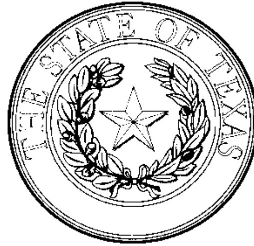
Opinion issued December 29, 2011



In The

Court of Appeals

For The

First District of Texas

NO. 01-09-00925-CV

THE METHODIST HOSPITAL, Appellant

V.

JOHN GERMAN, Appellee

On Appeal from the 125th District Court
Harris County, Texas
Trial Court Case No. 2003-30417

O P I N I O N

This is a medical malpractice case against a hospital involving the care provided by its nurses. Appellee John German was admitted to The Methodist Hospital for surgery to repair a congenital heart defect. A tragic surgical error

committed during his first heart surgery required additional surgeries and interventions. German survived, but only after suffering the amputation of one leg, one foot, and most of his fingers.

German filed suit to recover damages for injuries arising from the original surgery and his subsequent course of treatment. After settling with his doctors, he proceeded to trial against the sole remaining defendant, The Methodist Hospital. German sought to hold Methodist responsible for the acts of its nurses, alleging that the nurses failed to notice that he was having a dangerous reaction to medication, and that their failure to take appropriate action led to the eventual amputations. German also alleged that Methodist did not properly train its nurses to recognize and appropriately respond to his symptoms.

The jury awarded damages to German based on findings that Methodist was negligent and was 50% responsible for the injuries. The jury also found that the hospital had acted with conscious indifference in providing medical care and awarded exemplary damages. The trial court entered judgment on the verdict in German's favor. Among other things, the hospital contends on appeal that the evidence was legally insufficient to support the verdict, primarily because critical testimony by German's expert witness was unreliable and conclusory.

Because there is no evidence of at least one element of each of German's theories of negligence, we reverse the trial court's judgment and render a take-nothing judgment in favor of The Methodist Hospital.

Background

John German, then a 32-year-old mechanic, was admitted to The Methodist Hospital for surgery to correct a congenital heart defect. During the surgery, Dr. Mahesh Ramchandani committed a serious error by puncturing German's healthy mitral valve. The puncture resulted in a condition known as acute mitral valve regurgitation, which caused blood to flow backwards through the heart and which would have been fatal if left untreated. Ramchandani attempted to repair the valve during this surgery by suturing it, but a variety of serious medical conditions over the following two days indicated that the attempted repair was not successful. On two consecutive days, doctors performed additional open-heart surgeries, attempting again to repair the valve and then, upon the realization that the valve was irreparably damaged, ultimately replacing it. During each surgery, German was placed on a cardiopulmonary bypass machine (also known as a heart-lung machine). After the second failed valve repair, an extracorporeal membrane oxygenation machine (or ECMO) was also used to provide external cardiopulmonary support. Both the heart-lung machine and the ECMO required use of a blood-thinning medication, and for this reason German was given heparin,

an FDA-approved anticoagulant. These were the only times that German received heparin during this hospital stay, and it was administered by the doctors themselves, not the nurses in the cardiovascular intensive care unit. After each surgery, German received care in the hospital's cardiovascular ICU.

Over the course of eight days beginning with his original surgery, German experienced, among other things, cardiac distress, multi-system organ failure, life-threatening bleeding, and low blood pressure. He required multiple blood transfusions, prompting the doctors to artificially elevate his blood pressure through the use of drugs known as vasopressors. German also experienced a significant decline in his blood platelet count, weak pulses, and other signs of blood clotting in his extremities. At trial, German's expert witness testified that these symptoms could indicate a rare adverse reaction to heparin called heparin-induced thrombocytopenia, also known as HIT. But German's expert conceded that these symptoms were also consistent with the numerous surgical interventions and medications that had been administered, and some of German's doctors testified that at the time of treatment they believed the symptoms were caused by factors other than HIT. For example, German's decreased platelet count was consistent with the mitral valve regurgitation resulting from the punctured valve, and it was also consistent with the repeated use of the heart-lung machine and ECMO during German's treatment, both of which had the effect of decreasing

platelets. His weak pulses were consistent with the use of vasopressors, which constricted blood vessels and had the effect of depriving the capillaries in his extremities of blood in order to keep blood flowing to the brain and other vital organs.

The treating doctors testified without contradiction at trial that German would have died without these surgical interventions. Unfortunately, the doctors could not restore circulation to his extremities, and German later underwent surgery to amputate his left leg above the knee, all of his fingers, and all of the toes and part of his right foot.

German filed a medical malpractice lawsuit against his treating physicians and Methodist. He settled all of his claims against the doctors, and he proceeded to trial solely against Methodist on a theory that he had HIT, that it was preventable, and that the negligent failure to prevent it resulted in his amputations. German alleged that Methodist was liable for the negligence of its cardiovascular ICU nurses who failed to recognize the signs and symptoms of HIT and failed to alert the doctors to these conditions. In addition, German alleged that Methodist negligently failed to train its cardiovascular ICU nurses about HIT. Finally, German alleged that Methodist and its nurses acted with conscious indifference in caring for him.

