

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

ROGER MURRAY; ELISE MURRAY,
husband and wife,
Plaintiffs-Appellees,

v.

SOUTHERN ROUTE MARITIME SA, a
Panamanian corporation; SYNERGY
MARITIME PVT LTD, an Indian
corporation; APL IRELAND M/V,
IMO number 9260914, her gear,
appurtenances, equipment and
furniture, in rem,
Defendants-Appellants.

No. 14-36056

D.C. No.
2:12-cv-01854-
RSL

OPINION

Appeal from the United States District Court
for the Western District of Washington
Robert S. Lasnik, District Judge, Presiding

Argued and Submitted May 10, 2017
Seattle, Washington

Filed August 31, 2017

Before: M. Margaret McKeown, Carlos T. Bea,
and N. Randy Smith, Circuit Judges.

Opinion by Judge McKeown;
Dissent by Judge Bea

SUMMARY*

Labor Law

The panel affirmed the district court's judgment, after a jury trial, in favor of the plaintiff in an action under the Longshore and Harbor Workers' Compensation Act.

While working aboard a vessel, the plaintiff, a longshore worker, experienced an electrical shock when a piece of rebar he was holding came into contact with a floodlight provided by the vessel owner. He alleged that the vessel owner had been negligent in turning over the ship with a faulty floodlight.

The panel held that the district court properly instructed the jury that the vessel owner owed a duty to the plaintiff as a longshore worker to turn over the ship and its equipment in a reasonably safe condition, which necessarily required the vessel owner to take reasonable steps to inspect the ship and equipment before turnover.

The panel held that the district court did not abuse its discretion in allowing the plaintiff's key scientific expert to describe his theory of electrical injury because the court adequately assessed the reliability of his theory and fulfilled its gatekeeping function under Federal Rule of Evidence 702

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). The district court also did not err in admitting the medical experts' testimony.

Dissenting in part, Judge Bea concurred in the panel majority opinion's conclusions and reasoning regarding the jury instructions, the scope of the defendants' turnover duty, and the admission of the statements by the plaintiff's medical experts. He dissented from the majority's conclusion that the district court properly admitted the scientific expert's testimony. Judge Bea wrote that because the causal mechanism by which low voltage shocks purportedly cause certain injuries is not understood and because the district court did not evaluate the methodologies used by the expert to identify the posited correlation between low voltage shocks and certain injuries, the district court abused its discretion in admitting the expert's testimony.

COUNSEL

Philip A. Talmadge (argued), Talmadge/Fitzpatrick/Tribe, Seattle, Washington; Barbara L. Holland and David H. Smith, Garvey Schubert Barer, Seattle, Washington; for Defendants-Appellants.

Howard Mark Goodfriend (argued) and Ian C. Cairns, Seattle, Washington; C. Steven Fury, Francisco A. Duarte, and Scott D. Smith, Fury Duarte P.S., Seattle, Washington; for Plaintiffs-Appellees.

OPINION

McKEOWN, Circuit Judge:

The events underlying this appeal center on Roger Murray, a longshoreman who experienced an electrical shock while working aboard the M/V APL IRELAND, a vessel owned by Southern Route Maritime SA and Synergy Maritime Pvt. Ltd. (collectively, the “vessel owner”). While Murray was descending a ladder and holding a piece of rebar, the rebar came into contact with a floodlight provided by the vessel owner which allowed electrical current to flow through his right arm, across his chest, and out through his left pinky, where it left a visible burn mark. Murray exhibited a range of ailments after the shock, including stuttering, balance and gait problems, and erectile dysfunction.

Murray sued under the Longshore and Harbor Workers’ Compensation Act (“Longshore Act”), 33 U.S.C. § 901 *et seq.*, alleging that the vessel owner had been negligent in turning over the ship with a faulty floodlight. The jury awarded Murray over \$3.3 million for his injuries and awarded his wife \$270,000 for loss of consortium. The district court denied the vessel owner’s motions for judgment as a matter of law, new trial, and remittitur.

