaintiff's expert's] opinion unreliable and inadmissible under MRE 702. [*Elher v. Misra*, 499 Mich. 11, 878 N.W.2d 790; — NW2d —— (2016), slip op, pp 13–16 (internal footnotes omitted).]

***4** In light of the fact that we relied—at least in part—on the now-reversed Court of Appeal's decision in *Elher*, the Supreme Court in this case has ordered:

> The application for leave to appeal the March 5, 2015 judgment of the Court of Appeals is considered and, pursuant to MCR 7.305(H)(1), in lieu of granting leave to appeal, we VACATE Sections II., III., IV.D., and the first paragraph of Section VI. of the Court of Appeals judgment and we REMAND this case to the Court of

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Appeals for reconsideration in light of this Court's opinion in *Elher v. Misra*, — Mich. — (SC 150824, decided 2/08/2016). [*Figurski v. Trinity Health–Michigan*, 499 Mich. 887, 876 N.W.2d 574 (2016).]

We have reviewed the Supreme Court's decision in *Elher* and conclude that the trial court erred in granting defendants' motion in limine to exclude plaintiff's causation expert concerning claims of perinatal malpractice.

[1] The issue in *Elher* was different from the one that confronts us here. In *Elher*, the cause of the plaintiff's injury was not in dispute; instead, the issue was whether the surgeon had breached the standard of care. The expert in *Elher* admitted that his opinion regarding the standard of care was based entirely on his own definition of the standard of care. Under such circumstances, "the concern in relying on [the expert's] personal opinion is that [he] may have held himself to a higher, or different, standard than that practiced by the medical community at large." *Elher*, — Mich. —, slip op, p 16. Moreover, the expert in *Elher* was unable to refute medical literature that was contradictory to his own opinion. In contrast, the expert in the case before us was asked to offer an opinion as to the mechanism of plaintiff's injury. Causation, not standard of care, was at issue. Additionally, her opinion was based—not only on her own vast personal experience—but on literature that formed the basis for her opinion. She explained that while not one particular individual article supported her theory, a combination of the articles and the information extracted therefrom supported her ultimate opinion. Therefore, unlike the expert in *Elher*, plaintiff's expert in this case did not merely point to her background and experience in rendering her opinion. Additionally, unlike the defendant in *Elher*, who offered significant evidence of his own to refute the plaintiff's expert's opinion, the defendants in this case did not take that course of action. Instead of presenting their own witnesses, defendants sought only to discredit plaintiff's expert.

Because we conclude that our opinion does not change, we now largely re-state those sections of our previous opinion, omitting reference to this Court's *Elher* opinion. We will not restate those sections that the Supreme Court left intact.

II. STANDARD OF REVIEW

"We review the circuit court's decision to exclude evidence for an abuse of discretion. An abuse of discretion occurs when the trial court chooses an outcome falling outside the range of principled outcomes. We review de novo questions of law underlying evidentiary rulings, including the interpretation of statutes and court rules." *Elher v. Misra*, 499 Mich. 11, 878 N.W.2d 790; — NW2d — (2016), slip op, p 9 (internal footnotes omitted).

III. GENERAL REVIEW OF THE LAW ON EXPERT TESTIMONY

***5** In order to establish a cause of action for medical malpractice, a plaintiff must establish four elements: (1) the appropriate standard of care governing the defendant's conduct at the time of the purported negligence, (2) that the defendant breached that standard of care, (3) that the plaintiff was injured, and (4) that the plaintiff's injuries were the proximate result of the defendant's breach of the applicable standard of care. [*Craig v. Oakwood Hosp.*, 471 Mich. 67, 86, 684 N.W.2d 296 (2004).]

Proximate cause involves both the "cause in fact" and the "legal cause." *Skinner v. Square D Co.*, 445 Mich. 153, 162–63, 516 N.W.2d 475 (1994). The first requires a showing that "but for" defendant's action, plaintiff would not have been injured whereas the latter focuses on foreseeability and whether a defendant should be held legally responsible for such consequences. *Id.* "A plaintiff must adequately establish cause in fact in order for legal cause or 'proximate cause' to become a relevant issue." *Id.*

There is no question that plaintiff suffered a perinatal arterial ischemic stroke, or PAIS. What is at issue is the connection between plaintiff's injury and defendants' conduct, both "but for" and "proximate" causation. "[A] plaintiff's prima facie case of medical malpractice must draw a causal connection between the defendant's breach of the applicable standard of care and the plaintiff's injuries." *Craig*, 471 Mich. at 90, 684 N.W.2d 296. Crawford opines that "excessive compression of the fetal head caused by uterine tachysystole, hyperstimulation, uterine hypertonicity, prolonged labor, prolonged rupture of membranes, and relative cephalopelvic disproportion" caused the stroke. Defendants counter that there is nothing in the medical literature to support such a position and that the cause of PAIS remains largely unknown. While plaintiff contends that he also suffered a global

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hypoxic ischemic injury, defendants counter that no such injury was detected by plaintiff's treating physicians. These issues are clearly beyond the realm of the average lay person.

MRE 702 provides:

> If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

"The admission of expert testimony requires that (1) the witness be an expert, (2) there are facts in evidence that require or are subject to examination and analysis by a competent expert, and (3) the knowledge is in a particular area that belongs more to an expert than to the common man." *Surman v. Surman*, 277 Mich.App. 287, 308, 745 N.W.2d 802 (2007). Defendants do not question Crawford's qualifications, but they take issue with reliability of her proposed opinion. As the party offering the evidence, plaintiff bore the burden of persuading the trial court that the expert's opinion is based on a recognized field and methodology. *Craig*, 471 Mich. at 80, 684 N.W.2d 296.

***6** "MRE 702 requires the trial court to ensure that each aspect of an expert witness's proffered testimony—including the data underlying the expert's theories and the methodology by which the expert draws conclusions from that data—is reliable." *Gilbert v. DaimlerChrysler Corp.*, 470 Mich. 749, 779, 685 N.W.2d 391 (2004), citing *Daubert*. Our Supreme Court has held:

> This gatekeeper role applies to all stages of expert analysis. MRE 702 mandates a searching inquiry, not just of the data underlying expert testimony, but also of the manner in which the expert interprets and extrapolates from those data. Thus, it is insufficient for the proponent of expert opinion merely to show that the opinion rests on data viewed as legitimate in the context of a particular area of expertise (such as medicine). The proponent must also show that any opinion based on those data expresses conclusions reached through reliable principles and methodology.
>
> Careful vetting of all aspects of expert testimony is especially important when an expert provides testimony about causation. [*Gilbert*, 470 Mich. at 782, 685 N.W.2d 391 (footnote omitted).]

In *Daubert*, the petitioners were minors who had suffered serious birth defects. Along with their parents, the petitioners sued respondent, a pharmaceutical company, alleging that the mothers' ingestion of Bendectin caused the birth defects. The respondent's expert averred that he had looked at a number of published studies and none had concluded that maternal use of Bendectin was a risk factor for birth defects. The petitioners responded with eight experts of their own, who pointed to test tube and live animal studies linking Bendectin to malformations. The petitioners pointed to "pharmacological studies of the chemical structure of Bendectin that purported to show similarities between the structure of the drug and that of other substances known to cause birth defects; and the 'reanalysis' of previously published epidemiological (human statistical) studies." The district court granted the respondent summary judgment because the petitioners' experts' opinions were not generally accepted. The federal appeals court affirmed, citing *Frye v. United States*, 293 F. 1013, 1014, 54 App DC 46 (1923). *Daubert*, 509 U.S. at 582–584.

In vacating the decision, the United States Supreme Court did away with the "general acceptance" test previously relied upon in *Frye*, which required that before an expert could render an opinion on novel scientific evidence, the theory must have first gained general acceptance. The Supreme Court concluded that *Frye* had been displaced by FRE 702.[3] *Daubert*, 509 U.S. at 585–589. "That the *Frye* test was displaced by the Rules of Evidence does not mean, however, that the Rules themselves place no limits on the admissibility of purportedly scientific evidence. Nor is the trial judge disabled from screening such evidence. To the contrary, under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." *Id.* at 589.

***7** Under FRE 702, "[t]he subject of an expert's testimony must be 'scientific knowledge.' The adjective 'scientific' implies a grounding in the methods and procedures of science. Similarly, the word 'knowledge' connotes more than subjective belief or unsupported speculation." *Id.* at 589–590. The Court cautioned that:

> Of course, it would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a certainty; arguably, there are no certainties in science ... But, in order to qualify as 'scientific knowledge,' an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation—i.e., 'good grounds,' based on what is known. In short, the requirement that an expert's testimony pertain to 'scientific knowledge'

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> establishes a standard of evidentiary reliability. [*Id.* at 590.]

Moreover, the evidence must "fit" and connect to the "pertinent inquiry as a precondition to admissibility" in order to be deemed relevant. *Id.* at 591–592.

The *Daubert* Court explained that, unlike an ordinary witness, an expert was permitted to testify without any firsthand knowledge or observation and "[p]resumably, this relaxation of the usual requirement of firsthand knowledge ... is premised on an assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline." *Id.* at 592. As a result, trial courts are charged with making "a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." *Id.* at 592–593. In so doing, "[m]any factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test." *Id.* at 593. The Court then set forth a number of "general observations" that a trial court may consider, including: 1) whether a theory has been tested; 2) whether the theory has been subjected to peer review and publication; 3) the potential rate of error; and 4) whether the theory has gained general acceptance. *Id.* at 593–594. But "[t]he inquiry envisioned by Rule 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission. *The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.*" *Id.* at 594–595 (footnote omitted, emphasis added).

The *Daubert* Court rejected the idea that its decision would result in a "free-for-all" and permit plaintiffs to present unsound evidence to the juries:

> Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.... These conventional devices, rather than wholesale exclusion under an uncompromising 'general acceptance' test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702. [*Id.* at 596.]

***8** The United States Supreme Court revisited *Daubert* six years later in *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999), when it was called upon to determine how *Daubert* applies to experts who were not scientists. *Kumho* was a products liability case. The plaintiff sued a tire manufacturer after a tire blew and presented an engineering expert who opined that a defect in the tire caused the accident. *Id.* at 141–147. The manufacturer did not challenge the expert's qualifications, but nevertheless argued that the expert's methodology was unreliable. *Id.* at 153.

The Court first concluded that "*Daubert's* general holding—setting forth the trial judge's general 'gatekeeping' obligation—applies not only to testimony based on scientific knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." *Id.* at 141, 149. Because there are many different experts and various areas of expertise, the factors considered in determining whether to allow an expert to testify must be flexible: "we can neither rule out, nor rule in, for all cases and for all time the applicability of the factors mentioned in *Daubert*, nor can we now do so for subsets of cases categorized by category of expert or by kind of evidence. Too much depends upon the particular circumstances of the particular case at issue." *Id.* at 150. As *Daubert* made clear, "its list of factors was meant to be helpful, not definitive." *Id.* at 151. In performing its gatekeeping requirement, a trial court must "ensure the reliability and relevancy of expert testimony. It is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Id.* at 152.

The *Kumho* Court then went on to conclude that the district court did not abuse its discretion when it concluded that the expert's opinion was unreliable because it fell outside the range where experts might reasonably differ. *Id.* at 153. "[N]o one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience," but the expert's novel method was not used by other experts in the industry despite the prevalence of testing. *Id.* at 156–157. Ultimately, the expert's testimony failed the four criteria set forth in *Daubert* and "any other set" of reasonable reliability criteria. *Id.* at 158. "In sum, Rule 702 grants the district judge the discretionary authority, reviewable for its abuse, to determine reliability in light of the particular facts and circumstances of the particular case." *Id.*

In response to *Daubert* and *Kumho*, Michigan's legislature enacted MCL 600.2955, which provides:

> (1) In an action for the death of a person or for injury to a person or property, a scientific opinion rendered by an otherwise qualified expert is not admissible unless the court determines that the opinion is reliable and will assist the trier of fact. In making that determination, the court shall examine the opinion and the basis for the opinion, which basis includes the facts, technique,

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methodology, and reasoning relied on by the expert, and shall consider all of the following factors:

***9** (a) Whether the opinion and its basis have been subjected to scientific testing and replication.

(b) Whether the opinion and its basis have been subjected to peer review publication.

(c) The existence and maintenance of generally accepted standards governing the application and interpretation of a methodology or technique and whether the opinion and its basis are consistent with those standards.

(d) The known or potential error rate of the opinion and its basis.

(e) The degree to which the opinion and its basis are generally accepted within the relevant expert community. As used in this subdivision, "relevant expert community" means individuals who are knowledgeable in the field of study and are gainfully employed applying that knowledge on the free market.

(f) Whether the basis for the opinion is reliable and whether experts in that field would rely on the same basis to reach the type of opinion being proffered.

(g) Whether the opinion or methodology is relied upon by experts outside of the context of litigation.

(2) A novel methodology or form of scientific evidence may be admitted into evidence only if its proponent establishes that it has achieved general scientific acceptance among impartial and disinterested experts in the field.

Our state courts have issued a number of opinions addressing the reliability of expert testimony. In *Gilbert*, the plaintiff sued her employer for sexual harassment, arguing that the harassment created a permanent change in her brain chemistry, which caused her to relapse into substance abuse and depression. *Gilbert*, 470 Mich. at 753, 685 N.W.2d 391. She presented the expert opinion of a social worker who testified that the plaintiff would suffer an untimely and excruciating death. *Id.* The plaintiff's expert was the plaintiff's counselor and testified as both a fact witness and an expert witness. He testified that he received a master's degree in psychobiology and also received a prestigious award as an undergraduate, but neither of these claims was true. *Id.* at 759–760, 685 N.W.2d 391. The Court noted that "[t]his witness not only lacked any training, education, or experience in medicine, but also testified falsely about his credentials. Nevertheless, plaintiff asked the jury to treat this witness's testimony as a 'prognosis,' and to compensate plaintiff for the loss of her health and, eventually, her life." *Id.* at 753–754, 685 N.W.2d 391.

In a strongly-worded opinion, the Supreme Court took both the trial court and the appellate court to task for considering such "junk science":

> [P]roperly understood, the court's gatekeeper role is the same under *Davis–Frye* and *Daubert*. Regardless of which test the court applies, the court may admit evidence only once it ensures, pursuant to MRE 702, that expert testimony meets that rule's standard of reliability. In other words, both tests require courts to exclude junk science; *Daubert* simply allows courts to consider more than just "general acceptance" in determining whether expert testimony must be excluded.
>
> ***10** This gatekeeper role applies to all stages of expert analysis. MRE 702 mandates a searching inquiry, not just of the data underlying expert testimony, but also of the manner in which the expert interprets and extrapolates from those data. Thus, it is insufficient for the proponent of expert opinion merely to show that the opinion rests on data viewed as legitimate in the context of a particular area of expertise (such as medicine). The proponent must also show that any opinion based on those data expresses conclusions reached through reliable principles and methodology. [*Id.* at 782, 685 N.W.2d 391 (internal footnotes omitted).]

Noting the particular care that must be taken to vet expert testimony that touches on causation, the Court stated:

> When a court focuses its MRE 702 inquiry on the data underlying expert opinion and neglects to evaluate the extent to which an expert extrapolates from those data in a manner consistent with *Davis*'*-Frye* (or now *Daubert*), it runs the risk of overlooking a yawning "analytical gap" between that data and the opinion expressed by an expert. As a result, ostensibly legitimate data may serve as a Trojan horse that facilitates the surreptitious advance of junk science and spurious, unreliable opinions." [*Id.* at 783.]

The *Gilbert* court concluded that both the trial court and the Court of Appeals had failed to recognize such core gatekeeping principles. *Id.* at 783, 685 N.W.2d 391. The result was that a social worker who lacked any medical education, experience, training, skill or knowledge was permitted to interpret plaintiff's medical records and offer an "opinion that he was wholly unqualified to give." *Id.* at 784–785, 685 N.W.2d 391. The Court explained:

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> Mr. Hnat unquestionably used the content of plaintiff's treatment records to render an opinion that required medical expertise. He speculated about plaintiff's impending physical inability to work, testified about the type of medical complications that plaintiff would soon experience, predicted the cause of her death, and gave testimony concerning plaintiff's life expectancy. Mr. Hnat expressed his "opinion" on physiological disease, cause of death, and plaintiff's lifespan. Yet there was no evidence or showing that Mr. Hnat was qualified by training, experience, or knowledge to render such opinions or interpret medical records that would arguably support such a diagnosis or prognosis. There was, in other words, no evidence that Mr. Hnat was qualified to testify that defendant's actions concerning workplace harassment *caused* neurological and physiological changes in plaintiff and shortened her life. [*Id.* at 787–788, 685 N.W.2d 391.]

Thus, while the witness may have been an expert in social work and substance abuse, "[i]n order for Mr. Hnat to provide an admissible opinion interpreting medical records for purposes other than those related to the expertise of social workers, plaintiff bore the burden of showing that Mr. Hnat was qualified by knowledge, skill, experience, training, or education in *medicine*." *Id.* at 788, 685 N.W.2d 391. His qualification did not go merely to the weight of the evidence, but its admissibility in the first instance. *Id.* "Where the subject of the proffered testimony is far beyond the scope of an individual's expertise ... that testimony is inadmissible under MRE 702. In such cases, it would be inaccurate to say that the expert's lack of expertise or experience merely relates to the weight of her testimony. An expert who lacks 'knowledge' in the field at issue cannot 'assist the trier of fact.' " *Id.* 789, 685 N.W.2d 391. The Court concluded that the witness's "prognosis" testimony that was based on his interpretation of the plaintiff's medical records was erroneous because the witness lacked medical training and, therefore, did not have the ability to interpret the records. *Id.* at 789–790, 685 N.W.2d 391. *Gilbert's* primary focus was on the fact that the witness was not qualified to offer an opinion. The Court's focus was on the witness's professional qualifications and whether his background permitted him to offer an interpretation of those records.

***11** That same year, the Michigan Supreme Court decided the *Craig* case, which is very much in step with the case at bar, as it involved the same plaintiff's attorney and one of the same purported experts—Dr. Gabriel. The plaintiff in *Craig* suffered from cerebral palsy and mental retardation. The plaintiff argued at trial that the defendants (the hospital and treating physicians) negligently administered an excessive amount of Pitocin. The trial court denied the defendants' request to have a *Davis–Frye* hearing on the admissibility of the plaintiff's causation expert and ultimately a jury entered an award for the plaintiff. The Court of Appeals affirmed as to liability, but ordered remittutur. *Craig,* 471 Mich. at 70–71, 684 N.W.2d 296. Our Supreme Court reversed. *Craig* was decided under the *Davis–Frye* framework and the Supreme Court noted that, under that framework,

> expert opinion based on novel scientific techniques is admissible only if the underlying methodology is generally accepted within the scientific community. Thus, in determining whether the proposed expert opinion was grounded in a 'recognized' field of scientific, technical, or other specialized knowledge as was required by MRE 702, a trial court was obligated to ensure that the expert opinion was based on accurate and generally accepted methodologies. [*Craig,* 471 Mich. at 80, 684 N.W.2d 296 (internal footnotes omitted).]