The jury found that Methodist was negligent and acted with malice, and it awarded compensatory and exemplary damages to German. The final judgment awarded $7,116,095.89 to German on his claims against Methodist.

Analysis

In its first three issues, Methodist challenges the sufficiency of the evidence to support the jury's negligence findings. The elements of a medical negligence claim are: (1) a duty to conform to a certain standard of care; (2) a failure to conform to the required standard; (3) actual injury; and (4) a causal connection between the conduct and the injury. *See, e.g.*, *Mariner Health Care of Nashville, Inc. v. Robins*, 321 S.W.3d 193, 205 (Tex. App.—Houston [1st Dist.] 2010, no pet.). A medical malpractice plaintiff must present evidence of a reasonable medical probability that the alleged injuries "were caused by the negligence of one or more defendants, meaning simply that it is 'more likely than not' that the ultimate harm or condition resulted from such negligence." *Kramer v. Lewisville Mem'l Hosp.*, 858 S.W.2d 397, 399–400 (Tex. 1993). Methodist argues there was no evidence that its nurses breached a duty under a legally proper standard of care, no evidence that any alleged breach caused German's injuries, and no evidence of any standard of care for the nurses' training.

When a party who does not have the burden of proof at trial challenges the legal sufficiency of the evidence, we consider the evidence in the light most

favorable to the verdict, indulging every reasonable inference that would support it. *City of Keller v. Wilson*, 168 S.W.3d 802, 822 (Tex. 2005). We will sustain a no-evidence point 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.

Merrell Dow Pharmaceuticals, Inc. v. Havner, 953 S.W.2d 706, 711 (Tex. 1997) (citing Robert W. Calvert, *"No Evidence" and "Insufficient Evidence" Points of Error*, 38 TEX. L. REV. 361, 362–63 (1960)). We review the factual sufficiency of the evidence to support a jury verdict by considering and weighing all the evidence, and we will set the verdict aside "only if it is so contrary to the overwhelming weight of the evidence as to be clearly wrong and unjust." *Cain v. Bain*, 709 S.W.2d 175, 176 (Tex. 1986).

Two distinct theories of Methodist's negligence were presented at trial. German contended that Methodist was responsible for the negligent failures of its nurses to know the adverse effects of heparin, to appropriately document and report them, and to initiate the hospital's internal chain of command when the doctors did not diagnose HIT. German's other theory was that the hospital failed to train its nurses properly. To demonstrate the insufficiency of the evidence to support the jury's finding of negligence, Methodist must demonstrate the absence

of evidence to support at least one element of each theory. As to the theory based on the nurses' alleged failures, Methodist argues that a critical component of German's proposed standard of care conflicted with Texas law by effectively requiring the nurses to diagnose German's symptoms as HIT, and therefore the proposed standard was not supported by any legally sufficient evidence. Moreover, Methodist contends that there is no evidence that the nurses breached any other duty or that any such breach caused German's injuries. With respect to the alleged failure to train, Methodist argues that German offered no evidence of the standard of care for training nurses. We will address each of German's liability theories and Methodist's contentions in turn.

I. Negligence of Methodist's nurses

A. Standard of care—nurses' alleged duty to identify and act upon symptoms of medical condition

Methodist challenges the sufficiency of the evidence to establish certain aspects of the standard of care applicable to nurses, and it argues that the standard of care propounded by German's expert is legally flawed. Because determination of the standard of care in medical malpractice requires knowledge and skills not ordinarily possessed by lay persons, evidence of the applicable standard of care and its breach is usually established by expert testimony. *See Jelinek v. Casas*, 328 S.W.3d 526, 533 (Tex. 2010) (causation); *Battaglia v. Alexander*, 177 S.W.3d 893, 899 & n.7 (Tex. 2005) (standard of care). Methodist's arguments implicate the

sufficiency of German's expert testimony—both the expert's opinions and the reliability of the information upon which he relied in forming his opinions.

Challenges to expert opinions ordinarily arise in the context of rulings on their admissibility, which are reviewed for an abuse of discretion. *See Whirlpool Corp. v. Camacho*, 298 S.W.3d 631, 638 (Tex. 2009). But in some cases, as here, a party asserts on appeal "that unreliable . . . expert testimony is not only inadmissible, but also that its unreliability makes it legally insufficient to support a verdict." *Id.* "Opinion testimony that is conclusory or speculative is not relevant evidence, because it does not tend to make the existence of a material fact 'more probable or less probable.'" *Coastal Transp. Co. v. Crown Cent. Petroleum Corp.*, 136 S.W.3d 227, 232 (Tex. 2004) (quoting TEX. R. EVID. 401). In such cases, courts must determine if the testimony is sufficiently reliable to make it probative of a material fact. *See Whirlpool*, 298 S.W.3d at 637. "[I]t is the basis of the witness's opinion, and not the witness's qualifications or his bare opinions alone, that can settle an issue as a matter of law; a claim will not stand or fall on the mere *ipse dixit* of a credentialed witness." *Burrow v. Arce*, 997 S.W.2d 229, 235 (Tex. 1999). "It is not enough for an expert simply to opine that the defendant's negligence caused the plaintiff's injury." *Jelinek*, 328 S.W.3d at 536.

