In The

Court of Appeals

Ninth District of Texas at Beaumont

NO. 09-16-00449-CV

THE MEDICAL CENTER OF SOUTHEAST TEXAS, L.P., Appellant

V.

RACHEL ANN MELANCON, Appellee

On Appeal from the 60th District Court
Jefferson County, Texas
Trial Cause No. B-195,944

MEMORANDUM OPINION

The Medical Center of Southeast Texas, L.P. (Medical Center or Appellant) appeals from the trial court's First Amended Order of Judgment rendering judgment in favor of Appellee Rachel Ann Melancon and denying the Medical Center's Judgment Notwithstanding the Verdict (JNOV). We affirm.

The appellate record includes a partial reporter's record, as requested by the Appellant, which we summarize below. If an Appellant only requests a partial reporter's record, the Appellant must include in the request a statement of the points

or issues on appeal. *See* Tex. R. App. P. 34.6(c)(1). The appellate court "must presume that the partial reporter's record designated by the parties constitutes the entire record for purposes of reviewing the stated points or issues." Tex. R. App. P. 34.6(c)(4).

Background

Infant, Olivia Marie Coats (Olivia), died shortly after birth. Olivia's parents, Rachel Ann Melancon and Trent Allen Coats, individually and as representatives of the estate of Olivia, brought wrongful death claims of negligence and gross negligence against Dr. George Backardjiev, Melancon's obstetrician, and against the Medical Center, the hospital where Olivia was born. Trent Coats died after the initiation of this lawsuit, and Rachel Melancon proceeded as the sole plaintiff.

The jury found that Dr. Backardjiev's and the Medical Center's negligence proximately caused Olivia's death, and assigned 95% responsibility to Dr. Backardjiev and 5% responsibility to the Medical Center. The jury awarded $575 in damages for funeral and burial expenses and $10,000,000 in damages for past and future loss of companionship and society and past mental anguish. [1]

[1] The jury awarded additional damages to Melancon for her own personal injuries and mental anguish. The parties did not challenge the damages awarded to Melancon.

The Medical Center moved for JNOV arguing that there was no competent evidence that any act or omission of any Medical Center employee proximately caused Olivia's death. According to the motion, Melancon's only expert witness was Dr. Mark Akin, and as an obstetrician and gynecologist (ob-gyn), he was not qualified to express an opinion on neurologic causation.[2] The trial court denied the motion for JNOV, explaining that "[t]he Court finds that Dr. Akin is qualified to express causation opinions and that there is competent evidence of causation." The trial court entered a First Amended Order of Judgment that explained that Dr. Backardjiev had settled with Melancon and the trial court awarded damages in the amount of $250,000 against the Medical Center plus interest and costs. The Medical Center appealed.

Issues

In its first issue on appeal, Appellant argues that Dr. Akin was not qualified to opine as to neurologic damage and the cause of alleged hypoxic ischemic encephalopathy (HIE) in an infant. Appellant's second issue argues that Dr. Akin's expert medical testimony was not based on reasonable probability and did not

[2] The defendants challenged the expert testimony and qualifications of Dr. Akin before trial by objection and the Medical Center filed a motion for summary judgment. The appellate record does not include any rulings relating to such matters. Dr. Akin testified at trial. Based upon the record now before us, we assume the objections and motions were overruled by the trial court.

sufficiently establish a traceable chain of causation based on general scientific principles or a probable causal relationship between the Medical Center's employees' administration of Pitocin and Olivia's death. Appellant's third issue argues that the trial court erred in concluding there was legally and factually sufficient evidence regarding the Medical Center's standard of care, breach, and proximate cause when the testimony of Melancon's expert conflicted with the statutory prohibition against nurses performing a medical diagnosis.

Appellant seeks to have the jury's answer to Question No. 1 as to Appellant (whether the Medical Center's negligence proximately caused the death of Olivia) set aside and asks this Court to reverse the judgment against Appellant. According to Appellant, without expert testimony of causation, Appellant was entitled to a JNOV and a reversal of the jury's verdict.

Background Information

During the labor and delivery of Olivia, Pitocin was administered to Melancon at the Medical Center. Pitocin is a medication commonly used to stimulate labor by making the uterus contract more forcefully causing stronger and longer contractions. Dr. Backardjiev, Melancon's obstetrician, testified that he ordered Pitocin to be administered to Melancon during her labor and delivery. It appears to be undisputed that Dr. Backardjiev made the decisions about the use of Pitocin and dosage amounts

thereof. According to the testimony and exhibits presented at trial, at some point during the delivery the nurses at the Medical Center asked Dr. Backardjiev whether they should prepare Melancon for a C-section and spoke with him about the Pitocin.

Testimony of Nurse Haley Cupit

Nurse Haley Cupit, a registered nurse who works at the Medical Center, testified that at the time in question she had worked in labor and delivery for about a year. Nurse Cupit explained that a fetus receives blood and oxygen through the mother's placenta and that when the mother has contractions, blood vessels can become constricted and blood flow and oxygen are restricted. Cupit testified that hypoxia injury is generally tissue injury resulting from a lack of oxygen and she agreed that if a fetus is deprived of oxygen for a long enough time period, permanent hypoxic injury can result and that HIE is a type of permanent brain injury that can result from a lack of oxygen. Nurse Cupit explained that during labor and delivery, external or internal monitoring is used to monitor the threat of fetal hypoxia and the mother's contractions. According to Cupit, the fetal heart monitor does not necessarily tell how much oxygen the baby is receiving, but she agreed that looking at how the baby's heart rate reacts to the mother's contractions indicates whether the baby is at risk of hypoxic injury. Cupit explained that a late deceleration is a drop of the fetal heart rate that occurs after a contraction and it is a nonreassuring sign

because “it can tell you if there’s a lack of blood going to the placenta to get to the baby after the contraction.”

Nurse Cupit agreed that a nonreassuring fetal heart rate suggests that the baby is not being properly oxygenated. Cupit explained that the Medical Center’s policy states that when there is a nonreassuring fetal heart status, the first thing a nurse should do is to stop Pitocin therapy. Plaintiff’s Exhibit 209 was admitted into evidence and according to Nurse Cupit it was styled “Care of the Pregnant Patient.” Exhibit 214 was admitted into evidence and it was entitled “Fetal Evaluation Nonreassuring Status,” and Nurse Cupit agreed that it was the Medical Center’s policy and procedure for evaluating fetal heart rates. And, Cupit agreed that the policies and procedures outlined in Exhibit 214 are consistent with the standard of care she was expected to follow. Similarly, plaintiff’s Exhibit 211 was admitted into the record, and according to Nurse Cupit, it was the Medical Center’s policy and procedure regarding the use of Pitocin.

Cupit agreed that the Medical Center’s policy and procedures discuss the initial assessment of the patient, nursing interventions, including giving the mother oxygen, increasing IV therapy, repositioning the mother, performing a vaginal exam, and notifying the physician. Cupit testified that she would “definitely” stop Pitocin if the contractions are too close together and the physician is not available at the

time. According to Cupit, the doctor determines whether the Pitocin is causing the nonreassuring fetal heart rate.

Nurse Cupit agreed that nurses have a duty to protect patients from harm, including rejecting specific assignments based on their education and experience and their assessment of risk to the patient and saying "no" to a doctor's order that the nurse believes would put a patient in danger. Cupit testified that nurses should try to resolve disagreements directly with the physician, but if the nurse cannot do so, then a nurse should invoke the chain of command to take the issue to the charge nurse or higher up to the department director or house supervisor until the issue is resolved.

Nurse Cupit testified that her shift started at 7:00 p.m. on the evening of December 27, 2013, and that Dr. Backardjiev was Melancon's obstetrician. Cupit recalled the nurse she relieved that night told her that Melancon had a fever and that Melancon had been on and off Pitocin. According to Cupit, Pitocin was turned off, turned back on, increased, and reduced throughout the day and finally turned off about 5:00 p.m. Cupit testified that Pitocin was started again at about 8:00 p.m. and increased at 8:20 per Dr. Backardjiev's orders and that Dr. Backardjiev never left the hospital from then on.

Nurse Cupit agreed that she observed minimal to moderate variable deceleration, that she would have reported signs of nonreassuring fetal heart rate to

Dr. Backardjiev, and if the doctor had not been there, she would not have increased the Pitocin without a doctor's order. Cupit explained:

> We are supposed to let the doctor assess the strip and look at it when we think it's nonreassuring. And then based on that -- they have more training in this stuff than we do. And then they give us orders from there, after assessing it themselves.

When asked whether she ever said "no" to Dr. Backardjiev that night, Cupit responded

> I went to the charge nurse and asked her her thoughts -- she has more experience than me, you know -- "He's ordering this to be increased. What are your thoughts?"
>
> And there was one point in time where he did order it. I went to the charge nurse. She was in the room with Dr. Backardjiev in another patient's room. They reviewed it and it wasn't increased at that time and later on it was ordered. The strip was never bad enough during that time that I would have gone further than that.

