

PRECEDENTIAL

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 04-2104

DONALD E. MOYER; JAYNE L. MOYER; KAREN L.
WEIDNER; MICHAEL T. WILLIAMS; REBECCA
WILLIAMS; THOMAS C. SECHRIST; PATRICIA D.
SECHRIST; STEVE R. KERN; BONNIE KERN, DAVID P.
WEIDNER

v.

UNITED DOMINION INDUSTRIES, INC.,

Appellant

On Appeal from the United States District Court
for the Eastern District of Pennsylvania
(D.C. No. 97-cv-5569)
District Judge: Honorable Petrese B. Tucker

Submitted pursuant to Third Circuit LAR 34.1(1)
June 20, 2006*
Before: FUENTES, CHAGARES, and ROTH,** Circuit Judges.

* This case was initially argued before the panel of Judges Roth, Fuentes and Becker on November 14, 2005. After Judge Becker died on May 10, 2006, Judge Chagares was added to the panel.

** Judge Roth assumed senior status May 31, 2006.

(Filed: January 9, 2007)

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OPINION OF THE COURT

FUENTES, Circuit Judge.

Plaintiffs are five factory workers who allege serious and permanent hand injuries after years of using defendant's swager, a machine used to form metal. Plaintiffs claim that the swager was defectively designed because it emitted excessive vibration, and that the defendant failed to warn them of the vibration risk.

Before trial, and in accordance with Pennsylvania law, the District Court conducted a risk-utility analysis and determined, as a threshold matter, that the swager was "unreasonably dangerous." After a two-week jury trial on the design defect and failure to warn claims, a jury awarded plaintiffs and their wives approximately \$13.5 million. On appeal, we consider several evidentiary issues, as well as whether plaintiffs' claims are barred by the applicable

statute of limitations. For the reasons that follow, we will affirm in part, reverse in part, and remand for further proceedings.

I. Background

Plaintiff-Appellees Donald Moyer, David Weidner, Michael Williams, Thomas Sechrist, and Steve Kern are employees of Brush Wellman, a company that manufactures beryllium copper alloys.¹ Defendant-Appellant United Dominion Industries, Inc. (“UNI”) controls Fenn Manufacturing Corporation (“Fenn”), which produced the swager at issue in this litigation and sold it to Brush Wellman in 1983.² Brush Wellman installed the Fenn swager in its rod and wire department as a component of a bull block, a collection of machinery that operates to reduce the diameter of beryllium copper wire. As part of this process, metal coils are fed into a swager, which shapes the end of the coil into a point.

Plaintiffs claim that vibrations generated by the Fenn swager caused them to develop Hand-Arm Vibration Syndrome (“HAVS”), a dysfunction that can lead to severe pain, numbness, and motor difficulties in the operator’s hands and arms. Plaintiffs state that they experience near-constant pain and that they have difficulty performing ordinary activities such as driving a car, mowing the lawn, and playing sports with their children. The workers’ wives state that their husbands’ moods and temperaments have worsened since the injuries. Each plaintiff continues to work at Brush Wellman.

In 1994, some bull block operators complained of hand problems attributed to the Fenn swager. Brush Wellman hired WorkAbility, an ergonomic consulting firm, to look into the

¹ The wives of these employees—Jayne Moyer, Karen Weidner, Rebecca Williams, Patricia Sechrist, and Bonnie Kern, respectively—are also plaintiffs in this case. For convenience, references to “plaintiffs” in this opinion refer only to the Brush Wellman employee plaintiffs unless otherwise indicated.

² Both parties refer to defendant as “Fenn” and we will follow this convention for the remainder of this opinion.

complaints. Following a January 1995 visit to Brush Wellman, Jeffrey Eckel, a WorkAbility representative, sent a letter to Brush Wellman offering various suggestions. At trial, Eckel testified that his letter suggested that operators use anti-vibration gloves and perform certain hand and wrist exercises, and that Brush Wellman rotate duties among employees and distribute discomfort surveys to operators. Eckel also testified that the letter attributed a “fair amount of vibration” to the swager but it noted that the amount of time each worker spent at the swager was minimal. In June 1995, Brush Wellman formed a committee to consider replacing the Fenn swager with a new model. In 1996, the company purchased a new model along with an optional feature sold separately: an automatic feed that eliminates exposure of the swager operator to the machine’s vibration. Brush Wellman paid approximately \$27,000 for the swager and \$9,200 for the automatic feed.

In 1997, plaintiffs filed a strict liability action in the U.S. District Court for the Eastern District of Pennsylvania, alleging (1) that the Fenn swager was defectively designed because it did not have an automatic feed, and (2) that Fenn had a duty to provide adequate warnings about the vibrations generated by the Fenn swager and did not do so. The wives of the factory workers claimed loss of consortium. Following trial, the jury awarded \$2,450,000 to Donald Moyer; \$2,800,000 to Steve Kern; \$1,600,000 to Thomas Sechrist; \$3,400,000 to Michael Williams; \$2,700,000 to David Weidner; and \$100,000 to each employee’s wife. Fenn then moved for judgment as a matter of law or, in the alternative, for a new trial, and plaintiffs sought delay damages under Rule 238 of the Pennsylvania Rules of Civil Procedure.³ The

³ Rule 238 provides for an award of delay damages against any defendant found liable to the plaintiff in a civil action seeking monetary relief for bodily injury, death, or property damage. Pa. R. Civ. P. 238 (a)(1). With certain exceptions, see Pa. R. Civ. P. 238(b)(1), delay damages are to be awarded “for the period of time from a date one year after the date original process was first served in the action up to the date of the award, verdict or decision.” Pa. R. Civ. P. 238(a)(2).