Dr. Akella Chendrasekhar was designated as German's expert witness on the standard of care for nursing care. Before trial, Methodist challenged

Chendrasekhar's qualifications, and the trial court held a two-day hearing on a motion to exclude his testimony. While permitting much of Chendrasekhar's proposed testimony, the trial court ruled that he could not testify that the nurses should have diagnosed HIT. Nevertheless, at trial Chendrasekhar opined that the nurses' standard of care required them to recognize clotting signs and a downward platelet trend as symptoms of HIT, to report them to the physicians as such, and ultimately to use the hospital's internal chain of command to get "satisfaction" when the doctors failed to diagnose HIT and treat German accordingly.

Methodist argues that Chendrasekhar's opinion about the standard of care conflicted with legal prohibitions against the practice of medicine by nurses because his proposed standard required the nurses not only to recognize and report the objective data that German's platelet levels were dropping or fluctuating, but also to take the further step of diagnosing HIT. That is, Methodist contends that under Chendrasekhar's proposed standard of care, the nurses would have been required to conclude that German's platelet levels were dropping or fluctuating because he had HIT and that the doctors had misdiagnosed German by not concluding that he had HIT. Methodist contends this proposed standard of care is incorrect as a matter of law, and thus Chendrasekhar's testimony in this regard is no evidence of the standard of care.

In response, German argues that he never sought to impose liability on the hospital because its nurses failed to make a medical diagnosis. Rather, German contends that the nurses had a statutory duty to know, document, and report the effect of medications and treatments administered to patients. German contends that the nurses should have known that HIT is an adverse effect of heparin, should have recognized that the signs and symptoms they observed were consistent with HIT, and should have communicated that information to the treating physicians.

At trial, Chendrasekhar testified that his qualifications included intensive care work during his residency, a post-residency critical care fellowship, and practice of critical care medicine since 1994. He is board certified in general surgery, critical care medicine, and surgical critical care. He has taught doctors and medical students, and he served as the assistant director and director of trauma and critical care medicine at Iowa Methodist Medical Center for eight years. At the time of trial, he was the director of trauma and critical care at Lincoln Hospital in New York. He testified that he served as the chairman of the quality improvement committee, which encompassed nursing as well as medical care improvement. He testified that he had interacted with nurses on the care and treatment of HIT and that he had reviewed nursing literature pertaining to HIT.

Chendrasekhar's testimony included reading from several nursing journals, including an article entitled "Bleeding complications in the patient with cardiac

disease following thrombolytic and anti-coagulant therapies" from *Critical Care Nursing Clinics of North America*, which he said was relevant to the nurses' standard of care. The article stated:

> While the patient is receiving heparin, the platelet count should be monitored regularly, and any downward trends in the count reported, as well as any change in pulsation or color of an extremity. The nurse should observe for poor capillary refill, weakened or absent pulses or other signs of decreased perfusion, such as decreased urinary output or neurologic changes, which may indicate emboli.

He also read an excerpt from "Heparin-induced thrombocytopenia" published in the *Journal of Vascular Nursing*, which stated: "Nurses are responsible for recognizing and reporting the signs and symptoms of HIT syndrome." Chendrasekhar specifically opined that in the case of German's treatment, Methodist's nurses had the following duties under their standards of care:

- The nurses have a responsibility to notify a physician if a patient is having an allergic reaction to a medicine. He testified that "HIT is—thrombocytopenia in this setting related to HIT is an allergic reaction."

- The nurses should have recognized German's clotting signs and downward platelet trend as signs and symptoms of HIT, and they should have informed the treating physicians.

- Although all the doctors "missed" the diagnosis of HIT, the nurses should have caught it.

- The nurses have a responsibility to use the chain of command to inform superiors "if they don't get an appropriate response from the physician," and they should have done so in this case.

Despite his opinion that the applicable standard of care required that the nurses recognize and report the symptoms as indicative of HIT, Chendrasekhar nevertheless also confirmed that German's many symptoms and complications were also consistent with diagnoses other than HIT, such as the decreased platelet levels being consistent with his acute mitral valve regurgitation.

On cross-examination, Chendrasekhar testified that he did not know that there was a Texas statute that governed the practice of nursing, had never heard of the North American Nursing Diagnosis Association, and was unaware of licensing or continuing education requirements for nurses in Texas. He also did not know whether Texas excluded medical diagnosis from the practice of nursing.

In contrast to Dr. Chendrasekhar's opinions about the nurses' duties and the applicable standard of care, Nurse Kathy Knaack, the nursing director of Methodist's cardiovascular intensive care unit, testified that a nursing diagnosis is "based off the nurse's assessment, a problem in the patient that they can address based on their education and license." She distinguished a nursing diagnosis from a medical diagnosis in that a "medical diagnosis has to do with the medical condition of the patient in which the physician would order specific treatments; a nursing diagnosis has things to do with what a nurse can do to intervene and support the medical diagnosis." She also testified that the North American Nursing Diagnosis Association, or NANDA, sets standards for acceptable nursing

diagnoses. The 2001–2002 NANDA manual, which was admitted into evidence at trial, defined "nursing diagnosis" as "[a] clinical judgment about individual, family, or community responses to actual or potential health problems/life processes. A nursing diagnosis provides the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable." NANDA, NURSING DIAGNOSES: DEFINITIONS & CLASSIFICATIONS 2001-2002, at 245 (Marjory Gordon et al., eds., 2001).

