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UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

DEBRA CHESNUT; GLENN CHESNUT,
Plaintiffs-Appellants,

v.

UNITED STATES OF AMERICA,
Defendant-Appellee.

No. 20-6237

Appeal from the United States District Court
for the Eastern District of Kentucky at London.
No. 6:17-cv-00079—Gregory F. Van Tatenhove, District Judge.

Decided and Filed: September 28, 2021

Before: BOGGS, CLAY, and KETHLEDGE, Circuit Judges.

COUNSEL

ON BRIEF: Annette Morgan-White, MORGAN & WHITE LAW OFFICES, Manchester, Kentucky, for Appellants. Charles P. Wisdom, Jr., Callie R. Owen, UNITED STATES ATTORNEY'S OFFICE, Lexington, Kentucky, for Appellee.

OPINION

CLAY, Circuit Judge. Plaintiffs Debra Chesnut and Glenn Chesnut appeal the district court's findings of fact and conclusions of law, as well as the judgment entered in favor of the United States, in this action brought under the Federal Tort Claims Act ("FTCA"), 28 U.S.C. §§ 1346, 2671–80, for medical negligence and related claims arising from the amputation of Debra Chesnut's right leg. The district court entered judgment for the United States after finding

that the negligence of Dr. Joel Madden, the federal employee whose conduct is relevant to Plaintiffs' claims under the FTCA, was not a substantial factor in causing Debra's amputation. For the reasons set forth below, we **REVERSE** the district court's decision and **REMAND** for proceedings consistent with this opinion.

BACKGROUND

On the morning of April 4, 2016, Debra Chesnut suddenly felt pain and numbness in her legs while at her home in Manchester, Kentucky.[1] On April 19, 2016, Debra's right leg was amputated below the knee at the University of Kentucky Medical Center ("UKMC") due to serious clots that restricted blood flow. The Chesnuts sued various healthcare providers that Debra saw between April 4, 2016, and April 12, 2016, for failing to consider that Debra's symptoms were caused by vascular issues rather than musculoskeletal abnormalities. The only remaining defendant is the United States, which was substituted under the FTCA for its employee, Dr. Joel Madden, who examined Debra on April 12, 2016, at a federally supported health center. Plaintiffs' appeal focuses on the even more circumscribed question of whether Dr. Madden's negligence caused the below-the-knee amputation of Debra's right leg. Accordingly, despite the significant record developed below, our discussion is generally limited to the 22.5-hour period from when Debra saw Dr. Madden the afternoon of April 12 until she was diagnosed with an ischemic (i.e., reduced blood flow) leg and related conditions shortly after 12:00 p.m. on April 13.

Factual Background

On April 4, 2016, Debra went to the emergency room at Manchester Memorial Hospital in Manchester, Kentucky, where she presented with numbness from the waist down, pain in both legs, with the right leg being worse and cold. Dr. James Thomas was Debra's attending physician at Manchester Memorial, and he diagnosed her with sciatica, which is pain along the sciatic nerve in the leg. Dr. Thomas prescribed pain medication for Debra's symptoms and told her to follow up with a family physician if necessary.

[1]The source of the factual background in this section is the district court's Findings of Fact and Conclusions of Law (R. 420.), which the parties do not dispute for purposes of this appeal, except as to the issue of whether Dr. Madden's negligence caused the below-the-knee amputation of Debra's right leg.

Debra's condition had not improved by the next day, so she went to Glenndale Medical Care located in Manchester, Kentucky on April 5, 2016, where Teresa Cole, an advanced practice registered nurse ("APRN"), attended to her. Debra made similar complaints as she had made the previous day to Dr. Thomas, including that her right leg was colder than her left. APRN Cole found that Debra's right leg was cool to the touch, that her left leg was warm, and that pulses were present in both legs. APRN Cole also diagnosed Debra with sciatica and prescribed pain medication. A follow-up visit with APRN Cole was scheduled for April 12, 2016.

Over the next week, the Chesnuts stayed in a camper near the medical facility so that Debra could rest and recuperate. Her condition did not improve, and she went to her appointment with APRN Cole on April 12. APRN Cole again diagnosed Debra with sciatica. At Debra's request, a referral was made to Dr. Jared Madden, a doctor of osteopathic medicine, and an appointment was scheduled for that afternoon.

Dr. Madden was an employee of Grace Community Health Center, which is a federally funded community health center located in Wooten, Kentucky. Debra provided Dr. Madden with an account of her symptoms, including that her lower right leg was cold, and her previous medical treatment. Dr. Madden documented Debra's right-leg pain, that she was a heavy cigarette smoker, and that she had been referred to him for osteopathic manipulative and pain treatments.

Dr. Madden then proceeded to his examination. He found that Debra's dorsalis pedis pulse, from an artery in the foot, which is a measure of blood flow to the legs, was normal. Dr. Madden noticed a slight temperature difference between Debra's right and left legs, but he quickly dismissed its potential significance. Like Dr. Thomas and APRN Cole, Dr. Madden diagnosed Debra with sciatica and other musculoskeletal issues. Dr. Madden's treatment of Debra consisted mainly of osteopathic manipulative treatment, which involves physical manipulation and reflected Dr. Madden's musculoskeletal diagnosis. This treatment improved Debra's mobility, but not her pain and numbness.

The next morning, April 13, 2016, Debra woke up in greater pain than she had experienced up until that point, and her right foot had turned blue. She called Dr. Madden, and he told her that she had to go to the emergency room immediately, as the discoloration indicated that the right foot was not receiving blood flow. When Debra arrived at the emergency room at Manchester Memorial Hospital shortly after noon, the severity of her condition was recognized immediately, and the attending emergency room physician diagnosed her with ischemia (i.e., lack of blood flow to tissues) in her leg and suspected compartment syndrome from the ischemia. Based on his diagnosis, the attending physician, Dr. Kobkit Putrakul, contacted the UKMC's vascular team in Lexington, Kentucky, specifically Dr. Eric Endean, and arranged for Debra to be transported to UKMC by helicopter that afternoon.

