STATE OF MICHIGAN

COURT OF APPEALS

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.	UNPUBLISHED July 28, 2016 No. 318115 Livingston Circuit Court LC No. 11-026466-NH

ON REMAND

Before: SAAD, P.J., and OWENS and K. F. KELLY, JJ.

PER CURIAM.

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 *Figurski v Trinity Health-Michigan,* unpublished order of the Court of Appeals, entered March 5, 2015 (Docket No. 318115).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 NW2d 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 *Figurski v Trinity Health*, unpublished per curiam opinion of the Court of Appeals, issued March 5, 2015 (Docket Nos. 318115 and 319086), slip op pp 5-7, 15-17.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 NW2d 272 (2008). Judge Gleicher wrote:
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> > 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,

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[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 NW2d 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.

> 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*.]

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 F3d 77, 85 (CA 1, 1998). The test is whether the expert's *reasoning* is scientifically sound.
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> 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 US at 597. Alternatively stated, the trial judge is "a gatekeeper, not a fact finder." *United States v Sandoval–Mendoza*, 472 F3d 645, 654 (CA 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 US at 156. *Elher*, slip op, pp 19-20. [*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 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; ___ 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.
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> 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.
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> 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.
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> 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; ___ NW2d ___ (2016), slip op, pp 13-16 (internal footnotes omitted).]

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 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 NW2d 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.

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; ___ NW2d ___ (2016), slip op, p 9 (internal footnotes omitted).

III. GENERAL REVIEW OF THE LAW ON EXPERT TESTIMONY

> 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 NW2d 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 NW2d 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. 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 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 NW2d 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.

"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 NW2d 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.
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> Careful vetting of all aspects of expert testimony is especially important when an expert provides testimony about causation. [*Gilbert*, 470 Mich at 782 (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 US 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 US 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.

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' 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.

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[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."

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.]

The United States Supreme Court revisited *Daubert* six years later in *Kumho Tire Co, Ltd v Carmichael*, 526 US 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, methodology, and reasoning relied on by the expert, and shall consider all of the following factors:

(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. 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. 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.

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.
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> 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 (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*[4]*–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. 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. The Court explained:

> 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

[4] *People v Davis*, 343 Mich 348; 72 NW2d 269 (1955).

> 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.]

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. 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. 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. *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.

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. 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 (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. 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.

> 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.]

Dr. Gabriel could not identify what part of the 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. 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.

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. 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. 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 (internal quotation marks and footnotes omitted).]

Three years later in *Chapin v A & L Parts, Inc*, 274 Mich App 122; 732 NW2d 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. 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.]

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 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 (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.

In *Edry v Adelman*, 486 Mich 634; 786 NW2d 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. 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 (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. 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.

IV. PLAINTIFF'S CAUSATION EXPERT

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D. ANALYSIS

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 US 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. 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."

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 NW2d 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

[5] Even if there was no global injury, the uncontested fact remains that plaintiff suffered a perinatal arterial *ischemic* stroke.

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.

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 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.]

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 . . .
> >
> > 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 Int'l J Gynaecology & Obstetrics 205 (1983).
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> ***
>
> The Volpe textbook also supports that mechanical trauma can damage a fetus's brain:

[6] Exhibit 9 to Crawford's affidavit in this case.

> 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).]

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> 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.

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 US 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.

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 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 US at 596. Again, *Chapin* cautions:

> 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.]

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.

/s/ Henry William Saad
/s/ Donald S. Owens
/s/ Kirsten Frank Kelly