Fatou Jabbi, et al. v. Adventist Healthcare, Inc., et al., No. 2071, September Term 2023. Opinion by Beachley, J.

MEDICAL MALPRACTICE – EXPERT TESTIMONY – SUFFICIENT FACTUAL BASIS – RELIANCE ON EDUCATION AND EXPERIENCE

Appellants Fatou Jabbi and Lamin Kanteh, Individually and as Parents and Next Friends of their child T.R., sued defendants/appellees Adventist Healthcare, Inc., Tamara Pottillo, and Lisa Godette for injuries suffered by T.R. related to Ms. Jabbi's care prior to T.R.'s birth.

Ms. Jabbi, then 24 weeks and 5 days pregnant, presented to Washington Adventist Healthcare ("WAH") complaining of back and abdominal pain. Nurse Pottillo took Ms. Jabbi's vitals, which were reviewed by Dr. Godette. Dr. Godette determined that Ms. Jabbi's vitals were within normal limits and sent her home with a prescription for Tylenol. Defendants did not test Ms. Jabbi's urine for signs of preeclampsia. Fourteen hours later, Ms. Jabbi went to a different hospital, was diagnosed with preeclampsia, and received one dose of Betamethasone, a steroid that helps a fetus's lungs mature quickly in preparation for early delivery. Ms. Jabbi's condition deteriorated, requiring a cesarean section before a second dose of Betamethasone (the full course of the medicine) could be administered. T.R. was born with severe medical problems associated with prematurity.

Appellants retained experts who opined that (1) had WAH complied with the standard of care, the pregnancy could have been extended long enough to administer the full course of Betamethasone, and (2) the full course of Betamethasone would have mitigated T.R.'s injuries. The experts based their opinions on scientific literature that supported their conclusions.

The defendants/appellees moved to preclude testimony from Ms. Jabbi's causation experts and for summary judgment. The circuit court granted the motions, finding that the experts were relying on their "education and experience without specifying how that education and experience actually supports" their opinions, and that the opinions were not supported by scientific literature or the facts of the case. Appellants appealed.

Held: Judgment reversed and remanded for further proceedings.

The Appellate Court examined Rule 5-702's "sufficient factual basis" requirement for expert testimony. Noting that the only expert testimony was that produced by appellants, the Court concluded that appellants' causation experts relied on their medical experience as well as scientific literature in forming their opinions. The Court therefore concluded that the experts had a sufficient factual basis for their opinions pursuant to Rule 5-702. Thus, the circuit court abused its discretion in precluding appellants' experts' testimony.

Relying on federal precedent, the Court noted that, in the application of Rule 5-702 and *Daubert-Rochkind*, courts may consider a medical expert's experience because the human body is complex, double-blind studies needed for "statistical proof" may not be possible, and medical decision-making often requires reliance on experience and judgment.

Circuit Court for Montgomery County
Case No. 484234V

REPORTED

IN THE APPELLATE COURT

OF MARYLAND

No. 2071

September Term, 2023

FATOU JABBI, ET AL.

v.

ADVENTIST HEALTHCARE, INC., ET AL.

Friedman,
Beachley,
Harrell, Glenn T., Jr.
(Senior Judge, Specially Assigned),

JJ.

Opinion by Beachley, J.

Filed: March 5, 2025

In this medical malpractice action, appellants Fatou Jabbi and Lamin Kanteh, Individually and as Parents and Next Friends of their minor child, T.R.,[1] appeal the Circuit Court for Montgomery County's grant of summary judgment in favor of the appellees/health care providers, Adventist Healthcare, Inc., Tamara Pottillo, and Lisa Godette. In their timely appeal, appellants present two questions for appellate review, which we have consolidated and rephrased as follows:

> Did the circuit court abuse its discretion in precluding appellants' expert witness testimony, which in turn formed the basis for its grant of summary judgment?[2]

For the reasons explained below, we reverse and remand for further proceedings.

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[1] We shall adopt appellants' designation of the minor child as "T.R."

[2] The questions presented in appellants' brief are:

1. Whether the [c]ircuit [c]ourt erroneously took sides in a credibility contest and/or failed to apply the applicable law when it determined that [a]ppellants' physicians would not be permitted to opine, based on their expertise, training, and experience, that [a]ppellees' negligence caused injuries given the [c]ourt's disregard of medical literature proffered and relied upon by the experts?

2. Whether the [c]ircuit [c]ourt improperly rejected conclusions and inferences drawn by [a]ppellants' expert witnesses, or substituted its own analysis of the medicine for that of the experts, when the experts' opinions were reasonably and reliably based upon peer-reviewed literature as well as the experts' own experience, education and expertise?

FACTUAL AND PROCEDURAL BACKGROUND[3]

On January 16, 2018, at approximately 7:12 p.m., appellant Fatou Jabbi, then twenty-four weeks, five days pregnant, presented to Washington Adventist Healthcare ("WAH") complaining of pain in the upper left quadrant of her abdomen and back, which she reported had persisted for twelve hours. Jabbi's pregnancy was considered high risk, as she was forty-four years old and had significant co-morbidities, including obesity, diabetes, gestational hypertension, and Intrauterine Growth Restriction ("IUGR").[4] Jabbi was triaged at 8:41 p.m. by a registered nurse, appellee Tamara Pottillo, who noted that Jabbi was not bleeding, leaking amniotic fluid, experiencing contractions, or otherwise in labor. Nurse Pottillo testified at her deposition that she obtained Jabbi's vital signs, but she could not explain why those vitals were not charted. Nurse Pottillo also testified that Jabbi was placed on a fetal monitor to assess the baby's condition. According to the readings from the fetal monitor, Jabbi's blood pressure was 144/70, which level did not warrant the administration of antihypertensive medications. Jabbi did not report or exhibit headache, blurred vision, nausea or vomiting while at WAH. She could walk without assistance and had full range of motion without joint swelling or tenderness. Notably,

[3] Our recitation of the facts adheres to the principle that in summary judgment cases an appellate court reviews the record in the light most favorable to the nonmoving party, in this case the appellants.