Unwilling to go down with the ship, the vessel owner appeals, asserting three trial errors—a flawed jury instruction and two errors related to the admission of testimony by Murray’s experts. We disagree on all counts. The district court properly instructed the jury that the vessel owner owes a duty to Murray as a longshoreman to turn over the ship and its equipment in a reasonably safe condition, which necessarily requires the vessel owner to take reasonable steps to inspect the ship and equipment before

turnover. Further, the court did not abuse its discretion in allowing Murray's key scientific expert to describe his theory of electrical injury because the court adequately assessed the reliability of his theory and fulfilled its gatekeeping function under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Likewise, there was no error in admitting the medical experts' testimony. We affirm.

Analysis

I. Jury Instruction Defining the Turnover Duty Under the Longshore Act

The Longshore Act provides a cause of action to longshoremen against the vessel owner “[i]n the event of injury . . . caused by the negligence of a vessel.” 33 U.S.C. § 905(b). Here, Murray claims that the vessel owner breached its duty to turn over the vessel and its equipment in a safe condition.

At issue is Instruction 14, in which the district court defined the vessel owner's turnover duty:

One of the duties [vessel owners] owe to longshoremen is called “the turnover duty of safe condition.” [The vessel owner] ha[s] the duty to use reasonable care to turn over the vessel and its equipment in such condition that an expert and experienced longshoreman would be able, by the exercise of reasonable care, to carry on his work on the vessel with reasonable safety to persons and property. In exercising such reasonable care, [the vessel owner] ha[s] a duty to take reasonable steps to inspect the vessel and its equipment.

The first sentence is introductory. The second sentence captures almost word-for-word the Supreme Court's general description of the turnover duty:

A vessel [owner] must exercise ordinary care under the circumstances to turn over the ship and its equipment and appliances in such condition that an expert and experienced stevedoring contractor, mindful of the dangers he should reasonably expect to encounter, arising from the hazards of the ship's service or otherwise, will be able by the exercise of ordinary care to carry on cargo operations with reasonable safety to persons and property.

Howlett v. Birkdale Shipping Co., S.A., 512 U.S. 92, 98 (1994) (citation and internal quotation marks omitted); *Scindia Steam Navigation Co. v. De Los Santos*, 451 U.S. 156, 166–67 (1981). The third sentence of the instruction gives practical meaning to the turnover duty by recognizing a duty to inspect the ship and equipment.

In the vessel owner's view, Instruction 14's formulation of the turnover duty is legally flawed because the instruction improperly expands the vessel owner's obligation to inspect the ship and equipment, states that the duty is to the longshoremen rather than the stevedoring company, and imposes an ongoing duty to inspect. Reviewing de novo, we conclude that the district court did not commit instructional error. *See Image Tech. Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1208 (9th Cir. 1997).

A. Turnover Duty Encompasses Duty to Inspect

The Supreme Court's first major exposition on the turnover duty under § 905(b) came in *Scindia Steam*, which contemplates a duty to inspect as part and parcel of the turnover duty. Although a duty to inspect is not mentioned explicitly, the Court defined the vessel owner's "duty with respect to the condition of the ship's gear, equipment, tools, and work space to be used in the stevedoring operations." *Scindia Steam*, 451 U.S. at 167. To that end, a vessel owner fulfills its responsibilities when it provides a reasonably safe workplace for the longshoremen. *Id.* at 166–67. The only way the vessel owner can do so is by checking the ship and equipment before turning them over in order to confirm that they are safe enough to be used in cargo operations. Otherwise, the turnover duty would be rendered nugatory, taking on a "see no evil" approach.

As one treatise puts it, *Scindia Steam* "implicate[s] the shipowner's duty to inspect the ship for hazards before turning the ship over . . . because inspection is integral to providing the stevedore with a reasonably safe workplace." Robert Force & Martin J. Norris, *The Law of Maritime Personal Injuries* § 8:30 (5th ed. 2016). Justice Brennan's concurrence in *Scindia Steam* reads the majority opinion the same way, explaining that the law requires a vessel owner to "take reasonable steps to determine whether the ship's equipment is safe before turning that equipment over to the stevedore." 451 U.S. at 179 (Brennan, J., concurring).

