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Who Knew? Refining the "Knowability" Standard for the Future of Potentially Hazardous Technologies

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WHO KNEW? REFINING THE “KNOWABILITY”
STANDARD FOR THE FUTURE OF POTENTIALLY
HAZARDOUS TECHNOLOGIES

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ABSTRACT

As consumer technology becomes increasingly complex, so too does the manufacturer’s task in assessing the scope of its duty to warn of potential dangers. A recent decision by the United States Court of Appeals for the Ninth Circuit, Rosa v. Taser International, Inc., offers a prime illustration of this challenge through its analysis of a hazard posed by Taser weaponry. The Rosa court highlights a point of uncertainty in this area of law: courts typically determine which hazards were knowable at the time of manufacture as a matter of law, but they sometimes do so in the absence of a comprehensive standard.

This Article evaluates the Ninth Circuit’s approach as a potential model for other courts. After a brief survey of U.S. products liability law pertaining to the “knowability” requirement, this Article analyzes the Rosa decision. Although the Rosa court bemoans the absence of a comprehensive standard for making this determination in California, the court’s reasoning implicitly suggests a three-part test that could serve as a model in California and elsewhere. Such a standard would reduce the legal

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uncertainty faced by manufacturers assessing the extent of their duty and by plaintiffs assessing the strength of their claims.

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INTRODUCTION

Late on August 29, 2004, local police in Del Rey Oaks, California, responded to a call reporting a disturbed wanderer; his name was Michael Rosa.¹ After a tense confrontation in which he threatened police, Mr. Rosa fled.² The pursuit ended only after police deployed their Taser stun guns, and it took seven or eight

¹ See *Rosa v. Taser Int’l, Inc.*, 684 F.3d 941, 944-45 (9th Cir. 2012) (upholding the “state of the art” defense, in favor of the defendant, and refusing to extend the manufacturers’ duty to warn).

² *Id.*

shocks to immobilize Mr. Rosa, perhaps because he was under the influence of methamphetamines.³ Mr. Rosa stopped breathing and was transported to a hospital, where he died of cardiac arrest.⁴ The physician who performed his autopsy listed “ventricular arrhythmia . . . due to methamphetamine intoxication” as the cause of death, adding “Taser application and arrest by police” as a contributing cause.⁵ However, Mr. Rosa’s death was later linked to metabolic acidosis, a condition in which extreme physical exertion causes lactic acid to accumulate in the muscles more quickly than the body can dispose of it.⁶ The condition makes cardiac arrest more likely.⁷

Mr. Rosa’s family sued the stun gun’s manufacturer.⁸ When their case reached the Ninth Circuit Court of Appeals, the court held that any risk of acidosis posed by the Taser weaponry had not been knowable at the time of manufacture, thus relieving its manufacturer of liability for Mr. Rosa’s death.⁹

In all but a handful of states, a products liability action claiming a manufacturer failed to warn of its product’s hazards would not succeed unless those hazards were known or knowable at the time of manufacture. Determining whether a risk is or was knowable can be a challenge for litigants and courts. That challenge promises to become greater with the addition of complex new technologies to a marketplace already crowded with undiscovered hazards. The court’s opinion in *Rosa* forthrightly acknowledges this problem: it assessed the knowability of the Taser’s risks in the absence of a comprehensive legal standard. However, this Article argues that an analysis of *Rosa*’s reasoning offers insight into what form a standard might ultimately take.

³ *See id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

⁸ *Id.* at 950 (the Rosas asserted that Michael died because the stun gun’s manufacturer “had provided an inadequate warning of the dangers of the product to the officers who used it”); *id.* at n.4 (The Rosas also sued the officers and municipalities involved, but those claims were not at issue in the Ninth Circuit’s opinion).

⁹ *Id.* at 950.

Part I briefly surveys U.S. products liability law pertaining to the duty to warn. Part II analyzes the Ninth Circuit's decision in *Rosa* as an illustration of the problems involved in assessing knowability. It then discusses *Rosa*'s potential relevance to the development of a comprehensive standard. Finally, Part III offers a recommendation: the *Rosa* court's rationale implicitly suggests a three-part standard for determining a risk's knowability as a matter of law that courts would do well to adopt.

I. PRODUCTS LIABILITY AND THE DUTY TO WARN

Products liability constitutes a relatively recent development in U.S. jurisprudence,¹⁰ and its common law evolution produced several claims rooted in different theories of recovery. A cause of action for products liability may be pursued under any of three basic theories of tort law: negligence, strict liability, or breach of warranty.¹¹ Although the rationale and elements of each vary, these theories all require some proof that a product is defective.¹² The nature of that defect can take several different forms: it might be a mistake in manufacturing, a deficiency of design, or a failure to adequately instruct about proper use or warn of potential risks.¹³ These alternate forms of defect provide plaintiffs with a variety of claims through which to impose liability.