[4] Intrauterine Growth Restriction (IUGR) is when the fetal weight is estimated to be below the 10th percentile for its gestational age. *Intrauterine Growth Restriction*, CLEVELAND CLINIC, https://perma.cc/CGF8-3AZK (last accessed Feb. 7, 2025).

Pottillo did not check for protein in Jabbi's urine, nor did she check Jabbi's BUN[5] or creatinine levels. Nurse Pottillo consulted with Dr. Lisa Godette, the attending physician on duty at the time. Although Dr. Godette did not personally examine Jabbi, she found that her vitals and the fetal tracing were within normal limits. Accordingly, Dr. Godette prescribed Tylenol for Jabbi's pain and sent her home. Jabbi was given informational handouts related to "back pain during pregnancy." Jabbi was discharged at approximately 9:15 p.m., thirty-four minutes after her encounter with Nurse Pottillo, with instructions to call her obstetrician in the morning.

Roughly fourteen hours later, a little after 11:00 a.m. on January 17, 2018, Jabbi presented to Holy Cross Hospital ("HCH"), complaining of nausea, vomiting, and upper right quadrant pain.[6] Her initial blood pressure was 164/88, a reading warranting the administration of antihypertensives. HCH personnel diagnosed Jabbi with preeclampsia with severe features and acute hepatitis.[7] After receiving her first dose of antihypertensives at 2:52 p.m., Jabbi's blood pressure decreased to 144/68. Because of the HCH working

[5] "BUN" is an acronym for "blood urea nitrogen" test. *See also* footnote 6.

[6] We note that WAH's records indicate left upper quadrant pain whereas HCH's records identify right upper quadrant pain. This apparent contradiction is immaterial to our analysis.

[7] Preeclampsia is "a persistent high blood pressure that develops during pregnancy or the postpartum period. It is often associated with high levels of protein in the urine or the new development of decreased blood platelets, trouble with the kidneys or liver, fluid in the lungs, or signs of brain trouble such as seizures and/or visual disturbances. Preeclampsia is diagnosed by the elevation of the expectant patient's blood pressure usually after the 20th week of pregnancy . . . ." *What Is Preeclampsia*, PREECLAMPSIA FOUNDATION (May 31, 2023), https://www.preeclampsia.org/what-is-preeclampsia [https://perma.cc/PN6P-MYWF].

diagnosis of hepatitis, and out of concern for the condition of Jabbi's liver and overall health, HCH health care providers administered a dose of Betamethasone at 6:44 p.m. Betamethasone is a steroid used in anticipation of preterm labor to potentially improve health outcomes for preterm babies. After Jabbi was medically stable for transport, HCH transferred her to the University of Maryland Medical Center ("UMMC") to receive more specialized care. She arrived at UMMC at approximately 11:30 p.m. on January 17, 2018, approximately five hours after her only dose of Betamethasone, and roughly twenty-eight hours after her initial presentation at WAH. Unfortunately, Jabbi's condition continued to deteriorate; her liver infarcted and the decision was made to deliver T.R. via cesarean section at 5:52 a.m. on January 18, 2018.[8]

T.R. weighed 490 grams at birth—just over one pound. His head circumference registered in the one percentile range, and he required resuscitation after birth. His Apgar[9] scores were two, two, six, and seven at one, five, ten and fifteen minutes of life,

[8] An infarct is "an area of necrosis in a tissue or organ resulting from obstruction of the local circulation by a thrombus or embolus." *Infarct*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/infarct [https://perma.cc/XA8V-RT98].

[9] In 1952, Dr. Virginia Apgar devised a scoring system to assess the clinical status of a newborn infant at one minute of age to determine whether intervention was needed to establish breathing. Clinicians assess five elements: color, heart rate, reflexes, muscle tone, and respiration, each of which is assigned a value of 0, 1, or 2. The sum of those values is the infant's Apgar score. Apgar scoring is designed to assess clinical signs of neonatal depression such as cyanosis or pallor, bradycardia, depressed reflex response to stimulation, hypotonia, and apnea or gasping respirations. A score of 7 to 10 is considered reassuring, a score of 4 to 6 is moderately abnormal and a score of 0 to 3 is deemed low. *The Apgar Score*, Am. College of Obstetricians & Gynecologists, Comm. Op. No. 644 (2015).

respectively. It took sixteen minutes and four attempts to intubate him, due to his small size. T.R. was diagnosed with a Grade 1 or 2 intraventricular hemorrhage ("IVH"), respiratory distress syndrome, patent ductus arteriosus, and retinopathy of prematurity.[10] He was also born with broken bones. After his birth, he spent over five months in hospitals. Today, T.R. is a seven-year-old child with global development delays and other cognitive impairments that appellants claim are associated with prematurity. According to appellants, his conditions will require lifelong care.