The Court's later pronouncements on the turnover duty reinforce the inspection obligation. After reiterating a vessel owner's general turnover duty, the Court in *Howlett* examined the "corollary" duty to warn the stevedore of latent hazards that are known or should be known to the vessel owner. 512 U.S. at 98–99. The Court went on to conclude

that the duty to warn attaches where “the exercise of reasonable care would place upon the shipowner an obligation to inspect for, or discover, the hazard’s existence.” *Id.* at 100. In explaining the relationship between the duty to warn and the inspection duty, the Court cited a Third Circuit case for the proposition that “the shipowner’s duty to warn the stevedore of hidden dangers necessarily implies a duty to inspect to discover those dangers.” *Kirsch v. Plovdba*, 971 F.2d 1026, 1029 (3d Cir. 1992), *cited in Howlett*, 512 U.S. at 100. *Howlett* more than suggests that reasonable steps be taken to inspect the ship and equipment before turnover.

Our court has been even clearer on a vessel owner’s duty to perform an inspection to fulfill its turnover duty. We have unequivocally held that “[w]here the shipowner itself supplies equipment, it has a duty to inspect the equipment before turning it over for use by the stevedore.” *Hedrick v. Daiko Shoji Co.*, 715 F.2d 1355, 1357 (9th Cir. 1983); *see also Lincoln v. Reksten Mgmt.*, 354 F.3d 262, 268 (4th Cir. 2003) (“[T]he vessel might have been negligent in the maintenance, upkeep, and *especially the inspection* of the deck in question, so that, in the exercise of reasonable care, it might have discovered the defect . . . , enabling it to warn the stevedore of the defect.” (emphasis added)); *Reed v. ULS Corp.*, 178 F.3d 988, 992 (8th Cir. 1999) (affirming summary judgment for vessel owner because “[t]he record reflects that the inspection of the gangway . . . was reasonable”); *Kirsch*, 971 F.2d at 1029 (noting “the shipowner’s duty to inspect the ship for hazards *before* turning the ship over to the stevedore”).

This formulation of the turnover duty produces doctrinal coherence because it logically fits the duty to inspect within the general turnover duty and its corollary duty to warn. The

turnover duty mandates exercising reasonable care to provide a ship and equipment that are reasonably safe for the stevedore to carry on cargo operations. Part of that duty is to examine the ship and equipment. When that inspection turns up latent hazards that would not be obvious to or anticipated by a competent stevedore, the vessel owner's duty to warn kicks in because the vessel owner is in the best position to detect and avoid harm and should be liable if it does not speak up. *See Howlett*, 512 U.S. at 101–03. The vessel owner's belated argument to limit the inspection to identifying latent hazards would dilute the turnover duty envisioned by the case law and would be unworkable in practice.

Recognizing a duty to inspect as part of the turnover duty does not expand shipowner liability. The inspection is constrained by what is reasonable under the circumstances, and the ultimate measure of whether the vessel owner has satisfied its turnover duty is whether the vessel owner has provided a reasonably safe environment for the longshoremen to carry out their work. The limited nature of the duty undercuts the vessel owner's fear that it will be obligated to scour every inch of the vessel and tear apart all of the equipment. Because the inquiry turns on reasonableness, our rule also does not resurrect the strict-liability unseaworthiness regime that Congress dismantled by passing § 905(b). *See Scindia Steam*, 451 U.S. at 168–69. The duty to inspect falls comfortably within the turnover duty, and the district court's instructional clarifier was on the mark.

B. Turnover Duty Runs to the Longshoremen

The vessel owner's complaint that Instruction 14 improperly states that the turnover duty is "owe[d] to longshoremen" was not adequately raised in the district

court. Granted, the vessel owner's counsel objected to another instruction on this ground and proposed an instruction regarding the stevedoring company's duties to the longshoremen. However, those efforts did not raise the objection to Instruction 14 with sufficient specificity to "bring into focus the precise nature of the alleged error." *Palmer v. Hoffman*, 318 U.S. 109, 119 (1943); *see also* Fed. R. Civ. P. 51(c)(1). At a minimum, the vessel owner would have to demonstrate plain error in the instruction to warrant reversal. *See* Fed. R. Civ. P. 51(d)(2).