This Article is primarily concerned with claims directed at a manufacturer's failure to warn. Both negligence and strict liability theories give rise to a manufacturer's duty to warn of a product's dangers, but the plaintiff's choice of theory makes little difference, as the standard for determining liability is similar under both.¹⁴

¹⁰ 63 AM. JUR. 2D *Products Liability* § 1 (2012).

¹¹ 72A C.J.S. *Product Liability* § 2 (2012).

¹² 63 AM. JUR. 2D *Products Liability* § 7 (2012).

¹³ See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY, §2 (1998) ("A defect in manufacturing occurs where a product, in its final manufactured form, departs from the intended design; a defect in design, by contrast, occurs where the original design for a product posed foreseeable risks that could have been avoided by adopting an alternate design.").

¹⁴ See *id.* ("Under a strict liability theory, a manufacturer may be liable for its failure to warn of a product's potentially dangerous propensities when it has reason to anticipate the danger. Under a negligence theory, a manufacturer may

Therefore, this Article will sometimes refer to the duty to warn without distinguishing between the two theoretical forms it may take.

A. *The Duty to Warn of a Product’s Dangers*

Manufacturers and suppliers are subject to a duty to warn consumers if a failure to do so could render their products defective or unreasonably dangerous.¹⁵ This duty may be imposed where a product is latently defective, dangerous for its intended use, or inherently dangerous.¹⁶ If its product meets any of these criteria, a manufacturer breaches its duty if it either fails to warn entirely or if its warnings are inadequate.¹⁷ Judging the adequacy of warnings, in turn, is a task for the trier of fact. Using a standard of reasonableness, the trier of fact must determine whether the warning was sufficiently specific and explicit to communicate an awareness of the relevant danger to the product’s typical consumer.¹⁸

However, even where a product proves to be dangerous, the duty to warn of that danger has limits. Manufacturers are not obliged to educate ignorant consumers of inherent dangers that would be obvious to the typical user,¹⁹ so a knife maker need not warn consumers about a cutting hazard. A manufacturer is also under no duty to warn of non-obvious dangers if the manufacturer itself had no way to foresee the danger at the time of sale—the so-called “knowability” requirement.²⁰ But determining precisely

be liable for failing to warn under circumstances where a reasonably prudent manufacturer would have warned. In practice, however, these standards impose a similar burden upon the plaintiff’s case.”).

¹⁵ RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY, §2, cmt. i (1998).

¹⁶ 72A C.J.S. *Product Liability* § 26 (2012).

¹⁷ See RESTATEMENT (THIRD) OF TORTS, *supra* note 15.

¹⁸ *Id.*

¹⁹ *Id.* at cmt. j.

²⁰ *Id.* at cmt. m (“A manufacturer is not liable for failing to warn of risks associated with a product’s use if those risks were not foreseeable at the time of sale or manufacture. However, this bar to liability most often arises in the context of prescription drugs, medical devices, and toxic chemicals, because the

what this latter requirement means for manufacturers, and for plaintiffs, can be difficult.

B. Known or Knowable Dangers

It is not uncommon for a product to enter the marketplace without warnings only to have a hazard become apparent after widespread use. In such a case, the majority of courts will hold a manufacturer liable for its failure to warn only if the hazard was either known or knowable to that manufacturer at the time of sale.²¹ Whether the danger was *known* to the manufacturer is a simple question, at least conceptually: a known danger implies *actual* knowledge and can be shown through evidence that a manufacturer was aware of the specific danger but negligently or willfully disregarded that knowledge.²² Determining what was *knowable* to the manufacturer is more complex. Whether a danger was knowable amounts to a question of whether the manufacturer had constructive knowledge of that danger, implying that it *should have known*.²³

1. The Requisite of Knowability

In most jurisdictions, showing that a danger was knowable is really a question of whether it was actually known to experts in the field.²⁴ Put another way, if the “state of the art” was such that

risks attendant to use of these products are often difficult to predict. By contrast, in cases involving mechanical products, the foreseeability of risk is rarely an issue because a mechanical device’s risks ‘are generally known or reasonably knowable by experts in the field.’’); *id.* (“Taser weaponry would seem to be among the rare exceptions to this generalization because of the complex and relatively novel way in which it interacts with human physiology. In this sense, it functions, somewhat ironically, more like a medical device.”); *see also* 63A AM. JUR. 2D *Products Liability* § 1039 (2012).