District Court denied Fenn’s motions and awarded plaintiffs a total of \$3,242,566 in delay damages.

On appeal, Fenn argues that the District Court erred by (1) making the “unreasonably dangerous” determination under an incorrect standard; (2) excluding evidence of misuse and improper maintenance of the swager by plaintiffs and by Brush Wellman; (3) excluding evidence of the lack of previous claims against Fenn for injuries caused by swager vibration; (4) excluding vibration exposure guidelines proffered by Fenn; (5) excluding evidence about foreseeability in relation to plaintiffs’ failure-to-warn claim; (6) improperly instructing the jury; (7) failing to bar the claims of plaintiffs Moyer, Sechrist, and Kern under Pennsylvania’s two-year statute of limitations for personal injury claims; (8) failing to find the damages awarded by the jury to be grossly excessive; and (9) awarding delay damages and excessive post-judgment interest to the plaintiffs. Fenn asserts that, based on all the relevant evidence, it is entitled to judgment as a matter of law on all claims. In the alternative, Fenn argues that in light of the District Court’s various errors, a new trial is necessary.

II. Discussion

A. “Unreasonably Dangerous” Analysis

Under Pennsylvania law, strict liability allows recovery when a defective product that is “unreasonably dangerous” causes harm to a user or consumer. See Phillips v. A-Best Prod. Co., 665 A.2d 1167, 1170 (Pa. 1995) (quoting Restatement (Second) of Torts § 402A). Yet, in Azzarello v. Black Bros. Co., 391 A.2d 1020, 1026 (Pa. 1978), the Pennsylvania Supreme Court rejected the use of the “unreasonably dangerous” formulation as part of the jury instructions in products liability cases. In Azzarello, the Court was concerned that, although a jury is obviously competent to resolve disputes about the condition of a product, whether that condition justifies placing liability upon the supplier presents an entirely different question. Id. Because the Supreme Court believed the “unreasonably dangerous” decision to be a question of law, the resolution of which depends upon social policy considerations, it concluded that the judge must make that decision.

In Surace v. Caterpillar, Inc., 111 F.3d 1039 (3d Cir. 1997), we considered how the trial judge should make the threshold unreasonably dangerous determination. Applying Pennsylvania law, we held that the judge should “engage in a risk-utility analysis, weighing a product’s harms against its social utility.” Id. at 1044. We identified some of the factors relevant to this analysis:

- (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole;
- (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury;
- (3) The availability of a substitute product which would meet the same need and not be as unsafe;
- (4) The manufacturer’s ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility;
- (5) The user’s ability to avoid danger by the exercise of care in the use of the product;
- (6) The user’s anticipated awareness of the dangers inherent in the product and their avoidability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instruction; and
- (7) The feasibility, on the part of the manufacturer, of spreading the loss of [sic] setting the price of the product or carrying liability insurance.

Id. at 1046 (quoting Dambacher v. Mallis, 485 A.2d 408, 423 n.5 (Pa. Super. Ct. 1984)). Relying on these factors, the judge makes the pre-trial determination as a matter of law. Id. (explaining that determination of “whether the product’s condition justifies placing the risk of loss on the manufacturer or supplier” is a question of law for the judge); see also A-Best Prod. Co., 665 A.2d at 1171 n.5; Azzarello, 391 A.2d at 1026. Furthermore, the judge makes the determination under a weighted view of the evidence, considering the facts in the light most favorable to the plaintiff. See A-Best Prod. Co., 665 A.2d 1171 n.5.

If the judge concludes that a product is “unreasonably dangerous” the case is submitted to the jury, which then decides,

based on all the evidence presented, “whether the facts of the case support the averments of the complaint.” Azzarello, 391 A.2d at 1026. In making this determination, however, the jury does not balance the risk-utility factors, even though the judge has only done so as a threshold matter. See, e.g., Brandimarti v. Caterpillar Tractor Co., 527 A.2d 134, 138 (Pa. Super. Ct. 1987) (holding that the jury is not to be presented with risk-utility factors); Restatement (Third) of Torts: Products Liability § 2, Reporters’ Note, cmt. d, at 55 (1998) (noting that in Pennsylvania “the court has reserved to itself risk-utility balancing”); James Henderson, Jr. & Aaron D. Twerski, Achieving Consensus on Defective Product Design, 83 Cornell L. Rev. 867, 897 (1998) (“Pennsylvania stands alone in its view that risk-utility balancing is never properly a jury function.”). Instead, the jury considers whether the product “‘left the supplier’s control lacking any element necessary to make it safe for its intended use or possessing any feature that renders it unsafe for the intended use.’” Phillips v. Cricket Lighters, 841 A.2d 1000, 1005 (Pa. 2003) (quoting Azzarello, 391 A.2d at 1027) (emphasis omitted).