She agreed she was concerned enough to start the chain of command but she did not go further than to consult with Nurse Bray "because the strip wasn't so terrible[,]" a disagreement is not necessarily a reason to go up the chain of command, and reading the monitoring strips is subjective.

Nurse Cupit agreed that between about 10:10 p.m. and midnight, the fetal heart rate was mostly nonreassuring. Cupit agreed that Pitocin should be discontinued when the fetal heart rate is nonreassuring and other nursing interventions are not working "[i]f the physician is not there[.]" Cupit explained that

ultimately Dr. Backardjiev used forceps three times, and three times the forceps slipped off. According to Nurse Cupit, Nurse Bray was also in the room, and each time the forceps slipped off, Nurse Bray asked Dr. Backardjiev "Can we just go ahead and do a C-section? This isn't working." Cupit testified that after the forceps slipped off the third time, Dr. Backardjiev agreed to do a C-section. Nurse Cupit was unable to say with certainty how much force was used by Dr. Backardjiev with the forceps. Cupit testified that in retrospect, she did not think that increasing the Pitocin was harming the baby or putting the baby in danger.

Testimony of Nurse Diane Bray

Nurse Diane Bray testified that she has been a labor and delivery nurse at the Medical Center since she graduated from nursing school in 2005. On the night Olivia was born, she was the charge nurse on the floor and was Nurse Cupit's supervisor. Bray explained that a charge nurse's duties are "to manage everything that goes on on the floor, make sure everything is flowing as it needs to be, make the assignments for the patients. And if there are questions that arise, they can come to me to ask." Bray agreed that it would have been appropriate for Nurse Cupit to come to Bray about issues regarding the monitoring strip, and if the issues could not be resolved, the next person in the chain of command would be the house supervisor. Nurse Bray agreed that a mother is under the joint care of the physician and nurses and that

nurses should use their own judgment in the best interest of the patient, including being able to reject specific assignments if the assignment from the doctor is going to put the patient in danger.

Nurse Bray agreed that she is fully qualified to read fetal heart strips and that nurses are taught the danger of not treating a nonreassuring fetal status. She agreed that one of a nurse's duties is to administer drugs like Pitocin and to know how the drugs can affect patients, but administering Pitocin is not something a nurse can do without a doctor's order. Bray explained that the danger with a nonreassuring status is that the baby is not getting enough oxygen. Reading from Exhibit 211, the Medical Center's policy on what to do if the fetal heart rate is nonreassuring, Bray agreed that the options include repositioning the mother, discontinuing Pitocin, starting oxygen, increasing IV rate, performing a vaginal exam, and notifying the physician. Bray testified that not all the nursing interventions must be tried and if some interventions do not help, then others should be used. Nurse Bray agreed that administering Pitocin is a nursing function and not something the doctor does and that nurses use their independent judgment whether to start, increase, pause, or decrease Pitocin. Bray agreed that discontinuing Pitocin can decrease contractions and may decrease fetal stress. Nurse Bray recalled that at some point during the evening of December 27th, Olivia's fetal heart status turned nonreassuring. Bray

testified that the strip was watched by the nurses and the baby had periods from 10:00 p.m. to midnight where they were watching the strip and "She still had periods of times that were okay to go with, with moderate -- minimal to moderate variability." Bray agreed that she recalled she spoke with Nurse Cupit about nursing interventions and that Cupit had repositioned Melancon, given oxygen, and increased the IV rate, and the physician was present at that time. Bray did not agree that it would have been appropriate to discontinue Pitocin because "[t]he physician was there, and he was making his assessment on it." Bray agreed that at one point she was seeing late decelerations that Dr. Backardjiev did not see and that the concern with late decelerations is placental insufficiency and the baby not getting enough oxygen. Nurse Bray recalled that Dr. Backardjiev wanted the nurses to increase the Pitocin, and the nurses did not increase it, but about thirty minutes later at 11:25, it was increased. According to Bray, even though she and Nurse Cupit saw late decelerations, Dr. Backardjiev did not, and at the time she did not believe the strip was such that it was necessary to go higher in the chain of command and "[i]t wasn't anything that I felt any of the other physicians would have done [] any differently." The strip had not gotten to a point where she felt like she needed to go above, or higher in the chain of command.

Nurse Bray testified that over her ten-year career she had seen forceps used by physicians during deliveries, but she had never seen them used in the manner done by Dr. Backardjiev. She recalled that forceps were first used by Dr. Backardjiev at midnight and the medical record showed that Nurse Cupit had charted "forceps slipped off, forceps reapplied." Bray recalled that after the forceps slipped off the first time, she asked Dr. Backardjiev if he would consider a C-section, and he said no. According to Nurse Bray, after the forceps slipped a second time, she asked him if they could prepare for a C-section, and he said the baby's head was coming down and there was some movement. Bray explained that the medical record reflected that after the forceps slipped off a third time, she "Stated to him 'We need to do a C-section. Forceps not being successful[]'" and Dr. Backardjiev agreed. Bray recalled Dr. Backardjiev put his foot on the wheel cover of the bed twice while he was pulling with the forceps, and she had not seen anyone do that nor had she seen that type of pulling effort by anyone during her career.

Nurse Bray also called Eric (her supervisor) when the forceps were not working and when Dr. Backardjiev agreed to do the C-section. She called Eric because when they have an unscheduled C-section they let Eric know so the procedure can be entered into the computer and charted.

When asked if she could do it all over again, knowing that Dr. Backardjiev testified that it was Category 2 on the precipice of Category 3, and that the plaintiff's expert testified it was Category 3, did she believe that Pitocin should have been continued, she replied

> Not necessarily. Like I say, if that's what I felt was what caused the injury, I guess I could have. But I didn't have -- see anything that showed toward a Category 3 tracing until after the forceps were used.

Nurse Bray also testified that she did not "ever feel like the strip made it to the point where I had to go up the chain of command."

Testimony of Doctor George Backardjiev

Dr. Backardjiev testified that he completed medical school in Bulgaria in 1994 after which he did a five-year residency in obstetrics and gynecology and a one-year fellowship in infertility. Dr. Backardjiev explained that he then worked as an assistant professor in Bulgaria at his medical school for about eighteen years. While working in academia, he authored forty-seven scientific articles published in peer-reviewed journals and three books, one of which was on operative obstetrics, which includes the use of forceps, vacuum, and breach deliveries. Following his work in academia, Dr. Backardjiev came to the United States, where he did another two-year residency, went to work at Mt. Sinai Hospital in Chicago, and finally started his own

practice. Dr. Backardjiev explained that he has delivered more than 11,000 babies and has used forceps 431 times.

Dr. Backardjiev testified that he does not believe the American College of Obstetrics and Gynecology (ACOG) provides "authoritative guidance" for obstetricians such as himself, but that he follows the ACOG recommendations that he thinks apply based on his experience and practice. When asked about the ACOG recommendation that an anesthesiologist should be informed before an anticipated complicated delivery, Dr. Backardjiev responded "It depends on the situation." He disagreed that an obstetrician cannot proceed to a C-section until an anesthesiologist arrives, and he explained that here, he waited for an anesthesiologist because "it was not an emergent situation." Dr. Backardjiev explained he has concerns about performing C-sections because they result in uterine scar tissue and increase "the risk of pathologic placentation[]" and the need for C-sections in future pregnancies. Dr. Backardjiev testified that "[p]eople can disagree on interpretation of a fetal heart strip[]" and he agreed that ACOG recognizes that different people can look at a fetal monitoring strip and see different things.

Dr. Backardjiev testified that he used Pitocin to initiate uterine activity and contractions that can open the cervix and expel the baby. According to Dr. Backardjiev, the half-life of Pitocin is about four minutes; when administered

intravenously, it has an immediate effect; and about eight minutes after receiving Pitocin, it would not be in the blood. Dr. Backardjiev testified that Pitocin has only an indirect effect on the heart of the fetus by increasing uterine contractivity and it has no direct effect on the heart of either the mother or the fetus. He disagreed that when the monitor shows fetal status is nonreassuring while on Pitocin but then shows reassuring when Pitocin is discontinued that it means Pitocin is the cause of the nonreassuring status.

Dr. Backardjiev recalled that after about 11:45 p.m., he began to see signs that the fetal heart status might become Category 3 and it was concerning because he saw "deep variables, isolated late decelerations [and] long-term variability." At that time, Dr. Backardjiev thought the baby had "very little reserve left to continue hours of labor and pushing." In his opinion, the difficulty with this fetus descending further was due in part to the occiput posterior presentation and because Melancon did not have adequate uterine activity. His assessment at the time was that the fetal heart tones were not affected by the contractions, but he was concerned that the contractions were not strong enough to push the baby out. He explained that maternal fever can cause fetal tachycardia. According to Dr. Backardjiev, "[t]here was no hypoxic ischemic encephalopathy in this case during labor."