Knaack offered her opinion that a doctor's order is required for the administration of medication, but a nurse is nevertheless required to know why a medication is ordered and its effects. This includes adverse reactions, such as the risk of bleeding associated with giving a patient a blood-thinning medication like heparin. She also testified that Methodist's nurses do not—and legally cannot—make medical diagnoses, because nurses are not educated or licensed to do so. Nurse Virginia Hathaway, a certified critical care registered nurse who cared for German in the cardiovascular ICU, also testified that a diagnosis of HIT is a medical diagnosis that a nurse cannot make.

Both Methodist and German rely on the Nursing Practice Act and its implementing regulations in the Texas Administrative Code as defining the standard of care for nurses applicable to this case. *See* TEX. OCC. CODE ANN. §§ 301.001–301.3607 (West 2004 & West Supp. 2010) (Nursing Practice Act); 22

TEX. ADMIN. CODE §§ 213.1–227.6 (2010). Although these regulations have been amended since the events giving rise to German's claims, neither party argues that any change is relevant to this appeal. Rule 217.11 of the Texas Administrative Code, entitled "Standards of Nursing Practice," defines the "minimum acceptable level of nursing practice" for a given setting. *See* 22 TEX. ADMIN. CODE § 217.11. Among the standards applicable to all nurses are the requirements that a nurse know the rationale for and effects of medications and treatments and correctly administer them, as well as accurately and completely reporting the patient's signs, symptoms, and responses. *Id.* § 217.11(1)(C), (D).

In defining "professional nursing," the Nursing Practice Act specifically excludes "acts of medical diagnosis." TEX. OCC. CODE ANN. § 301.002(2) (West Supp. 2010). Furthermore, the Act specifically states that it "does not authorize the practice of medicine as defined by Chapter 151" of the Occupations Code. *See id.* § 301.004(b). The Medical Practice Act defines "practicing medicine" to include "the diagnosis, treatment, or offer to treat a mental or physical disease or disorder or a physical deformity or injury by any system or method, or the attempt to effect cures of those conditions." *Id.* § 151.002(a)(13). Medical diagnosis is commonly understood to be the determination of the cause and nature of a patient's condition. *See, e.g.*, *Loper v. Andrews*, 404 S.W.2d 300, 304–05 (Tex. 1966);

Texas Employer's Ins. Ass'n v. Sauceda, 636 S.W.2d 494, 498 (Tex. App.—San Antonio 1982, no writ).

Both Methodist and German agree that nurses cannot legally make medical diagnoses. Methodist argues that Chendrasekhar's stated standard of care required exactly that. In response, German argues that the Chendrasekhar's standard of care required no more than for the nurses to know and report the effects of the medications they administer, because Chendrasekhar testified that HIT is an allergic reaction to heparin.

German received heparin only during his surgeries and only when administered by a doctor. The Standards of Nursing Practice required the nurses assisting with German's care to know the rationale for and effects of using heparin, as well as to accurately and completely report and document German's status, including his signs, symptoms, and responses. *See* 22 TEX. ADMIN. CODE § 217.11(1)(C), (D). The nurses' duties thus included accurately and completely reporting the signs, symptoms, and responses relied upon by German's treating physicians (and later relied upon by Chendrasekhar in the formation of his opinions), such as German's falling or fluctuating platelet levels and intermittent weak pulses. These signs, symptoms, and responses were consistent with more than one medical or clinical cause, not just HIT. Determining that these clinical findings actually were symptoms of HIT—as opposed to side effects of German's

ongoing treatment or symptoms of some other disorder such as acute mitral valve regurgitation—would have required the nurses to analyze the cause and nature of German's condition. This is a medical diagnosis, prohibited to nurses under Texas law. *See* TEX. OCC. CODE ANN. § 301.004(b) (Nursing Practice Act); *id.* § 151.002(a)(13) (Medical Practice Act). Accordingly, the signs, symptoms, and responses the nurses were obliged to report and document could not have included the characterization or diagnosis of the symptoms as being indicative of HIT.

Chendrasekhar's proposed standard of care effectively required the nurses to engage in the unauthorized practice of medicine by making a medical diagnosis. Anything that could be characterized as the practice of medicine is expressly excluded from the scope of professional nursing in Texas as defined by the Nursing Practice Act. *See* TEX. OCC. CODE ANN. § 301.004(b). The nurses had no legal duty to draw any conclusion from their observations about the patient's signs, symptoms, and responses that would have required a medical diagnosis. Chendrasekhar's testimony suggesting otherwise constituted no evidence of a higher standard of care because such a standard would impermissibly hold nurses to standard higher than that allowed by law. *See Birchfield v. Texarkana Mem'l Hosp.*, 747 S.W.2d 361, 365 (Tex. 1987) (expert's opinion on a mixed question of law and fact must be predicated on "proper legal concepts"); *Schneider v. Haws*, 118 S.W.3d 886, 889–90 (Tex. App.—Amarillo 2003, no pet.) (medical