When Debra arrived at UKMC, doctors were not able to find a pulse in her right foot or lower leg, and a computed tomography ("CT") angiogram revealed serious blood clots in her right leg. Over the next few days, multiple surgical and non-surgical treatments were attempted to save the leg. On April 15, Dr. Eleftherios Xenos performed transcatheter thrombolytic therapy—which is a non-surgical option that involves inserting a catheter in the groin—to revascularize the leg. Once that attempt failed, Debra underwent two fasciotomies, a surgical procedure that involves cutting open the leg, on April 16 and April 19. After these efforts to restore blood flow were unsuccessful, Dr. Endean performed a below-the-knee amputation of Debra's right leg on April 19.

Procedural Background

Plaintiffs originally filed two federal lawsuits related to Debra's amputation. The first, Case No. 17-cv-79 (E.D. Ky.), was filed against Manchester Memorial Hospital, which operated the emergency room where Debra had gone on April 4; Dr. Thomas, the physician who had treated her there; and APRN Cole, who saw Debra on April 5 and April 12 at Glenndale Medical Care, a facility owned and operated by Memorial Hospital. An entity named Delta Locum Tenens, which was alleged to be Dr. Thomas' employer, was added as a defendant in an amended complaint. Plaintiffs filed a separate lawsuit against the United States and Dr. Madden, Case No. 17-cv-185 (E.D. Ky.), after they had exhausted their administrative remedies, as

required by the FTCA. The cases were consolidated in the docket as Case No. 17-cv-79 (E.D. Ky.) in December 2017.[2]

In January 2018, the district court granted Defendants' motion to dismiss Dr. Madden as a defendant and to substitute the United States under the FTCA, specifically, 28 U.S.C. § 2679(d)(1). Plaintiffs' claims against APRN Cole and Manchester Memorial Hospital were voluntarily dismissed with prejudice in October 2018.

Through 2019, the parties prepared for a jury trial, until, in the midst of a number of pretrial filings (e.g., trial briefs, exhibit lists, proposed jury instructions, proposed voir dire, motions in limine, etc.) on December 31, 2019, the parties filed a proposed agreed order of dismissal of Delta Locum Tenens. The claims against Delta Locum Tenens were dismissed without prejudice on January 3, 2020. A jury trial remained scheduled for January 21, 2020.

On January 14, 2020, Plaintiffs filed a notice of settlement as to Dr. Thomas, effectively leaving the United States as the only defendant in the case.[3] The claims against Dr. Thomas were dismissed with prejudice on February 7, 2020.

Since a plaintiff does not have a jury trial right in an FTCA action, the jury trial was converted to a bench trial set to begin on January 22, 2020, in light of the settlement with Dr. Thomas. *See Carlson v. Green*, 446 U.S. 14, 22 (1980). At a telephone conference on January 14, 2020, the government suggested a bench trial "submitted on briefs," where all the testimony would be submitted by either videotape or transcript and "basically just both sides would write trial briefs and then response briefs." (1-14-20 Telephone Conference Tr., R. 435, Page ID #10466.) Plaintiffs' counsel was initially skeptical of the government's proposal, noting that "I really think the Court needs to hear from the expert in regard to the medicine." (*Id.* at Page ID #10467.) However, on January 17, 2020, the parties agreed to cancel the bench trial and submit the case on the briefs, which were to include proposed findings of fact and conclusions of law.

[2]All citations to the record in this opinion refer to documents in the docket for Case No. 17-cv-79 (E.D. Ky.), not Case No. 17-cv-185 (E.D. Ky.).

[3]The remaining claims against the United States were a medical negligence claim brought by Debra Chesnut and a related loss of consortium cause of action by Glenn Chesnut.

Plaintiffs' counsel explained that she had spoken to the Chesnuts, and they had given their permission to submit the case on the briefs.

After the filing of the trial briefs, the district court entered findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52(a)(1). The district court found that Dr. Madden had been negligent when he had examined Debra on April 12, 2016, and failed to meet the applicable standard of care when he did not consider vascular causes of Debra's symptoms in diagnosing her. However, the district court found in favor of the United States on Plaintiffs' claims because it determined that Plaintiffs had "failed to prove by way of expert testimony that Dr. Madden's deviation from the standard of care was a proximate cause of Ms. Chesnut's below-the-knee amputation." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10305.) The district court separately entered judgment in favor of the United States pursuant to Rule 58 and in accordance with its findings of fact and conclusions of law on October 13, 2020. Plaintiffs timely appealed.

DISCUSSION

Standard of Review

At the outset, we must determine the standard of review that governs this appeal. Plaintiffs argue that the district court's determination that Dr. Madden's negligence was not a substantial factor in causing Debra's amputation is a conclusion of law subject to *de novo* review. Plaintiffs also argue that the district court is not entitled to any deference because this case was decided on the briefs, and there was no live testimony that would justify deference to the district court. The government responds that while proximate causation is a mixed question of law and fact, a district court's causation findings are subject to clear-error review. In the alternative, Plaintiffs argue that reversal is appropriate under the clearly erroneous standard of review for findings of fact. The appropriate standard of review in this case is clear error. *Traylor v. United States*, 418 F.2d 262 (6th Cir. 1969) (per curiam).