On December 7, 2020, appellants filed a medical malpractice suit in the Circuit Court for Montgomery County, naming WAH, Dr. Lisa Godette, Tamara Pottillo, R.N., and her primary obstetrician, Dr. Arshad Sheikh, as defendants. Dr. Sheikh was granted summary judgment on July 1, 2022; appellants have not appealed that determination. The remaining defendants filed two motions in limine to preclude the testimony of Jabbi's expert witnesses, as well as a motion for summary judgment. Both motions in limine

[10] Patent ductus arteriosus (PDA) is "a heart defect that can develop soon after birth. It affects the way blood flows through a baby's lungs. Mild PDA might not need treatment, but some children born with the defect may require catheterization or surgery." John Thomson, *Patent Ductus Arteriosus (PDA)*, JOHNS HOPKINS MEDICINE, https://www.hopkinsmedicine.org/health/conditions-and-diseases/patent-ductus-arteriosus-pda [https://perma.cc/M6FA-WG8C].

Retinopathy of prematurity (ROP) is "an eye disease in some premature babies born before 31 weeks . . . It is a problem that affects the tissue at the back of the eye called the retina. The retina senses light and sends signals to the brain so you can see. With ROP, unwanted blood vessels grow on the baby's retina. These blood vessels can cause serious eye and vision problems later." David Turbert, *What Is Retinopathy of Prematurity (ROP)?*, AM. ACAD. OF OPHTHALMOLOGY (Sept. 30, 2024), https://www.aao.org/eye-health/diseases/what-is-retinopathy-prematurity.

challenged appellants' experts on causation. The circuit court heard argument on the motions on December 1, 2023. At the conclusion of the hearing, the court ruled from the bench in favor of the appellees, finding that "[i]t is not sufficient for the experts to rely on education and experience without specifying how that education and experience actually supports the opinions that they are giving," and concluding that "[p]laintiff's experts' testimony relies on speculations and assumptions that are not supported by the literature or the facts presented." Because the court precluded appellants' expert testimony on causation, it granted summary judgment in favor of WAH, Dr. Godette, and Nurse Pottillo.

Additional facts will be provided as necessary to inform our analysis.

DISCUSSION

Standards of Review

The circuit court's grant of summary judgment is reviewed de novo. *Dett v. State*, 161 Md. App. 429, 441 (2005). "In deciding a motion for summary judgment, the circuit court must determine two legal issues: 1) whether there is a genuine dispute of material fact and 2) if not, whether the moving party is entitled to summary judgment as a matter of law." *Id*. at 440. "An appellate court reviews without deference a trial court's grant of a motion for summary judgment, reviews the record in the light most favorable to the nonmoving party, and construes any reasonable inferences that may be drawn from the facts against the moving party." *Oglesby v. Balt. Sch. Assoc.*, 484 Md. 296, 327 (2023) (quoting *State v. Rovin*, 472 Md. 317, 341 (2021)). Because we review the trial court's decision to grant or deny a motion for summary judgment without deference, "[w]e conduct the same analysis that a trial court should make when considering the motion for

judgment." *District of Columbia v. Singleton*, 425 Md. 398, 406-07 (2012).

On the other hand, the decision of the trial court to exclude expert testimony is reviewed for abuse of discretion. *Oglesby*, 484 Md. at 326-27. Maryland courts have traditionally held that an abuse of discretion occurs "where no reasonable person would take the view adopted by the trial court, or when the decision under consideration is well removed from any center mark imagined by the reviewing court and beyond the fringe of what the court deems minimally acceptable." *Id*. at 327 (internal citation and quotation omitted). Yet the Supreme Court of Maryland has recently recognized that "our traditional formulation of the abuse of discretion standard . . . is not the best or most accurate way of describing our abuse of discretion review in the *Daubert-Rochkind* context." *Katz, Abosch, Windesheim, Gershman & Freedman, P.A. v. Parkway Neuroscience & Spine Inst., LLC*, 485 Md. 335, 404-05 (2023) [hereinafter *Katz*] (J. Booth concurring).

Analysis

To prevail in a medical negligence action, a plaintiff must prove the applicable standard of care, a breach of that standard, a causal relationship between the breach and the injury claimed, and actual damages. *Frankel v. Deane*, 480 Md. 682, 699 (2022). In Maryland, expert testimony is required to establish medical negligence and causation when such matters are outside the common knowledge of jurors. *Am. Radiology Servs., LLC v. Reiss*, 470 Md. 555, 562 (2020). Here, appellants proffered expert testimony to prove that WAH breached the standard of care when it discharged Ms. Jabbi on January 16, 2018, at 9:15 p.m.; that had she been properly evaluated and monitored at WAH on January 16, 2018, she would have been diagnosed with preeclampsia with severe features and her blood

pressure and other vitals would have been stabilized so as to delay delivery of T.R.; that the delay in delivering T.R. would have been sufficiently long to allow for a complete course of Betamethasone to be administered; and that a full course of the Betamethasone would have mitigated the injuries suffered by T.R. at his birth.

A. Admissibility of Expert Testimony Generally

Under Maryland Rule 5-702, "[e]xpert testimony may be admitted, in the form of an opinion or otherwise, if the court determines that the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue." Md. R. 5-702. To admit such evidence, the trial court must determine three things: 1) whether the witness is qualified as an expert by knowledge, skill, experience, training, or education, 2) the appropriateness of the expert testimony on the particular subject, and 3) whether a sufficient factual basis exists to support the expert testimony. *Id.* "The third 'sufficient factual basis' prong includes two sub-factors. First, the expert must have available an adequate supply of data. Second, the expert must use a reliable methodology in analyzing that data." *Katz*, 485 Md. at 363. Where these factors are not satisfied, an expert opinion is "mere speculation or conjecture." *Id.* at 364 (quoting *State v. Matthews*, 479 Md. 278, 309 (2022)).