malpractice expert witness's attempt to impose upon a doctor and his assistant "a standard of care greater than that compelled by law . . . constituted no evidence, as a matter of law, of the applicable standard of care"). The nursing journals entered into evidence also were no evidence that a nurse should interpret certain symptoms as indicating HIT. Instead, consistent with the definition of professional nursing in Texas, *see* 22 TEX. ADMIN. CODE § 217.11(1)(C), (D), they merely stated that, when a patient receives heparin, a nurse should: monitor and report downward trends in platelet count; report "any change in pulsation or color of an extremity"; "observe" certain signs including "poor capillary refill, weakened or absent pulses or other signs of decreased perfusion"; and "report" such "signs and symptoms."

In addition, Chendrasekhar's testimony that he was unaware of the Texas statutes governing or restricting nursing practice made his testimony about the standard of care unreliable. *See Whirlpool*, 298 S.W.3d at 637, 642. Although Chendrasekhar testified about his extensive experience in intensive care, including working with and reviewing the work of nurses, Chendrasekhar did not provide any basis for his opinion that the nurses' standard of care required them to determine that a patient suffered from HIT and then act upon that determination. Any such opinion in this case necessarily required reference to the relevant legal restrictions on the practice of nursing, yet Chendrasekhar's opinion could not account for these restrictions considering that he admitted being ignorant of their

substance. Thus, to the extent that he testified that the nurses should have recognized German's symptoms as signs of HIT and characterized them as such, this testimony is no evidence of the applicable standard of care because of its fundamental unreliability.

We hold that German offered no evidence of any standard of care effectively requiring the nurses to diagnose HIT. This holding does not mean that a nurse has no duty to recognize and appropriately report or otherwise act on the signs and symptoms of a dangerous allergic reaction. Instead, consistent with the complementary provisions of the Medical and Nursing Practice Acts, we hold that Texas law specifies that it is the doctor, not the nurse, who draws medical conclusions from the information observed and reported by the nurse. Only doctors are legally authorized to make a medical diagnosis by evaluating a patient's medical treatment and the development of subsequent symptoms to conclude that a particular medical condition has resulted. This is particularly true when, as occurred in this case, the signs and symptoms observed by a nurse are consistent with more than one disease, syndrome, or cause. Opinion testimony about the standard of care in a medical malpractice case cannot be used to expand this responsibility to nurses in conflict with Texas statutes and regulations governing the nursing profession. To the extent Chendrasekhar also opined that Methodist's nurses should have gone over the heads of German's treating doctors

to seek "satisfaction" when those doctors did not diagnose German with HIT and treat him accordingly, we hold that such testimony also fails because it is based on the same flawed premise that the nurses effectively could be required to diagnose HIT.

B. Breach and causation—adequacy and effect of nurses' observations and reports

The nurses' failures to identify HIT and act in accordance with Dr. Chendrasekhar's opinion of their duties in that regard were not the only theories of Methodist's negligence presented at trial. German also contended that the nurses failed to observe and properly communicate to the doctors the presence of symptoms that may have indicated HIT. In particular, German argues that he presented evidence that the nurses failed to document and report to the physicians his downward trend in platelet counts, weak pulses, and clotting signs. Chendrasekhar testified that the nurses failed to satisfy their duty to document and communicate this information to the doctors. German thus argues that the evidence supports the jury's verdict that acts of negligence attributable to the hospital proximately caused his injuries.

Methodist argues both that there is no evidence that the nurses failed to report completely on German's signs and no evidence that the nurses' actions caused German's injuries and amputations. In particular, Methodist points to the evidence in the record about the thorough nursing assessments conducted in the

cardiovascular ICU and the physicians' testimony that they would not have done anything differently if the nurses provided more information.

a. Adequacy of nurses' observations and communication

Chendrasekhar testified that the nurses should have known the potential adverse effects of heparin, but their deposition testimony showed their knowledge was inadequate. For example, Methodist's nurses testified that heparin can cause excessive bleeding, but they did not indicate awareness that clotting was one of the drug's potential adverse effects. When German's blood pressure and pulses did not correlate, according to Chendrasekhar the discordant pressure data implied "that some other process is going on, like—that's within the blood vessel, such as clotting. Because you are not feeling a pulse yet the blood pressure is such that you should be feeling a pulse." He testified that the nurses should have recognized that the blood pressure was discordant and "at least informed the physician that was caring for him"; that the nurses should have noticed a significant drop in German's platelet counts from the time of his admission to the hospital to the time of each assessment; and that they should have reported trends in his clotting signs as well.