Under Rule 52(a), we "review the district court's factual findings for clear error and conclusions of law *de novo*." *Holt v. City of Battle Creek*, 925 F.3d 905, 910 (6th Cir. 2019). In a *de novo* review, this Court is required to answer the same question as presented to the district

court without any deference. *See Daunt v. Benson*, 999 F.3d 299, 307 (6th Cir. 2021); *see also Salve Regina Coll. v. Russell*, 499 U.S. 225, 231 (1991) ("We conclude that a court of appeals should review *de novo* a district court's determination of state law."). "Clear error will be found only when the reviewing court is left with the definite and firm conviction that a mistake has been committed." *Max Trucking, LLC v. Liberty Mut. Ins. Corp.*, 802 F.3d 793, 808 (6th Cir. 2015). A lower court may be reversed under clear error even if the record contains some support for its finding, if such a conviction exists. *Indmar Prods. Co. v. C.I.R.*, 444 F.3d 771, 778 (6th Cir. 2006).

Plaintiffs, in part, argue that a *de novo* standard of review is appropriate because this case was decided on the record, the trial judge had no opportunity to evaluate the demeanor of witnesses, and therefore, this Court is in just as good a position as the district court to determine the facts. Regardless of any appeal of this argument, we are foreclosed from considering it by longstanding precedent. In *Traylor*, we were presented with another FTCA case where the district court decided the remaining issues "by written deposition and exhibits submitted to the Court." 418 F.2d at 262. We held that "[t]he fact that this case was tried upon written depositions and exhibits, all of which are reviewable in full on appeal, does not alter our standard for reviewing findings of fact and adequacy of awards in a trial without a jury." *Id.* at 264. The Supreme Court rejected the same argument in *Anderson v. City of Bessemer City*, 470 U.S. 564 (1985). In *Anderson*, the Court held that even when the district court's findings of fact are based on physical or documentary evidence, clear error review applies. *Id.* at 574–75. It reasoned that "[t]he rationale for deference to the original finder of fact is not limited to the superiority of the trial judge's position to make determinations of credibility," but is also justified by the trial judge's experience in finding facts, avoiding the "diversion of judicial resources" by duplicating the trial judge's efforts by the court of appeals, and conserving the resources of the litigants. *Id.* at 574–75.

Subsequent amendments to Rule 52 that "[f]indings of fact, whether based on oral or other evidence, must not be set aside unless clearly erroneous," confirmed this view. Fed. R. Civ. P. 52(a)(6); *see Guerrero v. White*, 202 F.3d 268, at *2 (6th Cir. 1999) (per curiam) (unpublished table opinion) (describing 1985 amendments to Rule 52).

The Fifth Circuit has recognized that despite being "a unique procedure," "a bench trial on the written briefs" does not "alter[] our standard of review . . . ." *Contender Farms, L.L.P. v. U.S. Dep't of Agric.*, 779 F.3d 258, 264 n.2 (5th Cir. 2015). However, that circuit has also noted that when "the evidence relied upon by the district court in making its findings consists solely of documents in the record, the burden of establishing clear error is not so great as where the court engaged in the judging of witness credibility or in some other way was in a superior vantage point for finding facts." *Hall v. Nat'l Gypsum Co.*, 105 F.3d 225, 228 (5th Cir. 1997); *see* Fed. R. Civ. P. 52(a)(6) ("Findings of fact, whether based on oral or other evidence, must not be set aside unless clearly erroneous, and the reviewing court must give due regard to the trial court's opportunity to judge the witnesses' credibility.").

We have long adhered to the position argued by the government—that causation is a mixed question of law and fact that we review for clear error. *Bell v. United States*, 854 F.2d 881, 886 (6th Cir. 1988). Plaintiffs' assertions that the district court's causation determination is a legal conclusion subject to *de novo* review are unavailing. We have specifically recognized that proximate causation is a question of fact under Kentucky law. *James v. Meow Media, Inc.*, 300 F.3d 683, 691 n.1 (6th Cir. 2002); *see also Patton v. Bickford*, 529 S.W.3d 717, 730 (Ky. 2016) (describing "substantial factor" analysis as a question of fact).

I. District Court's Causation Analysis

"[A]cknowledging the high level of deference we must afford the district court upon review of this case, we nevertheless have been left with the 'definite and firm conviction' that a factual mistake has been committed." *Bell*, 854 F.2d at 886. "In addition, we conclude that the district court erred in its interpretation of [Kentucky] law." *Id.*

Because Plaintiffs' claims against the United States are proceeding under the FTCA, liability is determined by reference to the law of the state where the alleged torts occurred, which is Kentucky. Under Kentucky law, "the plaintiff in a medical negligence case is required to present expert testimony that establishes (1) the standard of skill expected of a reasonably competent medical practitioner and (2) that the alleged negligence proximately caused the injury." *Andrew v. Begley*, 203 S.W.3d 165, 170 (Ky. Ct. App. 2006).

This appeal entirely concerns the district court's causation findings based on Plaintiffs' experts' testimony. The Kentucky Supreme Court recently explained the legal standards that govern the causation inquiry in a medical negligence case in *Ashland Hospital Corp. v. Lewis*, 581 S.W.3d 572 (Ky. 2019). The district court correctly stated this standard in its findings of fact and conclusions of law. *Ashland Hospital Corp.* explained:

> Under established Kentucky law, proximate causation is a necessary element of a medical malpractice claim; the complainant must demonstrate that the medical professional's breach of the standard of care was a proximate cause of the complainant's injury. To be the proximate cause of the injury, the conduct in question must be a substantial factor in causing the injury. Such proximate causation must be shown by a reasonable degree of medical probability, rather than mere possibility or speculation.

Ashland Hosp. Corp., 581 S.W.3d at 577–78 (citations omitted).

A. Framing of the Causation Inquiry

The district court found that Dr. Madden had breached the standard of care because his conclusion that there was no evidence of a vascular problem was unfounded and unreasonable due to a deficient medical examination. Dr. Madden was negligent because "he failed to rule out ischemia more generally and, in failing to do so, fell below the standard of care." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10303; *see also id.* at Page ID #10301 ("As to the standard of care, the question to be resolved is whether Dr. Madden was obligated to include potential vascular causes in his differential diagnosis of Ms. Chesnut's symptoms.").) While "[t]he United States disagrees with the district court's finding of negligence, [] it does not challenge this finding in view of the judgment rendered in its favor below." (Appellee's Br. 5 n.2.)