In conjunction with the application of Md. Rule 5-702, expert testimony must also be analyzed through the lens of *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993), and *Rochkind v. Stevenson*, 471 Md. 1 (2020). In *Daubert*, a case concerning whether a drug manufactured by Merrell Dow Pharmaceuticals caused the birth defects of plaintiffs Jason Daubert and Eric Schuller, the U.S. Supreme Court set forth five factors to

determine the admissibility of expert witness testimony: 1) whether the theory or technique employed by the expert is generally accepted in the scientific community; 2) whether it has been subjected to peer review and publication; 3) whether it can be and has been tested; 4) whether it has a known error rate; and 5) whether the research was conducted independent of the particular litigation or dependent on an intention to provide the proposed testimony.[11] *Daubert*, 509 U.S. at 593-94. The Court emphasized that the *Daubert* standard is a flexible one, focused on the scientific validity and, therefore, evidentiary relevance and reliability of the proposed testimony. *Id*. at 594-95. The Court further cautioned that the *Daubert* factors should not be treated as "a definitive checklist or test." *Id*. at 593.

Our Supreme Court adopted the *Daubert* standard in *Rochkind v. Stevenson*, 471 Md. 1 (2020). In *Rochkind*, a lead paint case, the Court found that the *Daubert* factors, more so than the *Frye* test, are "persuasive in interpreting [Maryland] Rule 5-702" to analyze the admission or exclusion of expert testimony. *Id*. at 35. In addition to formally adopting the five *Daubert* factors, the Court endorsed five additional factors identified in the Advisory Committee Note to Federal Rule of Evidence 702. *Id*. at 35-36. Those factors are: 1) whether experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for the purposes of testifying; 2) whether the expert has

[11] In federal courts and in a supermajority of the states, these five factors have replaced the *Frye* standard, originating from the 1923 case *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), which discussed whether a systolic blood pressure deception test was admissible as evidence. In *Frye*, the court held that expert testimony must be based in scientific methods that are "sufficiently established to have gained general acceptance in the particular field in which it belongs." *Id.* at 1014.

unjustifiably extrapolated from an accepted premise to an unfounded conclusion; 3) whether the expert has adequately accounted for obvious alternative explanations; 4) whether the expert is being as careful as he [or she] would be in his [or her] regular professional work outside his [or her] paid litigation consulting; and 5) whether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give. *Id*. The Court clarified that while all factors are relevant to determining the reliability of expert testimony, no single factor is dispositive in the analysis. "A trial court may apply some, all, or none of the factors depending on the particular expert testimony at issue." *Id.* at 37. But, the Court explained,

> nothing in either *Daubert* or the Federal Rules of Evidence requires a [trial] 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.

Id. at 36 (alteration in original) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997)). In sum, *Daubert* requires that the expert testimony "both rests on a reliable foundation and is relevant to the task at hand." *Daubert*, 509 U.S. at 597.

Against this backdrop, we turn to consider whether the trial court abused its discretion in precluding Jabbi's expert testimony.

B. The Trial Court Abused Its Discretion in Precluding Appellants' Expert Testimony and Therefore Erred in Granting Summary Judgment

Appellants argue that the trial court erred in precluding their experts' testimony, asserting that the trial court failed to consider the "wealth of credible literature" offered to support the opinions proffered by their experts. In their view, the court focused

inappropriately on appellants' failure to provide to the court and appellees the American College of Obstetricians and Gynecologists ("ACOG") guidelines referenced in the experts' depositions. Appellants contend that their experts relied on and provided more than twenty scholarly articles that the trial court either ignored or improperly discounted.

The appellees contend that the trial court did not abuse its discretion, and that the testimony offered by appellants' experts amounted to *ipse dixit*, or "because I said so" opinions, unsupported by any scientific fact or reasoning. To bolster their argument, appellees claim that appellants' experts' opinions are the "product of serial 'analytical gaps'" in which the data gathered and conclusions proffered are fundamentally disconnected.

a. Standard of Care and Breach

Although the appellees have not challenged appellants' experts' testimony concerning the standard of care and breach of the standard of care—the first two elements of a medical malpractice action—we shall briefly address them to provide context for our causation analysis. Appellants offered three obstetrician experts to opine on the standard of care and breach: Dr. Michael Cardwell, Dr. Howard Mandel, and Dr. Julia Solomon. All three testified that WAH breached the standard of care vis à vis Ms. Jabbi's presentation at WAH and subsequent medical treatment.

Dr. Cardwell testified that the standard of care required, at a minimum, that WAH monitor Ms. Jabbi for at least four hours for the purpose of taking serial blood pressure readings. Dr. Cardwell opined that, had Ms. Jabbi's blood pressure been monitored appropriately, her blood pressure reading four hours later would likely have been elevated

"to the point that the diagnosis of preeclampsia would have been made." He based his opinion on the facts that Ms. Jabbi's pre-pregnancy blood pressures were normal, her only recorded blood pressure at WAH was elevated (although not warranting medication at that time), and her blood pressure upon presentation to HCH the following morning was already in the hypertensive range. Dr. Cardwell opined that the EMTALA[12] was violated because Ms. Jabbi "was not given an appropriate screening exam, nor was she stabilized prior to discharge." He specifically opined that "had the appropriate evaluation been performed, [Ms. Jabbi] would have been found to have preeclampsia with severe features."