²¹ RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter’s Note to cmt. m (1998); Charles C. Marvel, *Strict Products Liability: Liability for Failure to Warn as Dependent on Defendant’s Knowledge of Danger*, 33 A.L.R. 4th 368, §3 (1984).

²² *Id.*

²³ *See generally* 63 AM. JUR. 2D *Products Liability* § 1039 (2012).

²⁴ *See generally* RESTATEMENT (THIRD) OF TORTS, *supra* note 15.

science had not discovered the problem, a manufacturer will generally not be held responsible.²⁵ For instance, California courts follow a rule that holds a manufacturer to the skill and knowledge of an expert within its particular field of business; this, in turn, requires the manufacturer to keep abreast of scientific discoveries relevant to that field.²⁶ Although the rhetorical formulation of this rule varies widely between jurisdictions,²⁷ it varies little on one point of substance: none will hold defendants liable for failing to warn of a risk that was unknown and unknowable to a reasonable expert at the time of sale.²⁸ In this sense, California’s formulation is fairly representative of the norm.

The knowability rule imposes an evidentiary burden on plaintiffs to show that contemporaneous, publicly available scientific research had identified the danger.²⁹ Plaintiffs can introduce expert testimony or published research to satisfy this

²⁵ Marvel, *supra* note 21; 63 AM. JUR. 2D *Products Liability* § 1040 (2012). Although an “overwhelming majority of jurisdictions” have adopted this general requirement in one form or another, *see* RESTATEMENT (THIRD) OF TORTS, *supra* note 15, the precise language they use to formulate it varies considerably. For instance, some refer to a “state of the art,” characterizing it as a manufacturer’s affirmative defense, and others to a plaintiff’s burden of demonstrating the knowledge of experts in the field. *Compare, e.g.,* Fibreboard Corp. v. Fenton, 845 P.2d 1168, 1172 (Colo. 1993) (“We agree with the petitioners that state-of-the-art evidence is properly admissible to establish that a product is not defective and unreasonably dangerous because of a failure to warn.”), *with* Woodhill v. Parke Davis & Co., 402 N.E.2d 194, 198 (Ill. 1980) (“We perceive that requiring a plaintiff to plead and prove that the defendant manufacturer knew or should have known of the danger that caused the injury, and that the defendant manufacturer failed to warn plaintiff of that danger, is a reasonable requirement.”). For the purposes of this article, however, cataloging the variety in these formulations is of little consequence: it will suffice to observe that none in this majority will hold defendants liable for failing to warn of a risk that was unforeseeable to experts at the time of sale.

²⁶ *See, e.g.,* Christofferson v. Kaiser Found. Hosp., 15 Cal. App. 3d 75 (1971) (approving the use of a jury instruction indicating that the manufacturer of a prescription drug is liable for failing to warn of its side effects only if they were known to experts in the field or to science).

²⁷ *See* RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter’s Note to cmt. m.

²⁸ RESTATEMENT (THIRD) OF TORTS, *supra* note 15.

²⁹ 63 AM. JUR. 2D *Products Liability* § 1040 (2012).

burden.³⁰ Asbestos litigation provides a good illustration of this: asbestos manufacturers have been held liable where medical experts testified that they were aware of the risks asbestos products posed at the time of installation.³¹

To summarize the rule of knowability, it might be more accurate to assert not that manufacturers must warn of knowable risks, but rather that they must warn whenever they, the scientific community, or the experts in their industry had actual knowledge of the risks.³² In this sense, “knowable risk” is a misleading term of art—it refers not to risks that manufacturers *should have* discovered through their own diligent efforts, but rather to risks that experts *already had* discovered.³³

³⁰ *Id.*

³¹ *See, e.g.,* Moran v. Johns-Manville Sales Corp., 691 F.2d 811 (6th Cir. 1982) (applying Ohio law).

³² RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter’s Note to cmt. m (1998) (“This reality is an anomalous one given that many claims regarding a manufacturer’s failure to warn are rooted in strict liability rather than negligence. In the early development of American products liability, both the Restatement and several prominent scholars urged that a plaintiff alleging a failure to warn should not have to prove that a manufacturer knew or should have known of the risk at issue. Rather, this knowledge should be imputed to the defendant once the plaintiff shows that the risk was a reality. But that notion ‘has not worn well with time.’ In more recent years, ‘given the criticism that has been leveled against the imputation of knowledge doctrine and the relatively thin judicial support for it, it is [now] rejected as a doctrinal matter.”); *see infra* note 29 (“However, a small minority of jurisdictions continue to show a willingness to impute knowledge of the risk to a defendant at trial.”).