Nurse Knaack testified that, consistent with hospital procedure, the nurses performed a head-to-toe, hands-on nursing assessment of German within one hour of each admittance to the cardiovascular ICU after surgery and every four hours

thereafter. In doing so, a nurse examined all of German's major organ systems by sight, touch, and measurements with medical equipment, as well as by speaking to him when possible. For example, the cardiovascular part of the assessment required the nurse to monitor German's heart sounds with a stethoscope, to touch his neck veins to assess cardiac function, to look for swelling throughout his body, to check for pulses by touching his arms, feet, and other body parts or by using a Doppler machine, and to squeeze his nail beds and watch the color return to determine capillary refill time. The cardiovascular ICU nurses also monitored German's vital signs—either every hour or every 15 minutes—when he received certain medications. This monitoring included his blood pressure, respiratory rate, temperature, heart rate, pulmonary artery catheter reading, drip medication and pulmonary status, oxygen or ventilator status, and neurological assessment. The vital signs and the information from the periodic hands-on, head-to-toe assessments were stored in German's bedside computer, which could be accessed by every member of the cardiovascular ICU.

Knaack also testified about the importance of continuity of care, which required communication among the patient's health care providers. Continuity of care included both written nursing records and verbal bedside updates from the nurses to the health care providers. Knaack testified that a nurse updates a doctor on "her clinical assessment findings . . . anything related to the medications that the

patient is receiving [and] lab work or test results." She testified that the standard of care does not require the nurse to record verbatim what she told the doctor; rather, the standard of care is satisfied if the nurse simply notes, "update given."

Cardiovascular ICU nurses at Methodist follow nursing standards based on those set by the American Association of Critical Care Nurses. Knaack reviewed the nurses' notes from the relevant time period. During German's critical first days in the cardiovascular ICU, nurses performed more than 30 head-to-toe nursing assessments. Knaack testified that they were done within one hour from the time German was admitted or readmitted to the ICU and every four hours thereafter. These assessments included monitoring blood pressure and looking for signs of clotting. The nurses monitored German's pulses and platelet counts during this same period, testing his platelet counts ten times. Knaack also testified that a bedside computer is assigned to each patient for the purpose of documenting the medical record and nursing notes. Nurses access laboratory results, including platelet levels, through the bedside computer. All the doctors, respiratory therapists, and physical therapists, as well as the dietician and pharmacist, also had access to the laboratory results through the bedside computer.

Dr. Faisal Masud, a critical care anesthesiologist and cardiac anesthesiologist, worked at Methodist's cardiovascular ICU and treated German there. Methodist employed around-the-clock cardiovascular ICU physicians and

critical care specialists, so that physicians were available at all times if a nurse needed to contact a specialist. Masud explained that the nurses work with the cardiovascular ICU team of surgeons, critical care specialists, residents, physicians' assistants, and nurse practitioners. He testified that nurses are an important part of patient care, serving "continuously at the bedside" because "no physician can be continually at the bedside." He characterized the nurses' role as an "integral part of anything," explaining that physicians provide instruction to the nurses, that the physicians and nurses routinely exchange information, with nurses reporting significant changes to the physician or other appropriate team member. Although he reviewed the nursing notes at times, he relied on the nurses' verbal updates about changes in a patient's status. Masud explained that both as his general practice and specifically in the case of German's treatment, he listens to the nurses and actively evaluates and treats the patient while he is at the bedside.

Chendrasekhar opined that the nurses' failure to recognize and act on the signs and symptoms of HIT proximately caused German's injuries. Again we look to the basis of his opinions. *See Whirlpool Corp.*, 298 S.W.3d at 637. Although the nurses could not be required to make a medical diagnosis of HIT, they were required to accurately and completely report German's signs, symptoms, and responses. *See* 22 TEX. ADMIN. CODE § 217.11. There is no evidence supporting Chendrasekhar's opinion that they failed to do so in the sense that the relevant

information was not actually observed and documented. Nurse Knaack testified that the nursing record included notes on clinical assessments done in accordance with the one-hour and four-hour standards set by the hospital and that these assessments included checking blood pressures, pulses in German's extremities, and looking for signs of clotting. In other words, the head-to-toe nursing assessments included the very signs and symptoms that Chendrasekhar testified would be present in a patient who had HIT. And, critically, Chendrasekhar himself testified that the doctors were provided all of the information they needed to diagnose HIT, including information about German's weak pulses and falling platelet levels. Although he criticized the nurses' alleged failure to identify trends in the information they recorded and the adequacy of the nurses' verbal reports to the doctors, such as their failure to verbally report about German's downward trending platelet count and fluctuating pulses at a critical point in time, he acknowledged that the nurses had documented the underlying information in their assessments, which were available to the doctors. He thus agreed that the doctors should have been able to make a diagnosis of HIT with the information available to them—the same information he relied upon to conclude that German's symptoms indicated HIT. Methodist's nurses observed and documented all of this information, upon which German's physicians contemporaneously relied for their treatment decisions.