The Pennsylvania Supreme Court intends that this division of labor between judge and jury will preserve the substantive distinction between strict liability and negligence causes of action. See Lewis v. Coffing Hoist Div., Duff-Norton Co., 528 A.2d 590, 593 (Pa. 1987) (emphasizing Azzarello’s conclusion that “negligence concepts have no place in a case based on strict liability”); Cricket Lighters, 841 A.2d at 1007 (“Strict liability was intended to be a cause of action separate and distinct from negligence, designed to fill a perceived gap in our tort law.”). The Court has explained that the jury’s focus should be on the condition of the product, not on the conduct of the supplier. See Lewis, 528 A.2d at 593 (“[I]t is the product itself which is on trial, and not the manufacturer’s conduct.”).

The two-step process adopted in Azzarello is not without controversy. Soon after the case was decided, one commentator noted that Azzarello’s limitation of the jury’s role was “a matter of concern since the jury has traditionally played an important role in the expansion of the law of products liability.” Aaron D. Twerski, From Risk-Utility to Consumer Expectation: Enhancing the Role of Judicial Screening in Product Liability Litigation, 11 Hofstra L.

Rev. 861, 926 (1983). Another writer more recently noted that “Azzarello remains to this day one of the most controversial opinions ever issued on the subject of strict products liability for alleged design defects.” John M. Thomas, Defining “Design Defect” in Pennsylvania: Reconciling Azzarello and the Restatement (Third) of Torts, 71 Temp. L. Rev. 217, 217 (1998). Furthermore, the latest Restatement of Torts has called Pennsylvania’s products liability law “sometimes difficult to decipher.” See Restatement (Third) of Torts: Products Liability § 2, Reporters’ Note, cmt. d, at 54. Even a member of Pennsylvania’s Supreme Court recently criticized Azzarello’s controversial approach. See Cricket Lighters, 841 A.2d at 1016 (Saylor, J., concurring) (“There are several ambiguities and inconsistencies in Pennsylvania’s procedure . . . which render our law idiosyncratic.”).

Our own review of products liability law reveals that most other jurisdictions give the jury a central role in making the strict liability determination and regard juries as capable of balancing risk-utility factors, even though some of those factors may touch on matters of social policy.⁴ Indeed, our research fails to disclose any

⁴See, e.g., Alabama: Graham v. Sprout-Waldron & Co., 657 So. 2d 868, 870-71, 874 (Ala. 1995) (jury application of consumer expectations test); Alaska: Gen. Motors Corp. v. Farnsworth, 965 P.2d 1209, 1220-21 (Alaska 1998) (jury application of either consumer expectations test or risk-utility test, depending on the circumstances); Arizona: Dart v. Wiebe Mfg., Inc., 709 P.2d 876, 880 (Ariz. 1985) (jury application of either consumer expectations or risk-utility test); Arkansas: Farm Bureau Ins. Co. v. Case Corp., 878 S.W.2d 741, 744-45 & n.4 (Ark. 1994) (jury application of consumer expectations test); California: Soule v. Gen. Motors Corp., 882 P.2d 298, 308-10 (Cal. 1994) (jury application of consumer expectations test incorporating some risk-utility factors); Colorado: Barton v. Adams Rental, Inc., 938 P.2d 532, 537 (Colo. 1997) (jury application of risk-utility test); Connecticut: Potter v. Chicago Pneumatic Tool Co., 694 A.2d 1319, 1333-34 & n.15 (Conn. 1997) (jury application of consumer expectations test incorporating risk-utility factors); Florida: Standard Jury Instructions-Civil Cases (99-1) 778 So. 2d 264, 271 (Fla. 2000)

(standard strict products liability jury instructions provide for use of both consumer expectations and risk-utility test); Georgia: Banks v. ICI Americas, Inc., 450 S.E.2d 671, 673-75 (Ga. 1994) (jury application of risk-utility analysis with a consideration of whether there is a reasonable alternative design); Hawaii: Ontai v. Straub Clinic & Hosp., Inc., 659 P.2d 734, 739-42 (Haw. 1983) (jury application of consumer expectations or risk-utility test); Idaho: Rojas v. Lindsay Mfg. Co., 701 P.2d 210, 211-12 (Idaho 1985) (jury application of consumer expectations test); Illinois: Hansen v. Baxter Healthcare Corp., 764 N.E.2d 35, 43-46 (Ill. 2002) (jury application of both consumer expectations and risk-utility test, along with consideration of whether there is reasonable alternative design); Indiana: Welch v. Scripto-Tokai Corp., 651 N.E.2d 810, 814 & n.2 (Ind. Ct. App. 1995) (jury application of consumer expectations test); Iowa: Wright v. Brooke Group Ltd., 652 N.W.2d 159, 169 (Iowa 2002) (jury application of risk-utility analysis with requirement that plaintiff demonstrate safer alternative design); Kansas: Delaney v. Deere & Co., 999 P.2d 930, 944-46 (Kan. 2000) (jury application of consumer expectations test); Kentucky: Ostendorf v. Clark Equip. Co., 122 S.W.3d 530, 535 (Ky. 2003) (jury application of risk-utility analysis); Maryland: Murphy v. Playtex Family Prod. Corp., 176 F. Supp. 2d 473, 485, 489-90 (D. Md. 2001) (jury application of either consumer expectations or risk-utility test); Mississippi: Smith v. Mack Trucks, Inc., 819 So. 2d 1258, 1266 (Miss. 2002) (jury application of risk-utility analysis); New Hampshire: Vautour v. Body Masters Sports Indus., Inc., 784 A.2d 1178, 1182 (N.H. 2001) (jury application of combined consumer expectations and risk-utility tests); New Jersey: Lewis v. Am. Cyanamid Co., 715 A.2d 967, 975 (N.J. 1998) (jury application of risk-utility analysis; plaintiff must demonstrate feasible alternative design); New Mexico: Brooks v. Beech Aircraft Corp., 902 P.2d 54, 61-62 (N.M. 1995) (jury application of risk-utility analysis); New York: Denny v. Ford Motor Co., 662 N.E.2d 730, 735-38 (N.Y. 1995) (jury application of risk-utility analysis); Ohio: Conde v. Velsicol Chem. Corp., 804 F. Supp. 972, 978, 982 (S.D. Ohio 1992) (jury application of either consumer expectations or risk-utility test); Oklahoma: Basford v. Gray Mfg. Co., 11 P.3d 1281, 1284 (Okla. Civ. App. 2000) (jury question whether product was “unreasonably dangerous”); Oregon:

other jurisdiction that has adopted the two-step approach or denies the jury a chance to apply the risk-utility test. Nevertheless, the Azzarello framework represents the Pennsylvania Supreme Court's decision about the proper adjudication of the substantive rights of litigants in the products liability context, and, as a federal court sitting in diversity, "we are bound to adjudicate the case in accordance with applicable state law." Nationwide Mut. Ins. Co. v. Cosenza, 258 F.3d 197, 202 (3d Cir. 2001).⁵

McCathern v. Toyota Motor Corp., 985 P.2d 804, 809-11, 814-15 (Or. Ct. App. 1999) (jury application of consumer expectations test, with some use of risk-utility analysis); South Carolina: Reed v. Tiffin Motor Homes, Inc., 697 F.2d 1192, 1195-97 (4th Cir. 1982) (applying South Carolina law) (jury application of mix of consumer expectations and risk-utility analysis); Tennessee: Jackson v. Gen. Motors Corp., 60 S.W.3d 800, 803-05 (Tenn. 2001) (jury application of either consumer expectations test or variation of the risk-utility test); Texas: Hernandez v. Tokai Corp., 2 S.W.3d 251, 256 & n.8 (Tex. 1999) (jury application of risk-utility analysis; plaintiff must also show evidence of safer alternative design); Wisconsin: Green v. Smith & Nephew AHP, Inc., 629 N.W.2d 727, 738-41 (Wis. 2001) (jury application of consumer expectations test). Cf. Missouri: Rodriguez v. Suzuki Motor Corp., 996 S.W.2d 47, 65 (Mo. 1999) (rejection of both consumer expectations and risk-utility tests; whether product is unreasonably dangerous is "an ultimate issue for the jury," to be determined without "external standards"); Wyoming: Campbell ex rel. Campbell v. Studer, Inc., 970 P.2d 389, 392-93 (Wyo. 1998) (jury determination of whether product is unreasonably dangerous without clearly articulated test).

⁵ Perhaps Pennsylvania's unique two-step process has contributed to the challenges we have met to the relevance and admissibility of evidence in suits arising under the state's strict liability law. See, e.g., Forrest v. Beloit Corp., 424 F.3d 344, 353-62 (3d Cir. 2005) (addressing admissibility of evidence in Pennsylvania products liability case); Barker v. Deere & Co., 60 F.3d 158, 161-64 (3d Cir. 1995) (same); Habecker v. Clark Equip. Co., 36 F.3d 278, 284-87 (3d Cir. 1994) (same); Dillinger v. Caterpillar, Inc., 959 F.2d 430, 435-44 (3d Cir. 1992) (same).

B. Exclusion of Evidence

Against this backdrop, the District Court in this case engaged in a threshold risk-utility analysis on a weighted view of the evidence before proceeding to trial. See Moyer v. United Dominion Indus., Inc., No. 97-CV-5569, 2004 WL 764841, at *11-12 (E.D. Pa. Mar. 31, 2004). Fenn argues that this risk-utility analysis should have been performed under a neutral view of the evidence. This contention, however, is foreclosed by Third Circuit and Pennsylvania precedent. More persuasively, Fenn asserts that, based on a misunderstanding of Pennsylvania law, the District Court erroneously excluded evidence pertinent to the jury's ultimate defective design determination.

Fenn also contends that the District Court erred in excluding from the jury's consideration all evidence relating to "conduct," including evidence of misuse and evidence concerning the lack of prior claims. The District Court did not provide reasons for its evidentiary exclusions in its pre-trial order, but indicated in its post-trial denial of Fenn's motions that its evidentiary exclusions were based, at least in part, on its interpretation of Azzarello. For example, the District Court explicitly distinguished between the role of the Court in performing the risk-utility analysis and the evidence presented at trial, citing at length portions of Azzarello relating to the respective roles of judge and jury. Moyer, 2004 WL 764842, at *14-15. Because we believe that the District Court's understanding of Azzarello ultimately affected its evidentiary rulings, we briefly review what evidence a jury can consider in a strict liability case under Azzarello. We then turn to the District Court's exclusion of certain evidence that we believe warrants remand for a new trial.