³³ *See* E. L. Kellett, *Manufacturer’s Duty to Test or Inspect as Affecting His Liability for Product-Caused Injury*, 6 A.L.R.3d 91, §2 (1966) (describing the existence of the duty to test as “well settled.” However, with regard to what manufacturers should have discovered, they are not entirely free from obligation: manufacturers often also have a limited duty to test for yet unknown dangers. Rooted in negligence, this duty requires a manufacturer to conduct the tests and inspections of its product that reasonable care would require in order to find any risks associated with its intended use. In general, courts determine the extent of testing required by considering both the physical and economic feasibility of additional testing, and the degree of danger that could be anticipated from forgoing additional testing). *But cf.* 63 AM. JUR. 2D *Products Liability* § 310 (2012) (citing *Viguers v. Philip Morris USA, Inc.*, 2003 837 A.2d 534 (PA Super. 2003)) (noting that there is also some limited authority suggesting that “failure to test” is not a viable claim because the duty to test is

2. Jurisdictions Rejecting the Knowability Requirement

In contrast to the above rule, only a few cases have indicated that a danger need not have been known to the manufacturer, the business industry, or the scientific community for liability to attach for failure to warn.³⁴ These outlier decisions have appeared in Missouri,³⁵ New Jersey,³⁶ Pennsylvania,³⁷ Hawaii,³⁸ and Washington State.³⁹

In *Little v. PPG Industries, Inc.*, the Washington Court of Appeals adopted a rule imposing liability on manufacturers who

subsumed by other theories of products liability).

³⁴ See RESTATEMENT (THIRD) OF TORTS, *supra* note 15 (explaining that “[s]everal states take the position that a defendant manufacturer is charged with knowledge available at time of trial without regard to whether the defendant knew or reasonably could have known of the risk,” and going on to list cases from Hawaii, Massachusetts, Pennsylvania, and Washington); see also Marvel, *supra* note 12 (stating that only “a very few” cases have held against the majority rule).

³⁵ *Elmore v. Owens-Illinois, Inc.*, 673 S.W.2d 434, 438 (Mo. 1984) (“[T]he law in Missouri holds that state of the art evidence has no bearing on the outcome of a strict liability claim; the sole subject of inquiry is the defective condition of the product and not the manufacturer’s knowledge, negligence or fault.”).

³⁶ *Beshada v. Johns-Manville Products Corp.*, 90 N.J. 191 (1982) (“[I]n strict liability cases, culpability is irrelevant, and, in failure-to-warn cases, state-of-the-art defense is not allowable, and thus the medical community’s presumed unawareness of dangers of asbestos was not a defense.”).

³⁷ *Pegg v. Gen. Motors Corp.*, 391 A.2d 1074, 1083 n.10 (explaining, in dictum, that a seller must provide adequate warnings of a risk “regardless of whether the seller knew or had reason to know of the risks and limitations”).

³⁸ *In re Hawaii Federal Asbestos Cases*, 699 F. Supp. 233, 235 (D. Haw. 1988) (“It is clear that under Hawaii law, ‘in a strict liability action, state-of-the-art evidence is not admissible for the purpose of establishing whether the seller knew or reasonably should have known of the dangerousness of his or her product.’”) (citation omitted).

³⁹ *Little v. PPG Indus., Inc.*, 19 Wash. App. 812 (1978) (holding that failure of an employer, who has actual knowledge of a hazard, to warn employees may constitute a superseding cause and that foreseeability of the dangers involved in the use of a product is not relevant to a strict liability theory).

failed to warn of a danger even where that danger was unknown.⁴⁰ The court reasoned that, because strict liability focuses on the nature of the product rather than the reasonableness of the producer's conduct, it was inappropriate to consider what the defendant knew or should have known in this kind of case.⁴¹ Even in these jurisdictions, therefore, actual or constructive knowledge of the danger would always be required under a negligence action for failure to warn; it is only in strict liability that knowability is separable from the duty to warn.⁴²

Other cases from these jurisdictions have followed similar reasoning. The New Jersey Supreme Court, for instance, rejected the "state of the art" defense⁴³ in *Beshada v. Johns-Manville Products Corp.*⁴⁴ The court noted that culpability is irrelevant in strict liability, and that the state of the art defense is therefore inappropriate in strict liability cases because it amounts to an assertion of blamelessness.⁴⁵ The court also considered policy rationales, stating that it was preferable to distribute the costs of a product's dangers among manufacturers rather than consumers, and that this policy would have the added benefit of incentivizing

⁴⁰ *Id.* at 822, *mod. on other grounds*, 92 Wash.2d 118 (1979). (In *Little*, a widow was suing the manufacturer of a chemical solvent that had killed her husband while he worked in a steel plant. She alleged that the manufacturer's failure to warn of the solvent's dangerous propensities had rendered it unreasonably dangerous, but the manufacturer countered that those propensities had been unknown).