The district court then declined to resolve a dispute between the parties as to whether Debra suffered from an ischemia from April 4 to April 13, 2016, as Plaintiffs argued, or whether she had suffered a sudden ischemia on April 13, after she had been seen by Dr. Madden on April 12, as the United States had argued. Instead, the district court, "[f]or the sake of the analysis . . . accept[ed] as true Plaintiffs' theory that Ms. Chesnut suffered from a progressively worsening ischemia from April 4 to April 13." (Findings of Fact & Conclusions of Law, R. 420, Page ID

#10306.) The United States does not challenge the district court's presumption for purposes of this appeal.

However, the district court's framing of the causation inquiry in this medical negligence case was inconsistent with its own negligence finding. The district court stated that "to prove that Dr. Madden's negligence was a proximate cause of Ms. Chesnut's injury, Plaintiffs must show that the delay from 2:00pm on April 12 to 12:30pm on April 13 played a substantial factor in causing the amputation. In other words, would it have made a difference as to the ultimate outcome if Dr. Madden had properly diagnosed the condition on the afternoon of April 12 when it was properly diagnosed the next day?" (*Id.*) This was an erroneous statement of Plaintiffs' burden in proving proximate cause for their negligence causes of action. The causation question in a negligence case is whether "the alleged negligence proximately caused the injury." *Andrew*, 203 S.W.3d at 170. (*See id.* at Page ID #10305 (recognizing that Plaintiffs were required "to prove by way of expert testimony that Dr. Madden's deviation from the standard of care was a proximate cause of Ms. Chesnut's below-the-knee amputation").)

In framing the causation inquiry around Dr. Madden's failure to diagnose Debra's vascular condition, rather than his failure to consider the possibility of vascular causes as the source of her symptoms, the district court contradicted its own negligence analysis and failed to apply Kentucky law. The district court found that Dr. Madden had been negligent for his failure "to include potential vascular causes in his differential diagnosis of Ms. Chesnut's symptoms. In other words, did the applicable standard of care require Dr. Madden to 'rule out' vascular causes when he evaluated Ms. Chesnut? In short, the answer is yes—as a Doctor of Osteopathy, Dr. Madden was required to include potential vascular causes in his differential diagnosis." (*Id.* at Page ID #10301.) In fact, the district court explicitly stated that "the issue here is not whether Dr. Madden failed to diagnose limb-threatening limb ischemia but whether he failed to rule out ischemia more generally and, in failing to do so, fell below the standard of care." (*Id.* at Page ID #10303.)

Accordingly, the proper framing of the causation inquiry in this case was not whether it would "have made a difference as to the ultimate outcome if Dr. Madden had properly diagnosed the condition on the afternoon of April 12 when it was properly diagnosed the next day," but

whether it would have made a difference to Debra's outcome if Dr. Madden had considered the possibility of vascular causes as the source of her symptoms in his diagnosis on April 12.

While the distinction between these two inquiries might not seem large, it is critically important in the context of this case. As explained below, the district court concluded that the testimony of one of Plaintiffs' experts, Dr. Samuel Kiehl, was irrelevant because it was "based on the assumption that Dr. Madden should have made a conclusive ischemia diagnosis at the time of Ms. Chesnut's visit and started her on a dosage of heparin." (*Id.* at Page IDs ##10309–10.) However, as the district court pointed out in that part of its opinion, "Dr. Madden was not negligent for failing to conclusively diagnose Ms. Chesnut with ischemia, he was negligent for failing to recognize the possibility of a vascular issue." (*Id.*) In discounting Dr. Kiehl's testimony, the district court appears to be recognizing that the proper causation inquiry is whether Dr. Madden's failure to consider the possibility of ischemia caused Debra's amputation. However, according to its own account, the relevant question was whether Dr. Madden's failure to diagnose the vascular condition caused Debra's injury—the exact same error Dr. Kiehl purportedly made.

The district court's inconsistent characterization of the relevant causation question in this case contributes to a "definite and firm conviction that a mistake has been committed," as required for reversal under clear error. *Max Trucking*, 802 F.3d at 808. As the Supreme Court recognized in *Anderson*, in the context of factual findings based on determinations regarding the credibility of witnesses, such a "finding, if not internally inconsistent, can virtually never be clear error." *Id.* at 575. In this case, the district court's finding that Dr. Madden's negligence did not cause Debra's amputation was internally inconsistent based on the district court's shifting characterization of the appropriate causation inquiry.

B. Dr. Kiehl's Testimony

Dr. Kiehl is an emergency physician who testified on behalf of Plaintiffs. It was his testimony that the district court disregarded on the basis of its inconsistent articulation of the causation inquiry in this case. Moreover, in addition to constituting an internal inconsistency, the district court's discounting of Dr. Kiehl's testimony was based on an "account of the

evidence [not] plausible in light of the record viewed in its entirety." *EMW Women's Surgical Ctr., P.S.C. v. Friedlander*, 960 F.3d 785, 794 (6th Cir. 2020) (quoting *Anderson*, 470 U.S. at 573–74).

As the district court observed, "Plaintiffs' expert Dr. Kiehl's opinion is the strongest evidence in Plaintiffs' favor on the issue of proximate causation." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10309.) The district court found, however, "that Dr. Kiehl's testimony, standing alone, is insufficient to establish that Dr. Madden's negligence was a proximate cause of Ms. Chesnut's amputation to a reasonable degree of medical probability" for two reasons. (*Id.*) One of those reasons was based on an implausible account of Dr. Kiehl's testimony.

