STATE OF MINNESOTA
IN COURT OF APPEALS
A24-1772

Antonio Ray Seals, Jr., a minor child by
his Mother and Natural Guardian Marciana Davis,
Appellant,

vs.

Childrens Health Care d/b/a Childrens Minnesota,
Respondent,

Minnesota Neonatal Physicians, P.A., et al.,
Respondents.

Filed July 14, 2025
Affirmed
Ede, Judge

Hennepin County District Court
File No. 27-CV-23-1158

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Considered and decided by Slieter, Presiding Judge; Ede, Judge; and Bond, Judge.

NONPRECEDENTIAL OPINION

EDE, Judge

This appeal stems from a medical-malpractice lawsuit brought by appellant against respondents. Appellant asserted claims for medical malpractice and negligent non-disclosure in the suit, which he filed several years after he suffered a stroke while under respondents' care. Respondents moved to exclude the causation opinions of appellant's experts and for summary judgment, and the district court entered an order granting those motions. Appellant challenges that order on appeal from the resulting judgment. Because we conclude that the district court did not abuse its discretion by excluding appellant's expert opinions and did not err by granting summary judgment for respondents, we affirm.

FACTS

The following factual recitation summarizes the relevant background and procedural history of this case.

Shortly after he was born in May 2013, an echocardiogram revealed that appellant Antonio Ray Seals Jr. had a number of medical complications. These included a patent foramen ovale (PFO) with a left to right shunt—a hole in Seals's heart.[1] Seals also had a congenital diaphragmatic hernia (CDH), which occurs when there is a defect in the diaphragm that allows the abdominal organs to move into the chest, limiting the space for the lungs and heart to develop.

[1] *See McDonough v. Allina Health Sys.*, 685 N.W.2d 688, 692 n.1 (Minn. App. 2004) ("A patent foramen ovale is an opening between the upper two chambers of the heart that has failed to close after birth.").

Infants with CDH may require extracorporeal membrane oxygenation (ECMO) to allow their lungs to recover. ECMO is a circuit in which a portion of a patient's blood is removed through a plastic tube—a "cannula"—that is placed in the patient's right jugular vein. The patient's blood flows through an ECMO oxygenator, which adds oxygen and removes carbon dioxide. The blood is then pumped back into the patient's body through a cannula in the right carotid artery. One common risk of ECMO is that blood flowing through the circuit is prone to forming clots, which can break off, enter the patient's bloodstream, and cause permanent injury. To prevent clots from developing and entering a patient's bloodstream, ECMO circuits can be changed. And to reduce the risk of clotting, patients on ECMO can be treated with a medication called heparin, which simultaneously reduces the risk of clotting and increases the risk of bleeding.

Seals received medical care provided by respondents Children's Healthcare d/b/a Children's Minnesota,[2] Minnesota Neonatal Physicians, Jeanne D. Mrozek, M.D., Virginia Hustead, M.D., and Jane F. Barthell, M.D. On June 1, 2013, Seals was placed on ECMO. While on ECMO, Seals was treated with heparin and the ECMO circuit was monitored for the development of clots.

On June 8, Seals underwent surgery to repair his CDH while on ECMO. Medical providers stopped administering heparin to Seals before the procedure and later restarted the medication using a "reduced heparin protocol." The next day, Dr. Mrozek wrote that

[2] Although the case caption in the district court identifies this respondent as "Childrens Minnesota," the respondent refers to itself as "Children's Minnesota" in its appellate brief. We therefore use "Children's Minnesota" throughout this opinion. But "[t]he title of the action shall not be changed in consequence of the appeal." Minn. R. Civ. App. P. 143.01.

Seals started to develop "a few minor clots in the circuit." The healthcare professionals slowly increased Seals's dose of heparin.

On June 10, doctors tried to remove Seals from ECMO, but the trial failed. The same day, Seals underwent surgery to repair a twisted intestine. Medical providers discontinued heparin before surgery and Seals remained off the medication for over four hours. Seals later resumed heparin on a reduced heparin protocol.