Dr. Backardjiev testified that he decided to use forceps because of maternal exhaustion, the fetal heart conditions, and lack of hypoxic threat. Dr. Backardjiev agreed that before using forceps, an assessment of "the maternal pelvis/fetal size relationship[]" should be done, which can be done during the pregnancy. Dr. Backardjiev recalled estimating Olivia's fetal weight at thirty-seven weeks using an ultrasound, and he had not found fetopelvic disproportion during vaginal exams.

Dr. Backardjiev disagreed that, when using forceps, no force should be used greater than that used by the arms and shoulders. He explained that he put his left foot over the plastic cover of the left wheel of the bed because the floor was waxed, his shoes were slipping, and he was unable to apply twenty pounds of force. Dr. Backardjiev explained that the most dangerous part of the forceps is the tip and that he put a towel or sponge between the two spoons of the forceps to minimize damage to the soft tissues. Dr. Backardjiev agreed that careful use of forceps does not usually result in fetal injuries unless too much force is used, or the forceps are incorrectly placed, which he explained was not done, but that abrasions or marks may occur. Dr. Backardjiev testified that "[t]he forceps never slipped." Dr. Backardjiev explained that he ultimately decided to do a C-section because excessive force would be needed with the forceps.

Dr. Backardjiev stated that one of the ACOG criteria for HIE is an Apgar score less than or equal to 3 on the fifth minute, and because Olivia's Apgar was 7 on the fifth minute, this did not meet the ACOG or the American Academy of Pediatrics criteria for HIE. He also testified that the cord blood pH and base excess values for Olivia did not meet ACOG or American Academy of Pediatrics criteria. According to Dr. Backardjiev,

> Th[e] diagnosis [of HIE] is incorrect at the time of birth. It does not meet any of the criteria. There are five criteria that all of them have to be present in order to make such a diagnosis; and none of them is present, not even one.

Dr. Backardjiev testified that he believed the fractures to Olivia's temporal bones resulted from compression from the mother's ischial spines—"[c]ompression from pushing the baby through the birth canal." Dr. Backardjiev explained that such fractures are not dangerous, and they do not damage the brain. When asked whether his use of forceps had anything to do with the multiple skull fractures Olivia sustained, Dr. Backardjiev replied "I'm not sure. So, I cannot say 'yes' or 'no.'" Dr. Backardjiev then testified that in his opinion Olivia's head, skull, or neck injury had "nothing to do with the forceps." According to Dr. Backardjiev, over the course of his career, he has seen at least seven babies with skull fractures when no forceps were used and one of those instances was a planned C-section. Dr. Backardjiev testified that the cause of Olivia's HIE and misshapen head was subgaleal bleeding,

which the autopsy report noted, but he does not know what caused the subgaleal bleed, although he explained it usually occurs when there is some kind of defect in the blood vessels. At another point, Dr. Backardjiev testified that he believed the subgaleal hemorrhage occurred during the C-section. In Dr. Backardjiev's opinion, the neck subluxation was probably caused by trying to get Olivia's head out of the pelvis, but he testified that "subluxation is not an injury."

Dr. Backardjiev also testified that he would not change anything about the way in which he ordered Pitocin in this case:

> Well, for two years I've been thinking should I have done anything different and the answer is "no." The best mode of delivery in this situation was forceps. It didn't work. We did a cesarean section. Whatever happened to the baby is really sad but it doesn't have anything to do with Pitocin in my opinion and it doesn't have to do much with the forceps.

Testimony of Doctor Mark Akin

The plaintiff's designated expert, Dr. Mark Akin, testified that he is an ob-gyn physician, board-certified in obstetrics and gynecology, and a member of ACOG. He obtained a Master's degree in biomechanical engineering, where he studied fetal monitoring and the assessment of patients. Dr. Akin testified that, over the course of his career, he has delivered approximately 11,000 babies, that he has used forceps hundreds of times or thousands of times, and that he has never used forceps where the baby suffered a skull fracture or scalp laceration. Dr. Akin agreed he does not

diagnose or treat neonates, that the diagnosis or treatment of HIE is outside the scope of his practice, that he is not qualified to read MRIs but that he does know how to interpret what is written as the result of an MRI, and that he has never diagnosed or treated a baby with a rotatory cervical subluxation of the cervical spine.

Dr. Akin agreed that he is familiar with an obstetrician's duties as well as the duties of labor and delivery nurses. According to Dr. Akin, a nurse's standard of care includes observing and assessing a patient's signs, symptoms, and responses, and that nursing duties include interventions to ensure the welfare of the mother and baby, including reporting to the doctor if the nurse is concerned that a baby may be at risk. Dr. Akin agreed that nurses administer medication, such as Pitocin, and they should know the effects of Pitocin on the mother and fetus. According to Dr. Akin, if a nurse disagrees with another medical provider, there is a procedure for going up the chain of command until the issue is resolved.

Dr. Akin testified that HIE is a form of hypoxic injury that results when parts of the brain (the basal ganglia and thalami) die because they do not get enough oxygen. According to Dr. Akin, determining whether HIE has occurred includes consideration of "a clinical situation in which there is a high probability of the baby not getting enough oxygen[,]" the baby's Apgar score at birth, the baby's behavior

at birth, and radiologic tests such as sonograms, CT scans, and MRIs. Dr. Akin explained that

> . . . babies that are born with HIE typically have severe physiologic changes at birth. They frequently can't breathe. They don't move. They're flaccid. They have no reflex tone. They have difficulty with multiple different organ systems: respiratory failure, cardiovascular collapse, seizures, renal function changes. And when you see this whole spectrum of change in a baby, these are fairly classic signs of HIE.

According to Dr. Akin, fetal monitors were placed soon after Melancon's admission to the Medical Center, and the fetal heart strips were admitted into evidence. Dr. Akin testified that studies confirm that not all observers will agree on the meaning of fetal monitoring strips. Dr. Akin explained that fetal monitoring is a tool used to guide and manage the delivery as follows:

> Q. Will you agree that there's no peer-reviewed literature that says you can accurately predict that a baby will be born with hypoxic ischemic encephalopathy based upon a strip alone before the child is born?
>
> A. Yes. That's been the problem with electronic fetal monitoring is you can use it as a guide to help try to manage a patient in labor. But ultimately we have babies that you might predict that there would be a bad outcome when there isn't and vice versa. And, yet, it's the only tool we have; and, so, it is used routinely in the United States in almost every labor.
>
> Q. So, although it's a tool that you use that's helpful, it's not something that in medicine you rely on to predict hypoxic ischemic encephalopathy, correct?

> A. You can have a clinical situation in combination with a fetal monitor strip that would have a high probability of being reliable. But you can never be 100 percent sure of trying to interpret the outcome of a baby solely by looking at the fetal monitor strip.

Dr. Akin testified that Category 1 fetal heart changes are "the safe area," that Category 2 changes are "concerning," and Category 3 changes are the highest risk, and "[y]ou have to have Category 3 changes for some period of time before you're gonna have brain death, before you have HIE."

Dr. Akin explained the effect of Pitocin on the fetal heart:

> . . . during a contraction there's a reduction in oxygen that goes to the baby. And, so, Pitocin is a drug that makes the muscle of the uterus contract more forcefully for a longer window of time. So, as compared to when she's not taking Pitocin, not getting Pitocin, comparing that to when she was getting it the contractions would [be] stronger. There would be less oxygen transferred during the contraction. So, as you increase Pitocin you increase the risk that you're not going to get enough oxygen to the baby.

According to Dr. Akin, nurses commonly adjust Pitocin up and down to avoid contractions that will create problems.

Dr. Akin testified that the dose of Pitocin necessary to create contractions in this case was low, Melancon was sensitive, and the baby was sensitive to an increase in contractions. "Every time these contractions got a little too close, we started seeing signs the baby wasn't coping very well." According to Dr. Akin, about 5:00 p.m., the Pitocin was stopped a second time due to Category 2 changes in the heart strip,

and the concern was "the combination of a very high heart rate, not really seeing accelerations, not seeing much variability, and beginning to have variable type decelerations."