When Dr. Kiehl was asked whether Dr. Madden's negligence was a cause of Debra's amputation, he responded:

> Here's what I can say. When a patient has critical ischemia but has persistent pulses, if they're started on heparin [a blood thinner] at that point, the outcome is overwhelmingly positive. So I think that she [i.e., Debra] had a salvageable limb based on his [i.e., Dr. Madden's] testimony that he felt pulses, even if they were diminished. If you feel pulses and start them on heparin, the outcome is overwhelmingly positive."

(Kiehl Dep., R. 237, Page ID #3535.)

The district court asserted that "Dr. Kiehl's causation opinion is based on the assumption that Dr. Madden should have made a conclusive ischemia diagnosis at the time of Ms. Chesnut's visit and started her on a dosage of heparin." (Findings of Fact & Conclusions of Law, R. 420, Page IDs ##10309–10.) The district court correctly opined that an opinion based on such an assumption would not be relevant to this case because "Dr. Madden was not negligent for failing to conclusively diagnose Ms. Chesnut with ischemia, he was negligent for failing to recognize the possibility of a vascular issue." (*Id.* at Page ID #10310.) So, as discussed above, even though the district court misstated the causation inquiry as being based on Dr. Madden's failure to diagnose, rather than his failure to consider the possibility of vascular causes as the source of Debra's symptoms, the district court later concluded that Plaintiffs' expert's testimony was

irrelevant to this case for supposedly opining on the consequences of Dr. Madden's failure to diagnose Debra's vascular condition.

However, as Plaintiffs point out, Dr. Kiehl's opinion was explicitly not based on the assumption that Dr. Madden himself should have diagnosed a vascular issue or administered blood thinners. During Dr. Kiehl's deposition, defense counsel asked, "So is it your testimony that Dr. Madden should have started [Debra] on heparin at the April 1st [sic] visit?" (Kiehl Dep., R. 237, Page IDs ##3536–37.) Dr. Kiehl responded, "I'm saying that she should have been referred to a hospital where they could have properly cared for her. And typically what happens is they are sent to the emergency department. And when a patient --- when a patient is being transferred to our facility with that, we always instruct them to start heparin." (*Id.* at Page ID #3537.) Dr. Kiehl's response was consistent with the rest of his deposition testimony that Dr. Madden was negligent for his failure to consider the possibility of vascular causes as the source of Debra's symptoms and refer her to an emergency department that could address her problems, not because Dr. Madden failed to diagnose and treat Debra himself.

Accordingly, the district court's criticism of Dr. Kiehl's testimony is not only internally inconsistent, but it is also implausible. Finding that Dr. Kiehl's testimony was based on the assumption that Dr. Madden should have diagnosed Debra and started her on heparin is not one of "two permissible views of the evidence," which would insulate the district court's determination under clear error review. *Holt*, 925 F.3d at 912 (citing *Anderson*, 470 U.S. at 573–74). Dr. Kiehl simply did not commit the error of "[p]resuming a change in outcome based on the administration of heparin by Dr. Madden" that the district court relied on to discount his testimony.[4] (Findings of Fact & Conclusions of Law, R. 420, Page ID #10310.)

Second, as the district court properly recognized, Dr. Kiehl discounted his own causation testimony by stating that he would "defer . . . to the vascular people" on the question of the precise time that Debra's leg became unsalvageable. (Kiehl Dep., R. 237, Page ID #3536.)

[4]According to the testimony of Dr. J. Gregory Roberts, the other Plaintiffs' expert at issue on appeal, Dr. Kiehl's account of what would have happened at the emergency room was likely accurate—heparin was administered at the Manchester Memorial Hospital emergency department the next day. (Roberts Dep., R. 233, Page ID #3086.) Although by that point, Debra's vascular issue was clear due to her blue right foot.

However, Dr. Kiehl did reiterate that in his "personal experience that when a person has no pulses, their outcome is substantially worse typically than not." (*Id.*)[5]

C. Dr. Roberts' Testimony

1. Reasonable Medical Probability

Dr. J. Gregory Roberts was Plaintiffs' vascular expert—Dr. Kiehl is an emergency physician—and the district court relied on Dr. Roberts' testimony to "cut[] against a finding that Ms. Chesnut's condition was materially different on April 12 [when she saw Dr. Madden] versus April 13," when her ischemia was properly diagnosed. (Findings of Fact & Conclusions of Law, R. 420, Page ID #10310.) The district court found that Dr. Roberts' testimony as to whether Dr. Madden's negligence was a substantial factor in causing Debra's below-the-knee amputation "was equivocal at best." (*Id.* at Page ID #10311.)

Dr. Roberts testified that Debra "got to that point of no return probably within maybe the evening after seeing Dr. Madden because the next day, her leg was cyanotic." (Roberts Dep., R. 233, Page ID #3078.) Cyanotic is the medical term for the blue discoloration of Debra's leg due to deficient oxygenation. In quoting this testimony, the district court italicized "probably" and "maybe," indicating an improper focus on the word-by-word construction of Dr. Roberts' testimony. (Findings of Fact & Conclusions of Law, R. 420, Page ID #10311.) Moreover, under Kentucky law, Plaintiffs were only required to prove medical causation "to a reasonable medical probability with expert testimony," so it is unclear why Dr. Roberts' use of "probably" was deemed worthy of emphasis by the district court. *Brown-Forman Corp. v. Upchurch*, 127 S.W.3d 615, 621 (Ky. 2004); *see id.* ("It is the quality and substance of a physician's testimony, not the use of particular 'magic words,' that determines whether it rises to the level of reasonable medical probability, i.e., to the level necessary to prove a particular medical fact." (quoting *Turner v. Commonwealth*, 5 S.W.3d 119, 122–23 (Ky. 1999)).

[5]At the beginning of his deposition, Dr. Kiehl explained that "there are some opinions that I will state that have some degree of inference relative to proximate cause or bad outcome as a result of poor care." (Kiehl Dep., R. 237, Page ID #3413.)