On the morning of June 11, while Seals was on reduced heparin, Dr. Mrozek noted that clots had started to form on the arterial and venous sides of the ECMO circuit. A little over an hour later, healthcare professionals replaced an ECMO circuit connector. At about 4:00 p.m., Dr. Barthell consulted with the treatment team regarding the ECMO. She wrote in a medical note that Seals did

> have significant clot[s] building up in the circuit. He had a bit of his arterial circuit switched out today and that went uneventfully. He ha[d] a newly progressive clot identified on the arterial side, approximately 20 cm from insertion site. [Medical providers were] watching this carefully. He ha[d] multiple clots on the venous side of the circuit and within the oxygenator. . . . He [was] tentatively scheduled for decannulation [the next day,] midmorning.

Dr. Barthell "again noted under Coagulation Management," that there were multiple clots developing in the circuit and that Seals was on reduced heparin. That night, Dr. Hustead stated in a progress note that there were growing clots in the circuit, but she did not mention the progressive clot noted by Dr. Barthell.

The next morning, June 12, Dr. Hustead wrote that the clots in the ECMO circuit were building in size. Dr. Mrozek noted that Seals was on ECMO overnight but, because

of increasing clots in the circuit, the cannulas were stented earlier that morning, meaning that ECMO was discontinued and the cannulas were left in place. That afternoon, Seals had surgery to remove the ECMO cannulas. Seals also underwent "a temporary abdominal closure."

While Seals was on ECMO, he had been sedated. As Seals was weaned off the sedation medications, he began to show signs of neurologic injury. Doctors determined that Seals had suffered a stroke likely caused by a blood clot. Seals later developed "severe neurodevelopmental disabilities as a result of the stroke."

Over nine years later, Seals—by and through his mother—brought an action for medical malpractice and negligent non-disclosure against respondents. Seals claimed that respondents were negligent in their care by failing to monitor the progressive clot and that, as a result of that alleged negligence, Seals had suffered a stroke. As for the negligent non-disclosure claim, Seals asserted that respondents knew or should have known of the risks associated with their interventions vis-à-vis Seals's medical conditions and should have disclosed those risks.

In support of his medical-malpractice claim, Seals disclosed five expert affidavits regarding the standard of care and causation. The first four experts opined that respondents' "failure to change out the ECMO arterial circuit as [the] standard of care required, . . . leaving the progressive clot in the arterial side of the ECMO circuit in place, directly caused [Seals] to sustain a massive left [middle cerebral artery] stroke with resultant devastating brain injury and disabilities." Each expert stated that, had respondents removed the ECMO

circuit containing the clots, Seals would not have suffered the severe brain injury. The last expert opined that Seals's stroke occurred between June 3, 2013, and June 18, 2013.

During discovery, respondents disclosed countervailing expert opinions. Two of respondents' experts opined that there was "no evidence as to precisely when [Seals's] stroke occurred or its specific cause. Therefore, it [was] impossible for anyone to state to a reasonable degree of medical certainty" what caused the stroke or whether the failure to change the ECMO circuit between June 11 and 12, 2013, was a direct cause of the stroke. The experts explained that clotting in the circuit can go unnoticed and that "thrombotic events" can result from "clots that [were] never seen or appreciated."

Another expert for respondents posited several alternative causes of Seals's injury. The expert opined that Seals's stroke "was more likely than not caused by a [clot] other than the 'progressive clot' observed on the arterial side of the ECMO circuit on June 11, 2013." The expert noted that ECMO required the introduction of many objects into Seals's body, including "the plastic insertion cannula, an umbilical artery catheter, a peripheral IV, and a femoral venous line," and that "[e]very foreign object introduced into [Seals's] body was a potential source of clot formation." And the expert observed that "[t]he plastic tubing in the ECMO circuit, and the oxygenator, [also] contain[ed] many rough surfaces that are sources of clot formation." The expert stated that Seals's two major surgeries were additional sources of potential clot formation and that Seals's PFO could have been another cause of the stroke. According to the expert, Seals's "heart would not have filtered clots" as it would in the absence of the PFO. The expert explained that, because Seals had "a right to left shunt on several of his echocardiograms," "a clot could have formed anywhere in

[Seals's] body and his heart would have pumped it through the PFO into his blood stream," allowing the clot to travel to his brain and cause the stroke.

Respondents also proffered an expert who opined that multiple events could have triggered clot formation, including: ECMO; not receiving heparin during the CDH repair surgery; receiving reduced heparin before and after surgery; and undergoing a subsequent surgery. The expert stated that Seals was at an elevated risk of blood clots many times between June 1 and July 6, 2013, and that it was therefore impossible to specify that the clot observed on June 11 was more likely than not the source of Seals's stroke.