Dr. Akin testified that Pitocin was started again at about 8:00 p.m., but after stopping Pitocin a second time, the heart rate did not recover much and stayed between 160 and 180 beats per minute for the next several hours. Dr. Akin testified that by about 9:00 p.m., the baby's heart rate was 180, and "Rarely [does one] see 180 with a baby's heart rate. And it's either due to fever or it's due to the baby having potentially an oxygen problem." Akin testified that around 9:00 p.m., the heart strip showed dips in the fetal heart rate that appeared to start during contractions and did not recover until after the contraction was over, which Akin explained was not "classic enough to call a late deceleration, but it raises your eyebrow." According to Dr. Akin, by 9:15 p.m., the monitoring strip showed a similar repetitive pattern that he would call a Category 3 change, "strongly suggestive of late decelerations[,]" that warranted immediate management. Dr. Akin did not believe that increasing Pitocin after this point was appropriate:

> . . . This is -- we're way past a time where we should have decreased the Pitocin. We should be doing things to protect this baby, not to let this pattern continue over and over repetitively like this. And increasing -- even the plaintiff's expert says the Pitocin shouldn't have been increased here -- I'm sorry, the defense expert for the defense said that.

Dr. Akin described the pattern of late decelerations that developed at about 9:00 p.m. and continued for almost two hours showing what he described as "an alarming pattern[]" and a sign that the baby was having trouble. When asked about the nurses' response when Dr. Backardjiev ordered Pitocin increased at about 10:55 p.m., Dr. Akin explained it was appropriate for the nurses to institute the chain of command: "It was late in coming, but it needed to be brought up." According to Dr. Akin, when Pitocin was again increased at about 11:25 p.m., the monitoring strip showed "almost immediately [] we start seeing these bigger dips in the baby's heart rate with every contraction." Dr. Akin testified that the mother was asked to start pushing, but that it was "absolutely[]" unadvisable to push when there were already distressing signs:

> . . . Not only should the Pitocin have not been increased but with this severe of a problem going on the Pitocin should have been turned off, this baby should have been resuscitated, should not have been pushing, should have given this baby a chance to get a breath here and try to recover. Instead, they're pounding this baby with more Pitocin with contractions; and it's escalating the problem.

Dr. Akin described the monitoring strip late in the delivery as "an incredibly alarming section of the strip . . . that give[s] great concern and great credence to the fact that this baby [was] injured at this point." In Dr. Akin's opinion, "[t]his is in the top one percent of bad strips."

According to Dr. Akin, he is familiar with the standard of care on the use of forceps, and in 2003 he participated in research about reducing birth injuries from the use of forceps. Dr. Akin testified that the goal of using forceps is "not to use great strength" but to get the baby's head at the most favorable angles and positions. Dr. Akin explained that he was instructed "never to use your back muscles or use your legs in the process of [using forceps] because inevitably you have the potential to use way too much force on the baby's head when you do that." Dr. Akin testified that sometimes forceps may be faster than a C-section, but that "[t]his baby was in serious trouble here and [there was a] low probability of success with forceps." In Dr. Akin's opinion, Olivia had HIE or brain damage even before forceps were used and she also incurred serious injury from the use of forceps with parietal bones broken on both sides and her neck was twisted:

> The forceps were on the baby's head but he pulled with enough force that they literally raked past the baby's parietal bones. And those curves, those tips of the forceps are, in my opinion, what fractured both of those bones as they slipped and raked past the baby's head. The baby also had lacerations on the scalp from where those forceps slipped past the baby's head.

Dr. Akin testified that the more than thirty-minute delay in delivering by C-section was below the standard of care, and that "[i]n most hospitals you should be able to get that C-section going in 10 minutes."

In Dr. Akin's opinion,

> [w]hen the baby was born it had the classic findings of hypoxic ischemic encephalopathy. It had a heart rate over a hundred but that was really its only signs of life. It was flaccid, meaning it wasn't moving. Had no reflex activity. It wasn't breathing. It was pale blue. It[]s initial Apgar score was 2. It had no ability to survive without immediate assistance. It had a breathing tube put down into its lungs and was artificially given oxygen. And at five minutes this baby still had very little signs of life. It was still blue. It still had no reflexes. It still was flaccid. And it was like that because its brain was damaged.

According to Dr. Akin, the neonatologist knew Olivia had HIE within the first twenty minutes of life and called for a transfer to Houston to begin cooling therapy. After five minutes, Olivia's Apgar score was 7, which Dr. Akin testified was "a gross misrepresentation of the health of the baby at five minutes." Dr. Akin explained that there was a thirty-five-minute delay from when the forceps and Pitocin were discontinued until the baby was delivered, which allowed the baby to recover somewhat and for pH levels to rise.

Dr. Akin agreed that Olivia showed signs of organ failure:

> The baby struggled with cardiovascular problems because it was having a hard time maintaining its blood pressure. That's evidence of the heart not functioning well because of the strain of the condition. The baby had evidence of renal -- of kidney dysfunction. Its ability to eliminate waste products was impaired. So, the baby's waste products over the first several hours of birth built up in its blood system. Neurologically the baby was flaccid. It had severe neurologic injury. And, on top of that, it had seizures which are a classic sign of brain damage, of HIE. So, it had multisystem organ failure, which is one of the diagnostic factors for HIE.

In Dr. Akin's opinion, the symmetric injury in the brain suggested it was not a problem with just one blood vessel and "HIE is symmetric most of the time." Dr. Akin did not disagree with the neuropathologist's anatomic findings in the autopsy, but he disagreed that the MRI evidence of symmetric injury occurred from a single blood vessel. Dr. Akin explained that there was no evidence of significant bleeding into the brain that caused serious harm to Olivia.

Dr. Akin explained

> [] my opinion is there were two problems in this case. The baby didn't get enough oxygen late in the course of labor and had brain death from that; and then during the delivery process it had skull fractures and a neck subluxation as a consequence of inappropriate use of forceps.

According to Dr. Akin, the research on the use of forceps in which he had participated showed that babies with skull fractures from forceps did not die and did not have HIE.

According to Dr. Akin, the nurses breached their standard of care and violated the hospital policy which they were trained to follow and the nurse's breach was a cause of the HIE sustained by Olivia Coats. Dr. Akin testified that the nurses failed to say "no" when they should have to Dr. Backardjiev's Pitocin orders, and that was a cause of the development of HIE. Although Dr. Akin believed the nurses monitored the fetal heart rate appropriately and accurately identified what the problem was, he

believed "their failure was to act upon that to help protect the baby's life." Dr. Akin also explained:

> Q. Let me ask you a question about going up the chain of command. Do you believe that the nurses failed to meet the standard of care by not continuing past the charge nurse level when they saw the danger to Olivia?
>
> A. I do. I think that most of the time when we have questions about this with nurses we're looking at late decelerations that are going on for maybe three or four contractions. But for three hours for her not to go up the chain in a case that is so obvious, I think that was way below the standard of care.
>
> . . . .
>
> Had they gone to the supervisor I think there's a reasonable chance that a decision would have been made to discontinue Pitocin.
>
> . . . .
>
> Q. And all of these negligent acts that you just talked about and the nurses' and the doctor's failures to follow the standard of care, do you believe that they were all substantial factors in bringing about this HIE?
>
> A. I do.
>
> Q. And do you believe that their acts were -- or at least the injury caused by their acts was reasonably foreseeable at the time that they were doing the act?
>
> A. I do.
>
> . . . .
>
> Q. And just to be clear, do you believe that this baby had sustained HIE to some degree before forceps were ever applied?

> A. Yes. And we saw evidence of that not only with recurrent lates but with the sinusoidal pattern and the severe tachycardia.

In Dr. Akin's opinion, the use of forceps did not cause the HIE, but the use of forceps did cause the traumatic skull fracture and neck dislocation injury to Olivia.

Testimony of Joellen Klohn

Joellen Klohn testified as a witness for the Medical Center. Klohn has worked as a registered nurse since graduating from nursing school in 1983, mostly in labor and delivery. She has taught classes on electronic fetal monitoring, she has been involved in forceps deliveries, and at the time of trial, she was working at a community hospital in Kerrville. Klohn understood Dr. Akin's criticism of the nurses to pertain to the period between 10:00 p.m. and midnight, during which time there were intermittent late decelerations and variable decelerations. In Klohn's opinion, the interventions the nurses used seemed to resolve the late decelerations. Klohn explained that at 10:55 p.m., there were still some late decelerations and Dr. Backardjiev ordered the Pitocin to be increased. Klohn explained that Nurse Cupit had some concerns about increasing the Pitocin, and after Cupit talked with Nurse Bray, they talked with Dr. Backardjiev and the Pitocin was not increased because there were "some very subtle recurrent late decelerations." According to Klohn, at 11:10 p.m., Melancon was completely dilated and the monitoring strip was "nothing to be terribly concerned about because there's still baseline variability." Klohn

explained that Dr. Backardjiev ordered the Pitocin increased at 11:35 p.m., and she believed it was within the standard of care for the nurses to carry that order through because the doctor was present evaluating the situation and there was no indication that Melancon would not be able to deliver vaginally. Klohn also explained that when Dr. Backardjiev ordered an increase in Pitocin at 11:51 p.m., the late decelerations had resolved after Melancon stopped pushing and "at that point there was no reason not to follow the order." Klohn believed that the nurses acted prudently, and she agreed it was "a known thing" in her field that interpreting fetal heart strips is subjective.