⁴¹ *See id.*

⁴² *See* Marvel, *supra* note 17 (explaining that, while the vast majority of cases have required the danger to have been knowable before imposing strict liability, "when a negligence theory is applied, there is no question that actual or constructive knowledge is an essential element").

⁴³ *See* RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter's Note to cmt. m (The "state of the art" defense is the name sometimes given to a manufacturer's argument that it is not liable for a failure to warn of a defect because that defect was not known to the industry or scientific community); 63A AM. JUR. 2D *Products Liability* § 1007 (2012) (However, note that the phrase "state of the art" also arises, with a somewhat different meaning, in the context of a claim for defective design. There, it "sets the parameters for determining the feasibility of an alternative, safer product design").

⁴⁴ 90 N.J. 191 (1982).

⁴⁵ *Id.* at 204-205.

stronger investments in safety research.⁴⁶

3. Knowability as a Question of Law

Determining what dangers were knowable to the manufacturer is generally a task for the court. Like most legal duties, the question of whether a manufacturer owed a duty to warn is settled as a matter of law, while questions about whether the manufacturer breached that duty are left to the jury.⁴⁷ Only in some circumstances, such as when testimony regarding the state of the art is conflicting, will the jury play a role in the knowability determination.⁴⁸

II. THE LESSONS OF *ROSA V. TASER INTERNATIONAL*

Rosa offers a valuable illustration of the limits in the knowability inquiry of the duty to warn. However, it also has the potential to serve as a model for crafting a comprehensive standard for determining knowability.

A. *Determining Knowability in the Absence of a Comprehensive Standard*

The *Rosa* court held that the risk of metabolic acidosis posed by Taser weaponry was not knowable to the defendants at the time of the gun’s manufacture in 2003.⁴⁹ It drew this conclusion from an analysis of the plaintiff’s scientific evidence, which consisted of four peer-reviewed journal articles. As discussed above, to show that the defendant had constructive knowledge of the risk of acidosis, the plaintiff needed to produce evidence that the scientific

⁴⁶ *Id.* at 207.

⁴⁷ 63 AM. JUR. 2D *Products Liability* § 1107 (2012).

⁴⁸ *Id.*

⁴⁹ *Rosa v. Taser Int’l., Inc.*, 684 F.3d 941, 950 (9th Cir. 2012) (although the plaintiffs’ relied on peer reviewed articles to support the claim that the risk of metabolic acidosis was “known or knowable” in 2003, the literature did not present a triable issue with respect to notice because it consisted of untested hypothesis and failed to establish a causal link between Tasers and metabolic acidosis).

community had discovered the danger when the Taser that killed Mr. Rosa was manufactured and distributed to police in 2003. The court, therefore, was tasked with determining what the scientific community knew in 2003 based on this evidence.

1. Lack of a Comprehensive Standard

In *Rosa*, the Ninth Circuit began its analysis by noting that the California courts “have never announced a comprehensive standard of when a particular risk is knowable.”⁵⁰ The court nonetheless furnished a few “key considerations”: in general, manufacturers are held to the knowledge and skill of experts in their field, and they must keep abreast of all relevant scientific discoveries.⁵¹ On the other hand, manufacturers need not warn of every conceivable risk, no matter how “speculative, conjectural, or tentative,” because requiring them to do so would dilute the value of any warning by flooding the marketplace with needless ones.⁵² Therefore, the essence of what it means for a risk to have been knowable in California lies at some uncharted point between these two extremes.

At first glance, this absence of a comprehensive standard would seem to be a problem unique to California. But in truth, the *Rosa* court, perhaps unwittingly, may have put its finger on a note of general uncertainty regarding what it means for a risk to have been knowable in the failure-to-warn context.

There are two longstanding points of confusion surrounding the knowability requirement that may lie at the root of the uncertainty in California. The first problem is a rhetorical one: as discussed above, “knowable risk” is a misnomer lacking meaningful definition in this context. As early as 1983, the term has been described as one embodying a fundamental “definitional problem” in products liability: does it refer to *actual* knowledge, *discoverable* knowledge, *scientifically available* knowledge, or something else entirely?⁵³ Indeed, “[q]uestions of this sort tempt

⁵⁰ *Id.* at 946.