The vessel owner cannot make that showing because the law supports the proposition that vessel owners owe the turnover duty to the longshoremen. The relevant statute, § 905(b), speaks of "injury to a person covered under this chapter," which includes longshoremen. *See* 33 U.S.C. §§ 902(1), (3); 905(b). The two leading Supreme Court cases involve suits brought by longshoremen against vessel owners and say that "the vessel owes to the stevedore and his longshoremen employees the duty of exercising due care." *Scindia Steam*, 451 U.S. at 166; *see Howlett*, 512 U.S. at 98 (outlining the "three general duties shipowners owe to longshoremen"). We have framed the inquiry in the same way: "Although the turnover duty of safe condition is usually framed in terms of stevedores, it is clear that danger to *longshore workers* is an essential part of the inquiry." *Thomas v. Newton Int'l Enters.*, 42 F.3d 1266, 1270 n.4 (9th Cir. 1994).

The stevedoring company's separate obligation under 33 U.S.C. § 941(a) to provide a "reasonably safe" workplace for its longshoremen does not somehow override the vessel owner's duty to the longshoremen to turn over the ship and equipment in a safe condition. Those duties happily coexist, with the vessel owner ensuring a safe ship upon turnover and

the stevedoring company ensuring a safe work environment during cargo operations. *See Scindia Steam*, 451 U.S. at 170–72. The district court properly instructed the jury on the vessel owner’s turnover duty to longshoremen.

C. Turnover Duty Is Not Continuing

The vessel owner also did not put the district court on notice about its complaint that Instruction 14 creates a temporally unrestricted duty to inspect and leaves the vessel owner open to a virtually unlimited obligation. *See Benigni v. City of Hemet*, 879 F.2d 473, 475–76 (9th Cir. 1988) (noting that “the record indicates that the trial court was not made aware of any specific concern with the proposed instructions”). In any event, regardless of the standard of review, the vessel owner’s challenge cannot be sustained because Instruction 14 plainly refers to the moment of turnover and not to a perpetual duty, and other instructions confirm that limitation.

Instruction 14 itself refers to the vessel owner’s duty when it “*turn[s] over* the vessel and its equipment.” Looking at the surrounding instructions, Instruction 12 summarizes Murray’s theory of the case “that [the vessel owner was] negligent because the vessel and its equipment were not *turned over* in a [safe] condition.” And Instruction 13, which sets forth the elements of Murray’s negligence claim, states that liability cannot be found unless the vessel owner “*turned over* the [vessel] and its equipment in [an unsafe] condition.” These related instructions make clear that the district court did not charge a continuing post-turnover duty.

II. Reliability of Dr. Morse's Testimony Under *Daubert*

The district court admitted Murray's scientific expert, Dr. Michael Morse, who testified that low-voltage shock can cause bodily injuries far from the path of the electrical current. Following a hearing, the court issued an order detailing why Dr. Morse's diffuse electrical injury theory was reliable under Federal Rule of Evidence 702 and *Daubert*. We review for abuse of discretion and conclude that the court performed a sufficiently rigorous evaluation of Dr. Morse's theory and did not "reach[] a result that is illogical, implausible, or without support in inferences that may be drawn from the record." *United States v. Hinkson*, 585 F.3d 1247, 1262 (9th Cir. 2009) (en banc).

The starting point for our analysis is the Supreme Court's decision in *Daubert*, a case that effected a sea change in the way that courts consider admission of expert testimony. Before *Daubert*, courts generally followed the "general acceptance" test, which focused on recognition in the relevant field. 509 U.S. at 585–86. The Court in *Daubert* rejected that test as too rigid; drawing on Federal Rule of Evidence 702, the Court constructed a flexible test examining the "reliability" and "fit" of the offered expert testimony. *See id.* at 589–92.

The question of reliability probes "whether the reasoning or methodology underlying the testimony is scientifically valid." *Id.* at 592–93. To give shape to the inquiry, the Court identified four factors that may bear on the analysis: (1) whether the theory can be and has been tested, (2) whether the theory has been peer reviewed and published, (3) what the theory's known or potential error rate is, and (4) whether the theory enjoys general acceptance in the applicable scientific community. *See id.* at 593–94. But

the Court was quick to emphasize that the factors are not “a definitive checklist or test” and that the reliability analysis remains a malleable one tied to the facts of each case. *Id.* at 591, 593. Later cases have reiterated that the *Daubert* factors are exemplary, not constraining. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999); *id.* at 159 (Scalia, J., concurring) (“[T]he *Daubert* factors are not holy writ . . .”).