Testimony of Doctor Timothy Bohan

Dr. Timothy Bohan, a physician who specializes in pediatric neurology and developmental pediatrics, testified as a witness for the Medical Center. Dr. Bohan received his medical degree at the University of Miami, received a Ph.D. in neuropharmacology, and has worked alternately in private practice and academia since 1985. He is board-certified in neurology with special qualifications in child neurology, and he has published about fifty papers in peer-reviewed medical journals in pharmacology and neurology and the treatment of children with neurological disorders.

Dr. Bohan agreed that the autopsy report lists the immediate cause of death for Olivia as hypoxic ischemic injury from trauma and fracture of the neonatal skull and that there is no reasonable basis to disagree with that. Dr. Bohan concluded that Olivia's HIE was not because of Pitocin and prolonged labor. He did not agree that Olivia had multiorgan failure and he did not believe the laboratory results were consistent with multiorgan failure. In Dr. Bohan's opinion, the blood tests did not show damage to the heart; the autopsy showed that the liver, kidneys, and heart looked fine; and the basal ganglia and thalamus regions in the brain "were hardly damaged"—and Dr. Bohan explained that these observations were "not what you expect with lack of oxygen to the fetus before delivery."

Dr. Bohan explained that the CT showed skull fractures and blood inside and outside the skull, but he stated that "[t]he CT scan is really not very good at showing early strokes." He also explained that the MRI of the brain and cervical spinal cord showed strokes and some blood where the spinal cord attaches to the brain. According to Dr. Bohan, the damage in the brain was asymmetrical, but hypoxia would show even damage to both the right and left sides of the brain. Dr. Bohan opined that the strokes were not caused by Pitocin but were mechanically caused by "pull[ing] on the head in an asymmetric manner[.]" Dr. Bohan concluded "I'm not saying that labor was normal. I'm just saying that the laboratory studies and the

autopsy did not show the diffuse damage all over the baby and in certain parts of the brain that you see with lack of oxygen." In his opinion and based on reasonable medical probability, the HIE resulted from "a lack of blood flow from the carotid and vertebral injuries which was caused by the trauma[]" and the traumatic fractures to Olivia's skull were caused by the use of forceps. According to Dr. Bohan, Dr. Backardjiev's explanation that Melancon's ischial spines caused skull fractures to Olivia was "not consistent with the degree of the depressed skull fracture on the right."

Testimony of Doctor Ferdinand Plavidal

Dr. Ferdinand Plavidal, an ob-gyn who practices in the Texas Medical Center, testified as a witness for Dr. Backardjiev. In Dr. Plavidal's opinion, Dr. Backardjiev acted within the reasonable standard of care for a healthcare provider and was not careless or neglectful at any time.

According to Dr. Plavidal, the fetal monitoring strip was "essentially a normal strip all the way[]" except for the last hour of labor. In Dr. Plavidal's opinion, Dr. Backardjiev's use of forceps was reasonable considering the situation at the time, "with the need for urgent delivery[.]" Dr. Plavidal explained that there is "a lot of documentation" that the natural expulsive forces of labor and pushing by the mother can result in fractures to a baby's skull, and skull fractures can also occur during a

C-section. Dr. Plavidal agreed that the subgaleal bleed could happen at the time of a C-section or with any delivery. Dr. Plavidal explained that he did not believe that the Pitocin was causing the fetal heart rate to go up when the Pitocin was administered and in his opinion the fetal heart rate became elevated during labor when Melancon was experiencing fever.

Testimony of Doctor Stephen Nelson

Dr. Stephen Nelson, a pediatric neurologist who has a Ph.D. in biomedical sciences, also testified as a witness for Dr. Backardjiev. In Dr. Nelson's opinion, Olivia did not meet the criteria for HIE, specifically with the criteria for pH and multiorgan failure. According to Dr. Nelson, Olivia's decline was "multifactorial[]": she had subgaleal bleeding, bleeding at numerous locations inside the brain, and evidence of anoxic or hypoxic injury to the brain, but not in a pattern observed with HIE. Dr. Nelson explained that a baby can die if subgaleal bleeding is untreated. Dr. Nelson testified that when Olivia was admitted at Memorial Hermann, she had evidence of coagulopathy, or improper clotting, and clots could explain some of the strokes. According to Dr. Nelson, the cooling Olivia received at Memorial Hermann may make clotting worse. Dr. Nelson explained that "[a]ny manipulation of the neck theoretically can damage vertebral arteries[]" including chiropractic manipulation, pulling a baby out during a C-section, or hyperextending the neck while trying to

put in an endotracheal tube. Dr. Nelson testified that the subgaleal hemorrhage caused Olivia to have poor blood volume, to be anemic, and to be hypotensive, which affected blood flow to the brain and could have contributed to anoxic injury or stroke. He agreed that subgaleal hemorrhages are caused by trauma during the birth process.

Dr. Nelson could not identify anything in the medical records that indicated Olivia was dying before Dr. Backardjiev tried to deliver her with forceps and as far as he knew, Pitocin did not kill Olivia. Dr. Nelson explained that because he is not an obstetrician, he could not say whether the traumatic injuries Olivia experienced were linked to anything Dr. Backardjiev did. In his opinion, the cause of death was withdrawal of care, and life support was eventually withdrawn because of "[a] combination of what happened to [Olivia] in delivery and then perhaps some of what happened to her during resuscitation or even in the ongoing care in the NICU." Dr. Nelson did not believe that Olivia had HIE.

Exhibits

The appellate record also includes additional exhibits including: medical records for Melancon's prenatal care visits to Dr. Backardjiev; medical records for Melancon's labor and delivery at the Medical Center; medical records for Olivia's treatment at Memorial Hermann Children's Hospital; tracing report (the "monitoring

strip") from the Medical Center; curriculum vitae for Mark Akin, M.D., F.A.C.O.G.; brain diagrams; Autopsy Final Report from Memorial Hermann Children's Hospital; perioperative and intraoperative labor and delivery records from the Medical Center; curriculum vitae for Timothy Bohan, Ph.D., M.D., F.A.A.P.; curriculum vitae for Ferdinand Plavidal, M.D.; and a July 10, 2014 report by Mark Akin, M.D.

Expert Qualifications and Reliability of Expert Testimony

In its first issue on appeal, Appellant argues that Dr. Akin was not qualified to opine as to neurologic damage and the cause of alleged HIE in an infant. In its second issue, Appellant argues that the trial court erred in admitting the testimony of Dr. Akin because his medical testimony was not based on reasonable probability and did not sufficiently establish a traceable chain of causation based on general scientific principles or a probable causal relationship between the Medical Center's employees' administration of Pitocin and Olivia's death.

A trial court functions as a gatekeeper in deciding whether to admit or exclude expert opinion. *See In re Commitment of Gollihar*, 224 S.W.3d 843, 853 (Tex. App.—Beaumont 2007, no pet.) (citing Harvey Brown, *Procedural Issues Under Daubert*, 36 Hous. L. Rev. 1133, 1158-59 (1999)). Absent an abuse of discretion, an appellate court will not disturb a trial court's ruling on reliability unless the record shows that the court acted without reference to the pertinent guiding rules or

principles. *E.I. du Pont de Nemours & Co. v. Robinson*, 923 S.W.2d 549, 558 (Tex. 1995).

Expert testimony is admissible when (1) the expert is qualified, and (2) the testimony is relevant and based on a reliable foundation. *See Cooper Tire & Rubber Co. v. Mendez*, 204 S.W.3d 797, 800 (Tex. 2006). If the expert's scientific evidence is not reliable, it is not evidence. *Id.* Courts must determine reliability from all the evidence. *Merrell Dow Pharms., Inc. v. Havner*, 953 S.W.2d 706, 720 (Tex. 1997); *see also In the Interest of J.B.*, 93 S.W.3d 609, 620 (Tex. App.—Waco 2002, pet. denied). Expert testimony must be based on a reliable foundation of scientific or professional technique or principle. *Wiggs v. All Saints Health Sys.*, 124 S.W.3d 407, 410 (Tex. App.—Fort Worth 2003, pet. denied) (citing *Robinson*, 923 S.W.2d at 557). "When the expert's underlying scientific technique or principle is unreliable, the expert's opinion is no more than subjective belief or unsupported speculation and is inadmissible." *Id.* Causation opinions predicated on possibility, speculation, and surmise are no evidence. *See Havner*, 953 S.W.2d at 711-12.

The qualification of a witness as an expert is within the trial court's discretion. *See Broders v. Heise*, 924 S.W.2d 148, 151 (Tex. 1996); *see also Mendez*, 204 S.W.3d at 800. Admission of expert testimony that does not meet the reliability requirement is an abuse of discretion. *Id.* "'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.'" *Mendez*, 204 S.W.3d at 800 (quoting Tex. R. Evid. 702); *see also Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 588-89 (1993).