Dr. Mandel testified that Dr. Godette breached the standard of care because "if [Dr. Godette] took a history herself or did . . . adequate repeat blood pressures or got a urinalysis that would have shown proteinuria, . . . she most likely would have admitted the patient and treated the patient for preeclampsia."[13] Dr. Solomon offered a similar standard of care opinion:

> Q. So it's your testimony that the standard of care for a patient like Ms. Jabbi, based on her age, poorly controlled pregestational diabetes, her race, and her presenting complaint of abdominal pain, regardless of what her blood pressure was, she needed a work-up for preeclampsia

[12] EMTALA is an acronym for Emergency Medical Treatment and Labor Act.

[13] Interestingly, Dr. Mandel refers to a collaborative practice standard policy during his deposition testimony, which states blood pressures should be taken every hour in labor and delivery patients, either admitted or in triage. It is unclear, however, from the deposition excerpt included in the record whether this policy manual is from WAH or another facility, as Dr. Mandel refers only to "this hospital."

and HELLP syndrome?[14]

A. Yes.

Q. Is that your testimony?

A. Absolutely.

As previously noted, appellees do not challenge the expert medical testimony concerning the applicable standard of care and its breach by failing to properly evaluate and monitor Ms. Jabbi after she presented to WAH on January 16, 2018.

b. Causation

The crux of appellees' argument is that appellants' experts' opinions regarding causation lacked a "sufficient factual basis" as required by Rule 5-702(3). Appellees cite to the Advisory Committee Notes related to the 2000 Amendments to Federal Rule 702 to assert that the "adequate supply of data" component of Rule 5-702(3) requires that "[i]f experts rely solely or primarily on experience for their opinions, they 'must explain how that experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts.'" Citing *Exxon Mobil Corp. v. Ford*, 433 Md. 426, 481 (2013), appellees point out that the "reliable methodology" prong of Rule 5-702(3) requires that the expert "provide a sound reasoning process for inducing its conclusion from the factual data and must have an adequate theory

[14] HELLP syndrome is an acronym for hemolysis, elevated liver enzymes and low platelet count, and is usually considered to be a variant of preeclampsia, according to the Preeclampsia Foundation. It is a life-threatening complication that is most often treated by delivering both the baby and the placenta. *HELLP Syndrome*, PREECLAMPSIA FOUND. (July 5, 2023), https://preeclampsia.org/hellp-syndrome [https://perma.cc/RZ7E-ZXET].

or rational explanation of how the factual data led to the expert's conclusion." We note, however, that appellees have not specifically addressed how the *Daubert-Rochkind* factors may or may not apply to the instant case.[15]

With these principles in mind, we turn to examine the two components of appellants' causation analysis: 1) that, had appellees complied with the standard of care by properly evaluating and monitoring Ms. Jabbi, her pregnancy could have been extended to allow for a full administration of Betamethasone; and 2) that a full course of Betamethasone would have mitigated T.R.'s injuries. We shall separately address each component of causation based on the evidence before the circuit court.

(i)

Appellants argue that had Ms. Jabbi been admitted to WAH on January 16, 2018, her condition would have stabilized and her pregnancy could have been extended for a period of at least two days, and potentially up to a week. Appellees contend that it is entirely "speculative" that Ms. Jabbi could have been stabilized at WAH on January 16, 2018, or that her pregnancy could have been extended. In our view, appellants' contention is adequately supported by testimony from obstetricians Dr. Mandel, Dr. Cardwell, and Dr. Solomon.

[15] We note that appellees did not substantively address the *Daubert-Rochkind* factors at the motions hearing, nor did the circuit court do so in its five-paragraph bench opinion. One court has noted that, "[i]ronically, though intended to lower the threshold for the admissibility of expert testimony, *Daubert* has become a talisman for those seeking exclusion of expert testimony of all types by attempting to '*Daubertize*' experts through rigid application of the Supreme Court's enunciated factors." *Slater v. Paik Implant Dental Assoc., P.C.*, No. 1:21-01181-JMC, 2022 WL 2789082, at *4 (D. Md. July 15, 2022).

Dr. Mandel opined that Ms. Jabbi's pregnancy likely could have been safely prolonged for a period of "a couple days up to two weeks." According to his testimony, even women with some degree of atypical HELLP syndrome can be managed to extend their pregnancies up to several weeks. He based his opinion on "a lot of literature" and "randomized and observation studies." Likewise, Dr. Cardwell agreed that Ms. Jabbi's pregnancy could have been prolonged "[a] few days, maybe three or four days, probably not more than a week." Further, as detailed above, he testified that "even without any treatment the pregnancy went at least two days. . . . And because of the gestational age you would want to prolong the pregnancy as long as possible. And the pregnancy could have been prolonged for several more days. Maybe not more than a week or two, but several more days. 'Cause we know without any treatment she went two days."

Dr. Solomon similarly opined that Ms. Jabbi's pregnancy could have been extended under the circumstances:

> [T]here's ample precedent for a short-term management under very close supervision of extremely premature HELLP syndrome. You know, we know, in retrospect, she had at least forty-eight hours from her initial presentation. It would have been ideal if that had been forty-eight hours including steroids, clearly, but she could have, potentially, been controlled for four, five, six, seven days thereafter, to continue the pregnancy.