As discussed, Azzarello reserves a screening function for the judge who makes the "unreasonably dangerous" determination before the jury considers the case. If the judge concludes that the product is unreasonably dangerous under the facts as alleged by the plaintiff, the jury makes factual determinations regarding liability. Specifically, the jury is required, under Azzarello, to consider whether a product "lack[s] any element necessary to make it safe for its intended use." Azzarello, 391 A.2d at 1027. We do not believe that, under this approach, the Pennsylvania Supreme Court

expects that a judge will prevent all evidence considered in the risk-utility analysis from reaching the jury. Nor do we believe that, when the Azzarello Court adopted its own strict liability standard, it intended to deprive the jury of its significant fact-finding responsibilities. Indeed, comparing the “intended use” standard with the risk-utility standard, we observe that evidence pertinent to one will often be relevant to the other.

For one thing, just as the judge has considered “safety” under the second risk-utility factor, the jury will also have to consider evidence relevant to whether the product is “safe.” See Azzarello, 391 A.2d at 1027 (laying out jury standard that product must be “*safe* for its intended use”) (emphasis added). Moreover, just as the judge has evaluated feasible alternatives to a product under the fourth risk-utility factor, the jury will also have to evaluate them to assess the “condition” of a product. See Surace, 111 F.3d at 1049 (“[T]he technical feasibility issue will go to the jury in determining whether the [proposed safety feature] was an element necessary to make the [product] safe for its intended use.”). And, as discussed below, to assess other factual issues, such as causation or lack of defect, the jury will have to consider evidence relied on by the judge. In other words, evidence should not be excluded from the jury simply because it was relevant to the judge’s threshold risk-utility analysis. Such a relevance determination must be made on its own merits, even though the jury’s consideration of this evidence provides the defendant an opportunity to contest certain facts relevant to the judge’s analysis.

1. Evidence of Misuse and Inadequate Maintenance

Fenn argues that the District Court erred in excluding evidence that plaintiffs and Brush Wellman misused and inadequately maintained the swager, as well as evidence that this conduct, rather than the alleged design defect, led to plaintiffs’ injuries. Plaintiffs argue that the evidence was irrelevant because Fenn failed to demonstrate that misuse or improper maintenance actually caused plaintiffs’ injuries. The District Court excluded the proffered evidence without explanation.

A ruling on the admissibility of evidence is reviewed for

abuse of discretion. Forrest, 424 F.3d at 349. To demonstrate an abuse of discretion, Fenn must show that the District Court’s decision was “arbitrary, fanciful or clearly unreasonable.” Stecyk v. Bell Helicopter Textron, Inc., 295 F.3d 408, 412 (3d Cir. 2002) (internal quotation marks omitted). Of course, only relevant evidence is admissible at trial. Fed. R. Evid. 402. But relevant evidence is defined broadly as evidence that has “any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.” Fed. R. Evid. 401. Here, Fenn argues that evidence of misuse is relevant to negating causation, a necessary element of plaintiffs’ design defect claim.

Under Pennsylvania law, evidence of misuse is generally admissible to defeat causation in a strict liability design defect case. See Dillinger 959 F.2d at 445 (noting that “[t]he Pennsylvania courts . . . appear to permit the defendant to introduce evidence establishing that the plaintiff misused the product to defeat a products liability claim”); Clark v. Bil-Jax, Inc., 763 A.2d 920, 923 (Pa. Super. Ct. 2000) (“[E]vidence of a plaintiff’s . . . misuse of a product . . . is admissible [in a strict liability action] insofar as it relates to the element of causation.”) (internal quotations marks omitted); Charlton v. Toyota Indus. Equip., 714 A.2d 1043, 1047 (Pa. Super. Ct. 1998) (same). Some Pennsylvania cases suggest, however, that such evidence is admissible only if the misuse was the sole cause of the injury. See Madonna v. Harley Davidson, Inc., 708 A.2d 507, 509 (Pa. Super. Ct. 1998) (“As [several Pennsylvania] cases demonstrate, a user’s negligence is not relevant if the product defect contributed in any way to the harm. However, where the defense offers evidence to establish that the accident was *solely* the result of the user’s conduct, and not related in any way with a product defect, it is relevant and admissible for the purpose of proving causation.”).

Thus, Fenn’s evidence should have been admitted if it had any tendency to show that plaintiffs’ injuries were caused solely by misuse and inadequate maintenance of the swager, rather than by a design defect. Fenn asserts that it proffered significant evidence suggesting misuse and inadequate maintenance by Brush Wellman. Brush Wellman’s maintenance manager, David Graeff, testified at his deposition that the swager was overused and that the dies,

which are components of the swager that assist in the metal shaping process, would become “red hot smoking.” (Joint Appendix (“JA”) 1426.) He further testified that “in most cases the operators probably didn’t do the normal daily things to the swager—I know they didn’t— . . . that we later found out we were supposed to be doing. And that means such things as cleaning out the shavings out of the dies and hammers that accumulated.” (JA 1426.) Graeff also stated:

[A]t times I remember the flakes would build up so bad that the hammers would lock up, and we would get work orders like, the swager doesn’t work. Well, it’s like, Duh, open the door up and look at the machine and see what’s going on, and you’ll realize that you should be—you know, like it’s locked up because there’s so much residue in here that it can’t run.

(JA 1428.)

In addition, Graeff testified that the operators would improperly use the swager to process oversized metal. Walter Perun, Fenn’s manufacturing manager, inspected the Brush Wellman swager in 1995. He testified at his deposition that operators of the swager were using manila tags under the dies to compress the dies and achieve a certain diameter, and that this was an improper use of the machine. He also stated that “[c]omponents within the machine were quite worn,” “their setup [of the machine was] definitely improper,” and “[t]he machine was very loaded with chips and it is not a chip cutting machine; it’s a swaging machine.” (JA 1434.)