If a licensed doctor has sufficient familiarity with the specific subject matter at issue in a medical malpractice suit, he is qualified to testify as an expert. *Broders*, 924 S.W.2d at 152-53. Not every licensed physician is qualified to testify on every medical question. *See id.* at 152. "Credentials are important, but credentials alone do not qualify an expert to testify." *See In re Bohannan*, 388 S.W.3d 296, 304 (Tex. 2012). "The expert's experience, knowledge, and training are crucial in determining whether the expert's opinions are admissible." *Id.* at 306. Thus, a medical expert from one specialty may be qualified to testify if he has practical knowledge of what is customarily done by practitioners of a different specialty under circumstances similar to those at issue in the suit. *See Tenet Hosps., Ltd. v. De La Riva*, 351 S.W.3d 398, 406 (Tex. App.—El Paso 2011, no pet.).

Dr. Akin's expert report stated that he is a board-certified ob-gyn, with thirty-one years of practice, qualified to attest to standards of care for prenatal care and the management of labor and delivery. His report also explained that he has "extensive

experience with prenatal office evaluation, labor induction with Cytotec and Pitocin, physician management of labor, forceps deliveries, and emergency cesarean section." At trial, Dr. Akin testified that he is board-certified in obstetrics and gynecology and has practiced as an ob-gyn for more than thirty years. He stated that, over the course of his career, he has delivered approximately 11,000 babies, and he is familiar with the duties of an obstetrician and labor and delivery nurse. Dr. Akin explained that he is a member of ACOG, and he has participated in research about reducing birth injuries from the use of forceps. Dr. Akin explained that he uses Pitocin frequently with the management of labor and he is familiar with the standards of care about when and how forceps should be used. Dr. Akin has testified as an expert on fetal injury in cases since 1986. Dr. Akin obtained a Master's degree in biomechanical engineering, where he studied fetal monitoring and the assessment of patients. Dr. Akin agreed that he had reviewed the medical records and depositions in this case. He also testified that he understood HIE, what causes HIE, how to prevent HIE, what the signs of HIE are, what the complications are of HIE for babies, and what HIE looks like on an MRI scan.

Appellant argues that Dr. Akin, as an ob-gyn with no special training or experience on neurologic causation, is not qualified to render an expert opinion as to neurologic damage and the cause of HIE in Olivia. The Texas Supreme Court has

rejected the notion "that only a neurosurgeon can testify about the cause in fact of death from an injury to the brain[.]" *See Broders*, 924 S.W.2d at 153. In *Roberts v. Williamson*, the Texas Supreme Court found that a board-certified pediatrician was qualified to give expert testimony on a child's neurological injuries sustained shortly after birth because the pediatrician had experience and expertise regarding the specific causes and effects of the child's injuries. *See* 111 S.W.3d 113, 120-22 (Tex. 2003).

In *Cornejo v. Hilgers*, the Houston First Court of Appeals explained that an ob-gyn was qualified to give an expert opinion on HIE in an infant because

> [his] report demonstrates that he has specific expertise in the areas of obstetrical complications in pregnancy, management of labor, interpretation of electronic fetal monitoring, abnormal fetal heart rate patterns, and evidence of fetal hypoxia as predicted by fetal heart rate patterns. And he specifically notes that he is familiar, based on his education, training, and experience, with the probable causes of hypoxic-ischemic injuries in babies generally and with the probable causes of the injuries to [the] baby in this case.

446 S.W.3d 113, 122 (Tex. App.—Houston [1st Dist.] 2014, pet. denied.); *see also Abilene Reg'l Med. Ctr. v. Allen*, 387 S.W.3d 914, 923 (Tex. App.—Eastland 2012, pet. denied) (concluding that an obstetrician was qualified to give an expert opinion on the causal relationship between complications during labor and delivery and a newborn's neurological injuries due to his knowledge and experience with fetal brain injury following oxygen deprivation); *Livingston v. Montgomery*, 279 S.W.3d

868, 869 (Tex. App.—Dallas 2009, no pet.) (concluding an ob-gyn was qualified to offer expert testimony on the causal relationship between complications during labor and delivery and the development of a newborn's neurological injuries).[3]

On cross-examination, Dr. Akin testified that he does not diagnose or treat neonates and that he does not diagnose or treat HIE. According to Appellant, "Dr. Akin does not treat babies post-delivery, understand or interpret the lab values for neonates, or otherwise diagnose infants post-delivery." It was Dr. Akin's opinion that the continued use of Pitocin during labor caused HIE to develop and he expressed no opinions on events that occurred post-delivery. On the record before us here, we cannot say that the trial court abused its discretion in determining that

[3] *See also Comstock v. Clark*, No. 09-07-00300-CV, 2007 Tex. App. LEXIS 8447, at **10-11 (Tex. App.—Beaumont Oct. 25, 2007, pet. denied) (mem. op.) (concluding an anesthesiologist was qualified to give an expert opinion on a patient's permanent brain damage that resulted from an overdose of sedation medication during dental surgery); *Sloman-Moll v. Chavez*, No. 04-06-00589-CV, 2007 Tex. App. LEXIS 1619, at **8-12 (Tex. App.—San Antonio Feb. 28, 2007, pet. denied) (mem. op.) (concluding that a physician who was an otolaryngologist and facial and plastic reconstructive surgeon was qualified to give an expert opinion on a child's neurological injuries resulting from infections caused by inadequate care after the child's endoscopic sinus surgery); *but see Alonzo v. Lampkin*, No. 07-12-00030-CV, 2013 Tex. App. LEXIS 13932, at *12 (Tex. App.—Amarillo Nov. 13, 2013, no pet.) (mem. op.) (where plaintiff's bowel was pricked during a hysterectomy and patient alleged that she suffered a hypoxic event and brain damage as the result of being prematurely discharged from the hospital, the trial court did not abuse its discretion in excluding ob-gyn's testimony as to causation because there was no showing he had "any experience, training or education in the field of neurology or, more specifically, brain injuries").

Dr. Akin was qualified to opine on the causal connection between Olivia's injuries and the conduct of the nurses and of Dr. Backardjiev.

The record reflects that Dr. Akin is a board-certified ob-gyn who has delivered approximately 11,000 babies, with experience, knowledge, and training about labor and delivery, the use of Pitocin and of forceps, and fetal heart monitoring. The law does not require him to be certified in neonatology or neurology to render an expert opinion on the use of and administration of Pitocin, the interpretation of fetal monitoring strips, the signs of distress during delivery, the standard of care for nurses and obstetricians, or the use of forceps, and the events occurring during labor and delivery. *See Cornejo*, 446 S.W.3d at 123. The trial court could have reasonably concluded that Dr. Akin's experience, knowledge, and training in managing labor and delivery qualified him to opine on the causal relationship between the labor and delivery and the resulting complications, including Olivia's neurological injuries. *See Livingston*, 279 S.W.3d at 877. We overrule Appellant's first issue.

In *Robinson*, the Texas Supreme Court set forth six factors courts "may consider" in determining whether expert testimony is admissible:

> (1) the extent to which the theory has been or can be tested;
>
> (2) the extent to which the technique relies upon the subjective interpretation of the expert;

> (3) whether the theory has been subjected to peer review and/or publication;
>
> (4) the technique's potential rate of error;
>
> (5) whether the underlying theory or technique has been generally accepted as valid by the relevant scientific community; and
>
> (6) the non-judicial uses which have been made of the theory or technique.

923 S.W.2d at 557 (internal citation omitted). Rule 702 contemplates a flexible inquiry. *See Transcon. Ins. Co. v. Crump*, 330 S.W.3d 211, 215 n.2 (Tex. 2010) (citing *Mendez*, 204 S.W.3d at 801).

In determining whether expert testimony is reliable, the expert's experience, knowledge, and training are crucial, in addition to a consideration of the *Robinson* factors. *See Bohannan*, 388 S.W.3d at 306; *Crump*, 330 S.W.3d at 215-16 (citing *Gammill v. Jack Williams Chevrolet, Inc.*, 972 S.W.2d 713, 726-27 (Tex. 1998)). The Texas Supreme Court has explained that the *Robinson* factors "may be difficult to apply to an opinion that is based heavily on an expert's individual skill, experience, or training." *See Bohannan*, 388 S.W.3d at 305. Indeed, in some cases, experience alone may provide a sufficient basis for an expert's testimony. *See Gammill*, 972 S.W.2d at 726. The Court has explained that although the *Robinson* factors cannot always be used in assessing an expert's reliability, there must be some

basis for the opinion offered to show its reliability. *See Mendez*, 204 S.W.3d at 801 (citing *Gammill*, 972 S.W.2d at 726).