The trial court in *Craig* did not rely on any of the literature submitted by the plaintiff in response to the defendants' motion in limine to exclude his testimony. "Instead of consulting plaintiff's proffered scientific and medical literature, the court erroneously assigned the burden of proof under *Davis–Frye* to defendant—the party *opposing* the admission of Dr. Gabriel's testimony—and held that defendant was not entitled to a hearing because it failed to prove that Dr. Gabriel's theory *lacked* 'general acceptance.' " *Id.* at 81, 684 N.W.2d 296. The Court noted that while the plaintiff produced literature that Pitocin could cause brain damage, it did not connect to Dr. Gabriel's causal theory that the excessive contractions caused the plaintiff's head to be repeatedly ground against his mother's pelvis, resulting in head trauma and cerebral palsy. *Id.* at 83, 684 N.W.2d 296.

> Dr. Gabriel was unable to cite a single study supporting his traumatic injury theory during a voir dire conducted at trial. The only authorities he offered for the proposition that excessive amounts of Pitocin may cause cerebral palsy through the traumatic mechanism he described at trial were studies he cited in which Pitocin caused cerebral palsy in animals when given in excessive amounts. These studies did not involve the "bumping and grinding" mechanism on which Dr. Gabriel's expert testimony relied. In fact, Dr. Gabriel expressly distinguished the mechanism to which he attributed plaintiff's injuries from those at work in the animal studies. It would appear, then, that there was little evidence that Dr. Gabriel's theory was "recognized," much less generally accepted, within pediatric neurology. [*Id.* at 84, 684 N.W.2d 296.]

***12** Dr. Gabriel could not identify what part of the

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mother's anatomy against which the child's head collided. *Id.* Moreover, "[a]t no point did Dr. Gabriel opine that the traumatic and vascular mechanisms he described could cause cerebral palsy, or that those mechanisms might produce the asymmetrical development shown in plaintiff's MRI. Thus, Dr. Gabriel's testimony supported plaintiff's medical malpractice claim only if the jury was permitted to assume, without supporting evidence, that a causal connection existed between these elements." *Id.* at 84–85, 684 N.W.2d 296. There was, therefore, a "yawning gap between Dr. Gabriel's testimony and the conclusions plaintiff hoped the jury would draw from it." *Id.* at 85, 684 N.W.2d 296.

The *Craig* Court held that the trial court erred in failing to grant the defendants' motion for judgment notwithstanding the verdict where the plaintiff failed to establish causation. "Even if plaintiff had shown that defendants breached the standard of care, the jury had no basis in the record to connect this breach to the cerebral palsy, mental retardation, and other injuries now presented by plaintiff." *Id.* at 90, 684 N.W.2d 296. The Court added that "[e]ven if we accept Dr. Gabriel's testimony in full, a fatal flaw remains in plaintiff's prima facie case: Dr. Gabriel never testified that the injuries stemming from this pounding and its accompanying vascular effects could cause cerebral palsy, mental retardation, or any of the other conditions now presented by plaintiff." *Id.* at 91, 684 N.W.2d 296. The *Craig* Court concluded:

> Dr. Gabriel began his testimony by explaining that an MRI image showed that plaintiff's brain tissue had developed asymmetrically. He failed, however, to trace this asymmetric development either back to the traumatic and vascular mechanisms he described or forward to the specific neurological conditions presently displayed by plaintiff. Thus, how exactly the mechanisms he described led to cerebral palsy (as opposed to any other neurological impairment) and how they were connected to the asymmetric brain development depicted in plaintiff's MRI was never explained.
>
> It is axiomatic in logic and in science that correlation is not causation. This adage counsels that it is error to infer that A causes B from the mere fact that A and B occur together. Given the absence of testimony on causation supplied by Dr. Gabriel, the jury could have found for plaintiff only if it indulged in this logical error-concluding, in effect, that evidence that plaintiff may have sustained a head injury, combined with evidence that plaintiff now has cerebral palsy, leads to the conclusion that the conduct that caused plaintiff's head injury also caused his cerebral palsy. Such indulgence is prohibited by our jurisprudence on causation. We have long required the plaintiff to show that but for the defendant's actions, the plaintiff's injury would not have occurred. Where the connection between the defendant's negligent conduct and the plaintiff's injuries is entirely speculative, the plaintiff cannot establish a prima facie case of negligence. [*Id.* at 93, 684 N.W.2d 296 (internal quotation marks and footnotes omitted).]

***13** Three years later in *Chapin v. A & L Parts, Inc.*, 274 Mich.App. 122, 732 N.W.2d 578 (2007), our Court cautioned trial courts not to conduct "minitrials" when deciding whether an expert can testify at trial under MRE 702 and MCL 600.2955(1). In *Chapin*, plaintiff was diagnosed with mesothelioma, after having spent 45 years working as an automobile brake mechanic. "Part of his job involved grinding brake linings that contained chrysotile asbestos. At issue is whether plaintiffs' expert presented scientifically reliable, and therefore legally admissible, evidence drawing a causal connection between mesothelioma and inhalation of brake-lining dust." *Id.* at 125, 732 N.W.2d 578. Writing for the majority Judge Davis noted:

> [T]he trial court's role as gatekeeper does not require it to search for absolute truth, to admit only uncontested evidence, or to resolve genuine scientific disputes. The fact[ ] that an opinion held by a properly qualified expert is not shared by all others in the field or that there exists some conflicting evidence supporting and opposing the opinion do[es] not necessarily render the opinion "unreliable." A trial court does not abuse its discretion by nevertheless admitting the expert opinion, as long as the opinion is rationally derived from a sound foundation. [*Id.* at 127, 732 N.W.2d 578.]

Importantly, Judge Davis wrote:

> The fact that two scientists value the available research differently and ascribe different significance to that research does not necessarily make either of their conclusions unreliable. Indeed, science is, at its heart, itself an ongoing search for truth, with new discoveries occurring daily, and with regular disagreements between even the most respected members of any given field. A *Daubert*-type hearing of this kind is *not a judicial search for truth.* The courts are unlikely to be capable of achieving a degree of scientific knowledge that scientists cannot. An evidentiary hearing under MRE 702 and MCL 600.2955 is merely a threshold inquiry to ensure that the trier of fact is not called on to rely in whole or in part on an expert opinion that is only masquerading as science. *The courts are not in the business of resolving scientific disputes.* The only proper role of a trial court at a Daubert hearing is to

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> filter out expert evidence that is unreliable, not to admit only evidence that is unassailable. The inquiry is not into whether an expert's opinion is necessarily correct or universally accepted. The inquiry is into whether the opinion is rationally derived from a sound foundation. [*Id.* at 139, 732 N.W.2d 578 (emphasis added).]

The Court concluded that, even in the face of contrary evidence, the trial court correctly permitted the plaintiff's expert to testify. "Although clearly not universally accepted, and although unsupported by epidemiological studies that may or may not be flawed, [the plaintiff's expert's] opinion is certainly objective, rational, and based on sound and trustworthy scientific literature." *Id.* at 140, 732 N.W.2d 578.

***14** In *Edry v. Adelman*, 486 Mich. 634, 786 N.W.2d 567 (2010), the plaintiff brought an action against her doctor, alleging that his failure to follow-up on a bump under her arm delayed the diagnosis and treatment of breast cancer, impacting her survival rate. The Michigan Supreme Court affirmed the trial court's decision to not allow plaintiff's oncology expert to testify that the plaintiff's chances of surviving five years would have been 95 percent if she had been diagnosed earlier and that the delay in diagnosis reduced her five-year survival chance to 20 percent. *Id.* at 636–640, 786 N.W.2d 567. The *Edry* Court concluded:

> Here, [the plaintiff's expert's] testimony failed to meet the cornerstone requirements of MRE 702. Dr. Singer's opinion was not based on reliable principles or methods; his testimony was contradicted by both the defendant's oncology expert's opinion and the published literature on the subject that was admitted into evidence, which even Dr. Singer acknowledged as authoritative. Moreover, no literature was admitted into evidence that supported Dr. Singer's testimony. Although he made general references to textbooks and journals during his deposition, plaintiff failed to produce that literature, even after the court provided plaintiff a sufficient opportunity to do so. Plaintiff eventually provided some literature in support of Dr. Singer's opinion in her motion to set aside the trial court's order, but the material consisted only of printouts from publicly accessible websites that provided general statistics about survival rates of breast cancer patients. The fact that material is publicly available on the Internet is not, alone, an indication that it is unreliable, but these materials were not peer-reviewed and did not directly support Dr. Singer's testimony. Moreover, plaintiff never provided an affidavit explaining how Dr. Singer used the information from the websites to formulate his opinion or whether Dr. Singer ever even reviewed the articles. [*Id.* at 640–641, 786 N.W.2d 567 (internal footnote omitted).]

The Court emphasized that "[w]hile peer-reviewed, published literature is not always a necessary or sufficient method of meeting the requirements of MRE 702, in this case the lack of supporting literature, combined with the lack of any other form of support for Dr. Singer's opinion, renders his opinion unreliable and inadmissible under MRE 702." *Id.* at 641, 786 N.W.2d 567. It was not enough for a party to "point to an expert's experience and background to argue that the expert's opinion is reliable." *Id.* at 642, 786 N.W.2d 567.

IV. PLAINTIFF'S CAUSATION EXPERT

* * *

D. ANALYSIS

[2] The trial court's opinion perhaps would have been appropriate had the trial court been sitting as the trier of fact. However, the trial court went well beyond her gatekeeping function and, instead of determining whether Crawford could *offer an opinion* on causation, the trial court actually *resolved* the issue of causation. No doubt the trial court was encouraged by defendants, who were also functioning under an erroneous view of plaintiff's burden and the trial court's gatekeeping function. In one of its motions in limine, defendants wrote that "a plaintiff has the burden of proof as to proximate causation and must present substantial evidence that excludes other hypotheses with a fair amount of certainty." That burden does not exist at the *Daubert* hearing; instead, plaintiff's burden at the *Daubert* hearing was to show that Crawford was qualified to render an opinion on causation and that her opinion was reliable and relevant. Such an inquiry must focus on principles and methodology, *not the conclusions they generate*." *Daubert*, 509 U.S. at 594–595 (emphasis added.) The trial court failed to heed *Chapin's* admonishment that, as gatekeeper, the trial court's analysis must not hinge on discovering absolute truth or resolving genuine scientific disputes. *Chapin*, 274 Mich.App. at 139, 732 N.W.2d 578. Although the trial court repeatedly stated that it was aware of its role to not seek absolute truth behind the science, the record reveals that it simply failed to heed its own warning. The trial court undertook an examination of plaintiff's literature in an attempt to search for the "truth."

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***15** Particularly glaring is the trial court's failure to refer to Crawford's *Daubert* testimony in its opinion and order. Crawford explained that no single article supported her theory, but that the sum of all the articles supported her conclusion that injudicious use of Pitocin, compounded by the other factors at birth, resulted in compression of plaintiff's head and lack of blood flow to the brain, or ischemia.[5] The trial court also completely ignored that Crawford's opinion was based, not only on the literature provided, but on her own extensive professional experience.

While the *Daubert* hearing was underway, the parties referred to an Oakland Circuit Court case that dealt with similar causation theories. That case—*VanSlembrouck v. Halperin*, unpublished opinion of the Court of Appeals, issued October 28, 2014 (Docket No. 309680)—was decided while this appeal was pending. While an unpublished opinion of this Court lacks precedential value, the analysis therein is germane, helpful, instructive, and persuasive for the case at bar and we adopt its reasoning as our own. MCR 7.215(C)(1); *Paris Meadows, LLC, v. Kentwood*, 287 Mich.App. 136, 145 n. 3, 783 N.W.2d 133 (2010).

The child in *VanSlembrouck* had a host of neurological problems. The plaintiffs' experts opined that birth trauma caused the child's disabilities, while the defendants maintained that the child suffered from a genetic abnormality. The plaintiffs' experts acknowledged that the child's brain never fully developed, but urged that she would not have suffered significant deficits absent birth trauma. *VanSlembrouck*, slip op, pp 1–2. There was no debating that the child's birth was traumatic. While her head spontaneously delivered, her shoulders became stuck and doctors had to perform maneuvers to deliver her. She weighed 10.5 and had an Apgar score of one. She was limp, blue and unresponsive and had a fractured collarbone. *Id.* at slip op, p 2.

Like the case at bar:

> Plaintiffs' experts posited that Pitocin-induced hyperstimulation of Kimberly VanSlembrouck's uterus, combined with Markell's large size, compressed Markell's head during the last hour of Kimberly's labor. According to their theory, head compression resulted in cerebral ischemia (lack of adequate blood flow to the cerebrum), bleeding into the brain itself, and permanent brain damage attributable to the trauma. [*Id.* at slip op, p 2.]

The trial court conducted a four-day *Daubert* hearing on defendants' motion in limine to prevent the experts from offering such a theory of causation. The trial court found the plaintiffs' experts were qualified and their opinions were scientifically reliable. Ultimately, a jury found in favor of the plaintiffs. *Id.* at slip op, p 3.

On appeal, this Court looked at the evidence presented by the plaintiffs at the *Daubert* hearing. Like in the case at bar, the plaintiffs offered Dr. Crawford, Dr. Yitzchak Frank, Dr. Gabriel, and Dr. Barry Schifrin. *Id.* at slip op, pp 9–10.

***16** Crawford testified that it was well known that trauma may occur when a baby's head acts as "a battering ram" against the mother's pelvis and that the trauma may be manifested as a brain bleed. This was especially true in large infants.

> In her opinion, Markell's brain injury was attributable to "[l]ack of oxygen and lack of blood flow." She elaborated: "This baby was banged through the pelvis for a long period of time. The uterus was stimulated to contract excessively" by Pitocin. "[W]here you have so frequent contractions that you don't provide oxygenated blood to the baby's brain ... [y]ou cause increased pressure, the blood can't profuse the brain." [*Id.* at slip op, p 10.]

When confronted with the incongruence of her theory with the ACOG Task Force on Neonatal Encephalopathy and Cerebral Palsy, Crawford rejected the report and found that it was the medical community's self-serving attempt to cut down on lawsuits. *Id.* at slip op, p 11.

Dr. Gabriel similarly testified that the child's brain injury occurred as a result of lack of blood supply, or "ischemic abnormality to the brain." This was brought about by pressure on the child's skull during labor and delivery. He explained:

> "by virtue of reduced blood flow to the brain because the high pressure, the abnormal, the non-physiological [pressure] on the skull plates, what we call the calvari[um], during the delivery process increases the pressure in the brain which in turn reduces the ability of the arteries to supply the brain with blood. The artery pressure has to fight against the increased pressure in the brain. As a consequence blood flow diminishes and the cerebral blood flow diminishes to a point where ischemia can occur. It can occur global or [diffused] or focal or regional or multi-focal." [*Id.* at slip op, p 12.]

Like in the case at bar, Gabriel supported this theory with reference to Volpe, *Neurology of the Newborn*. Finding the actual passage in the text helpful for review, this Court bolded the text from Volpe: **" 'when intracranial pressure increases, cerebral perfusion pressure decreases; if intracranial pressure increases markedly, cerebral perfusion pressure declines below the lower**

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limit of autoregulation and CBF [cerebral blood flow] may be impaired severely.' " *Id.* at slip op, p 13.

Dr. Schifrin testified that ischemia resulted in a decrease of blood flow, depriving the brain of oxygen.

> Maximum oxygen exchange between baby and mother occurs when the uterus is not contracting. "The greater the amount of uterine activity ... the greater the interference of oxygen availability ." When the uterus contracts, Dr. Schifrin testified, the baby raises its blood pressure "slightly to overcome the rise in pressure in the uterus," thereby maintaining adequate blood flow to the brain. Usually, this mechanism allows a baby to preserve enough blood flow during contractions to protect the brain from injury. But the baby's ability to autoregulate flow in this manner may be overwhelmed "if the pressure is so high either because of the duration of the contractions" or when the "added effects of pushing" increase the amplitude of the contractions. Ischemia occurs when the duration or intensity of the uterine contractions overcomes the baby's ability to raise its blood pressure to compensate for the pressure being exerted by the uterus. In such circumstances, the baby may suffer an ischemic (rather than an hypoxic) injury. [*Id.* at slip op, p 14.]

***17** As in the case at bar, the electronic fetal monitor strip indicated that the uterine activity was excessive "due to the administration of Pitocin." *Id.*

Unlike the case at bar, the defendant in *VanSlembrouck* offered a number of their own experts in an effort to challenge the plaintiffs' causation theory. *Id.* at slip op, pp 14–15.

In affirming the trial court's decision to allow the plaintiffs to present their causation theory, this Court first noted:

> that the following § 2955 factors are not germane to this case: "(a) Whether the opinion and its basis have been subjected to scientific testing and replication," and "(d) The known or potential error rate of the opinion and its basis." Defendants do not explain how plaintiffs' theories of fetal head compression could be subjected to scientific testing and replication in human children or evaluated regarding an "error rate." Nevertheless, *several medical articles submitted by plaintiffs describe scientific studies involving fetal sheep. **These studies lend support to plaintiffs' causation theory.*** [*Id.* at slip op, p 22 (emphasis added).]

The Court then looked to the two factors in subsection 2955 which require the trial court to examine the scientific literature, particularly (b) which asks whether the opinion has been subject to peer review, and (g) whether the opinion has been relied upon by experts outside of litigation. The Court noted the volume of literature supplied in the case. *Id.* at slip op, p 22. Many of these same articles and treatises were presented in the case at bar:

> *Multiple peer-reviewed articles supplied to Judge Nichols lent credence to plaintiffs' experts' causation theory. Specifically, several articles and textbook excerpts substantiated that a traumatic birth process can cause fetal head compression, which in turn may result in brain bleeds and permanent neurological injury.* Dr. Crawford's thesis that in the presence of cephalopelvic disproportion the fetal head acts as a "battering ram" against the maternal pelvis emanates from a 2007 article published in a peer-reviewed obstetrical journal. This article corroborates that brain bleeding may result from head trauma:
>
> > Virtually all significant fetal head and neck injuries that are associated with vaginal (both spontaneous and operative) delivery can be explained by the use of force to overcome cephalopelvic disproportion. Cephalopelvic disproportion is a relative term as each specific maternal fetal pair is unique; unique fetal size and positioning in the maternal pelvis and unique pelvis size and shape. As the fetal head descends into the pelvis, it can be likened to a battering ram taking the brunt of the pelvic resistance leading to molding to allow passage. Molding of the fetal cranium eventually can overcome the disproportion, but potentially at a cost. Excessive molding leads to distortion of the relatively fixed tentorium and falx structures and subsequent tearing leading to subdural hemorrhages ...
> >
> > ***18** The scalp is the fetal defense to the resistance of the birth canal tissues, both soft tissue and the bony pelvis. With significant resistance and repetitive pushing against this resistance, shear forces can be generated leading to scalp trauma and cephalohematomas. [Towner and Ciotti, *Operative Vaginal Delivery: A Cause of Birth Injury Or Is It?*, 50 Clinical Obstetrics & Gynecology 563, 571 (2007).][6]

A peer-reviewed medical journal article published in 1983 similarly explains that "[t]he mechanical forces of labor subject the infant's head to considerable compression, shearing, and molding. Intrapartum and neonatal death can occur from mechanical trauma to the brain during birth." Sorbe & Dahlgren, *Some Important Factors in the Molding of the Fetal Head During Vaginal Delivery—A Photographic Study*, 21

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Int'l J Gynaecology & Obstetrics 205 (1983).