The nursing notes indicate that treating physicians were frequently at German's bedside while the nurses were there monitoring and caring for German. Having reviewed the record, including those portions of the record identified in German's briefing as supportive of his claim, we find no evidence that the nurses failed to fully discharge their duties to accurately and completely document the patient's signs, symptoms, and responses. Accordingly, the only possible remaining theories upon which the jury could have concluded that the nurses failed to satisfy the nursing standard of care are the possibilities that the nurses' duty to report information included the duty to identify trends in that information or to verbally communicate particular information at a particular time. We need not express any opinion about whether the evidence would have supported a finding of breach on these narrow theories because, as explained below, there is no evidence that any breach of that nature caused German's injuries.

b. Effect of nurses' reports on treatment decisions by German's physicians

As suggested above, German contends that it was not enough for the nurses to observe and record information. Chendrasekhar testified that the nurses should have identified a downward trend in German's platelets, that they should have specifically informed a treating physician of that trend, and that their failure to do so caused German to lose his fingers, a leg, and a foot. Chendrasekhar also testified about a particular incident immediately before German's second surgery,

in which Dr. Michael Reardon, the co-director of the ICU, was present when German began to descend into cardiac arrest. A nurse asked for Reardon's assistance. Reardon placed German on the heart-lung machine, administering heparin in the process. Chendrasekhar offered his opinion that a nurse should have told Reardon about the downward platelet trend, and if she had, a hematology consult should have been ordered, HIT should have been diagnosed, and ultimately heparin should not have been used.

Dr. Reardon confirmed that when the nurse asked him for help, he was not specifically made aware of any downward trend in German's platelets and he did not call for a hematology consult. He looked only at the daily lab work and did not know of the falling platelet trend. But he testified that he would not have done anything differently even if he had known of the falling trend, because German would have died if he did not take immediate action. He testified:

> Q. On 9/20/02, if you had known that Mr. German's blood platelets were 68 on that day and were 243 upon admission, would you have called for a hematology consult?
>
> A. No.
>
> Q. And why is that?
>
> A. Because he was going to be dead in a short period of time if I didn't get him on bypass, and by the time we could have gotten a hematologist, he would be dead and his platelet count would have been immaterial.
>
> Q. So that would be the same for any blood platelet level?

> A. That's correct. It was my opinion, when the nurses asked me, that he was going to die in short order without getting on the heart lung machine, which is why I placed him on it. If he had been stable enough to wait, I would have done what it took to tide him over until his doctor, Dr. Ramchandani, was there.

Dr. Masud was also present at this same time, and he had been treating German for several days and was aware of the platelet count. Masud did not believe German had HIT at the time. Instead, he believed that the low platelet count was a direct result of German's multiple surgeries and his bleeding. He testified that if a nurse had persisted in questioning his judgment as to the cause of German's bleeding, he would have thanked the nurse, explained why HIT was not the proper medical diagnosis, and, if necessary, asked for the nurse to be reassigned to another patient.

Three of German's other treating physicians also testified that they either had all the information necessary to diagnose HIT, or that, if a nurse suggested a diagnosis of HIT it would not have changed their course of action or their assessment that German did not have HIT. Dr. Lawrence Rice is a board-certified hematologist who was consulted regarding German's case. Rice testified that he would not have suspected HIT or ordered a heparin antibody test in the days following German's first surgery, even if he knew the complete history of platelet counts, because there were "a lot of alternative explanations for the things going on." He testified that the two additional surgeries and Reardon's action in placing

German on an emergency heart-lung bypass machine were necessary to save German's life. And although German introduced evidence that an alternative blood thinner, Argatroban, was used in treating patients with HIT, Rice testified that even assuming German had HIT, he would not have recommended the use of an alternative blood thinner.

Dr. Luis Velez-Pestana, a physician who treated German in the cardiovascular ICU, testified that he had all the information he needed to care for German when he did. He said that although the nurses did not identify a downward "trend" in platelet levels, he made himself aware of German's platelet trend by checking his records. Velez testified that if a nurse had questioned him about whether German had HIT, he would have thanked her for the information "because it's very important what they see there with the patient all the time," but he would not have diagnosed HIT because German did not display the signs and symptoms of HIT at that time. Velez also testified that if the nurse said she believed German to be having an allergic or adverse reaction to heparin, he would have explained the clinical and laboratory findings comported more with use of the cardiopulmonary bypass pump and his extreme post-surgical bleeding than with a diagnosis of HIT.

Dr. Saleem Zaidi was another critical care specialist with Methodist who treated German. When asked if he would have acted differently if a nurse had

suggested a diagnosis of HIT, Zaidi explained that HIT was already in his mind as a potential medical diagnosis, but the treatment for HIT would have exacerbated bleeding and German was already in a "life and death" situation. Moreover, Zaidi testified that he knew of the downward platelet trend because German was his patient, he had cared for him "continuously for four or five days," and he had been checking German's laboratory results "continuously . . . interoperatively and post-operatively."

Chendrasekhar testified that if the nurses had informed Reardon of the downward trend in platelet levels, then Reardon should have called for a hematology consult and used the alternate anticoagulant when putting German on the heart-lung bypass machine. But Reardon specifically testified that he would not have taken that course of action if the nurses had informed him of German's platelet trend because it would have cost German his life—thus indicating that the nurses' failure to report in accordance with Chendrasekhar's opinion of how they should have did not cause German to receive heparin. Chendrasekhar actually agreed that the surgical and medical interventions performed at Methodist were necessary to save German's life and that he would have died if the doctors had not performed the second heart surgery. Finally, Chendrasekhar conceded that German's many symptoms and complications were consistent with diagnoses other than HIT, such as acute mitral valve regurgitation.