Dr. Roberts never failed to "express[] *his* opinion to [less than] a reasonable degree of medical probability" that Dr. Madden's negligence was a substantial factor in Debra's below-the-knee amputation. *Baylis v. Lourdes Hosp., Inc.*, 805 S.W.2d 122, 123 (Ky. 1991) (emphasis in original). The district court reached a contrary result by not making "[a] fair interpretation of the whole of his testimony . . . ." *Id.* at 124. As Plaintiffs emphasize throughout their briefing, the district court ignored the Kentucky Supreme Court's admonition that "substance should prevail over form and that the total meaning, rather than a word-by-word construction, should be the focus of the inquiry." *Id. Baylis*' direction to focus on the substance of testimony rather than the word-by-word construction is particularly pertinent in this case where the deposition testimony relied on by the district court was initially filed because it "**may be used at trial** for impeachment or other purposes," not, as turned out to be the case, because it was intended to be used as substantive evidence. (Scheduling Order, R. 70, Page ID #612 (bolding added by district court).) Until as late as mid-January 2020, Plaintiffs were planning to have Dr. Roberts provide live testimony at trial.

In particular, the fact that Dr. Roberts used "maybe" and "could" language does not necessarily undermine his testimony regarding the consequences of Dr. Madden's negligent examination. In *Morris v. Hoffman*, 551 S.W.2d 8 (Ky. Ct. App. 1977), which was approvingly cited by the Kentucky Supreme Court in two of its important medical negligence decisions, *Baylis*, 805 S.W.2d at 124, and *Ashland Hospital Corp.*, 581 S.W.3d at 578, the plaintiffs' expert used similar qualifying language. *See Morris*, 551 S.W.2d at 10–11 (expert witness using "could" and "seems" in proximate cause testimony). The Kentucky Court of Appeals observed that "[i]n examining this expert testimony as to proximate cause, we should remember that while medical-opinion evidence must be founded on probability and not on mere possibility or speculation, the realities of the problem of semantics must be taken into account. Therefore, substance should prevail over form, and the expert testimony should be examined in its total meaning, rather than word-by-word." *Morris*, 551 S.W.2d at 11 (citing *Young v. L.A. Davidson, Inc.*, 463 S.W.2d 924 (1971)).

This is not a case like *Ashland Hospital Corp.*, where the Kentucky Supreme Court affirmed that expert testimony stating, "I don't know that you can say from the time after he was

released to the time he came back that any difference would have been made. The damage could have been done and there may have been no treatment for it," failed to create a genuine issue of material fact that a doctor's negligence caused the plaintiff's injuries. *Ashland Hosp. Corp.*, 581 S.W.3d at 579–80.

The district court also erred in taking portions of Dr. Roberts' deposition testimony out of context to conclude that he was "non-committal on when the leg became unsalvageable . . . ." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10311.) When asked by Plaintiffs' counsel "[i]f Jared Madden had referred Debra immediately to a tertiary facility or someplace that could have done a complete vascular exam immediately, within a reasonable degree of medical probability, would her limb have been saved?," Dr. Roberts responded, "More likely than not, but I would say not by much." (Roberts Dep., R. 233, Page ID #3088.) What the district court characterizes as "non-committal" is precisely the "reasonable medical probability" standard required of expert testimony under Kentucky law for medical causation. *See Turner*, 5 S.W.3d at 123 ("Dr. Levy testified that he had an opinion which was based upon reasonable medical probability and that his opinion was that it was more likely than not that a person with Bill Turner's injuries would have believed that his death was imminent. His testimony was not expressed in terms of 'a possibility, "could have," or the like,' as cautioned against in *Seaton v. Rosenberg*," 573 S.W.2d 333, 338 (Ky. 1978).).

The other portions of Dr. Roberts' testimony that the district court cited as "particularly telling and similarly non-committal on when the leg became unsalvageable," also do not detract from Dr. Roberts' expert testimony that Dr. Madden's negligence, within a reasonable degree of medical probability, caused Debra's below-the-knee amputation. (Findings of Fact & Conclusions, R. 420, Page ID #10311.)

Dr. Roberts, as the district court noted, testified that "[l]imb loss for acute limb ischemia is approximately 30 percent. So I think that her -- she was extremely high risk for limb loss even before she got to the University of Kentucky."[6] (Roberts Dep., R. 420, Page ID #3086.)

[6]As Plaintiffs point out in their briefing, the district court's findings of fact and conclusions of law omitted from its block quote of Dr. Roberts' deposition that he answered "So 'yes' is the answer" to Plaintiffs' counsel's question whether it was his "opinion that after Debra Chesnut left Jared Madden's office and -- was there any hope

The fact that Dr. Roberts testified that Debra went from a high risk to an absolute certainty that her right leg would be amputated below the knee does not support the district court's finding that Dr. Madden's negligent examination was not a substantial factor in her amputation to a reasonable medical probability.

We reversed under similar circumstances in *Bell v. United States*, 854 F.2d 881 (6th Cir. 1988). In that case, a claim under the FTCA was brought by the estate of an individual whose aortic aneurysm had negligently not been diagnosed at a Veterans Administration hospital, which ultimately resulted in the individual's death. We rejected the district court's analysis that there was not a "reasonable probability" that the individual could have survived an operation at the time of the negligent failure to diagnose the aneurysm. *Id.* at 883. We concluded:

> Moreover, we do not interpret Michigan law as requiring a plaintiff to prove that the deceased had a better than 50% chance of survival when the duty of care was breached in order to establish that the negligent failure to diagnose a medical condition was the proximate cause of death or injury. All Michigan requires is proof that the deceased had a 'reasonable probability' of recovery if the medical condition had been discovered and treated within the appropriate time.