* * *

The Volpe textbook also supports that mechanical trauma can damage a fetus's brain:

> In this discussion, ... "perinatal trauma" refers to those adverse effects on the fetus during labor or delivery and in the neonatal period that are caused *primarily by mechanical factors*. Thus specifically excluded are the disturbances of labor and delivery that lead principally to hypoxic-ischemic brain injury.... (Nevertheless, overlap between mechanical trauma and the occurrence of *hypoxic-ischemic* cerebral injury is important to recognize because perinatal mechanical insults may result in primarily hypoxic-ischemic cerebral injury, probably secondary to disturbances of placental or cerebral blood flow.) [Volpe, *Neurology of the Newborn* at 813 (italics in original, bold added).]

In a 1952 article, the author specifically identifies "trauma due to cephalopelvic disproportion" as a cause of cerebral palsy, elaborating:

> Most of the traumatic causes of brain injury at birth may be considered as physiologic. Just being born is a difficult hurdle to pass. In the birth process, the baby uses its head for a battering ram propelled by strong uterine contractions. When the child's head is large and the pelvis small, the natural safeguards which allow the skull to conform to the shape of the birth canal may be insufficient to protect the brain from injury. [Deaver, *Etiological Factors in Cerebral Palsy*, 28 The Bulletin: NY Acad Med 532, 536 (1952).]

* * *

> These articles generally validate that cephalopelvic disproportion and difficult, traumatic delivery can cause fetal distress, compression of the fetal skull, brain bleeds, and neurologic injury satisfying MCL 600.2955(b) and (g). [*VanSlembrouck*, slip op, pp 22–24 (some emphasis in original).]

The Court noted that the articles were primarily written by physicians other than the testifying experts. *Id.* at slip op, pp 24–25 n 17.

The remaining factors—subsections § 2955(e) and (f)—dealt with whether the proffered theory was generally accepted. "Although defendants' experts claimed that plaintiffs' causation theories had been debunked or were no longer accepted as scientifically valid, defendants produced no literature supporting this argument. Given that plaintiffs' literature submissions corresponded to their causation theory, Judge Nichols did not abuse his discretion in finding the data 'legitimate.' " *Id.* at slip op, p 25 n 18.

***19** In addressing the scientific reliability of the plaintiffs' proffered opinion under MRE 702, this Court noted that

> Trial courts must carefully evaluate whether adequate data supports an expert's opinion and whether the opinion qualifies as reliable in the relevant expert community. Part of this process involves consideration of alternate scientific explanations for a given result.... However, this does not mean that a trial court is empowered to decide which of two competing and adequately supported scientific theories should prevail. [*VanSlembrouck*, slip op, pp 26–27.]

The Court noted that *General Electric Co. v. Joiner*, 522 U.S. 136, 142, 118 S.Ct. 512, 139 L.Ed.2d 508 (1997) mandated that a trial court "close the evidentiary gate" only when "an expert's conclusions lack any genuine relationship to the science alleged to support them." *VanSlembrouck*, slip op, p 27. The Court then noted how the science and facts appeared to support both parties' causation theories. *Id.* "Faced with this conflict among the experts, the trial court did not abuse its discretion by deciding to admit both theories, finding both supported by peer-reviewed literature and credible expert opinion, thereby qualifying as reliable." *Id.* at 28.

The Court then rejected the defendants' attempt to impeach the plaintiffs' theory with evidence that Dr. Gabriel's causation testimony had been deemed inadmissible as unreliable by numerous other panels of the Court. The Court noted that "*Daubert* and *Craig* instruct that a trial court's admissibility decision must flow from the record created during the reliability hearing." *Id.* at slip op, p 28. The Court also found unavailing the defendants' attempt to use *Craig* as res judicata of the issue of whether Pitocin caused birth trauma. The Court noted that in *Craig*, Dr. Gabriel's opinion lacked evidentiary support. "Unlike in *Craig*, the peer-reviewed literature in this case supports that head compression can cause brain injury" and the "plaintiffs' experts had no difficulty explaining the head compression mechanism." *Id.* at pp 29–30, 684 N.W.2d 296.

Looking to *VanSlembrouck*, we adopt its reasoning and conclude that plaintiff in this case presented sufficient scientifically reliable data to advance its causation theory. While defendants maintain that there is no known cause of PAIS and that further study is needed, they do not dispute that there are many identified factors that are found in PAIS cases. And while it is plaintiff's burden to show that the experts' opinions are sound, it is notable

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that defendants failed to offer their own expert at the *Daubert* hearing to debunk Crawford's theory. Even if plaintiff's theory can be deemed "shaky," "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.... These conventional devices, rather than wholesale exclusion under an uncompromising 'general acceptance' test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702." *Daubert*, 509 U.S. at 596. Again, *Chapin* cautions:

> ***20** An evidentiary hearing under MRE 702 and MCL 600.2955 is merely a threshold inquiry to ensure that the trier of fact is not called on to rely in whole or in part on an expert opinion that is only masquerading as science. The courts are not in the business of resolving scientific disputes. The only proper role of a trial court at a Daubert hearing is to filter out expert evidence that is unreliable, not to admit only evidence that is unassailable. The inquiry is not into whether an expert's opinion is necessarily correct or universally accepted. The inquiry is into whether the opinion is rationally derived from a sound foundation. [*Chapin* 274 Mich.App. at 139, 732 N.W.2d 578.]

The trial court, in exceeding her role as gatekeeper, attempted to find absolute truth in the literature. Instead, the matter should have been presented to the trier of fact.

We reverse the trial court's order that granted defendants' motion in limine to exclude plaintiffs' causation experts from testifying and granted partial summary disposition on plaintiff's perinatal claims. We remand for further proceedings not inconsistent with this opinion. We do not retain jurisdiction.

All Citations

Not Reported in N.W.2d, 2016 WL 4069459

Footnotes

1 Quoting *Elher*, we set forth the standard of review:

> We review for an abuse of discretion a circuit court's evidentiary rulings. When our inquiry concerns whether the trial court correctly applied a rule of evidence, our review is de novo. Thus, we apply de novo review in assessing whether the trial court performed its gatekeeping role in conformity with the legal principles articulated in *Gilbert v. DaimlerChrysler Corp.*, 470 Mich. 749, 685 N.W.2d 391 (2004), in which our Supreme Court adopted the *Daubert* framework. If the trial court correctly executed its gatekeeping role, we review its ultimate decision to admit or exclude scientific evidence for an abuse of discretion. When a trial court excludes evidence based on an erroneous interpretation or application of law, it necessarily abuses its discretion. *Elher v. Misra*, —— Mich.App ——; —— NW2d —— (Docket No. 316478, issued December 2, 2014) slip op, p 7 (internal citations and footnote omitted). [*Figurski v. Trinity Health*, unpublished per curiam opinion of the Court of Appeals, issued March 5, 2015 (Docket Nos. 318115 and 319086), slip op pp 5–6]

2 "The so-called 'trilogy of restrictions on expert testimony' includes a searching inquiry into "qualification, reliability, and fit. *Elher*, slip op, p 8." *Figurski v. Trinity Health*, unpublished per curiam opinion of the Court of Appeals, issued March 5, 2015 (Docket Nos. 318115 and 319086), slip op p 7.

3 FRE 702 provided: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."

4 *People v. Davis*, 343 Mich. 348, 72 N.W.2d 269 (1955).

5 Even if there was no global injury, the uncontested fact remains that plaintiff suffered a perinatal arterial *ischemic* stroke.

6 Exhibit 9 to Crawford's affidavit in this case.

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Exhibit S

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UNPUBLISHED OPINION. CHECK COURT RULES BEFORE CITING.

UNPUBLISHED
Court of Appeals of Michigan.

Dennis UPPLEGER and Kathy Uppleger, Plaintiffs-Appellants,
v.
MCLAREN PORT HURON, Nalini Samuel, M.D., individually and doing business as Blue Water Neurology Clinic, PC, Devprakash Samuel, M.D.,[1] Aubrey Jozefiak, R.N., Melissa Cook, R.N., Michelle Francisco, R.N., and Catherine Fournier, R.N., Defendants-Appellees.

Nos. 348551; 348928
|
October 22, 2020

St. Clair Circuit Court, LC No. 17-000559-NH

Before: Beckering, P.J., and Fort Hood and Shapiro, JJ.

Opinion

Per Curiam.

***1** These consolidated appeals arise from the same medical malpractice case. In Docket No. 348551, plaintiffs, Dennis and Kathy Uppleger, appeal as of right the trial court's order granting summary disposition to defendants Devprakash Samuel, M.D. ("Dr. D. Samuel"), and Blue Water Neurology Clinic, PC ("Blue Water"). In Docket No. 348928, plaintiffs appeal as of right the trial court's amended order granting summary disposition to defendants McLaren Port Huron ("MPH"), Aubrey Jozefiak, R.N., Melissa Cook, R.N., Michelle Francisco, R.N., and Catherine Fournier, R.N. (referred to collectively as "the McLaren defendants"), and they also challenge the trial court's earlier denial of their motion to compel discovery.[2] This Court consolidated the appeals.[3] The trial court dismissed plaintiffs' case on the ground that they failed to create a genuine issue of material fact as to whether any of the defendants' alleged negligence proximately caused plaintiffs' injuries. After a careful review of the record evidence in the light most favorable to plaintiffs, we affirm the trial court's rulings.

I. RELEVANT FACTS AND PROCEEDINGS

On Sunday, August 2, 2015, Mr. Uppleger presented to the MPH emergency department with signs and symptoms of a transient ischemic attack (TIA)[4], which may be a warning sign of a future stroke.[5] An emergency department physician examined Mr. Uppleger and ordered a CT of his brain. He also ordered the continuation of aspirin administration, which Mr. Uppleger had taken before his arrival. The CT scan showed no evidence of an acute hemorrhage or mass effect. Mr. Uppleger was kept for observation. Defendant-nurses provided care to Mr. Uppleger at various times during his stay at MPH. A neurology consultation request was sent to defendant Nalini Samuel, M.D. ("Dr. N. Samuel") at 2:03 p.m. Dr. N. Samuel had an informal arrangement with her brother, Dr. D. Samuel, who was also a neurologist, whereby Dr. D. Samuel would carry their pagers and decide whether to handle a consultation request himself or refer it to Dr. N. Samuel, and Dr. D. Samuel handled this consultation request himself.

***2** While Mr. Uppleger was in the MPH emergency department his National Institutes of Health Stroke Scale (NIHSS) score was found to be 0 (on a scale of 0 to 42) at 10:50 a.m., 11:50 a.m., 1:00 p.m., 2:00 p.m., and 3:00 p.m.[6] Shortly before 6:30 p.m., Mr. Uppleger was transferred to the MPH observation unit. His NIHSS score was determined to be 0 at 7:02 p.m. and at 8:00 p.m. Between 8:00 p.m. and 8:48 p.m., Dr. Ponon Kumar, M.D., an internal medicine physician at MPH, physically examined Mr. Uppleger in the observation unit, took a detailed history of his condition, and wrote in the chart that a neurological evaluation and neurological checks would be conducted.

At 10:20 p.m., Mr. Uppleger experienced a severe headache as well as numbness in his left leg. Nurse Jozefiak called a "code stroke" because of these worsening symptoms. A "code stroke" team arrived to evaluate Mr. Uppleger. Jozefiak paged Dr. D. Samuel to inform him of Mr. Uppleger's worsening symptoms. Another CT scan of Mr. Uppleger's head was conducted. At 11:13 p.m., the radiologist wrote that this CT scan showed no significant changes from the

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performed earlier that day and that there was no evidence of an acute hemorrhage in the brain.

At 11:00 p.m., Mr. Uppleger was transferred to the MPH "select care" or "step down" unit, where Cook was his attending nurse. His NIHSS score was found to be 1 at 11:02 p.m. and was again determined to be 1 shortly after midnight.

At 12:09 a.m. on Monday, August 3, 2015, Cook spoke by telephone with Dr. D. Samuel about Mr. Uppleger's condition. Dr. D. Samuel did not provide any new orders at that time. Shortly after 3:00 a.m., Mr. Uppleger began experiencing "left sided drifting of [his] upper and lower extremities," meaning that he could not "control his left side very well." At 3:59 a.m., Dr. D. Samuel was paged regarding this new onset of central nervous system symptoms. The chart indicates that he did not respond to the page. According to the chart, he was paged an additional six times between 4:00 a.m. and 5:00 a.m., but each time he failed to respond.[7] Mr. Uppleger's NIHSS score, however, remained at a 3 at 3:02 a.m., 5:02 a.m., 6:32 a.m., and 9:02 a.m.[8]

At 8:00 a.m., Dr. D. Samuel examined Mr. Uppleger and concluded that he had likely suffered "an acute right posterior cerebral artery infarct" and recommended that he "undergo a[n] MRI of the brain for further evaluation of acute stroke." However, Mr. and Mrs. Uppleger told Dr. Kumar that they wanted Mr. Uppleger to be transferred to William Beaumont Hospital ("Beaumont") in Royal Oak, Michigan, for further stroke evaluation and treatment. Mr. Uppleger's NIHSS score remained at a 3 until he was transported to Beaumont by helicopter at around noon.

*3 At Beaumont, healthcare providers determined that Mr. Uppleger's NIHSS score at that time was 10. In assessing proper treatment, his care providers concluded that he was not a candidate for an interventional procedure called a thrombectomy or for the administration of a drug called alteplase, also known as tissue plasminogen activator ("t-PA").[9] On August 5, 2015, Mr. Uppleger's NIHSS score had fallen to 5 and his condition was improving, even though no interventional procedure was performed and no t-PA was administered.

Plaintiffs filed this action alleging, as relevant to these appeals, medical malpractice on the part of Dr. D. Samuel, nursing malpractice on the part of defendant-nurses, and vicarious liability and direct liability claims against MPH. Mrs. Uppleger asserted a loss of consortium claim. Plaintiffs further alleged that various statutory provisions characterized by plaintiffs as tort reform legislation were unconstitutional.

During the discovery process, plaintiffs filed a motion to compel discovery regarding various documents and information, including MPH's internal rules and regulations regarding the supervision and training of nurses, information regarding MPH's certification as a primary stroke center, and deposition testimony from defendant-nurses on these matters. The trial court denied the motion to compel.

Later, the McLaren defendants filed a motion for summary disposition asserting that plaintiffs could not demonstrate a genuine issue of material fact on the causation element of their malpractice claims. The McLaren defendants also sought dismissal of plaintiffs' constitutional claim and Mrs. Uppleger's loss of consortium claim. Dr. D. Samuel and Blue Water likewise moved for summary disposition on the ground that plaintiffs could not demonstrate a genuine issue of material fact on causation, and they joined the McLaren defendants' request for dismissal of plaintiffs' constitutional claim. Plaintiffs opposed the motion, and the parties filed extensive briefing. After a hearing, the trial court took the matters under advisement. The trial court later issued a written opinion granting both motions for summary disposition, followed by orders of dismissal.

II. ANALYSIS

A. SUMMARY DISPOSITION

In both appeals, plaintiffs argue that the trial court erred in granting summary disposition to defendants on the medical and nursing malpractice claims. Plaintiffs contend that they demonstrated a genuine issue of material fact on the causation element of their malpractice claims.

This Court reviews de novo a trial court's decision regarding a motion for summary disposition. *El-Khalil v. Oakwood Healthcare, Inc.*, 504 Mich. 152, 159; 934 N.W.2d 665 (2019). A motion under MCR 2.116(C)(10) tests whether a claim is factually sufficient. *Id.* at 160.

> When considering such a motion, a trial court must consider all evidence submitted by the parties in the light most favorable to the party opposing the motion. A motion under MCR 2.116(C)(10) may only be granted when there is no genuine issue of material fact.

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> A genuine issue of material fact exists when the record leaves open an issue upon which reasonable minds might differ. [*Id.* (quotation marks and citations omitted).]

To the extent that this issue implicates the trial court's exercise of its gatekeeper function with respect to the admissibility of expert testimony, it involves the review of an evidentiary determination. "A trial court's decision to admit or exclude evidence is reviewed for an abuse of discretion. An abuse of discretion occurs when the trial court chooses an outcome falling outside the range of principled outcomes." *Edry v. Adelman*, 486 Mich. 634, 639; 786 N.W.2d 567 (2010) (citation omitted). "[T]he proponent of evidence bears the burden of establishing relevance and admissibility." *Id.* (quotation marks, ellipsis, and citation omitted).

> ***4** The plaintiff in a medical malpractice action bears the burden of proving: (1) the applicable standard of care, (2) breach of that standard by the defendant, (3) injury, and (4) proximate causation between the alleged breach and the injury. Failure to prove any one of these elements is fatal. Although nurses do not engage in the practice of medicine, the Legislature has made malpractice actions available against any licensed healthcare professional, including nurses. [*Cox v. Hartman*, 322 Mich. App. 292, 299-300; 911 N.W.2d 219 (2017) (quotation marks and citation omitted).]

The basic elements of a medical malpractice claim apply to a nursing malpractice claim, although the standard of care applicable to nurses differs from that applicable to physicians. See *Cox ex rel. Cox v. Flint Bd. of Hosp. Managers*, 467 Mich. 1, 5, 10-12, 21-22; 651 N.W.2d 356 (2002). Also, "[a] hospital may be 1) directly liable for malpractice, through claims of negligence in supervision of staff physicians as well as selection and retention of medical staff, or 2) vicariously liable for the negligence of its agents." *Id.* at 11.[10]

MCL 600.2912a(2) provides:

> In an action alleging medical malpractice, the plaintiff has the burden of proving that he or she suffered an injury that more probably than not was proximately caused by the negligence of the defendant or defendants. In an action alleging medical malpractice, the plaintiff cannot recover for loss of an opportunity to survive or an opportunity to achieve a better result unless the opportunity was greater than 50%.

"Proximate cause is a question for the jury to decide unless reasonable minds could not differ regarding the issue." *Lockridge v. Oakwood Hosp.*, 285 Mich. App. 678, 684; 777 N.W.2d 511 (2009). "To establish proximate cause, the plaintiff must prove the existence of both cause in fact and legal cause." *Weymers v. Khera*, 454 Mich. 639, 647; 563 N.W.2d 647 (1997).

To show factual causation, "the plaintiff must present *substantial evidence* from which a jury may conclude that more likely than not, but for the defendant's conduct, the plaintiff's injuries would not have occurred." *Badalamenti v. William Beaumont Hosp.-Troy*, 237 Mich. App. 278, 285; 602 N.W.2d 854 (1999) (quotation marks and citation omitted).