Dr. Solomon stated that there are "a lot of publications" that support her foundational opinion that proper management of the patient could have prolonged the pregnancy "in an attempt to get a steroid window."

Appellees contend that the "delivery was precipitated by Ms. Jabbi's worsening liver dysfunction" and that "[t]here is no evidence that Betamethasone, antihypertensives,

or prolonging the pregnancy would or could have mitigated the progression of the liver dysfunction that necessitated [Ms. Jabbi's] emergency cesarean section."

Contrary to appellees' assertion, there was evidence that proper care could have mitigated Ms. Jabbi's liver damage. Dr. Solomon testified that had WAH properly evaluated and treated Ms. Jabbi, her blood pressure could have been controlled, which "likely would have mitigated her liver damage and any consequences of that[.]" Dr. Solomon reiterated that the administration of hypertensives "could have reduced the progression of her liver injury." Dr. Cardwell expressed the view that antihypertensives could provide "some improvement in the liver if that process [of elevated blood pressure] was causing the liver swelling," and reiterated that further assessment of Ms. Jabbi was required "to consider that perhaps the liver capsule is being swollen from that process." Thus, appellants' experts expressly contradict appellees' assertion that nothing "would or could have mitigated the progression of the liver dysfunction" that ultimately required delivery of the baby.[16]

The key corollary question in the prolongation of Ms. Jabbi's pregnancy is whether there would have been sufficient time to allow for the administration of a complete course of Betamethasone. It is undisputed that Ms. Jabbi was given one dose of Betamethasone at HCH on the evening of January 17, 2018. However, appellants contend that if she had been properly diagnosed and admitted to WAH, she would have been administered her first

[16] We recognize that in this voluminous record there is some evidence suggesting that Ms. Jabbi's liver dysfunction caused the premature delivery. However, appellees' reliance on this evidence fails to consider contrary evidence on this issue favorable to appellants.

dose of the steroid on the evening of January 16, 2018. Appellants maintain that if Ms. Jabbi had been given the first dose of the steroid on the evening of January 16, 2018, and her pregnancy safely managed for at least forty-eight hours, she would have been able to receive the second dose of Betamethasone twenty-four hours later, on the evening of January 17, 2018, and that T.R. could then be delivered on the evening of January 18 with a full course of the steroid. Because T.R. was born on January 18 at 5:52 a.m., appellants claim that delivery only needed to be extended approximately twelve to fourteen hours to allow for a full course of Betamethasone. As noted, appellants' experts agree that achieving this "steroid window" was possible and we see nothing in the record to contradict their opinions that the pregnancy could have been extended a minimum of an additional two days.[17] We therefore conclude that appellants' experts articulated a sufficient factual basis for their opinions regarding the probability of extending Ms. Jabbi's pregnancy.

(ii)

The second aspect of causation in this case concerns whether a full course of Betamethasone would have mitigated the various injuries suffered by T.R., lessening the severity of his conditions, if not completely preventing them. Doctors Cardwell, McDowell, and Zinkhan all testified to medical probability that, had T.R. received the complete course of steroids, he would not have suffered the grade two IVH or respiratory distress syndrome, which in turn are probable factors related to his current disabilities.

[17] Even if appellees had an expert that contradicted appellants' experts on this point, which they do not, appellants' experts' opinions are adequately supported and not "speculative."

Dr. Cardwell opined that a complete course of Betamethasone, as recommended in a 1994 study by the National Institutes of Health, results in a "marked decreased incidence of complications of prematurity." Specifically, he stated that "[t]he complete course of steroids decreases the frequency and severity of an intraventricular hemorrhage significantly."

Dr. McDowell, when asked if he thought the full course of steroids would have prevented T.R.'s respiratory distress, responded,

> I think more likely than not that is the case. But as I said before, it depends on the status of the baby at the time of the delivery. If you tell me the baby had a full course of steroids and still had an Apgar of 2 and 2 and hypotension, no, I would say the baby in that circumstance would still have had respiratory distress. I think that's unlikely. I think the antenatal steroids, if the mother had been able to be stabilized and the baby be delivered in a more pristine fashion, if you will, then I think the outcome would have been different.

When pressed further about his opinion, Dr. McDowell clarified that although he could not guarantee that two doses of Betamethasone would have completely prevented any injury, he could say that, according to the literature, "[t]here is about a 50 percent reduction in the incidence and severity of respiratory distress and about a 50 percent reduction, 40 to 50 percent reduction, of intraventricular hemorrhage."

Dr. Zinkhan provided the most comprehensive testimony as to why and how the complete steroid course would have reduced the likelihood of T.R.'s complications and given him a better outcome. Specifically, she testified that a full course of Betamethasone would have decreased the risk of his IVH and improved his lung function. The two doses of steroids have a broad range of benefits, according to the scientific literature she cited.