Lastly, a “Memorandum of Justification” prepared by Brush Wellman staff to support their request for a new swager noted that in 1994, several bull block operators had hand and wrist symptoms that they attributed to vibration caused by swaging and that an investigation indicated that:

1. The operators are handling additional coils of larger diameter material requiring a higher frequency of swaging larger material

2. The large diameter material is approaching approximately 5/8" or larger *which is outside the operational limits of the existing Fenn swager*

...

4. *The swager no longer operates in the manner designed by the manufacturer*

5. The swager is not hammering the material properly as [chips], [f]lakes and dust are evident in and around the machine

(JA 1422 (emphasis added).) The memo also noted that, after an investigation of the swager by a Fenn representative,

[t]he representative indicated that due to *heavy use, age and lack of routine maintenance, the inner workings of the swager are out of tolerance and need machining*. These inner workings, are causing employees to be over-exposed to the excessive vibration. During his visit, the representative also determined that *some diameters of metal processed . . . exceed the operational limits of the swager* which may result in excessive vibration and accelerated wear of the machinery.

(JA 1423 (emphasis added).)

Regarding causation, Fenn argues that several portions of deposition testimony indicated that misuse or lack of maintenance of the swager could lead to a dangerous increase in vibrations. Walter Perun suggested such a connection in his deposition:

Q: What would the result of the chipping problem be? What would be the problems when you have that chipping? What occurs?

A (Walter Perun): These chips may get caught in between the components of the machine creating a larger interference than the machine is designed to handle causing premature hardening and pitting of those components, which in turn hardened components that pit from within the head can also damage other components within the machine

because they will float around as the machine is rotating.

...

Q: Does it affect the user in any way?

A: It can.

Q: How?

A: If the [swager] isn't running properly it would be hard to feed. They would have to push a lot harder to get it in. If it's not shimmed properly—the machine is designed to operate on a center line and if they are not shimming properly, they are offsetting the center line which causes the machine to run in an out of round condition.

Q: What is an out of round condition? What does that mean?

...

A: Not concentric.

Q: Okay. Does that create any safety hazard for the worker, the user of the machine?

A: It may.

Q: In what way?

A: Depending on to what extent. If they were to be shimmed 70 thousandths off of center line, then it can cause vibration.

Q: The same question with regard to the other problems that we talked about, I think you talked about parts of the machine being improperly maintained and not—not cleaned and not properly maintained. Could that affect vibration levels?

A: It may.

(JA 1438.) David Graeff appeared to share this view. In his deposition, he was asked: “Did anybody from Fenn, to your recollection, ever tell you that improper maintenance could cause personal injury due to an increase in vibration?” He replied: “I don't remember that being said, but it's pretty apparent that, yes, that is the case.” (JA 1431.)⁶

⁶ Fenn also argues that the trial and deposition testimony of its expert, Dr. Cherniack, supports its causation argument. At trial,

This Court has noted that “[t]he definition of relevant evidence is very broad” and that Rule 401 “does not raise a high standard.” Gibson v. Mayor & Council of Wilmington, 355 F.3d 215, 232 (3d Cir. 2004) (internal quotation marks omitted). “[W]hile Rule 401 gives judges great freedom to admit evidence, [it] diminishes substantially their authority to exclude evidence as irrelevant.” Id. (internal quotation marks omitted) (alteration in original). In this case, we hold that the evidence proffered by the defendant had the tendency to demonstrate an alternative cause for plaintiffs’ development of HAVS, and was relevant under Rule 401. We therefore conclude that the District Court abused its discretion in excluding the evidence.

Plaintiffs suggest that even if the District Court erred, the error was harmless because Fenn was permitted to introduce evidence of misuse and improper maintenance at trial despite the District Court’s pre-trial ruling. An error is harmless “only if it is highly probable that the error did not affect the outcome of the case.” Forrest, 424 F.3d at 349 (internal quotation marks omitted). Plaintiffs note that, at trial, plaintiffs’ expert witness, Dr. David Clark, agreed on cross-examination that “[m]aintenance is a consideration” in controlling hazards. (JA 270.) Dr. Clark also admitted that he did not investigate Brush Wellman’s maintenance of the swager in reaching the conclusion that the swager caused plaintiffs’ injuries. Plaintiffs also point to Walter Perun’s trial testimony that, based on his inspection of the Fenn swager in 1995, it was not “operating as designed.” (JA 503.) In addition, plaintiffs note that Mr. Moyer and Mr. Sechrist admitted at trial that they would sometimes swage one coil several times, and that they would swage very large coils by forcing them into the machine. Other trial testimony suggested that these were improper uses of the swager, as a particular coil should not be swaged more than once and some of the swaged coils were larger than intended for the

Dr. Cherniack suggested that improper balance within machines generally can increase vibration, but he did not provide clear testimony about the swager in particular. Dr. Cherniack’s deposition testimony was similarly vague. Overall, Dr. Cherniack’s testimony only minimally strengthens Fenn’s causation argument.