It is important to remember that the factors are not “equally applicable (or applicable at all) in every case.” *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995). Applicability “depend[s] on the nature of the issue, the expert’s particular expertise, and the subject of his testimony.” *Kumho Tire Co.*, 526 U.S. at 150 (citation omitted). A district court may permissibly choose not to examine factors that are not “reasonable measures of reliability in a particular case.” *Id.* at 153.

Because of the fluid and contextual nature of the inquiry, district courts are vested with “broad latitude” to “decid[e] how to test an expert’s reliability” and “whether or not [an] expert’s relevant testimony is reliable.” *Id.* at 152–53. District judges play an active and important role as gatekeepers examining the full picture of the experts’ methodology and preventing shoddy expert testimony and junk science from reaching the jury. *See Daubert*, 509 U.S. at 595–97. That is why we owe the court’s ruling “the deference that is the hallmark of abuse-of-discretion review” and may not second-guess its sound judgments. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 141–43 (1997).

The court did not abuse its discretion here because its reliability inquiry satisfies these standards and the court applied the correct legal framework to the facts in a manner that was neither illogical nor implausible nor contrary to the record. In its *Daubert* order, the court first explains that Dr.

Morse “has published his findings in peer-reviewed papers.” “[S]ubmission to the scrutiny of the scientific community” can be a strong indicator of reliability “because it increases the likelihood that substantive flaws in methodology will be detected.” *Daubert*, 509 U.S. at 593. Dr. Morse’s theory has been peer-reviewed and published many times over: Murray’s filings in the district court cite eight articles by Dr. Morse published in reputable scientific journals. More generally, Murray submitted a wealth of examples of other scientists publishing in peer-reviewed journals on the theory of low-voltage and diffuse electrical injury.

The court then discusses acceptance of Dr. Morse’s theory by other professionals in the biomedical engineering field. The court was on solid ground in rejecting the vessel owner’s contention that “the number of confirmed low-voltage cases is too small to draw scientifically valid conclusions and that the minimum voltage required to cause injury has not yet been established with any degree of certainty.” Relying on the record, the court specifically credited Dr. Morse’s response that “over the past two decades both the immediate and extended symptomology of low-voltage shock has been recognized,” an observation grounded in his expertise in electrical injury and years of research in the field. Also, the record is replete with examples of articles that explicitly agree with Dr. Morse’s theory and methodology as well as articles that cite to and expand on his conclusions. Even if the vessel owner presented medical sources disagreeing with Dr. Morse, the district court could properly give weight to the fact that Dr. Morse’s theory has been acknowledged and credited by scientists in the community without determining the exact degree of acceptance. *See id.* at 594.

The court's analysis does not end there. It evaluates the genesis of the expert opinion, a factor recognized in the advisory notes and our case law: Dr. Morse's theory "w[as] not developed for purposes of this litigation." See Fed. R. Evid. 702 advisory committee's note to the 2000 amendments; *Daubert*, 43 F.3d at 1317. Importantly, our cases call this consideration a "very significant fact" that "provides important, objective proof that the research comports with the dictates of good science." *Daubert*, 43 F.3d at 1317. The order also goes on to say that "[Dr. Morse's] conclusions are reasonable extrapolations from the patient files reviewed," tracking another known factor. See *Joiner*, 522 U.S. at 146 ("A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."); see also Fed. R. Evid. 702 advisory committee's note to the 2000 amendments (listing "[w]hether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion"). Based on these multiple considerations, the district court concluded that Dr. Morse's theory was grounded in science, as demanded by *Daubert*. See 509 U.S. at 594 (explaining that the "overarching subject is the scientific validity").