Appellant argues that Dr. Akin's testimony fails to satisfy three of the *Robinson* factors. According to Appellant, Dr. Akin's testimony about hypoxia would fail the second *Robinson* factor because the basis for his opinions rest "almost entirely" upon his subjective interpretation of the fetal heart monitoring strip; fail the third *Robinson* factor because he admitted there is no peer-reviewed literature stating that one can accurately predict whether a baby will be born with HIE "based upon a strip alone" and he admitted his opinions at trial would not be published because he is not qualified; and, fail the fifth *Robinson* factor because Dr. Akin's testimony about hypoxia was contrary to the criteria for HIE as set forth by the ACOG and the American Academy of Pediatrics.

"Examination of an expert's underlying methodology is 'a task for the trial court in its role as gatekeeper, and [is] not an analysis that should be undertaken for the first time on appeal.'" *Gunn v. McCoy*, 554 S.W.3d 645, 661-62 (Tex. 2018) (quoting *Coastal Transp. Co. v. Crown Cent. Petroleum Corp.*, 136 S.W.3d 227, 233 (Tex. 2004)); *In re Bohannan*, 379 S.W.3d 293, 297 n.2 (Tex. App.—Beaumont 2010) (explaining that trial court's preliminary assessment determines whether the reasoning or methodology underlying an expert's testimony is scientifically valid

and relevant), *aff'd,* 388 S.W.3d 296. Our role is not to determine reliability but to determine whether the trial court abused its discretion in finding Dr. Akin's testimony reliable. *See Coastal Tankships, U.S.A., Inc. v. Anderson*, 87 S.W.3d 591, 605 n.25 (Tex. App.—Houston [1st Dist.] 2002, pet. denied).

Dr. Akin's expert report which was attached to the Motion to Exclude and the Response to the Motion, and then later admitted into the record as Exhibit 1 during the pretrial hearing, acknowledged that fetal heart monitoring, while "an inexact science[,]" was "a useful tool for assessing the placental supply of oxygen to the fetus[.]" At the hearing on the motion to exclude Dr. Akin's testimony which occurred outside the presence of the jury and on the first day of trial, the trial court heard arguments from all parties.

In exercising its gatekeeper function, the trial court could have reasonably concluded that Dr. Akin's opinions related to the Medical Center and the cause of injury to Olivia and her subsequent death were not predicated solely upon the fetal monitoring strip. Dr. Akin's expert report explained that the fetal hypoxia and acidosis observed in Olivia soon after her birth was "evidenced by the fetal monitor strip and the fetal blood gases at delivery, as well as the clinical manifestations of HIE post-delivery." At trial, Dr. Akin also acknowledged other ACOG criteria for HIE, including pH and base excess levels for cord blood gas samples, Apgar scores,

and multisystem organ failure. Dr. Akin explained he disagreed with the documented Apgar score for Olivia and that the blood gas pH was taken thirty-five minutes following delivery, which would have provided time for it to improve.

On this record, we cannot say that the trial court erred in exercising its gatekeeper function and determining that the reasoning or methodology underlying Dr. Akin's opinions was scientifically valid and relevant, grounded in methods and procedures of science, and that his opinions were more than a subjective belief or unsupported speculation. *See Robinson*, 923 S.W.2d at 557 (citing *Daubert*, 509 U.S. at 589-90). Moreover, based on his experience practicing as an ob-gyn, the trial court could have reasonably determined that Dr. Akin had sufficient skill, experience, and training to render expert opinions related to this case. *See Bohannan*, 388 S.W.3d at 306; *Crump*, 330 S.W.3d at 215-16; *Gammill*, 972 S.W.2d at 726.[4]

Appellant argues that there was "evidence of trauma/ischemia" that Dr. Akin could not and did not exclude as a cause of death with reasonable certainty. Appellant explains that Dr. Bohan testified that the cause of injury to Olivia was

[4] While not determinative of our analysis, we note that other Texas opinions have involved the development of brain injury in an infant with expert opinions based at least in part on fetal heart monitoring. *See generally, e.g.*, *Cornejo v. Hilgers*, 446 S.W.3d 113 (Tex. App.—Houston [1st Dist.] 2014, pet. denied); *Quiroz v. Covenant Health Sys.*, 234 S.W.3d 74 (Tex. App.—El Paso 2007, pet. denied); *Morrell v. Finke*, 184 S.W.3d 257 (Tex. App.—Fort Worth 2005, pet. denied).

mechanical and not the result of Pitocin, and that the defense physician experts also agreed that no injury resulted from Pitocin. We understand Appellant to argue that the failure to rule out alternative causes (in addition to Dr. Akin's lack of qualifications) renders Dr. Akin's opinions unreliable, and that without reliable expert testimony on causation, Appellant is entitled to JNOV and a reversal of the jury's verdict.

In medical malpractice cases, the general rule is that "'expert testimony is necessary to establish causation as to medical conditions outside the common knowledge and experience of jurors.'" *Jelinek v. Casas*, 328 S.W.3d 526, 533 (Tex. 2010) (quoting *Guevara v. Ferrer*, 247 S.W.3d 662, 665 (Tex. 2007)). Such cases may present a battle of the experts, and at trial it is the sole obligation of the factfinder to determine credibility and weigh testimony, particularly opinion evidence. *See Morrell v. Finke*, 184 S.W.3d 257, 282 (Tex. App.—Fort Worth 2005, pet. denied). There may be more than one proximate cause, including more than one cause-in-fact. *See Lee Lewis Constr., Inc. v. Harrison*, 70 S.W.3d 778, 784 (Tex. 2001); *Hall v. Huff*, 957 S.W.2d 90, 96-98 (Tex. App.—Texarkana 1997, pet. denied); *Harvey v. Stanley*, 803 S.W.2d 721, 725-26 (Tex. App.—Fort Worth 1990, writ denied). While an expert medical opinion must rest in reasonable medical probability, a medical causation expert need not disprove or discredit every other

possible cause than the cause he advances. *See Crump*, 330 S.W.3d at 217-19 (citing *Viterbo v. Dow Chem. Co.*, 826 F.2d 420, 424 (5th Cir. 1987); *Burroughs Wellcome Co. v. Crye*, 907 S.W.2d 497, 500 (Tex. 1995)). There can be concurrent proximate causes; all persons whose negligent conduct contributes to the injury, proximately causing it are liable. *Travis v. City of Mesquite*, 830 S.W.2d 94, 98 (Tex. 1992) (op. on reh'g). Faced with competing expert opinions, it was the obligation of the jury to determine the credibility and weight to give the testimony of the competing experts, and to resolve conflicts in the evidence. *See Gunn*, 554 S.W.3d at 665 (citing *City of Keller v. Wilson*, 168 S.W.3d 802, 819 (Tex. 2005)).

Here, the appellate record reflects multiple experts testified and each had different causation theories. In Dr. Akin's opinion, Olivia suffered from HIE and a lack of oxygen late during labor, which resulted in brain death and related to the alleged breaches of care by all the defendants and the use of Pitocin. Dr. Akin also believed that Olivia received skull fractures and a neck subluxation from the inappropriate use of forceps, but he did not believe the HIE resulted from the use of forceps. Dr. Backardjiev testified that the cause of Olivia's HIE was a subgaleal bleed, which he explained usually occurs when there is a defect in the blood vessels. Dr. Bohan testified that Olivia's HIE resulted from a "lack of blood flow from the carotid and vertebral injuries which was caused by the trauma." Dr. Nelson testified

that Olivia did not meet the criteria for HIE and that life support was eventually withdrawn because of a combination of what occurred during delivery, resuscitation, and care in the NICU. The autopsy report stated that the primary cause of death was "[h]ypoxic ischemic injury as a result of trauma and fracture of the neonate skull."

The jury charge included the following instruction: "There may be more than one proximate cause of death." The record before us does not suggest the Medical Center objected to the charge or to this instruction, nor does the Appellant challenge any aspect of the jury charge on appeal. The jury found Dr. Backardjiev 95% responsible and the Medical Center 5% responsible. The jury in this case heard conflicting expert opinions. The jury was responsible for resolving any conflict between the evidence and opinions. *See Gunn*, 554 S.W.3d at 665-66.

To the extent that we liberally construe Appellant's first and second stated issues as no evidence challenges, we consider only the evidence that tends to support the jury's finding. *See Volkswagen of Am., Inc. v. Ramirez*, 159 S.W.3d 897, 903 (Tex. 2004) ("A party may raise a properly preserved complaint on appeal that scientific evidence is unreliable and thus no evidence to support a judgment.") (citing *Havner*, 953 S.W.2d at 711-12; *Coastal Transp. Co.*, 136 S.W.3d at 232-33). "A no evidence point will be sustained when (a) there is a complete absence of evidence of a vital fact, (b) the court is barred by rules of law or of evidence from

giving weight to the only evidence offered to prove a vital fact, (c) the evidence offered to prove a vital fact is no more than a mere scintilla, or (d) the evidence conclusively establishes the opposite of the vital fact." *Havner*, 953 S.W.2d at 711.