> The plaintiff must introduce evidence which affords a reasonable basis for the conclusion that it is more likely than not that the conduct of the defendant was a cause in fact of the result. A mere possibility of such causation is not enough; and when the matter remains one of pure speculation or conjecture, or the probabilities are at best evenly balanced, it becomes the duty of the court to direct a verdict for the defendant. [*Weymers*, 454 Mich. at 648 (quotation marks and citation omitted).]

That is, a plaintiff's circumstantial proofs must facilitate reasonable inferences of causation rather than mere speculation. *Badalamenti*, 237 Mich. App. at 285. "[A] plaintiff establishes that the defendant's conduct was a cause in fact of his injuries only if he sets forth specific facts that would support a reasonable inference of a logical sequence of cause and effect." *Craig ex rel. Craig v. Oakwood Hosp.*, 471 Mich. 67, 87; 684 N.W.2d 296 (2004). Although the evidence need not negate all other possible causes, it must "exclude other reasonable hypotheses with a fair amount of certainty." *Id.* at 88 (quotation marks and citation omitted).

***5** "Legal or proximate cause normally involves examining the foreseeability of consequences and whether a defendant should be held legally responsible for them." *Lockridge*, 285 Mich. App. at 684. That is, legal cause requires a plaintiff to "show that it was foreseeable that the defendant's conduct may create a risk of harm to the victim, and that the result of that conduct and intervening causes were foreseeable." *Id.* (quotation marks, brackets, ellipsis, and citation omitted).

In medical malpractice actions, "[e]xpert testimony is required to establish the standard of care and a breach of that standard, as well as causation." *Kalaj v. Khan*, 295 Mich. App. 420, 429; 820 N.W.2d 223 (2012) (citations omitted). "The proponent of expert testimony in a medical malpractice case must satisfy the court that the expert is qualified under MRE 702, MCL 600.2955 and MCL 600.2169." *Elher v. Misra*, 499 Mich. 11, 22; 878 N.W.2d 790 (2016).[11]

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MRE 702 provides:

> If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

"This rule requires the circuit court to ensure that each aspect of an expert witness's testimony, including the underlying data and methodology, is reliable." *Elher*, 499 Mich. at 22. "A lack of supporting literature, while not dispositive, is an important factor in determining the admissibility of expert witness testimony." *Id.* at 23. "Under MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible." *Id.* (quotation marks and citation omitted). Further, "[t]he reliability of the expert's testimony is to be determined by the *judge* in advance of its admission—not by the jury at the conclusion of the trial by evaluating the testimony of competing expert witnesses." *Tobin v. Providence Hosp.*, 244 Mich. App. 626, 651; 624 N.W.2d 548 (2001).

If an expert's opinion is inadmissible under MRE 702, then it is unnecessary to consider whether the expert's opinion is admissible under MCL 600.2955. *Edry*, 486 Mich. at 642 n. 7.

Plaintiffs claimed that malpractice on the part of Dr. D. Samuel and the McLaren defendants caused Mr. Uppleger's stroke-related injuries to occur or worsen because he should have received more timely neurological evaluation and treatment, including the administration of t-PA or the performance of a thrombectomy.[12] In support of this contention, plaintiffs relied on the testimony of their neurology expert, Dr. David Frecker. But as the trial court found, plaintiffs needed to prove that Mr. Uppleger was a candidate for t-PA or a thrombectomy, and that, if such treatment had been provided, he would have had a greater than 50% chance of achieving a better outcome. Plaintiffs were unable to provide such proof.

***6** In support of their motions for summary disposition, defendants presented the deposition testimony of neurologist Dr. Seemant Chaturvedi, M.D. Dr. Chaturvedi testified that t-PA is usually administered to patients who have an NIHSS score higher than 5 and that, under Food and Drug Administration (FDA) guidelines, a low NIHSS score is a relative contraindication for the administration of t-PA. The undisputed medical records in this case show that Mr. Uppleger's NIHSS score never rose higher than 3 while at MPH; the administration of t-PA was thus not indicated. Dr. Chaturvedi further testified that t-PA works in only a fraction of patients; it is effective for only about one out of three patients. Dr. Chaturvedi's testimony on this point regarding the limited effectiveness of t-PA was consistent with medical literature provided by Dr. D. Samuel and Blue Water. Dr. Chaturvedi also testified that Mr. Uppleger was "[d]efinitely not" a candidate for a thrombectomy (also sometimes referred to as an embolectomy by the expert witnesses and the parties in this case) "[b]ecause embolectomy is done for people with large vessel occlusion and, typically, the internal carotid/middle cerebral artery, and so his stroke was not in one of those two vessels, so he wasn't a candidate for a thrombectomy." Dr. Chaturvedi's testimony found support in the 2013 American Heart Association and American Stroke Association Early Management Guidelines, which indicated that thrombectomy was an appropriate treatment for an occlusion of the middle cerebral artery.[13]

Dr. William M. Leuchter, M.D., another defense neurology expert, testified that he would not have administered t-PA to Mr. Uppleger when his NIHSS score rose to a 3 beginning at 3:02 a.m. on August 3, 2015. Dr. Leuchter explained that Mr. Uppleger's NIHSS score "wasn't above four or five. And that's a relative contraindication [for the administration of t-PA], based upon the [National Institute of Neurological Disorders and Stroke, i.e. "NINDS"] criteria." Dr. Leuchter noted the current medical view is that aspirin is more effective and less risky than t-PA in treating minor strokes, generally defined as an NIHSS of 5 or less, because aspirin carries no risk of hemorrhage, whereas t-PA does in fact carry such a risk. Minor stroke patients with an NIHSS score of 3 should not be given t-PA because of the risk of cerebral hemorrhage from the use of t-PA. Dr. Leuchter's testimony in this regard is in general accordance with medical literature provided by Dr. D. Samuel and Blue Water.

Dr. Leuchter further explained that "the use of thrombectomy, by and large, is, from a standard of care perspective, limited to internal carotid artery and main stem middle cerebral arteries, proximal middle cerebral arteries." Dr. Leuchter continued:

> The right posterior cerebral artery [where Mr. Uppleger's occlusion occurred] would be a medium size vessel, which would not be amenable to sticking a catheter all the way up to the posterior cerebral artery and the posterior circulation. So I don't believe, if you

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look up the 2018 criteria, it's even mentioned in the guidelines for thrombectomy.

In short, a thrombectomy in that area would be "[t]oo risky. Sticking a catheter up the basal artery, there's a markedly increased risk of death. The risk mitigates the usage of it. Plus the vessel is too small to get at."

As noted, in opposition to defendants' motions for summary disposition, plaintiffs presented the testimony of Dr. Frecker. Dr. Frecker testified that t-PA should have been administered even though Mr. Uppleger's NIHSS score was lower than 5, at which time arrangements would have to be made simultaneously to transfer him to a hospital equipped to deal with and manage "the most feared complications of t-PA, which is intracranial hemorrhage," and that Mr. Uppleger would have had a greater than 50% chance of achieving a better outcome if he had been treated with t-PA. Dr. Frecker's testimony is dependent on a 2008 medical journal article that the parties and witnesses have referred to as "the Zivin article," based on the name of one of its authors.[14]

*7 Dr. D. Samuel and Blue Water submitted to the trial court testimony that Dr. Chaturvedi had provided regarding the Zivin article on August 23, 2018, in a hearing in another case. In that testimony, Dr. Chaturvedi explained that the Zivin article, which claimed that approximately 58% of patients who receive t-PA will achieve a better outcome, utilized a methodology that no other study of stroke trials published in high profile journals has used. The Zivin article failed to explain why approximately 100 patients, who were part of the original study analyzed in the Zivin article, were excluded from the calculations used in the Zivin article. Further, Dr. Chaturvedi explained, the Zivin article used a "concept of establishing pairs and then breaking the tie by looking at the NIH score," which is a concept that has "never really been done in any other analysis over the last 25 years and so I think that is evidence that the mainstream stroke community doesn't really view this as a proper way to analyze the data." Also, multiple respected neurologists have written letters to the editor of the journal that published the Zivin article, noting that the data used in the article were wrong and that t-PA benefits only a minority of patients.

Dr. Chaturvedi likewise testified in the instant case about the flaws in the Zivin article:

> I mean, the major weaknesses are they didn't use the entire data set from the original study. So the original study had 624 patients. In their analysis they do not include all 624 patients.
>
> And also the methodology that they used was very unusual, and I have not seen this methodology used in any publication since then. And so that sort of implies that it has not gained acceptance within the neurology or the stroke community.
>
> And then, finally, most papers have—scientific papers and peer-reviewed journals have a methods section, and they don't really even provide a methods section for the reader to review.
>
> And so I think this paper has those major shortcomings.

Dr. Leuchter expressed similar criticisms of the Zivin article:

> *Q.* ... Do you believe the [Zivin article's] indication that the treatment with [t-PA] rapidly after ischemic stroke onset can produce complete recovery more often than not?
>
> *A.* Is that within the 50 percent or not?
>
> *Q.* Yes.
>
> *A.* No. I disagree with that.
>
> *Q.* Do you agree or disagree, overall the probability of [t-PA] treatment was superior was 57.3 percent?
>
> *A.* Right. I disagree with that. In fact, I have a lot of disagreement with this article in general.
>
> *Q.* Do you agree with the article's conclusion that, hence, from the several ways of examining the data, the majority of patients with acute stroke treated with intravenous [t-PA] had a complete recovery or are improved by [t-PA] treatment?
>
> *A.* I vehemently disagree with that statement.

Dr. Leuchter explained that the Zivin article "is fraught with a lot of methodological errors that everybody who I know of has trouble digesting in this article." Dr. Leuchter noted that the Zivin article "wasn't an initial research paper, it was a review article reviewing the NINDS data, and the mathematical methodology involved I don't quite understand and neither does anybody else." When asked if the Zivin article had any applicability to Mr. Uppleger's condition or the treatment that should have been afforded to him, Dr. Leuchter responded: "No. His NIH[SS] score was three, it has no applicability at all."

Overall, the trial court acted in a principled manner by concluding that the Zivin article did not constitute reliable medical literature supporting Dr. Frecker's causation testimony in the case before us.[15] The Zivin article urged

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more widespread use of t-PA in the treatment of ischemic stroke. The article indicated that only a small fraction of patients who could benefit from t-PA were being given the drug, either because doctors were unaware of the drug's benefits or were being overly conservative because of its proven risks. This continued underuse of t-PA with eligible patients, according to the article, could expose physicians to lawsuits arising from a physician's failure to properly inform patients of their treatment options or to use t-PA where appropriate. Given the criticisms of the article's methodology, one wonders whether the methodological choices made were geared to serve the article's purpose.

***8** More significant for purposes of this appeal is that, although the Zivin article showed that the underlying study had 58 patients with NIH stroke scale scores of 5 or below, whether any of these patients were among the nearly 100 patients excluded from the article's reanalysis of the data cannot be determined. Even if they were included, they were excluded from the article's key point. The article noted that a "more clinically meaningful way to look at the data restricts the analysis to patients with a baseline NIH [stroke scale score] in the range of 5 to 24." The authors identified this group as the most likely to benefit from or to suffer harm from treatment with t-PA. Of those with NIH stroke scale scores between 5 and 24, 58.6% of those treated with t-PA experienced results better than patients who were given a placebo. Although the Zivin article asserts that t-PA treatment can result in beneficial outcomes to the majority of eligible patients, it does not show that a patient with an NIH stroke scale score of less than 5 falls within that majority. Accordingly, the Zivin article does not support Dr. Frecker's assertion that defendants' failure to administer t-PA to Mr. Uppleger, whose NIH stroke score while at MPH never rose above 3, proximately caused his injuries.

Given the absence of reliable medical literature or any other support for his opinions, Dr. Frecker's causation testimony was not based on sufficient facts or data, nor was it the product of reliable principles and methods that were applied reliably to the facts of this case. Dr. Frecker's testimony was thus inadmissible under MRE 702. See *Edry*, 486 Mich. at 641 (holding that "the lack of supporting literature, combined with the lack of any other form of support for [the expert's] opinion, renders his opinion unreliable and inadmissible under MRE 702[ ]").[6]

Contrary to plaintiffs' argument, the trial court did not usurp the jury's role of assessing the credibility of conflicting expert opinions. As noted earlier, "[t]he reliability of the expert's testimony is to be determined by the *judge* in advance of its admission—not by the jury at the conclusion of the trial by evaluating the testimony of competing expert witnesses." *Tobin*, 244 Mich. App. at 651. The trial court properly exercised its gatekeeper role in determining that Dr. Frecker's causation testimony was unreliable. And there was nothing improper about the trial court considering the testimony of the defense neurology experts, along with the published literature that was provided and the lack of reliable literature supporting Dr. Frecker's opinions, when assessing the reliability of Dr. Frecker's testimony. See *Edry*, 486 Mich. at 640 (holding that the opinion of the plaintiff's expert was unreliable when it was contradicted by both the opinion of the defense expert and the published literature that was admitted into evidence and when no reliable literature was admitted into evidence that supported the opinion of the plaintiff's expert).

***9** Plaintiffs thereby failed to provide admissible expert testimony on factual causation as required to support their medical and nursing malpractice claims. *Kalaj*, 295 Mich. App. at 429. The trial court thus properly granted summary disposition to defendants because plaintiffs failed to demonstrate a genuine issue of material fact on the element of causation. See *Dykes v. William Beaumont Hosp.*, 246 Mich. App. 471, 478; 633 N.W.2d 440 (2001) (summary disposition for the defendant was proper because the deposition testimony of the plaintiff's sole expert witness failed to establish causation).

Given that plaintiffs failed to demonstrate a genuine issue of material fact regarding factual causation, it is unnecessary to consider legal causation. See *Ray v. Swager*, 501 Mich. 52, 71 n. 42; 903 N.W.2d 366 (2017) (when factual causation cannot be established, it is unnecessary to analyze legal causation). Anyway, for the same reasons that plaintiffs cannot establish factual causation, they also cannot establish legal causation. As noted, "[l]egal or proximate cause normally involves examining the foreseeability of consequences and whether a defendant should be held legally responsible for them." *Lockridge*, 285 Mich. App. at 684. It was not foreseeable that defendants' conduct would create a risk of harm to Mr. Uppleger because, as explained earlier, Mr. Uppleger was not a candidate for t-PA or a thrombectomy and, in any event, there was no reliable expert testimony that such treatment would more likely than not have made a difference in his outcome. Accordingly, for all of these reasons, the trial court properly granted summary disposition to defendants given plaintiffs' failure to demonstrate a genuine issue of material fact on causation.

Because the trial court's decision should be affirmed and there is no reason to remand the case for further

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proceedings, it is unnecessary to consider plaintiffs' argument that the case should be reassigned to a different trial judge on remand. Nor need we consider the McLaren defendants' argument that the trial court correctly dismissed Mrs. Uppleger's loss of consortium claim or defendants' argument that the trial court properly dismissed plaintiffs' constitutional claim. Plaintiffs fail to present any discernable appellate argument challenging the trial court's rulings on those issues and have thus abandoned any contention that the trial court erred in those rulings. *Seifeddine v. Jaber*, 327 Mich. App. 514, 520; 934 N.W.2d 64 (2019). And because the trial court properly granted summary disposition to defendants on the basis of plaintiffs' failure to demonstrate a genuine issue of material fact on causation, it is unnecessary to address defendants' arguments that summary disposition was proper on various alternative grounds.

B. DISCOVERY

In Docket No. 348928, plaintiffs also contend that the trial court erred in denying their motion to compel discovery. We disagree.

A trial court's ruling on a motion to compel discovery is reviewed for an abuse of discretion. *Cabrera v. Ekema*, 265 Mich. App. 402, 406; 695 N.W.2d 78 (2005). An abuse of discretion occurs when the trial court's decision falls outside the range of reasonable and principled outcomes. *Augustine v. Allstate Ins. Co.*, 292 Mich. App. 408, 419; 807 N.W.2d 77 (2011).

"It is well settled that Michigan follows an open, broad discovery policy that permits liberal discovery of any matter, not privileged, that is relevant to the subject matter involved in the pending case." *Id.* (quotation marks and citation omitted). "However, Michigan's commitment to open and far-reaching discovery does not encompass fishing expeditions. Allowing discovery on the basis of conjecture would amount to allowing an impermissible fishing expedition." *Id.* at 419-420 (quotation marks, brackets, and citations omitted).

***10** Plaintiffs contend that they are entitled to documents and information concerning MPH's certification as a primary stroke center as well as MPH's internal rules, regulations, policies, and procedures concerning the training and supervision of nurses. Plaintiffs also assert entitlement to depose defendant-nurses regarding MPH's internal policies and procedures. Plaintiffs' argument lacks merit because they have not shown that the information and documents requested are relevant to any element of their claims in this case.

A hospital's internal rules, regulations, and policies may not be used to establish the applicable standard of care or breach of that standard. *Zdrojewski v. Murphy*, 254 Mich. App. 50, 62; 657 N.W.2d 721 (2002); *Gallagher v. Detroit-Macomb Hosp. Ass'n*, 171 Mich. App. 761, 765-768; 431 N.W.2d 90 (1988). Rather, expert testimony is required to satisfy these elements in a malpractice case. *Kalaj*, 295 Mich. App. at 429; *Decker v. Rochowiak*, 287 Mich. App. 666, 686; 791 N.W.2d 507 (2010). Plaintiffs have not shown that MPH's internal rules, regulations, and policies were relevant to the subject matter of this case. Although plaintiffs correctly note that the rules of an external agency such as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) differ from a hospital's internal rules and policies, *Zdrojewski*, 254 Mich. App. at 62-63, plaintiffs have not shown how the JCAHO rules are relevant or why those rules of an external agency could only be obtained from the McLaren defendants or are properly the subject of a motion to compel discovery from the McLaren defendants. Plaintiffs have likewise not shown how any documents or information concerning MPH's certification as a primary stroke center would be relevant to any element of a malpractice claim. And because plaintiffs have not shown that any documents or information regarding these matters is subject to discovery, they have also failed to establish entitlement to ask defendant-nurses about these matters at deposition. Overall, plaintiffs have not established that the denial of their motion to compel discovery fell outside the range of reasonable and principled outcomes.

Affirmed.

Shapiro, J. (concurring).

I concur in the result only.

All Citations

Not Reported in N.W. Rptr., 2020 WL 6253601

Footnotes

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1 It appears that defendant Devprakash Samuel, M.D. ("Dr. D. Samuel") was, along with his sister, defendant Nalini Samuel, M.D. ("Dr. N. Samuel"), doing business as Blue Water Neurology Clinic, PC ("Blue Water"), although the captions below and on appeal do not identify Dr. D. Samuel as doing business as Blue Water, while Dr. N. Samuel is so identified in the captions. Dr. D. Samuel practiced neurological medicine with Dr. N. Samuel, who was dismissed by stipulation early in the litigation because she was not involved in the medical treatment in this case. The later order granting summary disposition to Dr. D. Samuel was titled as an order of dismissal of Dr. D. Samuel and Blue Water, and the appellate briefing indicates that the attorney representing Dr. D. Samuel also purports to represent Blue Water, even though Blue Water is apparently not a separate legal entity.