Fenn swager.⁷

Although Fenn managed to introduce some testimony related to maintenance and misuse at trial, we cannot say that the District Court's pre-trial order did not affect the verdict. The statements in the Memorandum of Justification provide more explicit evidence of misuse and lack of maintenance than any evidence admitted at trial. Moreover, defense counsel was constrained by the District Court's pre-trial ruling from conducting extensive cross-examination on the issue and including a detailed discussion in the opening and closing statements. A party is severely impaired when it is prohibited from presenting its theory of a case in a comprehensive and organized manner at trial, even if it has managed to slip a few references into the record. We hold that the District Court's exclusion of Fenn's evidence of misuse and inadequate maintenance was not harmless error.⁸

⁷ It is notable that, in considering plaintiffs' motion for a new trial or for judgment as a matter of law based on the exclusion of evidence of misuse, the District Court did not attempt to justify its decision to exclude the evidence. Instead, the District Court found any error to be harmless because "[w]hile the Court did not permit the Defendant to offer evidence to the extent requested, this Court did not totally exclude the evidence on issues of misuse, failure to maintain, and changes in the swaging machine." Moyer, 2004 WL 764841, at *8.

⁸ Fenn argues that, based on the evidence of misuse and improper maintenance, the District Court should have granted Fenn's motion for judgment as a matter of law as to plaintiffs' design defect claim. We exercise plenary review over the District Court's denial and apply the same standard as the District Court. Lightning Lube, Inc. v. Witco Corp., 4 F.3d 1153, 1166 (3d Cir. 1993). "Such a motion should be granted only if, viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find liability." Id. We hold that judgment as a matter of law was not warranted here. A jury reasonably could find that any misuse and improper maintenance of the Fenn swager was not sufficient to

2. Evidence of Existence of Prior Claims

Fenn also appeals the District Court’s exclusion of evidence concerning the lack of prior claims against Fenn for vibration-related hand injuries. Fenn would have presented testimony describing the absence of such claims in UNI’s computerized database of claims and lawsuits. The District Court excluded the evidence without explanation.

Whether evidence of a lack of prior claims is admissible in a diversity case is governed by federal law. See Forrest, 424 F.3d at 354. In Forrest, this Court noted that evidence of a lack of past claims in a products liability case may suggest lack of product defect, lack of an unduly dangerous situation, or lack of causation, and is thus generally relevant under the Federal Rules of Evidence. Id. at 356. The Forrest Court emphasized, however, that such evidence should often be excluded under Rule 403, if the probative value of the evidence is substantially outweighed by its prejudicial effect or its tendency to confuse or mislead the jury. Id. at 356. The Court noted that evidence of no past claims, “by its very nature, raises significant concerns regarding unfair prejudice to the plaintiff,” and that the danger of prejudice is particularly strong under Pennsylvania law, which requires the jury to focus solely on “whether the product as designed presents a potential danger to the intended user,” and leaves risk-utility analysis to the judge. Id. at 357-58. Rule 403 analysis of past claims evidence necessarily “turns on the facts and circumstances of each case.” Id. at 358. The Forrest Court suggested a three-part analysis for determining whether past claims should be admitted:

- (a) *similarity*—the defendant must show that the proffered testimony relates to substantially identical products used in similar circumstances;
- (b) *breadth*— the defendant must provide the court with information concerning the number of prior units

cause plaintiffs’ alleged injuries, and that the cause of plaintiffs’ injuries was the Fenn swager as originally designed and sold to Brush Wellman. For similar reasons, judgment as a matter of law was also unwarranted for plaintiffs’ failure to warn claim.

sold and the extent of prior use; and (c) *awareness*—the defendant must show that it would likely have known of prior accidents had they occurred.

Id. at 358.

Under the test set forth in Forrest, the District Court should not have excluded Fenn’s proffered evidence. Kathleen DeLoache, UNI’s litigation paralegal, testified in her deposition that since the mid-1980’s, UNI has maintained a comprehensive computerized database of claims and lawsuits filed against UNI and its subsidiaries. DeLoache stated that she performed a search of the database and found no evidence of any claim or lawsuit, prior to this litigation, based on an allegation of upper-extremity injury due to vibration caused by a Fenn swager or by any other UNI product. In addition, John Bryzgel, who had previously worked as vice president of the machinery division at Fenn, testified at trial that Fenn has produced and sold thousands of swagers since 1950, and that less than 5% of the large model swagers have been sold with automatic feeds. Although plaintiffs argue that Fenn’s proffered evidence was not specific to the model 3F 2 swager—the type of swager sold to Brush Wellman—plaintiffs never challenged the evidence on this ground, and Bryzgel did testify that all Fenn 3F swaging machines are “basically the same as far as all the internal parts go.” (JA 537.) Accordingly, the evidence proffered by Fenn was sufficient to satisfy the similarity, breadth, and awareness requirements described in Forrest.⁹ We therefore conclude that the District Court improperly excluded the evidence.

C. Statute of Limitations

⁹ Under the awareness prong, plaintiffs argue that HAVS is a “latent dose-response creeping disease,” and that incorrect diagnosis or a long-term failure to recognize the problem could have resulted in a lack of claims recorded by Fenn. In light of the long period during which Fenn has recorded claims, however, it is reasonable to assume that, if there had been HAVS-related swager allegations, Fenn would have been aware of at least some of them. Plaintiffs have presented no evidence to contradict this view.