Causation requires proof that the "allegedly negligent act or omission constitute[s] 'a substantial factor in bringing about the injuries, and without it, the harm would not have occurred.'" *Columbia Med. Ctr. of Las Colinas, Inc. v. Hogue*, 271 S.W.3d 238, 246 (Tex. 2008) (quoting *IHS Cedars Treatment Ctr. of DeSoto, Texas, Inc. v. Mason*, 143 S.W.3d 794, 799 (Tex. 2004)). "Proximate cause cannot be satisfied by mere conjecture, guess, or speculation." *Id.* German's treating physicians testified that additional information or questions from the nurses would not have changed their course of treatment, refuting the suggestion that any deficiency in the nurses' reporting proximately caused German's injuries. German properly notes that the jury could have disbelieved the treating doctors' testimony, but he still carried the burden of proving by a reasonable medical probability that his injuries were caused by the alleged breach of failing to identify trends in the information they had observed or by the alleged breach of failing to verbally notify a doctor about this information. Chendrasekhar offered opinion testimony that, with more information, a doctor should have requested a hematology consult and then should have altered the course of treatment so as to avoid use of heparin. But this speculative testimony is insufficient to raise a question of fact on the element of causation, particularly in light of the undisputed evidence that German would have died unless Reardon had immediately intervened. *See Hogue*, 271 S.W.3d at 247.

In sum, there is no evidence establishing a reasonable medical probability that the course of German's treatment was influenced by any failure by nurses to communicate information to physicians. *See Jelinek*, 328 S.W.3d at 533. The documentary record reflects that the doctors had all of the information they needed available to them, and the only fact question suggesting a breach of duty is whether the nurses should have done more to distill certain information for them. Regardless of any such breach by the nurses, the undisputed evidentiary record also reflects German would have died if the treating doctors altered their course of treatment to obtain the hematology consult suggested by German's expert. Accordingly, there is no proof that the nurses' alleged deficiencies were a substantial factor in bringing about German's injuries. *See Hogue*, 271 S.W.3d at 246. Chendrasekhar's opinions to the contrary were based on nothing more than conjecture, guess, or speculation, rendering them insufficient to establish proximate causation by a reasonable medical probability to support German's negligence claims.

II. Failure to train nurses

German also claimed that Methodist was negligent for failing to train its nurses about potential adverse reactions to heparin. On appeal, Methodist contends that there is no evidence of the standard of care with regard to the hospital's duty to train because the trial court specifically ruled before trial that Dr. Chendrasekhar

could not testify that Methodist should have provided nursing education concerning HIT or that Methodist maliciously failed to train its nurses about HIT. To prevail on this theory, German had to prove: (1) under the applicable standard of care, the hospital had a duty to train its nurses about HIT; (2) the hospital breached this duty; (3) he was injured; and (4) there is a causal connection between the breach of care and the injury. *See, e.g.*, *Robins*, 321 S.W.3d at 205.

There is no evidence of the standard of care in the record. Nurse Knaack testified that, during the time when German was in the hospital, it was her job to make sure she had "hired and trained competent staff." She said that Methodist's nurses were trained to monitor the patients, including performing the head-to-toe assessment, looking at lab values, recording information, and reporting to the physicians. She testified that she did not specifically train the nurses that blood clotting could be an adverse reaction to heparin, and she could not say if that training had been otherwise provided to them. When asked whether the nurses were trained that a drop in platelet count was an adverse reaction to heparin, Knaack stated, "They are trained that a drop in platelet count can be an adverse reaction to many things, and it's the physician's decision whether it's related to heparin or whether it's a disease process."

Chendrasekhar did not testify as to a particular standard of care regarding training. He did not offer any opinion about what the nurses should have been

taught, how they should have been trained, or how often they should received such instruction. He did not opine that the appropriate standard of care required Methodist to train its ICU nurses to recognize the adverse signs and symptoms of heparin. Rather, Chendrasekhar said that the excerpts from nursing journals were relevant to the appropriate standard of care. In addition, he testified that he was completely unaware of licensing or continuing education requirements for nurses. Thus, to the extent he did offer testimony pertinent to the standard of care for training, his testimony was not supported by a reliable foundation.

Even if there were evidence of the hospital's duty to train and a breach of that duty, German could not show that he was harmed by the hospital's failure to train unless it resulted in both the nurses' failure to conform to the proper standard of care and his injury. As we have explained, German's treating physicians testified that additional information or questions from the nurses would not have changed their course of treatment. Accordingly, there is no evidence of a causal connection between any alleged failure to train the nurses and the injuries that German alleges. *See Hogue*, 271 S.W.3d at 247. We therefore hold that there was no evidence of standard of care or causation for German's theory of negligent failure to train.

Conclusion

Because we hold that there is no evidence of at least one element of each of German's theories of negligence, we sustain Methodist's first three issues. We reverse the trial court's judgment and render a take-nothing judgment in favor of Methodist. In light of this disposition, we need not address Methodist's remaining issues.

Michael Massengale
Justice

Panel consists of Justices Keyes, Sharp, and Massengale.

Justice Sharp, concurring without opinion.