Dr. Akin testified that "the only way" for the nurses and doctors to know whether a baby is getting enough oxygen during labor is by the use of electronic fetal heart monitoring and that an increase in fetal heart rate typically results when there is reduced oxygen going to the baby. He explained that when oxygen deficiency occurs, usually "the first change we usually see is a rise in the baby's heart rate[.]" Dr. Akin testified that during Melancon's labor,

> . . . as the Pitocin was increased, the force of the contraction was increased, the pressure in the uterus increased, [and] we had less oxygen going to the baby. And over time the baby wasn't handling that well[.] . . . And during that time it was under that much stress, we saw these changes that occurred in the fetal monitor where there was no longer all of that variability of heart rate. It became very flat, and we began to see a very alarming change in the fetal heart rate.

According to Dr. Akin, over time, if parts of the baby's brain do not get enough oxygen, cells die and HIE occurs. Akin testified that for HIE to occur, several conditions must be present, one of which is "a clinical situation in which there is a high probability of the baby not getting enough oxygen." Dr. Akin expressed the opinion that giving more Pitocin when the fetal monitoring strip was showing Category 2 changes risked going into Category 3. Dr. Akin concluded that Olivia

did not get enough oxygen late during labor, which resulted in brain death, and that Olivia also sustained skull fractures and a neck subluxation from the inappropriate use of forceps:

> During the labor process this baby had a prolonged window of time it was not getting enough oxygen based on the fetal monitoring record. And as a consequence even before the forceps were applied, in my opinion more likely than not, this baby had hypoxic ischemic encephalopathy. It had brain damage. The baby did end up with some fairly horrendous injuries from the forceps. Both the parietal bones on body sides were broken. The neck was twisted out of joint. And, yet, this baby, its primary cause of death in my opinion was due to injury to its brain.

The defendants presented expert witnesses with different interpretations of the fetal monitoring strip and medical records, as well as different conclusions and theories of causation. The defense experts criticized Dr. Akin's testimony. Nevertheless, it was the province of the jury to decide the credibility of the expert witnesses. *See Gunn*, 489 S.W.3d at 84. On this record, we cannot say that Dr. Akin's testimony presents a case in which there is too great of an analytic gap between the data and the opinion proffered or that the expert's testimony amounted to nothing more than a subjective opinion or mere *ipse dixit*. *See Ford Motor Co. v. Ledesma*, 242 S.W.3d 32, 40 (Tex. 2007). We cannot say that Dr. Akin's testimony amounted to no evidence. *Id.*; *Crump*, 330 S.W.3d at 217-19. We conclude that the Medical Center's complaints about Dr. Akin's testimony go to its weight, not its

admissibility. *See Ledesma*, 242 S.W.3d at 40-41. We find no error, and we overrule Appellant's second issue.

Standard of Care for Nurses

Appellant states its third issue as follows:

> [w]hether the trial court correctly held that there was legally and factually sufficient evidence regarding: (1) Appellant's proposed standard of care, (2) breach, and (3) proximate cause when: the testimony of Appellee's expert conflicted with the statutory requirements for nursing practice including the Texas Nursing Practice Act's prohibition on nurses performing medical diagnoses.

Citing to section 301.002(2) of the Texas Occupational Code, Appellant explains that making a medical diagnosis is outside the scope of a nurse's authority. *See* Tex. Occ. Code Ann. § 301.002(2) (West Supp. 2018).[5] Appellant argues that nurses in Texas have "no legal duty to draw any conclusion from their observations about the patient's signs, symptoms, and responses that would require a medical diagnosis." *See Methodist Hosp. v. German*, 369 S.W.3d 333, 343 (Tex. App.—Houston [1st Dist.] 2011, pet. denied.) Appellant argues that Dr. Akin sought to hold the nurses—and by extension, the Medical Center—to a standard that is beyond the scope of nursing practice.

[5] We cite the current version of the statute because subsequent amendments do not affect our disposition.

Appellee argues that Appellant has waived any error regarding the nursing standard of care by failing to raise the issue prior to appeal. In its reply brief, Appellant explains that it made this argument in a pretrial motion for summary judgment. We have examined the clerk's record and the reporter's record that contain the Medical Center's motion to exclude Dr. Akin's testimony and the hearing thereon. The Medical Center did not make this objection in its pretrial motion to exclude Dr. Akin's testimony. Additionally, the reporter's record does not suggest that the Medical Center made this objection during Dr. Akin's trial testimony. In its motion for directed verdict, the Medical Center only challenged whether Dr. Akin was qualified and not whether he applied the appropriate standard of care for the nurses. The Medical Center's motion for JNOV also did not challenge or argue that Dr. Akin applied the wrong standard of care or that nurses cannot practice medicine or that Dr. Akin had misapplied the standard of care for nurses. Additionally, in its statement requesting a partial reporter's record, the Medical Center did not state that the doctor had applied an improper standard of care for nurses or that the standard of care applied by Dr. Akin would be an issue on appeal.

After a trial on the merits, the denial of a motion for summary judgment may not be reviewed on appeal. *Ackermann v. Vordenbaum*, 403 S.W.2d 362, 365 (Tex. 1966); *Tricon Tool & Supply, Inc. v. Thumann*, 226 S.W.3d 494, 509 (Tex. App.—

Houston [1st Dist.] 2006, pet. denied) (holding that when a party moves unsuccessfully for summary judgment and subsequently loses in a conventional trial on the merits, the denial of that motion generally is not subject to review on appeal). Consequently, the trial court's denial of the Medical Center's motion for summary judgment is not reviewable on appeal and does not preserve a challenge to the standard of care for nurses.

Additionally, where an appellant requests a partial reporter's record, it must include in the request "a statement of the points or issues to be presented on appeal and then will be limited to those points or issues." *See* Tex. R. App. P. 34.6(c)(1); *Coleman v. Carpentier*, 132 S.W.3d 108, 110 (Tex. App.—Beaumont 2004, no pet.). Error is preserved only if the opponent of the evidence makes a timely, specific objection and obtains a ruling. *See Serv. Corp. Int'l v. Guerra*, 348 S.W.3d 221, 234 (Tex. 2011) (citing Tex. R. App. P. 33.1; Tex. R. Evid. 103; *Bay Area Healthcare Grp., Ltd. v. McShane*, 239 S.W.3d 231, 235 (Tex. 2007)). Additionally, any error in the admission of testimony is deemed harmless and is waived if the testimony is subsequently presented without objection. *See Ramirez*, 159 S.W.3d at 907; *Breof BNK Tex., L.P. v. D.H. Hill Advisors, Inc.*, 370 S.W.3d 58, 67 (Tex. App.—Houston [14th Dist.] 2012, no pet.). Furthermore, a party's argument on appeal must comport

with its argument at trial. *See Wohlfahrt v. Holloway*, 172 S.W.3d 630, 639-40 (Tex. App.—Houston [14th Dist.] 2005, pet. denied).

The appellate record before us does not contain this argument by the Medical Center in its pretrial motion to exclude, at trial, or in its motion for JNOV. Nor does the record indicate that the Medical Center made a timely objection and obtained a ruling thereon. The issue has not been preserved for our review. *See Guerra*, 348 S.W.3d at 234. Appellant has also presented an issue in its brief that it did not include in its statement of points or issues requesting a partial reporter's record. *See* Tex. R. App. P. 34.6(c)(1); *Coleman*, 132 S.W.3d at 110. This argument was not preserved for appeal.[6] We overrule Appellant's third issue.

[6] Even if the Medical Center had preserved error on this point, the appellate record provides no indication that Dr. Akin was holding the nurses to a standard of care contrary to the Nursing Practice Act. *See* Tex. Occ. Code Ann. § 301.002(2) (West Supp. 2018). Dr. Akin testified that the nurses breached their duties in administering Pitocin, by not refusing the doctor's orders, and failing to go further up the chain of command, and that the nurses' breaches were a cause of the HIE and death of Olivia. The nurses testified that Medical Center policy provides that nurses should stop Pitocin therapy when fetal heart status becomes nonreassuring and that nurses should initiate the chain of command to resolve disagreements between medical providers. Nurse Bray testified that administering Pitocin is a nursing function and that nurses may use their independent judgment whether to start, increase, pause, or decrease Pitocin.

Having overruled all the Appellant's issues, we affirm the judgment of the trial court.

AFFIRMED.

LEANNE JOHNSON
Justice

Submitted on September 5, 2018
Opinion Delivered November 29, 2018

Before McKeithen, C.J., Horton and Johnson, JJ.