Dr. Zinkhan articulated her opinion in the following colloquy with appellees' counsel:

> Q: How would a full course of steroids have decreased the risk of IVH?
>
> A: So I will specifically reference the Briceno-Perez paper from 2018 that is in my notes, where – this is a quote from the paper, "The antenatal corticosteroids are one of the most important antenatal therapies available to improve newborn outcomes." And it goes on to talk about the specific issues, reducing mortality, decreasing rates of respiratory distress syndrome, intraventricular hemorrhage and so forth.
>
> Based in part because of the overall cardiovascular stability, so better cardiovascular tone, less likely need for vasopressors, less likely need for fluid boluses, which can each impact the risk of intraventricular hemorrhage. In addition to that, there's actually a direct effect of – we think a direct effect of the steroids on the cerebral vascular function itself to decrease the risk of the hemorrhaging of the actual vessels themselves.
>
> So for a variety of reasons that the baby's overall increased stability plus the actual direct effects on the cardio-respiratory system and the vascular system is going to improve the chance of – or decrease the chance of intraventricular hemorrhage.
>
> Q: Now – I'm sorry. I was trying to write everything you were saying. How do steroids have a direct effect on the vascular system?
>
> A: There's an improvement in vascular tone.
>
> Q: And a direct effect on the cardiovascular system, is that because of the reduced need for fluid boluses and anti-hypertensives, et cetera, that you just talked about?
>
> A: They are sort of one in the same. So the impact of steroids – so with increased vascular tone, you have increased blood pressure. You also have better cardiovascular adaptation from intrauterine to extrauterine life, thereby leading to decreased need for vasopressors and fluid boluses.

> Even if vasopressors and fluid boluses are needed, the steroids still help with the vascular tone making the likelihood of those things less, or in lesser amounts.

Additionally, Dr. Zinkhan testified that, based on her analysis and extrapolation of the existing scientific literature, a complete course of steroids would have indirectly (and favorably) impacted T.R.'s feeding, his suspected late-onset sepsis, and his retinopathy of prematurity.

Dr. Zinkhan provided a bibliography of seventeen studies and two textbooks upon which she based her opinions. Our independent review of the medical literature reveals that Dr. Zinkhan's testimony is substantially supported by the research she cited. In particular, as to the benefits of a full course of Betamethasone, the studies by Briceno-Perez and Bernstein support Dr. Zinkhan's testimony. Appellees claim that the Bernstein article, which provides a table depicting a substantial decrease in all grades of IVH (including grade two, with which T.R. was diagnosed) where a full course of antenatal steroids is administered, was not provided to them.

Appellees' contention on this point is, charitably, disingenuous because Dr. Zinkhan's deposition testimony evinces a colloquy between the doctor and appellees' counsel in which it is clear that they were contemporaneously reviewing the Bernstein article to parse the data contained therein. Table II of the Bernstein study separates instances of IVH (which would include grades one and two) from severe IVH (which includes grades three and four). Ira M. Bernstein et al., *Morbidity and Mortality Among Very-Low-Birth-Weight Neonates with Intrauterine Growth Restriction*, 182 Am. J. Obstetrics and Gynecology 198, 200 (Jan. 2000). The data in the table shows a decrease

in the relative risk of IVH in neonates given prenatal corticosteroids in both the IVH population and the severe IVH population. *Id.*

Dr. Zinkhan also provided a host of peer-reviewed studies that link longer gestation periods to a statistically significant decrease in IVH, respiratory distress syndrome, necrotizing enterocolitis, and other complications of premature birth, thus showing that extending Ms. Jabbi's pregnancy would have been beneficial, even in the absence of a full course of Betamethasone.[18]

We note that all of the evidence discussed above was before the circuit court. After noting that *Rochkind* "adopted the *Daubert* standard for the admission of expert testimony," the court provided the following basis for its ruling precluding appellants' experts' testimony:

> Here, plaintiffs have offered expert opinions that defendants breached the standard of care in this case; and that their breach was the cause of the damages to the plaintiffs. The plaintiffs' experts must be able to offer adequate support for their opinions. It is not sufficient for the experts to rely on education and experience without specifying how that education and experience actually supports the opinions that they are giving.

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[18] *See*, *e.g.*, Barbara J. Stoll et al., *Trends in Care Practices, Morbidity, and Mortality of Extremely Preterm Neonates, 1993-2012*, 314 JAMA 1039 (2015) (demonstrates a significant increase in survival without major neonatal comorbidity for infants born at 25-28 weeks gestational age); Veronique Pierrat et al., *Neurodevelopmental Outcome at 2 Years for Preterm Children Born at 22 to 34 Weeks' Gestation in France in 2011: EPIPAGE-2 Cohort Study*, 358 BMJ 3448, (2017) (indicates that survival rates increased for neonates born at later gestational ages and neonates born later are less likely to have neuromotor or sensory disabilities or cerebral palsy at two years of age; also that rates of retinopathy of prematurity decrease with increased gestational age, as does the risk of patent ductus arteriosus (PDA)); Dawid Szpecht et al., *Intraventricular Hemorrhage in Neonates Born Before 32 Weeks of Gestation – Retrospective Analysis of Risk Factors*, 32 Child's Nervous Sys. 1399, 1401 (2016) (shows the incidence of severe intraventricular hemorrhage is higher at lower gestational ages).

> Plaintiffs' experts' testimony relies on speculations and assumptions that are not supported by the literature or the facts presented. In the depositions, the experts refer to American College of OBGYN Guidelines in support of their positions; but those guidelines were not produced to defendants' counsel; and plaintiffs' counsel did not attach them to its opposition or bring them to court today.

We have no difficulty concluding that the court's reasoning is factually and legally incorrect. We begin by noting that there was no evidentiary *Daubert-Rochkind* hearing; the court simply heard oral argument from counsel. The only evidence before the court was the extensive deposition testimony of appellants' experts (and the literature they relied on),[19] and it is pellucid that on summary judgment the court must view all inferences from the underlying facts in the light most favorable to the nonmoving party. In evaluating a motion for summary judgment, the court must not weigh the evidence or make credibility determinations. *See Baltimore County v. Kelly*, 391 Md. 64, 73 (2006) (noting that although summary judgment is useful in "facilitat[ing] the efficient disposition of litigation" in appropriate circumstances, its function is not to make credibility determinations or factual findings).