2 Jozefiak, Cook, Francisco, and Fournier will sometimes be referred to collectively as "defendant-nurses," but we will use the term "the McLaren defendants" when referring to MPH and defendant-nurses.

3 *Uppleger v. McLaren Port Huron*, unpublished order of the Court of Appeals, entered May 28, 2019 (Docket Nos. 348551 and 348928).

4 The trial court provided definitions of the medical terminology relevant to this case, the accuracy of which the parties do not contest, and which we will requote here. A TIA as "a temporary blockage of blood flow to the brain that does not result in permanent damage. Symptoms can last for up to 24 hours, but are usually gone in an hour."

5 The trial court defined a stroke as "a cerebral vascular accident. It is caused by a blood clot stopping blood going through a vessel in the brain or a bleed in the brain. High blood pressure, high cholesterol and smoking are factors that can result in [a] stroke."

6 The trial court explained:

> The NIH [s]troke [s]cale is a systematic assessment tool that provides a quantitative measure of stroke-related neurological deficits. The scale ranges from 0-42 and consists of different elements that evaluate specific abilities including consciousness, vision, facial palsy, motor strength, sensory and speech. The scale has three major purposes: 1) It evaluates the severity of the stroke; 2) it helps determine the appropriateness of the treatment; and 3) it predicts patient outcome.

7 Defense expert Dr. William Leuchter, M.D. agreed that failing to respond to a page is a violation of the standard of care. Also, Mrs. Uppleger testified that when she asked Dr. D. Samuel why he did not respond to the pages, he told her he had not received any pages and suggested that she should have taken her husband to a different hospital. Were we faced with evaluating the standard of care and whether plaintiffs created a material question of fact on whether Dr. D. Samuel breached the standard of care for not timely showing up to evaluate Mr. Uppleger despite repeated calls and updates from the hospital, this case would clearly go to a jury on that valid question. However, that is not the issue before us.

8 Plaintiffs do not take issue with the accuracy of the NIHSS ratings assigned to Mr. Uppleger at various times throughout his stay at MPH.

9 The trial court explained that t-PA "is an injectable drug that is used to treat conditions caused by arterial blood clots including strokes. The most serious side effect of t-PA is bleeding into the brain (intracranial hemorrhage) or fatal bleeding."

10 The trial court implicitly treated plaintiffs' direct liability claim against MPH as sounding in medical malpractice by granting summary disposition to all defendants on the basis of plaintiffs' failure to demonstrate a genuine issue of material fact on the element of causation that is part of a malpractice claim. Plaintiffs make no argument on appeal that the trial court erred in treating the direct liability claim against MPH as sounding in medical malpractice. In any event, we discern no error in the trial court's implicit determination on this point.

11 In *Elher*, our Supreme Court noted that "MCL 600.2169 relates to the expert's license and qualifications and is not in dispute in this case." *Elher*, 499 Mich. at 22 n. 12. Likewise, in the instant case, there is no dispute regarding the requirements of MCL 600.2169.

12 Plaintiffs also alleged that a drug called heparin should have been administered, but plaintiffs have effectively abandoned that argument on appeal and have identified no evidence that Mr. Uppleger was an appropriate candidate for heparin or that it would have made a difference in his condition.

13 The 2013 guidelines were current at the time of Mr. Uppleger's treatment. The 2018 guidelines, which updated the 2013 guidelines, indicate that thrombectomy is appropriate for an occlusion of the internal carotid artery or the proximal

middle cerebral artery when a patient has an NIHSS score of 6 or higher.

14 The article is titled *Review of Tissue Plasminogen Activator, Ischemic Stroke, and Potential Legal Issues*, and it was published in the journal, Archives of Neurology. In addition to the Zivin article, Dr. Frecker relies on a 1995 article published in the New England Journal of Medicine titled *Tissue Plasminogen Activator for Acute Ischemic Stroke*, which reviewed the work of the stroke study group established by the National Institute of Neurological Disorders (NINDS), and a 1997 article titled *Generalized Efficacy of t-PA for Acute Stroke: Subgroup Analysis of NINDS t-PA Stroke Trial*. But neither article supports Dr. Frecker's opinions as to either the applicability or the efficacy level with respect to administering t-PA to Mr. Uppleger given his presenting condition while at MPH. The NINDS study arose after an initial pilot study showed that t-PA was beneficial when administered within three hours of the onset of a stroke. The NINDS study had two parts. Part I measured the benefits of t-PA after 24 hours. Part II measured the benefits of t-PA after 90 days. The results were that there was no significant effect at 24 hours, and that after 90 days benefit was shown in 30% of patients. This was not at or above the more-likely-than-not level required to establish proximate causation. Indeed, the measure of a "favorable outcome" after 24 hours was a decrease in the NIHSS score of 4 or more points, which suggests that t-PA was administered only to those with an NIHSS score of at least 4. But it is an undisputed fact in this case that Mr. Uppleger's NIHSS score never rose above 3 while at MPH.
Notably, the Zivin article arrives at its conclusions after conducting a statistical reanalysis (or in the words of Dr. Frecker, a "reconstruction") of the 1995 NINDS study, which the trial court in the instant case deemed methodologically flawed, and which Dr. Frecker admitted was "way beyond my understanding of statistics, using paranalysis." For the reasons explained in this opinion, we conclude that the trial court did not abuse its discretion in deeming the Zivin article materially flawed, and thus excluding Dr. Frecker's causation testimony due to the lack of reliable supporting authority for his causation opinion.

15 Although not binding on us, we note that a lower federal court has upheld the exclusion of proposed expert testimony that was predicated on the Zivin article. See *Smith v. Bubak*, 643 F.3d 1137, 1142 (C.A. 8, 2011) (upholding the exclusion of expert testimony predicated on the Zivin article and stating that, although the Zivin article "does indicate that [t-PA] causes some stroke patients to improve, this result does not reveal whether giving a patient [t-PA] will more likely than not cause a stroke patient to improve, which is the material inquiry under a traditional proximate cause regime[ ]").

16 While making a fleeting reference to the thrombectomy issue in their brief on appeal, plaintiffs otherwise focus exclusively on the t-PA administration claim; thus, it appears they have abandoned the thrombectomy claim. In any event, Dr. Frecker did not testify that Mr. Uppleger was a candidate for a thrombectomy or that, under the circumstances presented here, a thrombectomy would have resulted in a greater than 50% opportunity to achieve a better result. Asked at his deposition what the latest time period was at MPH when Mr. Uppleger could have received t-PA that might have produced a full recovery, Dr. Frecker replied, "the proper answer could include, in the right setting, other treatment modalities, including thrombectomy and oxygenation, blood pressure control, and many other things that could and would have been done either simultaneously with t-PA or, say, if t-PA had failed." This quotation suggests that Dr. Frecker did not envision thrombectomy as an appropriate treatment apart from the administration of t-PA, unless t-PA failed. Further, Dr. Frecker never opined that the "right setting" existed for performing a thrombectomy on Mr. Uppleger. Quite the contrary. In an affidavit in response to the testimony of the defense experts, Dr. Frecker stated that the particular vessel involved in Mr. Uppleger's stroke was a small vessel, not a medium-sized one, as the defense experts had contended. In light of the AHA/ASA guidelines, Dr. Frecker's position that Mr. Uppleger's occlusion was in a small vessel is even more inconsistent with the notion that Mr. Uppleger would be a likely candidate for a thrombectomy.

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Exhibit T

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UNPUBLISHED OPINION. CHECK COURT RULES BEFORE CITING.

UNPUBLISHED
Court of Appeals of Michigan.

Lori MATHESON, also known as Lori Ann Schmitt, Plaintiff-Appellant,
v.
Michael SCHMITT, Defendant-Appellee.

No. 347022
|
November 21, 2019

Oakland Circuit Court, LC No. 2015-831539-DM

Before: Cameron, P.J., and Cavanagh and Shapiro, JJ.

Opinion

Per Curiam.

*1 In this child custody dispute, plaintiff appeals as of right the trial court's opinion and order, following an evidentiary hearing, in which the trial court (1) ordered the mandatory vaccination of the parties' minor child, (2) ordered the parties to select a new, mutually agreeable pediatrician for the child, and (3) modified defendant's parenting time. We affirm, but remand for the limited purpose of allowing the trial court to confirm what vaccinations are now recommended for the minor child by her pediatrician before the child begins the course of vaccinations.

I. BACKGROUND

This appeal arises from disputes between plaintiff and defendant concerning the scope of defendant's parenting time, the pediatrician for the child, and whether to vaccinate the child. The parties married on June 1, 2013, but separated while plaintiff was pregnant with the child, who was born in 2015. Following arbitration, a judgment of divorce was entered on April 14, 2016. The judgment provided that the parties were to share joint legal custody of the child, but that plaintiff would have primary physical custody of the child. The judgment also provided that defendant would not have overnight parenting time with the child until she reached the age of 13 months, and that defendant's parenting time with the child would gradually increase as she became older.

In February 2017, defendant filed a motion seeking makeup parenting time and requesting that the trial court order that the child be vaccinated, given that plaintiff was refusing to allow the child to be vaccinated. An extensive evidentiary hearing was held, initially before a referee and then before the trial court. As relevant to this appeal, in December 2018, the trial court ruled (1) it was in the child's best interests to be vaccinated, (2) the parties were to choose a new pediatrician for the child who was agreeable to each of them, and (3) defendant's parenting time with the child should be expanded. This appeal followed.

II. STANDARDS OF REVIEW

As recognized in *Lieberman v. Orr*, 319 Mich. App. 68, 76-77; 900 N.W.2d 130 (2017), this Court is required to affirm custody orders on appeal unless the trial court's factual findings do not accord with the great weight of the evidence, the trial court committed clear error in ruling on a significant issue, or the trial court's ruling was an abuse of discretion. As explained in *Lieberman*:

> The great weight of the evidence standard applies to all findings of fact. A trial court's findings regarding the existence of an established custodial environment and regarding each custody factor should be affirmed unless the evidence clearly preponderates in the opposite direction. An abuse of discretion standard applies to the trial court's discretionary rulings such as custody decisions. Questions of law are reviewed for clear legal error. A trial court commits clear legal error when it incorrectly chooses, interprets, or applies the law. [*Id.* at 77 (citation omitted).]

In child custody proceedings, the trial court abuses its discretion when its decision "is so palpably and grossly violative of fact and logic that it evidences a perversity of will, a defiance of judgment, or the exercise of passion or bias." *Butler v. Simmons-Butler*, 308 Mich. App. 195, 201; 863 N.W.2d 677 (2014) (citation and quotation marks omitted). " 'A trial court commits clear legal error when it incorrectly chooses, interprets or applies the law.' " *Lieberman*, 319 Mich. App. at 77, quoting *Corporan v.*

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Henton, 282 Mich. App. 599, 605; 766 N.W.2d 903 (2009).

III. MODIFICATION OF PARENTING TIME

***2** Plaintiff first argues that the trial court erred by finding that proper cause or a change of circumstances supported modification of defendant's parenting time, and by applying a preponderance-of-the-evidence standard to find that a modification of parenting time was in the child's best interests. We disagree.

A. RELEVANT LEGAL STANDARDS

In *Luna v. Regnier*, 326 Mich. App. 173, 179-180; 930 N.W.2d 410 (2018), this Court noted that when deciding a dispute concerning a child's parenting-time schedule, the child's best interests should guide the court's inquiry and ultimate decision. A strong presumption exists that the child's best interests are served by fostering a strong relationship with both parents. *Id.* at 180, citing MCL 722.27a(1). Because this issue originated with defendant's request to modify parenting time, the trial court was first required to determine whether there was proper cause or a change of circumstances to warrant consideration of defendant's request to modify parenting time. MCL 722.27(1)(c).

In addition, when a court considers a parent's request to modify parenting time, the court must determine whether the child has an established custodial environment with one or both parents. *Marik v. Marik*, 325 Mich. App. 353, 360, 367; 925 N.W.2d 885 (2018). This is because MCL 722.27(1)(c) precludes the trial court from modifying an existing judgment or order impacting parenting time "so as to change the established custodial environment of a child unless there is presented clear and convincing evidence that it is in the best interest of the child." This statutory language is consistent with the legal framework outlined in *Vodvarka v. Grasmeyer*, 259 Mich. App. 499, 508-509; 675 N.W.2d 847 (2003), in which this Court recognized that, consistent with MCL 722.27(1)(c), a trial court may not modify a custody order without first concluding that a change of circumstances or proper cause exists, and that the child's established custodial environment could not be altered without a showing, by clear and convincing evidence, that it serves the child's best interests. However, in *Shade v. Wright*, 291 Mich. App. 17, 25-26; 805 N.W.2d 1 (2010), this Court concluded that the definitions of "proper cause" and "change in circumstances" as clarified in *Vodvarka* are not controlling in the context of a case involving the modification of parenting time unless the modification in parenting time will alter the child's established custodial environment. Put simply, "[i]f a change in parenting time results in a change in the established custodial environment, then the *Vodvarka* framework is appropriate." *Id.* at 27. As explained in *Marik*, 325 Mich. App. at 361:

> "The established custodial environment is the environment in which over an appreciable time the child naturally looks to the custodian in that environment for guidance, discipline, the necessities of life, and parental comfort." [*Pierron v. Pierron* (*Pierron II*), 486 Mich. 81, 85-86; 782 N.W.2d 480 (2010) (quotation marks and citation omitted in original)]. "An established custodial environment may exist in more than one home and can be established as a result of a temporary custody order, in violation of a custody order, or in the absence of a custody order." [*Pierron v. Pierron*, 282 Mich. App. 222, 244; 765 N.W.2d 345 (2009) (*Pierron I*), aff'd 486 Mich. 81 (2010) (quotation marks and citations omitted in original)]. An important decision affecting a child's welfare does not necessarily mean the established custodial environment has been modified. *Pierron II*, 486 Mich. at 86. There is only a change to the established custodial environment if parenting-time adjustments change "whom the child naturally looks to for guidance, discipline, the necessities of life, and parental comfort ...." *Id.*

***3** Conversely, when a child's established custodial environment is not disrupted, a more flexible and expansive definition of "proper cause" or a "change in circumstances" will be employed. *Shade*, 291 Mich. App. at 27-28. In *Shade*, the child at issue was "growing up[,]" entering high school, and had encountered a changing academic and extracurricular schedule. The Court held that such changes would not meet the *Vodvarka* standard of a change in circumstances, but they did constitute proper cause or a change of circumstances to warrant a modification in parenting time, as long as the child's established custodial environment was not disrupted. *Id.* at 29-30. More recently, in *Marik*, this Court quoted with approval the following portion of this Court's decision in *Kaeb v. Kaeb*, 309 Mich. App. 556, 570-571; 873 N.W.2d 319 (2015), discussing the impact that normal changes in a child's life may have on parenting time:

> A condition that was in the child's best interests when the child was in elementary school might not be in the child's best interests after he or she reaches high

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> school. Even ordinary changes in the parties' behavior, status, or living conditions might justify a trial court in finding that a previously imposed condition is no longer in the child's best interests. We conclude that "proper cause" should be construed according to its ordinary understanding when applied to a request to change a condition on parenting time; that is, a party establishes proper cause to revisit the condition if he or she demonstrates that there is an appropriate ground for taking legal action. [*Marik*, 325 Mich. App. at 368 (citations omitted in original).]

Once the party seeking modification demonstrates proper cause or a change in circumstances under the governing legal framework, the trial court must then decide if the proposed modification serves the child's best interests. *Lieberman*, 319 Mich. App. at 83. The trial court undertakes this inquiry by considering "the appropriate best-interest factors." *Id.* First, a court must discern the correct burden of proof. For example, if the child's established custodial environment is not altered, " 'the movant must prove by a preponderance of the evidence that the change is in the best interests of the child.' " *Id.* at 84, quoting *Shade*, 291 Mich. App. at 23. On the other hand, if the child's established custodial environment will be altered, to the extent a modification in parenting time would be tantamount to a change in custody, *Vodvarka* will apply, and it must be demonstrated, by clear and convincing evidence, that the change in parenting time is in the child's best interests. *Id.* at 83-84. After the correct burden of proof is identified, the court must then weigh the best-interest factors.

> Both the statutory best interest factors in the Child Custody Act [(CCA), MCL 722.21 *et seq.*.], MCL 722.23, and the factors listed in the parenting time statute, MCL 722.27a([7]), are relevant to parenting time decisions. *Custody decisions require findings under all of the best interest factors, but parenting time decisions may be made with findings on only the contested issues.* [*Lieberman*, 319 Mich. App. at 84, quoting *Shade*, 291 Mich. App. at 31-32 (emphasis and alteration in original).]

B. APPLICATION

1. WAIVER OF OBJECTIONS TO THE MODIFICATION OF PARENTING TIME

Preliminarily, defendant argues that plaintiff effectively waived any objections to the modification in parenting time during her testimony at the evidentiary hearing, and that to allow her to now challenge the trial court's modification of parenting time would violate "the longstanding rule against a party harboring error as an appellate parachute." *Polkton Charter Twp. v. Pellegrom*, 265 Mich. App. 88, 96; 693 N.W.2d 170 (2005) (citation and quotation marks omitted). Having reviewed the challenged portion of plaintiff's testimony, as well as other pertinent portions of the record, we disagree with defendant's contention.

***4** To the extent that plaintiff's testimony could be viewed as a concession to a modification in parenting time, plaintiff's comments were limited to the referee's recommendation concerning parenting time, which increased defendant's overnight visits with the child from two to four every two weeks. In contrast, the trial court's order increased defendant's parenting time from two nights to five nights every two weeks. Also, plaintiff claimed that the child had an established custodial environment only with plaintiff, a position she maintains on appeal. Additionally, the thrust of plaintiff's arguments on appeal focus on (1) the trial court's determination that an established custodial environment existed with both parties, (2) whether normal life changes amounted to proper cause or a change of circumstances to support modification of parenting time, and (3) the trial court's decision to apply the *Shade* legal framework in determining whether a modification of parenting time was warranted. Put simply, to the extent the trial court increased the modification of parenting time beyond what the referee had recommended, plaintiff did not concede these issues in the trial court. Therefore, we reject defendant's argument that plaintiff effectively waived any challenge to the modification of parenting time as ordered by the trial court.

2. ESTABLISHED CUSTODIAL ENVIRONMENT

In the factual context of deciding whether mandatory vaccinations were in the child's best interests, the trial court initially concluded that the child had an established custodial environment with both plaintiff and defendant, and factored this finding into its analysis of parenting time. Specifically, the trial court reasoned that a modification of parenting time would not disrupt the child's established custodial environment.

On appeal, plaintiff first challenges the trial court's use of the legal framework articulated in *Shade*, arguing that because defendant's proposed change in parenting time

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disrupted the child's established custodial environment with plaintiff, the court should have relied on the *Vodvarka* framework. Plaintiff also asserts that because the child resided with plaintiff most of the time, the child's "established custodial environment existed with [plaintiff] alone." Plaintiff's arguments are not persuasive.