Id. While this case is proceeding under Kentucky law, the standard is the same. Plaintiffs in Kentucky medical negligence cases are "required to prove within a reasonable probability that [the plaintiff] would have recovered or survived absent the doctor's negligent conduct." *Kemper v. Gordon*, 272 S.W.3d 146, 149–50 (Ky. 2008). Accordingly, the fact that Dr. Roberts recognized that there was a significant probability of limb loss regardless of Dr. Madden's negligent conduct, does not mean, as the district court found, that Dr. Roberts was equivocal on the issue of causation in this case.

Dr. Roberts also explained that if Debra had received heparin on April 12, rather than April 13, "she could have had extensive thrombus [clot] that would have led to maybe a forefoot amputation or a toe amputation, not just a below-knee amputation -- a matter of degrees because of how ischemic and how -- you know diminished flow." (Roberts Dep., R. 233, at Page ID #3087.) In *Richmond v. Hunt*, 596 S.W.3d 103 (Ky. Ct. App. 2019), the Kentucky Court of

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within a reasonable degree of medical probability of her leg being saved by the time she got to UK?" (Appellants' Br. 16–17 (quoting Roberts Dep., R. 233, Page IDs ##3086–87) (citing Findings of Fact & Conclusions of Law, R. 420, Page ID #10311).)

Appeals opined that similar testimony that the "probability that [the plaintiff's] injury would have been less severe" sufficed to create a genuine issue of material fact on causation in a medical negligence case. *Richmond*, 596 S.W.3d at 108. As Plaintiffs emphasize, *Richmond* also involved limb ischemia and a claim that a doctor's negligence had led to additional amputation. The expert in *Richmond* used similar "might," "would have," and "could have" language as Dr. Roberts, and the Kentucky Court of Appeals was "persuaded that this case falls squarely within the precedent and spirit of *Baylis v. Lourdes Hosp., Inc.*, 805 S.W.2d 122 (Ky. 1991), in which the [Kentucky] Supreme Court focused on substance rather than mere form or semantics . . . ." *Richmond*, 596 S.W.3d at 109. While the United States is correct that *Richmond* involved a summary judgment ruling, which is reviewed under a different standard than findings of fact under Rule 52, it does not dispute that the legal principles set out in that case are fully applicable here.

In concluding his testimony, Dr. Roberts remained consistent. He again stated that he thought that it was "more likely than not" that Debra's "whole leg would have been able to be saved if Jared Madden had sent her directly for vascular imaging . . . [f]rom a medical degree of certainty . . . ." (Roberts Dep., R. 233, Page ID #3092.) In sum, the district court's conclusion that "[t]aken as a whole, it is clear Dr. Roberts was uncertain as to whether there would have been any difference between an April 12 diagnosis and an April 13 diagnosis" was clearly erroneous under Rule 52 and Kentucky law. (Findings of Fact & Conclusions of Law, R. 420, Page ID #10312.)

2. Progression of Ischemia

Instead of relying on Plaintiffs' or Defendants' experts, the district court's causation inquiry was essentially determined by its own analysis that "the relevant medical literature repeatedly emphasizes the importance of quick response to late stage acute limb ischemia." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10307.) Under Kentucky law, "[t]he expert opinion testimony admitted . . . provides information to assist the finder-of-fact, either a trial judge or jury, in determining whether the conduct in question violated the standard of care and caused the damages claimed by the plaintiff." *Adams v. Sietsema*, 533 S.W.3d 172, 179 (Ky. 2017). "It is an accepted principle that in most medical negligence cases, proof of causation

requires the testimony of an expert witness because the nature of the inquiry is such that jurors are not competent to draw their own conclusions from the evidence without the aid of such expert testimony." *Baylis*, 805 S.W.2d at 124.

The Kentucky Supreme Court has further counseled that "peer-reviewed articles and research studies that support a particular view of causation are factors" that may be considered, but "they are not required and will not necessarily compel a particular result." *Brown-Forman*, 127 S.W.3d at 621. The district court's denial of relief to Plaintiffs was based on its understanding of medical articles that earlier intervention is better. (*See* Findings of Fact & Conclusions of Law, R. 420, Page IDs ##10312–13 ("Dr. Roberts' testimony, when combined with a fuller understanding of Ms. Chesnut's progressive condition as set forth in the medical record and relevant literature, indicates that the damage to the leg was progressive, just like the symptoms.").) In addition to citing peer-reviewed articles for this proposition, the district court cited UKMC records and testimony for the undisputed proposition that Debra suffered from prolonged ischemia, but none of the sources cited by the district court explained the course of her ailment as progressive. That was a theory of the district court's own derivation. After a review of medical articles, the district court concluded that "[e]ven to a layperson, the internal logic is clear: Muscle tissue needs blood flow to survive, so when blood flow to an appendage becomes progressively worse, concomitantly, damage to the tissue becomes progressively worse." (*Id.* at Page ID #10308.)

The Kentucky Supreme Court in *Ashland Hospital Corp.*, a case cited repeatedly by the district court, observed that "[a]s the trial court explained, the experts in this case acknowledge the general proposition that strokes cause damage and should be diagnosed and treated as quickly as possible. However, while it is generally true that 'time lost is brain lost,' the causation element of this claim must be analyzed under the facts and circumstances of this particular case." *Ashland Hosp. Corp.*, 581 S.W.3d at 580. The district court's analysis here boils down to the same general analysis—that time lost is tissue lost.

In contrast, Dr. Roberts explained that the amputation of Debra's leg became necessary after seeing Dr. Madden because "legs don't really become cyanotic until you knock off the profunda. And the profunda is up in the thigh." (Roberts Dep., R. 233, Page ID #3078.)