The adequacy of the court's review and the soundness of its judgment are further underscored by its discretionary decision to convene a *Daubert* hearing to explore matters with the parties. See *United States v. Alatorre*, 222 F.3d 1098, 1102, 1105 (9th Cir. 2000). At the hearing, the district judge played a proactive role: he was eager to receive information from the parties, asking them to submit all relevant articles and stating that he would "look[] at the entire body of the case, every document that has been filed beforehand, and every document that's filed in this motion and response." He gave the attorneys the opportunity to debate the issues and actively questioned them about the

strengths and weaknesses of their positions. Only after this extensive back-and-forth and consideration of the parties' papers did the court issue its order admitting Dr. Morse's testimony.

It is true that the order does not scrutinize the testability and error rate factors. Although *Daubert* does not require a methodical walkthrough of each factor, the best practice may be for district courts to at least reference the four *Daubert* factors so as to avoid an appeal issue like the one here. See *Black v. Food Lion, Inc.*, 171 F.3d 308, 311–12 (5th Cir. 1999) (“In the vast majority of cases, the district court first should decide whether the factors mentioned in *Daubert* are appropriate. Once it considers the *Daubert* factors, the court then can consider . . . other factors . . .”). That said, we emphasize that not every factor is relevant to reliability in every case and that the significance of each factor is case-dependent. District courts have broad range to structure the reliability inquiry and may choose not to comment on factors that would not inform the analysis.

The district court's silence about the testability and error rate factors falls within that broad discretion. The omission may be attributed in part to the parties' nearly exclusive concentration on the other two factors—peer review and general acceptance. Those issues were teased out at length in the parties' motions and at the *Daubert* hearing, and thus the court put them front and center in its order assessing Dr. Morse's testimony.

Even more forcefully, the district court's order highlighted that the subject of Dr. Morse's testimony was narrow: he would discuss his theory of low-voltage diffuse electrical injury, but he would not offer an opinion on whether Murray's particular injuries were caused by the low-voltage shock. That limited focus made many of the vessel

owner's critiques on testability misplaced and made the error rate a poor measure of reliability in this case. See *Kumho Tire Co.*, 526 U.S. at 153 (permitting district courts to discount factors that are not "reasonable measures of reliability in [the] particular case"). And to the extent that testability was raised before the district court, it was not forgotten or wholly ignored—the parties and district judge spent time at the *Daubert* hearing exploring whether Dr. Morse had followed a modified methodology drawn from one of his published papers. All of this convinces us that the district court fulfilled its gatekeeping role and did not jump to a conclusion that is unreasonable or unsupported by record evidence.

Our view that the district court acted well within its discretion is in accord with how we have treated other *Daubert* challenges. On many occasions, we have found an abuse of discretion when a district court completely abdicates its gatekeeping role. See, e.g., *City of Pomona v. SQM N. Am. Corp.*, No. 15-56062, 2017 WL 3378770, at *7 (9th Cir. Aug. 7, 2017) (explaining that the district court's "failure to make any findings regarding the efficacy of [the] expert opinions constituted an abdication of the district court's gatekeeping role, and necessarily an abuse of discretion"); *Pyramid Techs., Inc. v. Hartford Cas. Ins. Co.*, 752 F.3d 807, 814 (9th Cir. 2014) (faulting the district court for "provid[ing] no explanation or analysis for rejecting [the expert's] qualifications"); *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 464 (9th Cir. 2014) (en banc) ("[T]he district court failed to assume its role as gatekeeper with respect to [the expert's] testimony."); *United States v. Vallejo*, 237 F.3d 1008, 1019 (9th Cir. 2001) ("The district court never clearly articulated why it excluded this evidence."). Other times, the analytical error has been egregious, like when a court would not let a highly qualified

and experienced doctor comment that prosthetic elbows normally do not wear out in eight months. *See Primiano v. Cook*, 598 F.3d 558, 562–63, 566 (9th Cir. 2010). In rare instances, we have even faulted district courts for being too robotic in applying *Daubert*. *See Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1233 (9th Cir. 2017) (“The district court looked too narrowly at each individual consideration, without taking into account the broader picture of the experts’ overall methodology.”). None of those circumstances is applicable here.

At the end of the day, the appropriate way to discredit Dr. Morse’s theory was through competing evidence and incisive cross-examination. *See Primiano*, 598 F.3d at 564 (“Shaky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion.”). Indeed, many of the vessel owner’s complaints focus on statements made by Dr. Morse at trial. The best medicine was adversarial testing, not exclusion, and the vessel owner had abundant opportunity to undermine Dr. Morse’s theory and advance its own position. We decline the invitation to severely curtail district courts’ discretion to determine reliability under *Daubert* merely because the vessel owner’s defense was unsuccessful.