The trial court found that the child had an established custodial environment with both plaintiff and defendant. This finding is supported by the record. Defendant testified that he makes sure to spend all of his allotted parenting time with the child, the child is always happy to see him, and he brings her snacks, a change of clothes, and a pair of shoes. When he and the child are together, they will go to church, visit friends, and he recently took her canoeing. Defendant also testified that he attends all of the child's medical appointments. Defendant stated that the child loves spending time with him, that she is a great eater when she is with him, and she enjoys trying new foods such as peanut butter and honey sandwiches, yogurt, apple sauce, and any meat. Defendant explained that he had been teaching the child her letters, colors, and numbers. Defendant explained that his reason for seeking increased parenting time was so that the child would not have to wait until every other week to see him. According to defendant, he has a flexible work schedule and is able to set his schedule around taking care of the child.

Plaintiff testified that as of June 2017, she was still breastfeeding the child, and did not provide breast milk to defendant because she had done so once before and he had dumped it out. Plaintiff also testified that she uses the technique of redirecting to discipline the child. Plaintiff claimed that she also has a flexible work schedule that she can plan around the child's schedule. To the extent that defendant's motion for additional parenting time sought a 50/50 split of parenting time, plaintiff expressed reservations about such an arrangement, given that the parties could not communicate effectively for the child.

Because there was evidence that the child looked to both parents for "guidance, discipline, the necessities of life, and parental comfort," MCL 722.27(1)(c), the trial court's finding that the child had an established custodial environment with both parents is not against the great weight of the evidence. Consequently, the trial court properly relied on the preponderance-of-the-evidence standard to determine the child's best interests with regard to the proposed modification in parenting time, given that the proposed change—while it would increase the amount of time that the child spent with defendant—would not disrupt her established custodial environment with both parents. That is, she would still look to *both* plaintiff and defendant for guidance, discipline, and to meet her needs. See *Lieberman*, 319 Mich. App. at 81; *Shade*, 291 Mich. App. at 27; see also *Marik*, 325 Mich. App. at 361 (recognizing that an established custodial environment is disrupted only if the modification in parenting time alters "to whom the child naturally looks to for guidance, discipline, the necessities of life, and parental comfort.") (Quotation marks and citation omitted.). Accordingly, the trial court did not use an inappropriate burden of proof in determining whether to modify parenting time.

3. NORMAL LIFE CHANGES

***5** Plaintiff also argues that the trial court erred by solely relying on "normal life changes" as the foundation for its decision to modify defendant's parenting time. In *Shade*, however, this Court made it clear that under particular circumstances, the fact that a minor child is growing up and has changes in his or her needs and academic and extracurricular schedules may "constitute proper cause or [a] change of circumstances sufficient to modify parenting time[,]" even though such changes may not warrant a change in custody under *Vodvarka*, as long as the child's established custodial environment is not disrupted. *Shade*, 291 Mich. at 29. The trial court in this case did not err by finding that the life changes in the child's life warranted a modification of parenting time, given that at the time the parties' divorce judgment was entered, the child was only nine months old and was dependent on plaintiff's breastfeeding for nutrition. This Court has interpreted a change of circumstances in the context of parenting time modifications somewhat broadly. Recently, in *Marik*, this Court held that a defendant's remarriage and the new relationships the minor children were forging with members of their new stepfamily were enough "to meet the initial threshold of a change of circumstances to consider a [parenting time modification] request." *Marik*, 325 Mich. App. at 369; see also *Kaeb*, 309 Mich. App. at 570-571 (recognizing that under circumstances in which the defendant sought to remove a condition on parenting time, such action would generally not disrupt the established custodial environment "or alter the frequency or duration of parenting time[,]" and therefore a "lesser, more flexible, understanding of 'proper cause' or 'change in circumstances' should apply[.]").

We acknowledge that the parties' divorce judgment provides for a graduated increase in defendant's parenting time as the child aged.[1] However, the child was an infant when the judgment was entered, she likely was not as socially interactive with defendant at that point, and now she is a more independent preschooler, able to eat solid

foods, and is not dependent solely on plaintiff to meet her nutrition needs. Defendant was not precluded from seeking an adjustment in his parenting time as the child's nutritional needs and dependency on her mother changed. Under these circumstances, plaintiff has not established that the trial court's reliance on the *Shade* legal framework, rather than that of *Vodvarka*, amounted to clear legal error. *Lieberman*, 319 Mich. App. at 77. Plaintiff confines her argument to challenging the trial court's determination that defendant met the threshold under *Shade* to consider a modification of parenting time. Plaintiff does not otherwise challenge the trial court's weighing of the best-interest factors or the court's ultimate determination that a modification in parenting time was in the child's best interests. Accordingly, we affirm the trial court's modification of defendant's parenting time.

IV. VACCINATIONS

Plaintiff next argues that the trial court erred by concluding that vaccinating the child was in her best interests. We disagree.

A. RELEVANT LEGAL STANDARDS

Before addressing plaintiff's arguments, it is first necessary to address the legal framework that the trial court was required to follow when ruling on the issue of the child's vaccinations. Although plaintiff alleges at the outset that the issue whether to vaccinate the child should have been left to her discretion alone, the parties' judgment of divorce expressly provides that the parties share joint legal custody of the child. In *Shulick v. Richards*, 273 Mich. App. 320, 327; 729 N.W.2d 533 (2006), this Court, quoting MCL 722.26a(7)(b), the statute addressing joint custody, recognized that "[m]edical and educational decisions are clearly 'important decisions affecting the welfare of ... children." Accordingly, because the parties share joint legal custody of the child, the question whether to vaccinate the child implicates a significant medical decision. However, the parties could not agree on this issue so it was appropriate to seek judicial intervention. See *Lombardo v. Lombardo*, 202 Mich. App. 151, 159; 507 N.W.2d 788 (1993).

***6** In *Marik*, this Court recognized that where parties share joint legal custody and they cannot agree on a significant decision impacting the child, the responsibility will shift to the trial court to resolve the issue in accordance with the child's best interests. *Marik*, 325 Mich. App. at 360. The court must first decide, as a threshold matter, if an established custodial environment exists. If the proposed change will alter to whom the child looks to meet the child's needs for guidance, discipline, parental comfort and life's necessities, the proponent of the change is required to demonstrate, by clear and convincing evidence, that the proposed change is in the child's best interests. *Id.* at 361. As discussed earlier, the trial court did not err by holding that the child had an established custodial environment with both plaintiff and defendant. Thus, the trial court correctly followed this legal framework, and it also found that the question whether to vaccinate the child did not have any bearing on who she would look to for guidance, parental comfort, discipline and for the provision of the necessities of life. Accordingly, the trial court appropriately adhered to a preponderance-of-the-evidence standard in determining whether the proposed vaccinations were in the child's best interests. Further, the court properly determined that an evaluation of the child's best interests required it to weigh the factors set forth in MCL 722.23. See *Marik*, 325 Mich. App. at 362.

In determining the child's best interests, the trial court found that the factors set forth in MCL 722.23(b), (c), and (*l*) were particularly relevant. The court also considered the remaining factors in MCL 722.23, but found that they were not relevant to its decision concerning whether vaccinations were in the child's best interests. The court concluded it was in the child's best interests to be vaccinated, finding that vaccination would protect her from a host of potential serious diseases, and the evidence did not establish that any vaccinations would be harmful to the child, or that vaccination was otherwise against the child's best interests. The court noted the lack of evidence from an immunologist or other qualified physician to indicate that the child was, in fact, predisposed to injury or would likely incur an autoimmune disorder as a result of being vaccinated.

B. APPLICATION

1. WHETHER THE CHILD'S PHYSICAL HEALTH CONTRAINDICATES VACCINATION

Initially, we address plaintiff's argument that vaccination of the child was not in her best interests because vaccinations were medically contraindicated.

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In support of her argument, plaintiff relies on testimony from the child's pediatrician, Dr. Todd Marcus, who stated that a child's potential predisposition to an adverse reaction from a vaccine can be gleaned from reviewing the child's family medical history. Plaintiff asserts that the child's family's medical history includes ailments such as lupus, rheumatoid arthritis, psoriasis, and other autoimmune disorders, and therefore, the child would be predisposed to developing rheumatoid arthritis from her vaccinations. Dr. Marcus later clarified that he was only aware of the child's alleged predisposition to rheumatoid arthritis because of her family history and that genetic testing had been performed. Dr. Marcus subsequently testified that there is not a specific test that can identify a predisposition to rheumatoid arthritis, and that he had based his earlier opinion on the genetic testing already performed on the child and the child's family history. When the trial court asked Dr. Marcus, "Does a medical test exist" to predict a child's predisposition to injuries arising from vaccines, Dr. Marcus responded that such a test does not exist.

While plaintiff is now claiming that the trial court erroneously determined that vaccination of the child was in her best interests, the evidence presented did not indicate that the child would likely suffer any harm from being vaccinated, or that the benefits of protecting her from disease were outweighed by any potential adverse effects. We acknowledge that plaintiff presented evidence that vaccines can have adverse effects. For example, as relevant to plaintiff's child and her family's medical history, a vaccine-injury table submitted by plaintiff indicated that vaccines that carry the rubella virus, such as the measles, mumps, and rubella (MMR) vaccine, or the measles, mumps, rubella, and varicella (MMRV) vaccine, have a potential adverse effect of causing chronic arthritis. Similarly, vaccines containing the measles virus have a potential adverse effect of causing idiopathic thrombocytopenic purpura (ITP), a medical condition that plaintiff has. Moreover, the Hepatitis B information sheet distributed by the Centers for Disease Control and Prevention (CDC) also acknowledges that vaccines carry a "remote chance" of causing serious injury or death. Similarly, the diphtheria, tetanus, and pertussis (DTaP) vaccine can potentially cause seizures on a long-term basis, as well as permanent brain damage. Also, the package insert for Recombivax HB, a vaccine to protect against Hepatitis B, contains a laundry list of potential adverse reactions, ranging from fatigue and headache to dysuria and hypotension. Likewise, the product insert form for Engerix B, another vaccine for Hepatitis B, also warns of potential adverse effects such as lymphadenopathy, upper respiratory tract illness, and anorexia. Additionally, the product insert for the MMR vaccine indicates that the vaccine may have an adverse reaction of causing thrombocytopenia, and a variety of other serious ailments, such as encephalitis and encephalopathy.

*7 In sum, the fact that vaccines can potentially cause very serious adverse effects is not in dispute, and the child's family history of autoimmune disorders is also not a point of contention.[2] But the dispositive issues are not whether vaccines can potentially cause adverse effects, or whether the vaccine manufacturing industry and pharmaceutical companies are unduly influencing governmental regulatory agencies. Instead, what is at issue is whether the administration of vaccinations is in the child's best interests, taking into account her physical health. Even accepting as valid and accurate plaintiff's contention that the child bears some predisposition to incurring an autoimmune disorder because of her family history, this attenuated risk, in and of itself, simply does not outweigh the significant benefits that would inure to the child by protecting her from the threat of serious and life-endangering diseases in the population. Put another way, the threat of harm to the child by exposing her to vaccines that could potentially trigger an autoimmune disorder is speculative, and the record does not otherwise demonstrate that the child would be put at risk of harm by receiving vaccinations.

Significantly, both Dr. Teresa Holtrop, M.D., and Dr. Marcus testified that they recommend that children receive the vaccinations suggested by the CDC and the state of Michigan. Notably, Dr. Holtrop, even being familiar with the child's family history of autoimmune disorders, highly recommended that the child be vaccinated. Conversely, Dr. Toni Bark, M.D., plaintiff's expert witness, had not personally evaluated the child and, while familiar with her medical records and her family history, testified generally about *potential* adverse reactions to vaccines and notably did not provide any substantive evidence, aside from possibilities and speculation, that the child would be harmed by the administration of vaccines. In contrast, Dr. Holtrop's testimony established that it was medically necessary for the child to be vaccinated. Specifically, Dr. Holtrop noted that whooping cough is at "epidemic proportions" in Michigan and that it can lead to pneumonia, and even death, for a child. According to Dr. Holtrop, the American Academy of Pediatrics (AAP) recommends that all children be vaccinated, and Dr. Holtrop shared the dire and life-changing situations she has personally observed when children did not receive vaccinations and suffered from vaccine-preventable diseases. Therefore, while plaintiff presented evidence of (1) her family's history of

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autoimmune disorders, (2) the serious *potential* risks of vaccines, and (3) the workings of the vaccine manufacturing industry as well as the existence of undue influence pharmaceutical companies may have on the AAP and the CDC, plaintiff did not present evidence of a clear, uncontroverted, and certain link between the administration of a vaccine and the real likelihood and potential of injury to the child. Plaintiff maintains that had Dr. Bark been permitted to testify concerning the medical records of the child and her family, "[Dr. Bark] would have expressly opined [that the child] should not be vaccinated based upon her genetic predisposition." Even if Dr. Bark had shared such an opinion of a potential adverse reaction to the child related to her family's history of autoimmune disorders, this opinion, in and of itself, would essentially have been be grounded in conjecture, not certainty, and therefore would be of limited value in evaluating whether the child was actually likely to suffer injury because of a vaccine to the extent that the potential risk of administering vaccines to her outweighed the established benefits.

In the words of the trial court, plaintiff did not present persuasive evidence establishing that "[the child] will be harmed by any particular vaccination and/or that any particular vaccination is otherwise contrary to [the child's] best interests." Significantly, the trial court afforded plaintiff ample opportunity to secure the services of a qualified immunologist or other qualified physician to (1) review the results of the medical testing that was conducted on the child, (2) to perform additional testing, and (3) confirm that the child *was in fact* predisposed to injury or death if she were vaccinated. Plaintiff did not take advantage of these opportunities. In sum, because the record does not contain evidence establishing that (1) the child would *in fact* likely suffer harm from being vaccinated, and (2) that any alleged risk of harm outweighed the clear benefits to the child of being protected from life-threatening diseases, defendant met his burden of establishing, by a preponderance of the evidence, that vaccination was in the child's best interests.

2. PLAINTIFF'S RELIGIOUS BELIEFS

***8** Plaintiff also argues that the trial court erred by failing to consider her sincere religious objections to vaccinations. More specifically, plaintiff alleges that the trial court "was in no position to weigh the sincerity or judge the acceptability of [plaintiff's] religious beliefs, or reduce those beliefs as being [subordinate] to [defendant's]." We disagree.

In *In re Deng*, 314 Mich. App. 615, 627; 887 N.W.2d 445 (2016), this Court recognized that the Public Health Code (PHC), MCL 333.1101 *et seq.*, contains a statutory scheme that governs the administration of vaccines in Michigan. While MCL 333.9205, MCL 333.9208(1), and MCL 333.9211(1) place certain requirements on parents to vaccinate their children within certain age periods or by the time a child is enrolled in school, MCL 333.9215(2) also allows a parent to seek an exemption from the vaccine requirements on the basis of "religious convictions or other objection[s] to immunization." Accordingly, under the provisions of the PHC, plaintiff would be able to seek an exemption from vaccines for the child on the basis of her religious beliefs. In this case, however, defendant shares joint legal custody of the child and does not share plaintiff's alleged religious objections to vaccinations. In this context, under the CCA, because the parties are unable to agree on an important matter impacting the child's welfare, it was appropriate for the trial court to decide the matter in the child's best interests. See *Pierron II*, 486 Mich. at 85.

Plaintiff appears to argue that by ordering the child to be vaccinated, the trial court has undermined plaintiff's religious freedom. This Court has recognized the importance of a party's religious freedom, as well as the interplay between that religious freedom and the right to raise one's child in the manner one sees fit. *In re Deng*, 314 Mich. App. at 622 (recognizing that religious freedom and the right to raise one's child are "fundamental rights" that are instrumental in the pursuit of happiness in a free society). However, while the statutory scheme of the PHC would allow plaintiff to exempt the child from the mandatory vaccination requirements for children on the basis of plaintiff's religious beliefs, the PHC is not controlling here. The trial court was not considering this dispute under the provisions of the PHC, but rather under the provisions of the CCA, which gave the court jurisdiction to address, consider, and decide matters related to the child's legal custody and best interests where the parties with joint legal custody over the child were unable to agree. See MCL 722.23 (setting forth the factors to be considered in evaluating a child's best interests); MCL 722.27(1)(c) and (e) (recognizing the trial court's authority to modify or amend its orders or judgments in a child custody case, or "to [t]ake any other action considered to be necessary in a particular child custody dispute"); *Pierron II*, 486 Mich. at 85.[3]

***9** We note, however, that contrary to plaintiff's assertion on appeal, the record indicates that the trial court gave plaintiff great latitude in raising and explaining her religious objections to vaccines. Further, the trial court

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did not ignore plaintiff's expressed religious beliefs in its evaluation of the child's best interests. In its written ruling, the trial court specifically observed that plaintiff had strong religious objections to the use of vaccines because "some vaccines are cultured in aborted fetal cells" and also contain animal blood, and that plaintiff objected specifically to the MMR, polio, Hepatitis A, and flu vaccines because of her religious beliefs. In addition to considering plaintiff's ample testimony on the subject, in its weighing of the best-interest factors, the trial court duly considered plaintiff's objections to vaccines when considering factor (b) "[t]he capacity and disposition of the parties ... to continue the education and raising of the child in his or her religion or creed, if any." MCL 722.23(b). However, the trial court ultimately did not find that plaintiff's testimony on the subject of her religious objections rendered this factor "more or less favorable to either party." Additionally, the record does not support plaintiff's contention that the trial court "weigh[ed] the sincerity or judge[d] the acceptability of [plaintiff's] religious beliefs," or subordinated plaintiff's beliefs to defendant's. Instead, the record shows that the trial court gave serious consideration to such important matters as it weighed the child's best interests, but ultimately determined that plaintiff's religious objections to vaccines did not outweigh its determination that vaccinating the child was in her best interests.

In sum, the trial court did not err by determining that it was within the child's best interests to be vaccinated.

3. REMAND

Although we are affirming the trial court's order requiring that the child be vaccinated, we note that almost a year has passed since the trial court entered its written opinion and order in December 2018, requiring that the child be vaccinated as recommended by the state of Michigan. The child is now four years old. At the time the trial court entered its opinion and order, it noted that the child would require the following vaccinations to become current with what is recommended for her age:

> [The child] would need the following vaccines to become current: three doses of polio, one dose of MMR, two doses of varicella, two doses of Hep A, one dose of HiB, and one dose of prevnar.

To the extent that the trial court ordered the child to receive "the beginning phase of any and all State-recommended vaccinations," including "rotavirus, DTaP, Hib, HepB, polio, MMR, varicella, HepA, the flu, and PCV13[,]" we remand this case to the trial court to allow it to confirm what vaccinations the child now requires at her age. On remand, the trial court is directed to enter an order requiring defendant to produce a letter from the child's current pediatrician, within 21 days of entry of this Court's decision, addressing (1) any vaccinations the child has already received, (2) the dates any vaccinations were administered, and (3) the vaccinations that are recommended for the child as of the date of entry of this Court's opinion. Once the trial court receives such documentation from the child's pediatrician, within 7 days the court shall enter an order directing that the child be vaccinated in conformance with the pediatrician's recommendations, and the trial court's order should further provide that the course of vaccination must begin within 21 days of the trial court's order.