⁵¹ *Id.*

⁵² *Id.*

⁵³ See, e.g., John W. Wade, *On the Effect in Product Liability of Knowledge*

one to cut the Gordian knot in frustration and to say that anything now known was knowable at the earlier time.”⁵⁴ “Scientifically available knowledge” may be a close approximation of the true meaning of what is knowable in this context, but even that falls short because the necessary knowledge need not be of a well-established fact—it may be of the sort that a reasonable expert should have inferred from the information available.⁵⁵ Therefore, even in strict liability cases, to give this term meaning one must sometimes borrow from negligence and say that a “knowable risk” is, at a minimum, one that a reasonably prudent person should have anticipated under the circumstances.⁵⁶

That observation leads to the second point of theoretical confusion at the knowability requirement’s roots: while failure-to-warn claims are typically brought in strict liability, the knowability analysis has taken the form of a negligence standard in one important respect.⁵⁷ A claim rooted in strict liability would not generally require any proof about the unreasonableness of the defendant’s conduct, nor would it permit the defendant to deflect liability by pointing to the degree of care it exercised. However, in the interest of fairness and to promote the development of new products, courts that embrace the knowability requirement have permitted manufacturers to excuse their failure to warn by arguing that, when identifying risks that would require a warning, they conformed to the state of the art and observed all scientifically available knowledge.⁵⁸ This effectively incorporates a

Unavailable Prior to Marketing, 58 N.Y.U. L. REV. 734, 749-50 (1983). Dean John Wade is a preeminent scholar in the field of products liability. The Restatement describes both him and W. Page Keeton (*see infra* note 55) as being “extremely influential in the early development of products liability law,” and it cites to their work frequently. RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter’s Note to cmt. m.

⁵⁴ See, e.g., Wade, *supra* note 52.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ See RESTATEMENT (THIRD) OF TORTS, *supra* note 15, Reporter’s Note to cmt. m (explaining that, although failure-to-warn claims are typically situated in strict liability in a formal sense, it is now of a peculiar or paradoxical sort that incorporates aspects of negligence. This has created some theoretical confusion).

⁵⁸ See Ellen Wertheimer, *The Biter Bit Unknowable Dangers, The Third Restatement, and the Reinstatement of Liability Without Fault*, 70 BROOK. L.

reasonableness component into what would otherwise be a strict liability analysis, thereby confusing the boundaries and creating a hybrid claim.⁵⁹

This blurring between strict liability and negligence theory can complicate a failure-to-warn claim and its evidentiary requirements. “The task of identifying, for strict liability purposes, the risks of which a reasonable man could justifiably be unaware but that were scientifically knowable is an almost impossible one.”⁶⁰ This challenge is more than academic; it can also be quite costly. For instance, “[a]n enormous amount of the time of courts, investigators, and lawyers can be expended in an effort to ascertain whether a drug like Aralene, the arthritis drug, involved a risk of blindness that could have been known prior to experience with its use on human beings.”⁶¹ If the failure-to-warn claim were rooted in true strict liability, then the question of the risk’s foreseeability, and of the manufacturer’s reasonableness and prudence in ascertaining it, would be moot. Rooting the claim in true

REV. 889, 915-23 (2005) (discussing courts’ retreat from true strict products liability in the failure-to-warn claim toward one concerned with a risk’s knowability. In essence, courts were concerned that disregarding a risk’s knowability would give rise to absolute liability: if manufacturers can be held liable for unknowable risks, they often reasoned, this would create liability even in the absence of defect, thereby making manufacturers the insurers of their products. This, combined with a desire to foster innovation and new technologies in the marketplace, drove courts toward the modern knowability requirement. Wertheimer takes issue with this line of reasoning, arguing for a return to true strict liability).

⁵⁹ See Richard McCormick, *Pharmaceutical Manufacturer’s Duty to Warn of Adverse Drug Reactions*, 66 DEF. COUNS. J. 59, 63-64 (1999) (discussing the blurring distinction between negligence and strict liability in this context). This blurring has also been explicitly acknowledged by California, whose Supreme Court has explained that, while there remains a distinct strict liability claim for failure to warn, this claim is more or less a hybrid between strict liability and negligence principles. *Id.* at n.31 (citing *Carlin v. Superior Court*, 920 P.2d 1347, 1350 (Cal. 1996)).