Although Seals later provided several supplemental expert affidavits in discovery, Seals's experts merely reiterated that respondents' failure to change out the circuit—thereby leaving the progressive clot in the circuit—was the cause of Seals's stroke.

In June 2024, Children's Minnesota moved the district court to exclude the opinions of Seals's causation experts and for summary judgment. In a memorandum filed in support of the motion, Children's Minnesota argued that the experts' opinions on causation lacked foundational reliability per Minnesota Rule of Evidence 702 because they failed to rule out plausible causes of the stroke and to respond to the expert opinions of Children's Minnesota. Children's Minnesota also contended that, because no evidence linked the progressive clot to the stroke, the opinions of Seals's experts were speculative and unreliable. Without admissible opinions on causation, Children's Minnesota maintained that Seals could not establish a prima facie case of medical malpractice. Thus, Children's Minnesota sought an order from the district court excluding Seals's experts and granting summary judgment in its favor, dismissing the complaint. On the same grounds, Minnesota

Neonatal Physicians and the respondent doctors moved to exclude the opinions of Seals's experts under Minnesota Rule of Evidence 702 and requested that the district court grant judgment as a matter of law in their favor per Minnesota Rule of Civil Procedure 56.

In July 2024, Seals filed a memorandum in opposition to respondents' motions, maintaining that his experts considered and ruled out other possible causes of his stroke.[3]

The district court granted respondents' motions to exclude the expert testimony and for summary judgment. And the district court dismissed Seals's complaint with prejudice, entering judgment for respondents.

Seals appeals.

DECISION

Seals challenges the district court's order excluding his experts' opinions and granting summary judgment for respondents. He argues that the district court abused its discretion by determining that his experts did not consider the alternative causes of his stroke and that he established a prima facie case of causation.

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[3] Seals also filed a supplemental expert affidavit by Dr. Corinne Leach. This affidavit included rebuttal opinions to respondents' experts and new opinions about causation. In its order granting respondents' motions, the district court noted that it was not considering the supplemental affidavit of Dr. Leach. The district court determined that the affidavit was prejudicial because it was not disclosed before respondents filed their motions. Seals did not challenge this ruling in the district court, nor has Seals challenged it on appeal. We therefore do not consider Dr. Leach's supplemental affidavit in our appellate review. *See Thiele v. Stich*, 425 N.W.2d 580, 583 (Minn. 1988) (stating that appellate courts generally address only those questions previously presented to and considered by the district court); *see also Waters v. Fiebelkorn*, 13 N.W.2d 461, 464 (Minn. 1944) ("[O]n appeal error is never presumed.").

Minnesota courts use the two-pronged *Frye-Mack*[4] test to determine the admissibility of novel scientific evidence. *Goeb v. Tharaldson*, 615 N.W.2d 800, 814 (Minn. 2000). To be admissible, the evidence must also satisfy the requirements of Minnesota Rule of Evidence 702. *Id.*; *see also* Minn. R. Evid. 702 (stating that an expert's opinion "must have foundational reliability"). Under the *Frye-Mack* test, when a party offers novel scientific evidence, the district court must first "determine whether it is generally accepted in the relevant scientific community" and then determine whether the scientific evidence has foundational reliability. *Goeb*, 615 N.W.2d at 814. "Foundational reliability requires the proponent of a test to establish that the test itself is reliable and that its administration in the particular instance conformed to the procedure necessary to ensure reliability." *Id.* (quotation omitted). Appellate courts review a district court's determination on the second prong—foundational reliability, the only prong at issue in this appeal—"under an abuse of discretion standard." *Id.* at 815.

Citing the Minnesota Supreme Court's recent decision in *Rygwall v. ACR Homes, Inc.*, 6 N.W.3d 416 (Minn. 2024), Seals maintains that we should review the district court's decision to exclude his expert opinions de novo—in the same way that we review a district court's summary-judgment determination. We respectfully disagree. The respondent in *Rygwall* moved only for summary judgment, which is why the supreme court reviewed the district court's decision de novo. 6 N.W.3d at 427.

[4] *See Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923); *State v. Mack*, 292 N.W.2d 764, 768–69, 772 (Minn. 1980).