V. SELECTION OF A NEW PEDIATRICIAN

Plaintiff next argues that the trial court erred by ordering the parties to select a new, mutually agreeable pediatrician for the child. We disagree.

A. RELEVANT LEGAL STANDARDS

Plaintiff relies on the following language in the divorce judgment in support of her argument that she has sole authority to select a pediatrician for the child:

> *Plaintiff mother will be the primary parent responsible for* [the child's] *ordinary health care needs.* If [the child] is scheduled for any type of health care appointment, Defendant father is to be notified in writing of the appointment at least 48 hours in advanced [sic] of the appointment, and he shall be entitled to participate in the appointment with the health care provider. If an emergency occurs and immediate health care intervention is necessary, then the parent having parenting time shall notify the other parent as soon as the emergency exists. [Emphasis added.]

We disagree with plaintiff's reliance on this provision. The divorce judgment also awarded the parties joint legal custody of the child and further provided that if the parties could not agree on "major policy decisions relating to the *health*, education and welfare of [the child], they will, on notice to the other parent, seek the assistance of a qualified family counselor or mediator."

***10** The statute governing joint custody, MCL 722.26a, provides, in pertinent part:

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(7) As used in this section, "joint custody" means an order of the court in which 1 or both of the following is specified:

* * *

(b) *That the parents shall share decision-making authority as to the important decisions affecting the welfare of the child.* [Emphasis added.]

In *Shulick*, 273 Mich. App. at 327, this Court, quoting MCL 722.26a(7)(b), recognized that "[m]edical and educational decisions are clearly 'important decisions affecting the welfare of' ... children." The selection of a pediatrician for the child is a significant decision that affects her welfare as contemplated by MCL 722.26a(7). Therefore, because the parties shared joint legal custody of the child, the selection of a pediatrician was an important matter impacting the child's health and well-being, and the parties were unable to agree on the choice of a pediatrician, the trial court properly intervened to determine whether the selection of a new pediatrician was in the child's best interests. See *Shulick*, 273 Mich. App. at 329; see also *Bowers v. VanderMeulen-Bowers*, 278 Mich. App. 287, 296; 750 N.W.2d 597 (2008).

B. APPLICATION

Because the parties could not agree on whether Dr. Marcus should continue to treat the child, the trial court weighed the statutory best-interest factors set forth in MCL 722.23. The court concluded that most of the factors were not relevant to this issue, but held that factor (c), addressing the parties' ability to provide the child with medical care, weighed in favor of both parties because the record confirmed that both plaintiff and defendant were regular attendees at the child's medical appointments, they were both capable of seeking medical care for the child, and they were "both invested in the quality of medical care that [the child] receives." Considering factor (h), "[t]he home, school, and community record of the child," the trial court found that this factor did not weigh in favor of either party, because neither one of them lived near Dr. Marcus's office. Weighing factor (*l*), "[a]ny other factors considered by the court to be relevant[,]" the trial court noted the acrimonious relationship between Dr. Marcus and defendant, which included defendant posting negative comments on Dr. Marcus's Facebook page and Dr. Marcus filing a complaint against defendant with Child Protective Services (CPS). Recognizing the importance of both plaintiff and defendant sharing an "amicable and trustworthy relationship" with the child's pediatrician, the trial court expressed concern regarding the "undue friction" that existed between defendant and Dr. Marcus. The court ultimately concluded that the selection of a new pediatrician would serve the child's best interests. The trial court's decision resulted from a proper exercise of its discretion and is supported by the record.

According to Dr. Marcus, defendant attended the child's medical appointments, but did not inquire about anything, including the issue of immunizing the child. Dr. Marcus also related how defendant had posted negative comments on Dr. Marcus's Facebook in which defendant complained about Dr. Marcus's professionalism and promptness. In addition, Dr. Marcus admitted reporting defendant to CPS after plaintiff showed him a video in which defendant allowed the child to walk barefoot in a parking lot. Dr. Marcus acknowledged that he subsequently examined the child and did not see any physical harm to her from walking in the parking lot.

***11** Defendant testified that plaintiff chose Dr. Marcus as the child's pediatrician without his input, although defendant conceded that he did not suggest any other pediatricians to plaintiff. Defendant described Dr. Marcus as "very unprofessional[,]" with a "violent personality," and complained that he always runs an hour to two hours late to his appointments. Moreover, defendant stated that Dr. Marcus's office is not between either his home or plaintiff's home. Defendant had also reviewed negative postings from other patients on Dr. Marcus's Facebook page.

Conversely, plaintiff testified that she selected Dr. Marcus as the child's pediatrician because he had been the pediatrician for plaintiff's two older children, who had been seeing Dr. Marcus since 2006. Plaintiff acknowledged that she selected Dr. Marcus as the child's pediatrician without defendant's involvement. According to plaintiff, Dr. Marcus's office is about 17 minutes away from plaintiff's home, but it is convenient for her because her sister lives nearby and she can drop her older children off with her sister when she attends the child's medical appointments without them.

Under the circumstances, the trial court's decision to order the parties to select a new, mutually agreeable pediatrician was an appropriate exercise of its discretion. The evidence showed that defendant regularly attended the child's medical appointments, but that defendant and Dr. Marcus, rather than having a productive professional relationship, had one fraught with conflict, anger, and acrimony. Additionally, the record supports the trial court's conclusion that plaintiff initially selected Dr. Marcus without defendant's input and involvement. The

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trial court's determination that the parties would not be able to work collaboratively with Dr. Marcus to "ensure that [the child's] health and well-being are given the highest priority" is legally sound and grounded in the evidence. Accordingly, we are unable to conclude that the trial court's decision "is so palpably and grossly violative of fact and logic that it evidences a perversity of will, a defiance of judgment, or the exercise of passion or bias[ ]" that it would amount to an abuse of discretion. *Butler*, 308 Mich. App. at 201 (citation and quotation marks omitted).

VI. EXPERT WITNESS TESTIMONY

In her last issue, plaintiff argues that the trial court erred by restricting the scope of Dr. Bark's expert testimony. We disagree.

A. STANDARD OF REVIEW

This Court reviews the trial court's decision regarding the admissibility of expert testimony under MRE 702 for an abuse of discretion. *Edry v. Adelman*, 486 Mich. 634, 639; 786 N.W.2d 567 (2010). When the trial court chooses a result falling "outside the range of reasonable and principled outcomes[,]" it abuses its discretion. *Sabbagh v. Hamilton Psych Servs, PLC*, — Mich. App. ——, ——; — N.W.2d —— (2019) (Docket Nos. 342150, 343204); slip op. at 15-16.

B. RELEVANT LEGAL STANDARDS

MRE 702 provides, in pertinent part:

> If the court determines that scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

In *Gilbert v. DaimlerChrysler Corp*, 470 Mich. 749, 779, 780; 685 N.W.2d 391 (2004), our Supreme Court emphasized that the trial court's role as a gatekeeper under MRE 702 necessitates that the trial court confirm that each aspect of a proposed expert witness's testimony is indeed reliable. Noting that the most recent amendment of MRE 702 in January 2004 had incorporated the standards of reliability articulated in *Daubert v. Merrell Dow Pharm, Inc*, 509 U.S. 579; 113 S. Ct. 2786; 125 L. Ed. 2d 469 (1993), and supplanted the "general acceptance" standard set forth in *People v. Davis*, 343 Mich. 348; 72 N.W.2d 269 (1955), and *Frye v. United States*, 54 App. DC 46; 293 F 1013 (1923), the *Gilbert* Court stated, in pertinent part:

> ***12** Thus, properly understood, the court's gatekeeper role is the same under *Davis-Frye* and *Daubert*. Regardless of which test the court applies, the court may admit evidence only once it ensures, pursuant to MRE 702, that expert testimony meets that rule's standard of reliability. In other words, both tests require courts to exclude junk science; *Daubert* simply allows courts to consider more than just "general acceptance" in determining whether expert testimony must be excluded. [*Gilbert*, 470 Mich. at 782.]

The trial court's role as a gatekeeper requires it to undertake a "searching inquiry," not limited to the data underlying the expert testimony, "but also of the manner in which the expert interprets and extrapolates from those data." *Id.* The party seeking to admit evidence under MRE 702 must satisfy the preconditions established in the rule of evidence. *Id.* at 789.

The party proffering an expert witness must provide support to indicate that the expert's opinion "has some basis in fact, that it is the result of reliable principles or methods, or that [the proposed expert witness] applied [his or her] methods to the facts of the case in a reliable manner, as required by MRE 702." *Edry*, 486 Mich. at 641. While "peer-reviewed, published literature" is not a predicate for meeting the requirements of MRE 702, the absence of supporting literature, particularly when "combined with the lack of any other form of support for [the proposed expert witness's] opinion," will render the proposed opinion both unreliable and inadmissible under MRE 702. *Id.* As the *Edry* Court recognized:

> Under MRE 702, it is generally not sufficient to simply point to an expert's experience and background to argue that the expert's opinion is reliable and, therefore, admissible. [*Edry*, 486 Mich. at 642.]

C. PROCEDURE IN THE TRIAL COURT

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On the second day of the evidentiary hearing before the trial court, plaintiff called as a witness Dr. Bark, an Illinois physician with a Bachelor's Degree in psychology, a doctorate degree in medicine from Rush College in Chicago, and a Master's Degree in Medical Disaster Management from Boston University. Dr. Bark is board-certified as a general physician and surgeon, and has extensive experience in pediatric medicine, including running a pediatric emergency room and serving as an attending physician in a neonatal intensive care unit. Dr. Bark also has a background in integrative care, homeopathy, nutrition and rubology, and, while in private practice also worked part time in a hospital emergency room. Dr. Bark teaches at the University of Chicago on matters involving alternative care, she has served on the adjunct faculty at Boston University, and she possesses certifications relevant to "the interplay between the environment and exposure to environmental toxins and health[,]" including a Leadership in Environmental and Energy Design (LEED) certification. Dr. Bark was vice-president of the American Institute of Homeopathy, and is also a member of Physicians for Informed Consent.

With regard to publications, Dr. Bark testified that she contributed to a chapter in a book written by a law professor at New York University School of Law, Mary Holland, entitled *Policy Without Reason*, which addresses the flu shot requirement for healthcare workers. Dr. Bark has also coproduced a film, *Bought*, which addresses corruption in regulatory agencies, and she has been interviewed for a film on genetically modified organisms, as well as one addressing vaccine conflict-of-interest issues. Dr. Bark also collaborated with other medical professionals on a paper addressing the review data of Merck, a pharmaceutical company, for the drug Gardasil, its death rates, and its "systemic autoimmune rates." However, Dr. Bark conceded that the paper was not listed on her curriculum vitae (CV). Dr. Bark had lectured on unspecified topics at two different conferences on immunology in the spring of 2017, one in Spokane, Washington, and the other at an unspecified location in Ohio. Dr. Bark had also appeared before various state senate health committees regarding pending legislation seeking to reduce exemptions to vaccine requirements.

***13** Dr. Bark testified that she has a specialty in adversomics, which is a term "coined by Gregory Poland, one of the most famous vaccinologists who works at [the] Mayo Clinic[.]" According to Dr. Bark, it is a field of medicine in which "people ... study vaccine injury and write about vaccine injury[.]" Dr. Bark elaborated that she has vaccinated "thousands of children[ ]" in her practice, and further clarified that adversomics "is the field of looking at adverse events to vaccines based on reactions, based on genetic predisposition and epigenetic predisposition[,]" which is something that she does every day in her practice and has been doing for years. Dr. Bark also testified that there are "a lot of conflicts of interest in what the CDC is putting out versus what the reality is, and the literature." When the trial court questioned Dr. Bark about her work in pediatrics, more specifically in the area of adversomics, inquiring what would qualify her to testify as an expert witness in adversomics, Dr. Bark testified that she sees many vaccine-injured adults and children in her practice, she has worked with lawyers in the federal vaccine court, and she has written one peer-reviewed article with other collaborators at the University of British Columbia, but she could not recall the journal in which it was published. The article was written in 2014, but it was not listed on Dr. Bark's CV. The trial court ruled that Dr. Bark's qualifications as an expert witness under MRE 702 would be limited to her personal experience with vaccines in her general pediatric practice.

D. APPLICATION

The trial court did not abuse its discretion by concluding that plaintiff had not met the requirements of MRE 702 to offer Dr. Bark's proposed testimony in the area of adversomics, which addresses the adverse effects of vaccines and vaccine injuries. Initially, Dr. Bark's testimony did not reflect that she was in fact "qualified ... by knowledge, skill, experience, training or education" to testify regarding adversomics or the broader subject of vaccine injuries and the adverse impacts of vaccines. MRE 702. We acknowledge that Dr. Bark (1) had treated and vaccinated thousands of children in her practice, (2) was interviewed for a film regarding conflict-of-interest issues pertaining to vaccines, (3) collaborated with other medical professionals concerning the physical effects of the drug Gardasil, and (4) had lectured on unspecified topics at immunology conferences in the time period shortly before the evidentiary hearing. While Dr. Bark testified that she possesses a specialty in adversomics, the record does not indicate that plaintiff produced information that would allow the trial court to competently conclude that adversomics, and Dr. Bark's testimony regarding that area of medicine, "is the product of reliable principles and methods[.]" MRE 702. The trial court was also placed in the position of being asked to rule on Dr. Bark's qualifications without being able to discern whether her testimony was "based on sufficient ... data[.]" MRE 702. Moreover, a review of Dr. Bark's CV, while revealing her extensive educational and professional background in pediatric medicine, and her

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interest and work with vaccine-related topics, does not likewise indicate that she has been educated in, or worked professionally in, the specific and specialized area of adversomics for which plaintiff sought to qualify her as an expert. Dr. Bark's CV likewise does not otherwise indicate that she possesses specialized knowledge and expertise with regard to the more general subjects of vaccine injuries and the adverse effects of vaccines. The only mention in her CV of vaccines are (1) a documentary series called "Vaccines Revealed" that Dr. Bark was interviewed for, (2) a documentary series called "The Truth of Vaccines" in which Dr. Bark participated as an interviewee, and, (3) a lecture that she gave in February 2012 concerning the ethics of vaccine policies.

Notably, on the basis of a close review of Dr. Bark's testimony during the evidentiary hearing before the trial court, as well as her CV, we are unable to discern exactly what comprises the specialty of adversomics, and what specialized knowledge Dr. Bark could offer the trier of fact in these proceedings. The trial court was obviously concerned about the reliability of Dr. Bark's proposed testimony in the area of adversomics, vaccine injuries, and the adverse impact of vaccines in a case in which the potential adverse effects of vaccines on the child were hotly contested and formed the crux of the dispute between the parties. As the United States Supreme Court, interpreting FRE 702, the federal counterpart to MRE 702, recognized in *Daubert*, in determining whether scientific knowledge is such that it will assist the trier of fact in understanding or determining a fact in dispute, a trial court must undertake "a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and whether that reasoning or methodology can properly be applied to the facts in issue." *Daubert*, 509 US at 592-593. In making this determination, trial courts may consider whether the methodology has been tested, whether the theory at issue has been evaluated by peer review and publication, as well as whether a known or potential rate of error exists. *Id.* at 593-594. While the trial court here did not conduct a *Daubert* hearing, the decision whether to hold this hearing is within the trial court's discretion. *Lenawee Co. v. Wagley*, 301 Mich. App. 134, 162; 836 N.W.2d 193 (2013). The trial court likely did not do so because plaintiff did not even provide defendant with notice of her intention to offer Dr. Bark as an expert in the specialized area of adversomics, but also because the information presented to the court did not demonstrate that a *Daubert* hearing to consider the factors set forth in that case was even warranted. In other words, noting the dearth of supporting literature on the topic of adversomics that plaintiff presented and the lack of any indication in Dr. Bark's CV, or in her evidentiary hearing testimony, that Dr. Bark had worked extensively in this area, the trial court correctly surmised that plaintiff's attempt "to simply point to an expert's experience and background to argue that [Dr. Bark's] opinion is reliable" was not enough to meet the requirements of MRE 702. *Elher v. Misra*, 499 Mich. 11, 23; 878 N.W.2d 790 (2016). Accordingly, the trial court's decision to limit Dr. Bark's testimony to her experience vaccinating her own patients and to the area of general pediatrics fell within the range of principled outcomes, and therefore did not amount to an abuse of discretion. See *Edry*, 486 Mich. at 639; *Sabbagh*, — Mich. App. at ——; slip op. at 15-16.

VII. CONCLUSION

***14** We conclude that the trial court did not err by (1) finding that it was within the minor child's best interests to be vaccinated, and ordering that she be vaccinated in accordance with state recommendations, (2) ordering the parties to select a new, mutually agreeable pediatrician for the child, and (3) modifying defendant's parenting time. Accordingly, we affirm the trial court's order, but remand for further proceedings consistent with our instructions in Section IV(B)(3) of this opinion.

Affirmed and remanded for further proceedings consistent with this opinion. We do not retain jurisdiction.

All Citations

Not Reported in N.W. Rptr., 2019 WL 6245773

Footnotes

1 Plaintiff cites *Rettig v. Rettig*, 322 Mich. App. 750, 757; 912 N.W.2d 877 (2018), in support of her implied argument that because the parties agreed to a graduated increase in parenting time for defendant in the judgment of divorce, defendant could not seek a modification of parenting time. In *Rettig*, the defendant argued that the trial court erred by not making a factual finding concerning the minor child's established custodial environment, and this Court rejected that argument as "nonsensical" because the parties had entered into an agreement regarding the minor child's custody that was the foundation for the parties' judgment of divorce. *Id.* at 752, 757-758.

2 At the evidentiary hearing, plaintiff called several family members as witnesses to establish that the family has a history of autoimmune disorders.

3 In a different factual context, in which the respondent mother in a child protective proceeding objected to the vaccinations of her children, this Court held that her "right to direct the care, custody and control of [her children]" yielded to the state's "legitimate interest in protecting the moral, emotional, mental and physical welfare" of the minor children. *In re Deng*, 314 Mich. App. at 623 (quotation marks and citation omitted). Because the trial court's authority to order the vaccinations of the minor children stemmed from its statutory authority under the Juvenile Code, MCL 712A.1 *et seq.*, and the Juvenile Code did not include any provision that restricted the court's authority to enter a dispositional order concerning vaccines because a parent objected to the vaccinations, this Court affirmed the trial court's order requiring the vaccinations of the children over the respondent's religious objections. *Id.* at 619, 629.

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Exhibit U

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2020 WL 6562255
Only the Westlaw citation is currently available.
United States District Court, E.D. Michigan, Southern Division.