He explained that "if the profunda is out, they lose their entire leg. And when she went to [the University of Kentucky], even her iliac [i.e., artery in the groin] was out in her pelvis. So that's why she got so extreme." (*Id.*)

Instead of recognizing Dr. Roberts' testimony that the course of Debra's ischemia was not progressive and linear because the critical point for amputating the leg was "up in the thigh," the district court instead emphasized a statement made at a later point in Dr. Roberts' testimony. Dr. Roberts opined that the clotting in Debra's leg observed at the University of Kentucky on April 13 would have taken "*on average . . . five to seven days*." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10311 (emphasis added by district court) (quoting Robert Dep., R. 233, Page ID # 3087).) However, unlike the district court, Dr. Roberts concluded that the five-to-seven day account of the progression of Debra's clotting supported his conclusion that Debra's leg probably arrived at the point of no return after seeing Dr. Madden. That is because Dr. Roberts opined that "maybe 40 percent of the clot was there the day before and then it just propagated all the way up within 24 hours." (Roberts Dep., R. 233, Page ID #3088.) That was the critical forty percent, because, according to Dr. Roberts' testimony, the leg only needs to be amputated when the clot reaches the profunda (i.e., deep) femoral artery in the thigh.

Similarly, Dr. Roberts' testimony that the profunda is the critical inflection point is unrefuted evidence against the district court's presumption that all the time that Debra's leg was clotting was equally critical to its eventual amputation. The district court dramatically stated that "[t]o put it into perspective, from the morning of April 4 until the morning of April 13, Ms. Chesnut's condition progressively worsened for over 200 hours. For Dr. Madden, ultimately the United States, to be liable, Plaintiffs must provide expert testimony showing it was probable that the last twenty hours were particularly important and that a diagnosis at the 180th hour would have prevented amputation when a diagnosis at the 200th hour did not." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10309.) With Dr. Roberts, Plaintiffs provided exactly that expert testimony since he explained why the last twenty hours were critical to saving the leg due to the critical role played by the clotting of the profunda in the leg amputation determination.

Dr. Roberts' testimony also undermined the presumption underlying the district court's hourly analysis—that the course of Debra's condition was linear. As the district court stated,

"[s]o again, blood flow to the appendage became progressively worse and, unsurprisingly, damage to the tissue became progressively worse." (*Id.* at Page ID #10308.) Dr. Roberts explained that with acute limb ischemia, which the district court recognized was what Debra suffered from, the progression of the clotting sometimes progresses "very slowly. Sometimes quite rapid. Sometimes in punctuated internals . . . . So it's -- there's no linear explanation for it. I mean, it's typically nonlinear." (Roberts Dep., R. 233, Page ID #3003.) As the district court recognized, its linear account of Debra's condition was based on its own lay logic that "[m]uscle tissue needs blood flow to survive, so when blood flow to an appendage becomes progressively worse, concomitantly, damage to the tissue becomes progressively worse." (Findings of Fact & Conclusions of Law, R. 420, Page ID #10308.)

D. Clear Error

"A finding is 'clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *United States v. U.S. Gypsum Co.*, 333 U.S. 364, 395 (1948). "Moreover, the clear-error rule does not inhibit an appellate court's power to correct errors of law, including those that may infect a finding of fact that is predicated on a misunderstanding of the governing rule of law." *EMW Women's Surgical Ctr., P.S.C.*, 978 F.3d at 429 (cleaned up); *Holmes v. C.I.R.*, 184 F.3d 536, 549 (6th Cir. 1999) (finding clear error where a factual finding was "infected by affiliated misapplications of governing law"). As explained above, the district court's factual findings as to causation were predicated on multiple misunderstandings of Kentucky law, internally inconsistent analysis, and implausible factual findings. There was clear error.

II. Remedy

Plaintiffs argue that if we find clear error, "[t]his case should be reversed and remanded to the District Court with directions to determine the amount of damages only." (Appellants' Br. 30.) However, as the United States points out, no cases cited by Plaintiff support such a remand order. Rather, in both *Bell v. United States*, 854 F.2d at 890, and *Keir v. United States*, 853 F.2d

398, 417 (6th Cir. 1988), we remanded FTCA cases to the district court without "intimat[ing] [an] opinion as to the appropriate disposition on remand" as to causation. *Keir*, 853 F.2d at 417.

Keir is particularly instructive. In that case, the majority found that the district court had erroneously determined, under New Jersey law, that a doctor's negligence in not referring a patient to another doctor had not been a substantial factor in the plaintiff's injury. As the *Keir* court noted, "[a]lthough factual determinations are subject to review under the clearly erroneous standard, and trial judges are given broad discretion in the assessment of expert testimony, factual findings resulting from misapplication of controlling law will not be upheld." *Id.* As discussed above, this case was also characterized by misapplications of controlling law, and therefore another opportunity for the district court to consider whether Dr. Madden's negligence was a substantial factor in causing Debra's below-the-knee amputation, as was provided in *Keir*, is appropriate. *Id.*

Bell also supports an order remanding the merits of the case back to the district court. Our decision recognized that a physician's negligence could be a substantial factor in causing injury by raising the risk of a medical event from approximately twenty-five to fifty percent to almost certain and remanded to the district court to apply the correct standard under state law. *See Bell*, 854 F.2d at 884. That analysis is also on point here as Dr. Roberts testified that Dr. Madden's failure to refer Debra to an emergency room on April 12 increased the probability of limb loss to a certainty from a threshold level of "close to 30 percent limb loss." (Roberts Dep., R. 233, Page ID #3093.)

Especially in light of the fact that the district court presumed, without finding, "as true Plaintiffs' theory that Ms. Chesnut suffered from a progressively worsening ischemia from April 4 to April 13," remand solely for damages calculations only would be inappropriate in this case. (Findings of Fact & Conclusions of Law, R. 420, Page ID #10306.)

CONCLUSION

For the reasons stated above, we **REVERSE** the district court's decision and **REMAND** for proceedings consistent with this opinion.