But when a party moves the district court for the exclusion of an expert opinion and then for summary judgment—as respondents did, here—we apply the abuse-of-discretion standard to our review of the court's evidentiary ruling. *See McDonough*, 685 N.W.2d at 694–95. *McDonough* concerned an appeal from the district court's grant of respondents' motion to exclude appellants' expert testimony and for summary judgment. *Id.* at 694. In granting respondents' motion, the district court reasoned in part that appellants' experts' opinions did not have foundational reliability and that, without an expert opinion, appellants had failed to establish a prima facie case of medical negligence. *Id.* We affirmed, explaining that "[t]he second prong [of the *Frye-Mack* test], that the theory is reliable and trustworthy based upon well-recognized scientific principles and independent validation, is reviewed under an abuse-of-discretion standard." *Id.* at 694–95. We therefore apply the abuse-of-discretion standard of review to the district court's order excluding the opinions of Seals's experts.[5]

As just mentioned, appellate courts review "a district court's summary judgment decision de novo." *Riverview Muir Doran, LLC v. JADT Dev. Grp., LLC*, 790 N.W.2d 167, 170 (Minn. 2010). "In doing so, [appellate courts] determine whether the district court properly applied the law and whether there are genuine issues of material fact that preclude summary judgment." *Id.* On appeal from summary judgment, appellate courts "view the evidence in the light most favorable to the party against whom summary judgment was granted." *Com. Bank v. W. Bend Mut. Ins.*, 870 N.W.2d 770, 773 (Minn. 2015). "Summary

[5] At oral argument, Seals's attorney acknowledged that appellate courts review evidentiary rulings for an abuse of discretion.

judgment is appropriate when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law." *Schneider v. Child.'s Health Care*, 996 N.W.2d 197, 201 (Minn. 2023). "[W]hen the nonmoving party bears the burden of proof on an element essential to the nonmoving party's case, the nonmoving party must make a showing sufficient to establish that essential element." *DLH, Inc. v. Russ*, 566 N.W.2d 60, 71 (Minn. 1997) (citing *Celotex Corp. v. Catrett*, 477 U.S. 317, 322–23 (1986)).

There are three essential elements to a medical-malpractice claim: "(1) the standard of care recognized by the medical community as applicable to the particular defendant's conduct"; "(2) that the defendant in fact departed from that standard"; and "(3) that the defendant's departure from the standard was a direct cause of the patient's injuries." *MacRae v. Grp. Health Plan, Inc.*, 753 N.W.2d 711, 717 (Minn. 2008) (quotations omitted). Only the third element—causation—is at issue in this appeal.[6]

[6] On appeal, Seals has forfeited any argument challenging the district court's summary-judgment dismissal of his negligent-nondisclosure claim by failing to advance such a contention. *See Jundt v. Jundt*, 12 N.W.3d 201, 204 (Minn. App. 2024) ("A party's failure to brief and argue an issue on appeal results in forfeiture of that issue[.]"), *rev. denied* (Minn. Dec. 31, 2024). But even absent forfeiture, we would still affirm the district court's grant of summary judgment for respondents on Seals's negligent-nondisclosure claim. This is because causation is one of the five essential elements of negligent nondisclosure: "(1) a duty on the part of a physician to know of a risk or alternative treatment plan"; "(2) a duty to disclose the risk or alternative program"; "(3) a breach of that duty"; "(4) causation, i.e., the undisclosed risk must materialize in harm"; and "(5) damages." *Bigay v. Garvey*, 575 N.W.2d 107, 111 n.3 (Minn. 1998) (quotations omitted). Thus, for the same reasons as discussed below, we would affirm the district court's summary-judgment dismissal of Seals's negligent-nondisclosure claim.

A plaintiff proves causation by showing "that it is more likely than not that the defendant's conduct was a substantial factor in bringing about the result." *Rygwall*, 6 N.W.3d at 429 (quotation omitted). The Minnesota Supreme Court has stated that, to prove causation in a medical-malpractice case, a plaintiff must introduce expert testimony "that it was more probable than not that" the injury was caused by the defendant's negligence. *Cornfeldt v. Tongen*, 295 N.W.2d 638, 640 (Minn. 1980). "The gist of expert opinion evidence as to causation is that it explains to the jury the 'how' and the 'why' the malpractice caused the injury." *Teffeteller v. Univ. of Minn.*, 645 N.W.2d 420, 429 n.4 (Minn. 2002).