Emily E. BAJOREK-DELATER, Plaintiff,
v.
UNITED STATES of America, Defendant/Third-Party Plaintiff,
v.
Henry Ford Allegiance Health, Dorothy Brown, D.O., Kristina Sturgill, D.O., Waseem Ullah, M.D., and Harish Rawal, M.D. Third-Party Defendants.

Case No. 17-CV-10570
|
Signed 11/09/2020

Attorneys and Law Firms

John R. LaParl, Kenneth D. Lee, McKeen and Associates, P.C., Detroit, MI, for Plaintiff.

Anthony D. Pignotti, Nicholas Nahorski, Foley Baron Metzger & Juip, PLLC, Livonia, MI, for Third-Party Defendants Henry Ford Allegiance Health, Dorothy Brown, D.O., Kristina Sturgill, D.O., Harish Rawal, M.D.

David M. Nelson, Michael W. Stephenson, Robert C. Wood, Troy D. Clarke, Willingham & Cote, PC, East Lansing, MI, for Third-Party Defendant Waseem Ullah, M.D.

Bradley Darling, U.S. Department of Justice, Zak Toomey, United States Attorney's Office, Detroit, MI, for Defendant/Third-Party Plaintiff.

ORDER DENYING THIRD-PARTY DEFENDANTS HENRY FORD ALLEGIANCE HEALTH, BROWN, STURGILL AND RAWAL'S MOTION FOR SUMMARY JUDGMENT [ECF No. 63]

GEORGE CARAM STEEH, UNITED STATES DISTRICT JUDGE

*1 This is a medical malpractice case brought under the Federal Tort Claims Act ("FTCA"). Plaintiff Emily Bajorek-Delater sued the United States of America under the FTCA for the alleged medical malpractice of certain federal employees working at federally funded clinics. The United States was granted leave to file a third-party complaint seeking indemnity, common-law contribution, and statutory contribution against Henry Ford Allegiance Health, Dr. Dorothy Brown, Dr. Kristina Sturgill, Dr. Harish Rawal and Dr. Waseem Ullah (collectively referred to as "third-party defendants" or "TPDs"). Those claims are premised upon the assertion that the TPDs committed medical malpractice under Michigan state law and were, at least in part, a cause of the injuries alleged in plaintiff's original underlying complaint.

The matter is presently before the court on motion for summary judgment filed by Henry Ford Allegiance Health, Dr. Dorothy Brown, Dr. Kristina Sturgill and Dr. Harish Rawal (collectively referred to as "the moving third-party defendants" or "the moving TPDs"). For the reasons stated below, the moving TPD's motion for summary judgment is denied.

FACTUAL BACKGROUND

Plaintiff suffered a permanent spinal cord injury after several doctors at several medical facilities allegedly failed to diagnose and treat a condition known as cauda equina syndrome over the course of several weeks [Complaint, ECF No. 1]. The cauda equina means "the horses tail" of the spinal cord; "where all of the nerve roots at the bottom of the spinal cord ... separate and go down into the bottom of the lumbosacral vertebrae area." (Tucker Dep. at 47:23–48:3). Cauda equina syndrome results from "[t]he impingement of those nerve roots." (*Id.* at 48:4–5); (Roychoudhury Dep. at 168:17–169:6).

The symptoms of cauda equina syndrome are: "[1] Loss of bowel and bladder control and [2] numbness in the groin and saddle area of the perineum, associated with [3] weakness of the lower extremities." (UpToDate, Eval. of Low Back Pain, at 15). Weakness in the lower extremities may include "foot drop," or the inability to lift one's foot. (Tucker Dep. at 64:20–65:22); (Roychoudhury Dep. at 168:17–169:6). "Cauda equina syndrome represents a true surgical emergency where decompression should be performed within 24 hours, and within 12 hours if possible." (UpToDate, Acute Lumbosacral Radiculopathy, at 1).

The United States represents a primary care physician, Dr. Promita Roychoudhury, who saw plaintiff thirty days before plaintiff had surgery for her condition. The federal clinic's doctor never saw plaintiff again after that visit.

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Third-party defendant Waseem Ullah, M.D. (not a party to the pending motion), interpreted plaintiff's MRI seventeen days before plaintiff's surgery. Third-party defendants Dorothy Brown, D.O., and Kristina Sturgill, D.O., saw plaintiff seven days before her surgery. Third-party defendant Harish Rawal, M.D., examined plaintiff two days before surgery.

During discovery, plaintiff and her experts alleged that all of these physicians should have referred her for emergency surgery at the time they saw her but did not do so. The Court granted the United States' motion for leave to file a third-party complaint alleging "claims under common law principles of contribution and indemnity and M.C.L. § 600.292[5]a" against Dr. Brown, as well as Henry Ford Allegiance Health, Kristina Sturgill, D.O., Waseem Ullah, M.D., and Harish Rawal, M.D. based on their alleged medical malpractice (ECF No. 27; ECF No. 29).

STANDARD FOR SUMMARY JUDGMENT

***2** Federal Rule of Civil Procedure 56(c) empowers the court to render summary judgment "forthwith if the pleadings, depositions, answers to interrogatories and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." *See Redding v. St. Eward*, 241 F.3d 530, 532 (6th Cir. 2001). The Supreme Court has affirmed the court's use of summary judgment as an integral part of the fair and efficient administration of justice. The procedure is not a disfavored procedural shortcut. *Celotex Corp. v. Catrett*, 477 U.S. 317, 327 (1986); *see also Cox v. Kentucky Dept. of Transp.*, 53 F.3d 146, 149 (6th Cir. 1995).

The standard for determining whether summary judgment is appropriate is " 'whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.' " *Amway Distributors Benefits Ass'n v. Northfield Ins. Co.*, 323 F.3d 386, 390 (6th Cir. 2003) (*quoting Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52 (1986)). The evidence and all reasonable inferences must be construed in the light most favorable to the non-moving party. *Tolan v.* Cotton, 572 U.S. 650, 660 (2014); *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986); *Redding*, 241 F.3d at 532 (6th Cir. 2001). "[T]he mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986) (emphasis in original); *see also National Satellite Sports, Inc. v. Eliadis, Inc.*, 253 F.3d 900, 907 (6th Cir. 2001).

If the movant establishes by use of the material specified in Rule 56(c) that there is no genuine issue of material fact and that it is entitled to judgment as a matter of law, the opposing party must come forward with "specific facts showing that there is a genuine issue for trial." *First Nat'l Bank v. Cities Serv. Co.*, 391 U.S. 253, 270 (1968); *see also McLean v. 988011 Ontario, Ltd.*, 224 F.3d 797, 800 (6th Cir. 2000). Mere allegations or denials in the non-movant's pleadings will not meet this burden, nor will a mere scintilla of evidence supporting the non-moving party. *Anderson*, 477 U.S. at 248, 252. Rather, there must be evidence on which a jury could reasonably find for the non-movant. *McLean*, 224 F.3d at 800 (*citing Anderson*, 477 U.S. at 252).

ANALYSIS

"Absent waiver, the doctrine of sovereign immunity insulates the government from suit." *Dep't. of the Army v. Blue Fox*, 525 U.S. 255, 260 (1998) (citing *Fed. Deposit Ins. Corp. v. Meyer*, 510 U.S. 471, 475 (1994)). With the enactment of the FTCA, Congress waived the government's sovereign immunity for certain claims, subject to specific limitations. When an action is brought under the FTCA, the plaintiff must establish a viable claim under the law of the state in which the alleged negligent act or omission took place. *Premo v. United States*, 599 F 3d 540, 545 (6th Cir. 2010).

The alleged negligence in this case occurred in the state of Michigan, therefore Michigan's substantive law of contribution and indemnity, as well as the substantive requirements of Michigan's law regarding medical malpractice, apply to this case.

I. Common Law Indemnification

Common law "indemnification is an equitable doctrine that shifts the entire burden of judgment from one tortfeasor who has been compelled to pay it, to another whose active negligence is the primary cause of the harm." *St. Luke's Hosp. v. Giertz*, 458 Mich. 448, 453 (1998). The party seeking indemnification must be free from active negligence. "Whether a party was free from active negligence in an underlying case and thus entitled to common-law indemnification is generally a question of fact for the jury." *Botsford Continuing Care Corp. v. Intelistaf Healthcare, Inc.*, 292 Mich. App. 51, 60–61 (2011).

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***3** The moving TPDs contend that plaintiff's underlying complaint alleges active negligence on the part of the United States, so the United States cannot assert a claim for common law indemnity against them. "To hold that a party to a lawsuit should be legally bound by the mere allegations of its opponent, regardless of the facts and circumstances surrounding a case, would constitute nothing less than judicial indifference to notions of fairness and fundamental principles of justice." *Fishbach-Natkin, Inc. v. Shimizu Am. Corp.*, 854 F. Supp. 1294, 1302 (E.D. Mich. 1994). "Thus, in determining whether the party seeking indemnity was actively negligent, a court must review all of the evidence presented, including but not limited to the underlying complaint." *Id.* This determination may not be made by simply looking to the allegations of plaintiff's complaint.

The original underlying complaint in this case pleads alternative theories of negligence, against an employee of a federally funded clinic, as well as against a non-employee of the federally funded clinic, Dr. Brown. When the underlying complaint pleads alternative theories of negligence, a court cannot determine whether a claim for common law indemnity against a third party is valid until the parties obtain a judgment on the issue of active versus passive negligence. *See St. Luke's Hosp.*, 458 Mich. at 450, 454.

There remains an issue of fact whether the United States (Dr. Roychoudhury) was actively negligent in causing the harm alleged by plaintiff. Therefore, the moving TPD's motion for summary judgment on this claim is denied.

II. Common Law Contribution

In 1970, "the Michigan Supreme Court expressly created a common law right to contribution among nonintentional tortfeasors, abolishing the former common law bar against such suits." *Dolinka VanNoord & Co. v. Oppenheimer & Co.*, 891 F. Supp. 1244, 1248 (W.D. Mich. 1995) (citing *Moyses v. Spartan Asphalt Paving Co.*, 383 Mich. 314, 334-35 (Mich. 1970))'; *Fed. Sav. & Loan Ins. Corp. v. Quinlan*, 678 F. Supp. 174, 175 (E.D. Mich. 1988) ("In Michigan, the right to contribution is both common law based (citing *Moyses*) and statutorily authorized (citing M.C.L.A. § 600.2925a)."). The cause of action for common law contribution has never been overruled by statute or by the Michigan Supreme Court. *See id.*

The moving TPDs argue that there is no longer a common law right to contribution in Michigan and therefore the claim asserted under this theory should be dismissed. In support of their position, the moving TPDs cite to Michigan state appellate law holding that the right to contribution is controlled entirely by statute. *Isabella County v. State*, 181 Mich. App. 99, 103 (1989); *Reurink Bros. Star Silo, Inc. v. Clinton County Rd. Comm'rs*, 161 Mich. App. 67, 70 (1987). However, it is well-settled in Michigan that a state appellate court may not overrule a decision by the Michigan Supreme Court. *Associated Builders & Contractors v. City of Lansing*, 880 N.W.2d 765, 772 (Mich. 2016).

In addition, the United States District Court for both the Eastern and Western Districts of Michigan have rejected the assertion made by the moving TPDs. *See Dolinka*, 891 F. Supp. at 1249 ("neither of th[e] decisions [from] the Court of Appeals provide[d] any discussion of the origins or history of the common law right to contribution in Michigan, nor did [they] refute [their own] other recent decisions which appear to endorse a common law right to contribution."); *Fed. Sav. & Loan Ins. Corp.*, 678 F. Supp. at 175.

***4** The two cases relied on by the moving TPDs do not support their argument. One case involved statutory contribution, but not a claim of common law contribution. The case did not even discuss common law contribution. *Fishbach-Natkin, Inc. v. Shimizu America Corp.*, 854 F.Supp. 1294, 1299 (E.D. Mich. 1994). Nor did the other case discuss common law contribution. *In re Air Crash at Detroit Metro. Airport*, 791 F. Supp. 1204, 1225-26 (E.D. Mich. 1992).

The Court concludes that Michigan does recognize a common law right of contribution among nonintentional tortfeasors. The moving TPDs motion for summary judgment is denied as to this claim.

III. Statutory Contribution

In the event the United States is found liable in plaintiff's underlying suit, it alleges an entitlement to statutory contribution from the moving TPDs under M.C.L. § 600.2925a due to their alleged medical malpractice. To state a claim for contribution, the United States must first demonstrate a prima facie case of medical malpractice against the moving TPDs. The moving TPDs argue that there is no genuine issue of material fact that they committed medical malpractice because the United States does not have the expert testimony required to support a such a claim against them.

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A. Medical Malpractice in Michigan

The elements of a cause of action for medical malpractice have been codified by statute in Michigan. Those elements include:

> [I]n an action alleging malpractice, the plaintiff has the burden of proving that in light of the state of the art existing at the time of the alleged malpractice ... [t]he defendant, if a specialist, failed to provide the recognized standard of practice or care within that specialty as reasonably applied in light of the facilities available in the community or other facilities reasonably available under the circumstances, and as a proximate result of the defendant failing to provide that standard, the plaintiff suffered an injury.

M.C.L. § 600.2912a(1)(b). Expert testimony is required to establish the elements of medical malpractice. *Thomas v. McPherson Community Health Center*, 155 Mich. App. 700, 705 (1986) ("expert testimony is required to establish the applicable standard of conduct, the breach of that standard, and causation."). This is because, in medical malpractice cases, issues of negligence and causation are normally beyond the knowledge of laymen. *Baldwin v. Williams*, 104 Mich. App. 735, 738 (1981).

B. Expert Evidence

The United States submitted expert reports from Dr. Kirk Agerson and Dr. Mark Adams in support of its claims that the moving TPDs committed medical malpractice. In their motion for summary judgment, the moving TPDs argue that the limited scope of testimony offered by these two experts cannot support a finding of medical malpractice.

Under Rule 26, the parties must disclose certain information about their experts during discovery, such as fee schedules, curriculum vitae, publication history, and testimony history. Fed. R. Civ. P. 26(a)(2)(B). An expert's report must also contain a description of the facts the expert relied upon and "a complete statement of all opinions the witness will express" at trial. *Id.*

According to the United States, at trial Dr. Agerson will testify that Dr. Brown and Dr. Sturgill did not comply with the standard of care because plaintiff had clear signs of cauda equina syndrome when they examined her, but their ultimate advice to plaintiff was to keep a neurosurgery appointment several days later. This information is contained in Dr. Agerson's report [ECF No. 66-15]. Dr. Adams will testify that Dr. Rawal violated the standard of care because plaintiff had clear signs of cauda equina syndrome when Dr. Rawal examined her, but he scheduled surgery for two days later, during which time, plaintiff's condition worsened to the point that plaintiff had to return to the emergency room the following morning. Dr. Adams will also testify that, if plaintiff had surgery shortly after Dr. Brown, Dr. Sturgill, or Dr. Rawal examined her, plaintiff would not have suffered her current injuries. Dr. Adams' report contains all of this information [ECF No. 66-19].

***5** Expert witnesses are not restricted to the exact wording of their reports at trial. "[R]ule [26(a)(2)] contemplates that the expert will supplement, elaborate upon, explain and subject himself to cross-examination upon his report" at trial. *Thompson v. Doane Pet Care Co.*, 470 F.3d 1201, 1203 (6th Cir. 2006).

Under Rule 702, a district court should allow expert testimony "if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." *Best v. Lowe's Home Centers, Inc.*, 563 F.3d 171, 176 (6th Cir. 2009); Fed. R. Evid. 702. Although the moving TPDs request that the Court hold a *Daubert* hearing to determine the admissibility of Dr. Agerson's and Dr. Adams' testimony, they do not raise any objection to their qualifications or their methodology. Therefore, the Court has no basis at this time to convene a *Daubert* hearing.

In addition to offering the testimony of Drs. Agerson and Adams, the United States asserts that it intends to offer several expert witnesses, treating physicians, the medical records, and admissible medical literature to demonstrate that Dr. Brown, Dr. Sturgill, and Dr. Rawal breached the standard of care. The moving TPDs have not sustained their burden of demonstrating there is no issue of material fact for trial regarding the United States' allegations that they committed medical malpractice.

CONCLUSION

Now therefore, for the reasons stated above,

IT IS HEREBY ORDERED that the moving third-party defendants' motion for summary judgment is DENIED.

All Citations

Slip Copy, 2020 WL 6562255

Footnotes

1 The Michigan Supreme Court later overruled a portion of the holding in *Moyses*, noting that it only overruled the portion of the *Moyses* opinion dealing with personal jurisdiction, not the portion regarding claims for common law contribution. *See Hapner v. Rolf Brauchli, Inc.*, 273 N.W.2d 822, 829 n.5 (1978).

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Exhibit V

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Order

Michigan Supreme Court
Lansing, Michigan

Elizabeth T. Clement
Chief Justice

Brian K. Zahra
David F. Viviano
Richard H. Bernstein
Megan K. Cavanagh
Elizabeth M. Welch
Kyra H. Bolden,
Justices

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May 26, 2023

163120

LYNDA DANHOFF and DANIEL DANHOFF,
Plaintiffs-Appellants,

v

SC: 163120
COA: 352648
Oakland CC: 2018-166129-NH

DANIEL K. FAHIM, M.D. and MICHIGAN HEAD & SPINE INSTITUTE,
Defendants-Appellees,
and

DANIEL K. FAHIM, M.D., PC, KENNETH P. D'ANDREA, D.O., and WILLIAM BEAUMONT HOSPITAL, d/b/a BEAUMONT HOSPITAL-ROYAL OAK,
Defendants.
_____/

On December 7, 2022, the Court heard oral argument on the application for leave to appeal the May 6, 2021 judgment of the Court of Appeals. On order of the Court, the application is again considered, and it is GRANTED. The parties shall address: (1) whether this Court's decisions in *Edry v Adelman*, 486 Mich 634 (2010), and *Elher v Misra*, 499 Mich 11 (2016), correctly describe the role of supporting literature in determining the admissibility of expert witness testimony on the standard of care in a medical malpractice case; (2) if not, what a plaintiff must demonstrate to support an expert's standard-of-care opinion; and (3) whether the appellants' standard-of-care expert met the standards for determining the reliability of expert testimony and was thus qualified to testify as an expert witness under MRE 702 and MCL 600.2955 or whether a *Daubert* hearing was necessary before making that decision. See *Kumho Tire Corp Ltd v Carmichael*, 526 US 137 (1999); *General Electric Co v Joiner*, 522 US 136 (1997); *Daubert v Merrell Dow Pharm, Inc*, 509 US 579 (1993); *Elher*; *Edry*. The time allowed for oral argument shall be 20 minutes for each side. MCR 7.314(B)(1).

Amici who appeared at the application stage are invited to file supplemental briefs amicus curiae. Other persons or groups interested in the determination of the issues presented in this case may move the Court for permission to file briefs amicus curiae.

t0523

I, Larry S. Royster, Clerk of the Michigan Supreme Court, certify that the foregoing is a true and complete copy of the order entered at the direction of the Court.

May 26, 2023

Clerk