⁶⁰ W. Page Keeton, *Products Liability—Inadequacy of Information*, 48 TEX. L. REV. 398, 408-09 (1970). Keeton made this observation as part of his broader argument that failure-to-warn claims ought to proceed in true strict liability. To this end, he supported the imputed knowledge approach. See *supra* note 32 (discussing the imputed knowledge approach and its modern disfavor).

⁶¹ *Id.*

negligence, by contrast, would likely require courts and litigants to simply analyze the reasonableness of a manufacturer’s conduct, and the care they took, in identifying and warning of risks. But the knowability requirement seems to require something in between the two: could the defendant have known of this risk in advance? Such a question requires courts to do much more than simply assessing whether the risk is real (as they would under strict liability) or whether the defendant’s conduct was reasonable under a chosen standard of care (as they would under negligence). Instead, it requires them to consider an almost epistemological question.

California law may be no worse off than most states with respect to this confusion. When asking whether a risk was *knowable* to the manufacturer, most courts seem really to be asking if it was actually *known* to anyone, whether it be to practitioners of the relevant art, experts in the field, the scientific community, or some other abstraction.⁶² Therefore, because California has at least clarified that manufacturers are held to the knowledge and skill of experts in their field and must keep abreast of all relevant scientific discoveries, it has done as much as most jurisdictions to establish a comprehensive standard. For this reason, as the *Rosa* court seems to have identified, all courts embracing some form of this requirement could do more to clarify what precisely they mean, and what they will require of litigants, when referring to a risk’s knowability.

2. Assessing the State of the Art through Contemporaneous Research

Having defined the broad contours of a standard, the *Rosa* court then applied it to four peer-reviewed scientific journal articles the plaintiff supplied in an attempt to determine whether the acidosis risk was known in 2003. The court first rejected two of the articles because they did not tie the risk of acidosis directly to Taser technology: one merely highlighted the dangers of metabolic

⁶² See *supra* note 21 (describing the variety in rhetorical formulations used across jurisdictions).

acidosis by showing that the condition correlates with a form of cardiac arrhythmia, and the other demonstrated a correlation between acidosis deaths and police custody generally.⁶³ In other words, neither identified Tasers as a *cause* of acidosis.

The court rejected the plaintiff's other two articles because they offered only hypothetical conjecture about the Taser/acidosis link rather than tested conclusions; they merely suggested that Taser technology *might* pose an acidosis risk. One article, after finding previous explanations for sudden in-custody deaths unconvincing, speculated that electronic control devices may affect the body's acid-based balance thereby increasing the risk of acidosis.⁶⁴ Similarly, the other article speculated that some Taser deaths *may* be attributable to acidosis, but "[i]t [did] not purport to establish that causal link and explicitly limits the reach of its findings due to its small data set."⁶⁵

3. The Rough Contours of a Standard Emerge

In the course of its analysis and rejection of the plaintiff's scientific evidence, the Ninth Circuit never announced a clear test for determining a hazard's knowability, nor did it purport to follow one. Indeed, by highlighting the lack of a comprehensive standard in California, it did the opposite. But several key questions lay beneath *Rosa's* analysis: Does the plaintiff's documentary or testimonial evidence pertain directly to the product at issue? And does it demonstrate a causal connection using sound science, or does it merely hypothesize the link? This approach implicitly suggests a test that could offer courts and litigants with basic guidance when assessing the knowability of a given risk.

B. Rejecting the Duty to Test

In addition to their claim that the defendant failed to warn of a knowable hazard, the Rosas brought a negligence claim alleging, among other things, that the manufacturer failed to adequately test

⁶³ *Rosa v. Taser Int'l, Inc.*, 684 F.3d 941, 947 (9th Cir. 2012).

⁶⁴ *Id.* at 948.

⁶⁵ *Id.*

the product.⁶⁶ However, the court rejected this claim with little discussion because the Rosas produced no evidence concerning the reasonableness of Taser’s testing procedures.⁶⁷ Significantly, the court also noted that immediate ventricular fibrillation, and not cardiac arrest from metabolic acidosis, was the “*perceived* cardiac risk associated with the device.”⁶⁸ Because Taser had expended significant resources testing for the risk of ventricular fibrillation, it had not breached its duty to test.⁶⁹

III. RECOMMENDATION: A THREE-PART STANDARD FOR DETERMINING KNOWABILITY

Implicit in the *Rosa* decision is the notion that determining what was knowable involves determining what scientific theory was generally accepted at the time of manufacture. This, along with the court’s analysis of the evidence in that case, suggests a three-part test for determining knowability:

First, courts should determine the reliability and admissibility of a plaintiff’s scientific evidence—whether testimonial or

⁶⁶ *Id.* at 950.