The court's evidentiary ruling boils down to its view that appellants' experts relied "on speculations and assumptions that are not supported by the literature or the facts presented," and that appellants' counsel did not produce the ACOG guidelines to appellees' counsel or attach them to the motion. We can summarily dispose of the court's reliance on

[19] We note in passing that it seems odd that the *Daubert* challenge in this case is based exclusively on appellants' experts' depositions during which the experts merely responded to questions posed by appellees' attorneys.

its perception that appellants failed to produce the ACOG guidelines. The court was required to review the record evidence in its entirety. Thus, even assuming *arguendo* that the ACOG guidelines were not produced and therefore could not be considered, the court was required to review all of the *other* evidence produced by appellants. It clearly did not do so.[20]

As to the court's other basis for precluding the expert testimony—that the "testimony relies on speculations and assumptions that are not supported by the literature or facts presented"—the record belies that conclusion. Although we will not recount all of the testimony that we thoroughly discussed above, suffice it to state that Doctors Mandel, Cardwell, and Solomon all opined that Ms. Jabbi's pregnancy could have been extended anywhere between two and seven days. Dr. Mandel referred to "a lot of literature" and "randomized and observation studies" to support his opinion, and Dr. Solomon relied on "ample precedent" and "a lot of publications" to support her views. Equally important, Dr. Cardwell noted that Ms. Jabbi's pregnancy "went at least two days" in the absence of recommended medical intervention, thereby supporting his view that her pregnancy could have been prolonged for "several more days." Based on the evidence in this record, and viewing all inferences from the evidence in a light most favorable to appellants, the court's conclusion that the experts' testimony relied "on speculations and assumptions that are not supported by the literature or the facts presented" is demonstrably incorrect.

[20] Although the record is not clear on this, we assume that appellees' counsel would have access to the ACOG guidelines—their clients are health care providers in the discipline of obstetrics and gynecology.

Similarly, appellants' experts explained that a full course of Betamethasone would have mitigated T.R.'s injuries. Dr. Zinkhan, relying in part on "the Briceno-Perez paper," unequivocally opined that a complete steroid course would have reduced T.R.'s complications, including a decreased risk of IVH and improved lung function. Dr. Zinkhan further provided a bibliography of seventeen studies and two textbooks to support her opinions. Our review of Dr. Zinkhan's resource materials, viewed in a light most favorable to appellants, confirms the sufficiency of the basis for her opinions. In addition, Dr. Cardwell cited a 1994 National Institutes of Health study to support his opinion on the effectiveness of a full course of the steroid, and Dr. McDowell stated that medical literature indicated a significant reduction in the "incidence and severity of respiratory distress" as well as "intraventricular hemorrhage." Again, viewing this evidence in a light most favorable to appellants, the court abused its discretion in perfunctorily concluding that the appellants' experts' testimony was speculative and "not supported by the literature or the facts presented."

The Supreme Court emphasized in *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999), that the "test of reliability is 'flexible' and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case." In *Primiano v. Cook*, 598 F.3d 558, 565 (9th Cir. 2010), the Ninth Circuit Court of Appeals noted that "[t]estimony by physicians may or may not be scientific evidence like the epidemiologic testimony at issue in *Daubert*." After citing medical school texts for the proposition that "much of medical decision-making relies on judgment," the *Primiano* court stated:

> We have some guidance in the cases for applying *Daubert* to physicians' testimony. "A trial court should admit medical expert testimony if physicians would accept it as useful and reliable," but it need not be conclusive because "medical knowledge is often uncertain." "The human body is complex, etiology is often uncertain, and ethical concerns often prevent double-blind studies calculated to establish statistical proof." Where the foundation is sufficient, the litigant is "entitled to have the jury decide upon [the experts'] credibility, rather than the judge."

Id. at 565-66 (footnotes omitted). The court continued to note that "[o]ther circuits have taken similar approaches focusing especially on experience." *Id.* at 566 (citing *Dickenson v. Cardiac & Thoracic Surgery of E. Tenn.*, 388 F.3d 976, 982 (6th Cir. 2004), and *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 406-07 (3d Cir. 2003)); *see also Sullivan v. United States Dept. of the Navy*, 365 F.3d 827, 834 (9th Cir. 2004) (noting that reliability of medical expert's opinion concerning complications of wound infections was "supported by the four textbooks" expert relied on). In our view, Rule 5-702 and *Daubert-Rochkind*'s test of reliability are sufficiently flexible to allow courts, in their gatekeeping function, to recognize that the practice of medicine is complex and inherently experiential. We conclude that the appellants' experts provided a sufficient factual basis to opine that Ms. Jabbi's pregnancy could have been extended to allow for the administration of a complete course of Betamethasone, which in turn would have likely mitigated T.R.'s injuries. We therefore conclude that the circuit court abused its discretion in precluding appellants' causation experts and erred in granting summary judgment in favor of appellees. Accordingly, we reverse the judgment and remand this case to the circuit court for further proceedings.

JUDGMENT OF THE CIRCUIT COURT FOR MONTGOMERY COUNTY REVERSED.

CASE REMANDED TO THAT COURT FOR FURTHER PROCEEDINGS CONSISTENT WITH THIS OPINION. APPELLEES TO PAY COSTS.