Seals's experts relied on a differential diagnosis to prove causation. "A differential diagnosis 'eliminates the possibility of competing causes or confounding factors.'" *McDonough*, 685 N.W.2d at 695 n.3 (quoting *Goeb*, 615 N.W.2d at 815). "In performing a differential diagnosis, a physician begins by ruling in all scientifically plausible causes of the patient's injury. The physician then rules out the least plausible causes of injury until the most likely cause remains." *Id.* (quotation omitted). If a defendant in a medical-malpractice case "point[s] to a plausible alternative cause and the [plaintiff's expert] offers no explanation for why he or she has concluded that was not the sole cause, that [expert's] methodology is unreliable." *Id.* at 695 (quotation omitted).

Seals argues that the district court abused its discretion by determining that his experts did not consider alternative causes because respondents' experts did not provide plausible alternatives. He maintains that "[a]lternatives must fit the facts to be considered 'plausible' alternatives" and that respondents' alternatives strayed from the facts here.

Children's Minnesota counters that Seals's experts "did not address, attempt to quantify, or rule out the known risk that a clot that formed in connection with [Seals's] CDH surgery, his bowel surgery, or any of the other times he was on [the] ECMO device was the clot that caused his stroke." Minnesota Neonatal Physicians and the respondent doctors likewise contend that Seals's experts failed to rule out plausible causes.

In granting respondents' motion to exclude the opinions of Seals's experts, the district court determined that, "[b]ecause [respondents] have identified several plausible alternative causes for [Seals's] injury, which [Seals's] experts have failed to rebut, [Seals's] differential diagnosis methodology is inherently unreliable as a matter of law." We discern no abuse of discretion in the district court's decision.

One of respondents' experts opined that several factors increased Seals's risk of clot formation, including his two surgeries, the foreign objects introduced into Seals's body because of the ECMO, and Seals's PFO, which would not have filtered out a clot. Another expert for respondents opined that clotting in the ECMO circuit can go unnoticed and that thrombotic events can result from clots that were never seen. Seals's experts neither addressed nor provided an explanation ruling out any of the plausible alternative causes posited by respondents' experts. Instead, Seals's experts merely maintained that the progressive clot was the cause of Seals's stroke.

Although Seals asserts in his principal brief that causation by the other clots identified by respondents' experts is speculative and unsupported by the record, each of Seals's experts acknowledged that other clots were present in the ECMO circuit. In his reply brief, Seals contends that the record, viewed in the light most favorable to him,

contains no evidence that he suffered any harm before June 11, 2013, and that his experts considered that lack of harm, ruling out inherent risks and unseen blood clots. But at this stage in the evidentiary analysis—i.e., evaluating the admissibility of expert evidence under the *Frye-Mack* test and Minnesota Rule of Evidence 702, rather than determining the appropriateness of summary judgment—courts do not view the record in the light most favorable to the proponent of the evidence, which in this case is Seals. *See McDonough*, 685 N.W.2d at 694–95. Because Seals's experts did not "rule out all other hypotheses, or at least explain why the other conceivable causes [were] excludable, [the] differential diagnosis [was] not sufficiently reliable to be used for the purpose of proving causation," *id.* at 695, and the district court acted within its discretion by excluding the causation opinions of Seals's experts.

After deciding that the opinions of Seals's experts lacked foundational reliability, the district court granted summary judgment for respondents based on its determination that Seals could not establish a prima facie case of medical malpractice without nonspeculative expert testimony about causation. Viewing the admissible summary-judgment evidence in the light most favorable to Seals, *see Goeb*, 615 N.W.2d at 816, we conclude that the district court did not err in determining that Seals could not establish a prima facie case of causation by proving that, among other things, "the [respondents'] departure from the standard was a direct cause of [his] injuries," *MacRae*, 753 N.W.2d at 717 (quotation omitted). Seals needed to produce expert testimony "that it was more probable than not that" the injury was caused by respondents' negligence, *Cornfeldt*, 295 N.W.2d at 640, but he lacked admissible testimony of that nature. Given that he could not

establish that the progressive clot caused his stroke, Seals failed to establish an essential element of his claims, and the district court correctly determined that respondents were entitled to summary judgment. *See McDonough*, 685 N.W.2d at 697. Based on our careful review of the record, we therefore conclude that the district court did not err in granting summary judgment for respondents.

Affirmed.