⁶⁷ *Id.*

⁶⁸ *Id.* (emphasis added).

⁶⁹ *See id.* (The court does not explain how it determined which risk was primarily “perceived” at the time, but this conclusion may well have been debatable. While Taser may not have perceived the risk of acidosis in 2003, the Rosas had already amassed evidence that other observers had: two of the journal articles rejected by the court in its knowability analysis had at least suggested the possibility that Taser weaponry could cause acidosis); *id.* at 948 (This raises important questions about the duty to test that neither the *Rosa* court, nor current state of products liability law, answers: From whose perspective is the perception of risk relevant in a duty to test analysis—the manufacturer’s, or the scientific community’s? How widespread must that perception be, and how imminent the risk, before the duty is triggered? These considerations suggest a relationship between the duties to warn and test that plaintiffs should seek to exploit and courts should consider: even if a danger was not “knowable” at the time of manufacture because its risk was only hypothesized rather than demonstrated, might not that conjecture nonetheless trigger a duty to conduct further testing if its source is reliable enough, its perception widespread enough, or the consequences of the perceived danger severe enough? The traditional reasonableness inquiry in negligence arguably requires that all these factors and perspectives be weighed before deciding the standard of care).

documentary in nature—by way of the U.S. Supreme Court’s *Daubert* standard.

Although the Ninth Circuit did not address this in *Rosa*, apparently taking the quality of the research for granted, courts should begin a knowability analysis with some assessment of the reliability of the evidence put before it. Knowability determinations in high-tech industries will turn on scientific questions: had expert research adequately demonstrated a causal relationship between Taser use and metabolic acidosis at the time of Mr. Rosa’s death? Answering such a question will require a court not only to assess what a given expert or article says, but also how scientifically reliable that expert or article’s conclusions are. The classic standard for making this determination was laid down by the U.S. Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals*,⁷⁰ and should have an important place at the threshold of any knowability analysis.

Second, courts should then determine whether the research or testimony provided actually pertains to the product in question, or whether its applicability to the product is based purely on post-hoc conjecture put forth by plaintiff for the purpose of trial.

This proposed step played a major role in the *Rosa* analysis as the basis for the court’s rejection of plaintiff’s first two articles. Although an expert or article may tie a given outcome to a given condition or process, it should not affect the manufacturer’s constructive knowledge of that danger unless it ties the risk directly to the manufacturer’s product.

Third, courts must determine whether the substance of the evidence conveys more than mere conjecture: does it put forth its theory of the risk as an untested hypothesis or as a conclusion supported by scientific research?

This third part of the analysis is the most difficult because it will create a significant “grey area” between hypothetical and adequately supported theories. The *Rosa* court’s decision was perhaps an easy case in this regard because the two articles dismissed for their mere hypothetical value actually self-identified

⁷⁰ *Daubert v. Merrell Dow Pharm.*, 509 U.S. 579 (1993) (holding that the Frye general acceptance test for expert testimony had been superseded by Rule 702 of the Federal Rules of Evidence).

their assertions as such. Neither article purported to establish a causal link between Taser use and acidosis. The question could become more difficult if the literature supports a theory with *some* evidence of a causal link between product and injury, but without a determinative amount.

CONCLUSION

In most jurisdictions, a failure-to-warn claim in products liability will only succeed if the plaintiff can show that the product’s hazard was known or knowable at the time of manufacture. Showing knowability, in turn, requires showing that the risk was actually known. Although courts sometimes assess the evidence of a risk’s knowability in the absence of a comprehensive standard, the Ninth Circuit’s decision in *Rosa* suggests a three part test: First, courts should assess the reliability of any scientific evidence via the *Daubert* standard. Second, the evidence must pertain to the product in question. And third, the evidence must go beyond mere speculation to offer a tested conclusion demonstrating the risk.

PRACTICE POINTERS

- In most jurisdictions, plaintiffs pursuing a failure-to-warn claim must show that the risk at issue was knowable at the time of manufacture.
- To show that a risk was known or knowable, a plaintiff should offer testimony from experts within the industry, testimony from scientists from a relevant field, or documented scientific research that identifies the risk prior to the manufacture of the product that caused injury.
- Courts assessing evidence of a danger’s knowability should determine (1) its admissibility by way of the *Daubert* standard, (2) whether it pertains to the product at issue, and (3) whether it demonstrates the danger or merely speculates as to the risk.