III. Admission of Medical Experts

The district court had a proper basis to admit Murray’s medical experts, who testified that Murray’s symptoms were caused by the electrical shock. The vessel owner’s claim that the experts did not testify on a more-probable-than-not basis is belied by the record. Before trial, Murray’s experts confirmed their medical opinion to a reasonable degree of certainty on a more-probable-than-not basis. And, at trial, there were numerous instances in which the experts testified in the same fashion. For example, one of the experts

explicitly referenced the relevant standard in attesting that “[i]t’s my opinion that on a *more probable than not* basis [Murray] suffered a brain injury in the accident” and “that [the brain injury] relate[d] directly to th[e] incident [where he was electrocuted].”

Similarly, Murray’s experts properly followed the differential diagnosis framework. Differential diagnosis is appropriate to reject alternative causes where it is “grounded in significant clinical experience and examination of medical records and literature.” *Messick v. Novartis Pharm. Corp.*, 747 F.3d 1193, 1199 (9th Cir. 2014). Here, the experts who did not have experience with diffuse electrical injury reviewed the medical literature. The experts fully explained how Murray’s symptoms fit with the literature or their experience and were not pre-existing or unrelated to the shock. The district court did not abuse its discretion in admitting the medical testimony.

AFFIRMED.

BEA, Circuit Judge, dissenting in part:

I concur in the panel majority opinion’s conclusions and reasoning regarding the jury instructions, the scope of the defendants’ turnover duty, and the admission of the statements by Murray’s medical experts. I write separately to dissent on the issue of whether the district court properly admitted the testimony of Dr. Morse regarding the harms that can be caused by low voltage electric shocks. Put simply, the district court failed to exercise properly its gatekeeping function by permitting Dr. Morse’s testimony without examining the methodologies by which Dr. Morse identified the injuries purportedly caused by low voltage

shocks, even though Dr. Morse could not explain the causal mechanism by which such injuries occur.

As explained in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 591–93 (1993), which interpreted Federal Rule of Evidence 702, the touchstone for admissibility of testimony by scientific experts is “whether the reasoning or methodology underlying the testimony is scientifically valid.” Given the many ways that scientific expertise is developed and applied, however, the Supreme Court and this court have recognized that the four factors articulated in *Daubert* do not constitute a mandatory checklist. *Id.* at 593–95. Rather, each factor should be addressed to the extent relevant to a particular expert’s testimony. *Id.*; see also *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 153 (1999), *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995). While an appeals court may not second guess the sound judgment of the district court on the admissibility of expert testimony, *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997), the unreasonable failure to consider a relevant *Daubert* factor is an abuse of discretion. See *Kumho Tire*, 526 U.S. at 152.

In this case, the district court evaluated only two of the relevant *Daubert* factors: whether the expert’s research was peer reviewed and whether it was generally accepted by other scholars. The district court failed to consider whether Dr. Morse’s theory can be and has been tested and the error rate associated with the methodologies he relied upon to render his opinion. The district court did not offer any reasons as to why it overlooked these two factors.

First, the relevance of Dr. Morse’s testimony to Murray’s injuries is unclear. Dr. Morse testified that Murray’s symptoms were consistent with the low voltage shocks he

had studied, but Dr. Morse's expert report discusses low-voltage shocks as being those of 110 volts. This was roughly twice the voltage of the shock experienced by Murray, which was somewhere between 41 and 58 volts. Expert testimony should not be admitted if it is not relevant, which this court has defined as evidence that "logically advance[s] a material aspect of [a] party's case." *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 463 (9th Cir. 2014) (citation omitted). In this case, the definition of "low voltage" relied upon by Dr. Morse (110 volts) differed significantly from the "low voltage" shock suffered by Murray (41–58 volts). Such a difference raises serious doubts about the relevance to Murray's injuries of Dr. Morse's expertise, a doubt which the district court failed to address in its *Daubert* order. The district court failed to cite any record evidence that would allow Dr. Morse's findings regarding 110 volt shocks to be extrapolated to the lower voltage shock experienced by Murray.

Second, the district court does not explain why the *Daubert* factors of testability and error rate were not relevant to evaluating the admissibility of Dr. Morse's expert testimony. As Dr. Morse conceded, the mechanism by which the hypothesized injuries resulting from low voltage shocks occur is not understood. Such an admission should reasonably have led the district court to apply greater scrutiny to the methodology by which Dr. Morse arrived at his hypothesis about diffuse injury from low voltage shock. If the mechanism for an injury is not understood, it is that much more important to ensure the reliability of the methods by which a correlation between low voltage shocks and certain injuries was identified. Instead, the district court ignored the exact *Daubert* factors that evaluate the rigor of these methodologies. Namely, the district court failed to evaluate whether the theory or technique in question "can be

(and has been) tested.” *Daubert*, 509 U.S. at 593. While Dr. Morse’s hypothesis that low voltage shocks cause certain injuries can be tested, the record evidence does not establish that Dr. Morse’s theory was tested either through animal testing or other controlled experiments. Even if Dr. Morse is correct that low voltage shocks cause injury, this record does not establish whether such injuries are commonplace or extremely rare results of low voltage shock. In addition, the error rate of the particular research methodologies employed by Dr. Morse to identify the relationship between low voltage shocks and certain injuries was not addressed by the district court. For example, Dr. Morse relies in part on self-reported internet surveys of people who purportedly suffered a low voltage shock. See Michael S. Morse et al., *Diffuse Electrical Injury: A Study of 89 Subjects Reporting Long-Term Symptomatology that Is Remote to the Theoretical Current Pathway*, 51 IEEE Transaction on Biomedical Engineering 1449 (2004). By not considering the error rate of such self-reported surveys, the district court ignored the degree to which the survey respondents may have made up or imagined their symptoms, may not have actually received a low voltage electric shock, may have exaggerated their symptoms, or may have misunderstood the questions posed in the survey.

Taken together, the fact that Dr. Morse could not explain the causal mechanism behind the hypothesized relationship between low voltage shocks and certain injuries means that the *Daubert* factors that address the reliability of the methods – such as error rate and testability – used to identify this correlation had special importance in this case. By ignoring these factors, without stating a reasonable basis for such omissions, the district court’s *Daubert* analysis in fact merely evaluated the general acceptance of Dr. Morse’s theories as demonstrated through certain peer reviewed

articles (functionally the same as the *Frye* test rejected in *Daubert*) and failed to evaluate the methodologies underlying Dr. Morse's opinion. This was an abuse of discretion in its gate-keeping function which the deference owed cannot overcome.

Finally, there are important problems with the analysis performed by the district court of *Daubert* factors of peer review and general acceptance. First, while the district court placed a great deal of weight on the fact that Dr. Morse's research on low voltage shocks had been subject to peer review, the Supreme Court has explained that the peer review factor is not alone dispositive and even if an expert's research is peer reviewed, a district court must still ensure that the expert's opinion is based on a reliable methodology. *Daubert*, 509 U.S. at 594 (“[t]he fact of publication (or lack thereof) in a peer reviewed journal thus will be a relevant, though not dispositive, consideration”). Moreover, while the scientific literature in the record does establish that some experts accepted Dr. Morse's theories, the record makes clear that this acceptance did not rise to the level of general acceptance as a number of scientists criticized Dr. Morse's theory as controversial or not persuasive, in part because, as discussed above, the mechanism by which injuries from low voltage shocks purportedly occur is not understood. *See Daubert*, 509 U.S. at 594 (“a known technique which has been able to attract only minimal support within the community...may properly be viewed with skepticism” (citation omitted)).

Because the causal mechanism by which low voltage shocks purportedly cause certain injuries is not understood and because the district court did not evaluate the methodologies used by Dr. Morse to identify the posited correlation between low voltage shocks and certain injuries,

the district court failed to carry out its gatekeeping function. *Barabin*, 740 F.3d at 464 (“Just as the district court cannot abdicate its role as gatekeeper, so too must it avoid delegating that role to the jury.”). For these reasons, I respectfully dissent.