We also consider Fenn's contention that the claims of plaintiffs Moyer, Sechrist, and Kern are barred by Pennsylvania's two-year statute of limitations for personal injury suits. 42 Pa. Cons. Stat. Ann. § 5524(2).¹⁰ Fenn filed for summary judgment on this issue before trial and its motion was denied. Moyer v. United Dominion Indus., Inc., No. 97-CV-5569, 1999 WL 391488, at * 3 (E.D. Pa. May 25, 1999). The District Court submitted the issue to the jury in a special interrogatory, and the jury found that the statute of limitations did not bar the claims of any plaintiff. See Moyer, 2004 WL 764841, at *3.¹¹

We look to Pennsylvania tolling principles in applying the state's limitations period. Bohus v. Beloff, 950 F.2d 919, 924 (3d Cir. 1991). We exercise plenary review over the District Court's decision to submit the limitations issue to the jury, as well as its interpretation of applicable tolling principles, but we review for clear error all factual findings underlying the District Court's analysis of the tolling issue. See Sheet Metal Workers Int'l Ass'n, Local 19 v. 2300 Group, Inc., 949 F.2d 1274, 1278 (3d Cir. 1991).

Plaintiffs' complaint was filed on September 2, 1997. Thus, the limitations period must have been triggered no earlier than September 2, 1995, for each plaintiff to satisfy Pennsylvania's statute. Generally, the statute of limitations for a tort action under Pennsylvania law begins to accrue when the injury is sustained. Debiec v. Cabot Corp., 352 F.3d 117, 128-29 (3d Cir. 2003). The "discovery rule" is an exception to this principle, which applies where "a party, through no fault of his or her own, does not discover [his or] her injury until after the statute of limitations normally would have run." Id. at 129. In that case, the limitations period begins to run when "the plaintiff knows, or reasonably should know: (1) that he has been injured, and (2) that his injury

¹⁰ The statute provides that "[a]n action to recover damages for injuries to the person or for the death of an individual caused by the wrongful act or neglect or unlawful violence or negligence of another" must be commenced within two years.

¹¹ On appeal, Fenn does not assert that the claims of Williams or Weidner are time-barred.

has been caused by another party's conduct." Id. (internal quotation marks omitted). The party claiming the benefit of the discovery rule has the burden of demonstrating that it applies, and must establish reasonable diligence in investigating his or her physical condition, with "reasonableness" considered under an objective standard. Id. Thus, in latent disease cases, the limitations period is triggered when "the plaintiffs possessed 'sufficient critical facts to put [them] on notice that a wrong has been committed and that [they] need investigate to determine whether [they were] entitled to redress.'" Id. (quoting Zeleznik v. United States, 770 F.2d 20, 23 (3d Cir. 1985)) (alterations in original). The issue of reasonable diligence is usually for the jury to decide, but "where the facts are so clear that reasonable minds cannot differ, the commencement period may be determined as a matter of law." Cochran v. GAF Corp., 666 A.2d 245, 248 (Pa. 1995).

1. Donald Moyer

Moyer testified that he has worked at Brush Wellman since 1990, and that the job has always involved some level of hand pain. In November 1995, Moyer's hands turned white and numb while he was hunting, and became very painful after the numbness abated. This condition, which was different from hand pain that he had previously experienced, occurred several times after the hunting incident and prompted him to visit a company doctor, Dr. Grundy, in January 1996. Dr. Grundy told him that he had hereditary Raynaud's disease. After reading an article about Raynaud's and vibration in March 1996, Moyer went to see an expert, who told him that his hand problems were probably due to the swager. Moyer testified that prior to 1996, he was not told by anyone that vibration from the swager could cause him injury.

Fenn notes that "a definitive diagnosis of an injury is not necessary to start the statute running," Debiec, 352 F.3d at 132, and argues that Moyer knew about a connection between his hand pain and the swager in April 1995. In that month, Moyer filled out a WorkAbility discomfort survey in which he noted that he experienced discomfort in his "shoulder, elbow, forearm, fingers, and upper back," and that his symptoms included "aching and numbness, tingling, burning, and stiffness." (JA 118-19.) In response to the survey question "what do you think caused the

problem?” Moyer wrote “[the bull block], the swager, and working with heavy wire.” (JA 119.) Asked to comment on “what you think would decrease your problems,” Moyer wrote: “Replace swager with one suited for the job. Rotate with other operators. Have production control try to even out the heavy work between the three shifts.” (JA 119-20.)

Fenn also notes that Jeffrey Eckel, the WorkAbility employee who visited Brush Wellman in early 1995 to investigate complaints of hand problems, testified that workers suggested to him during the visit that their problems might be caused by the swager. Eckel also testified, however, that he did not tell any workers at the company that they had sustained an injury or had a vibration-related disease.

We conclude that Moyer’s claim is not time-barred. While it is clear from Moyer’s survey responses that by April 1995 he suspected that the swager, among other machinery, was causing him hand discomfort, it cannot be said as a matter of law that he knew or should have known that he had suffered an injury. Moyer testified that the problems in his hands changed significantly in character in November 1995, from the general type of hand aches and pains that he was familiar with to whiteness, numbness, and pain that did not dissipate for a long period of time. The jury could have reasonably concluded that until this new pain arose, Moyer had no reason to suspect wrongdoing or to investigate his condition. We therefore decline to dismiss Moyer’s claim on statute of limitations grounds.

2. Steve Kern

Kern stated at trial that he has worked at Brush Wellman since 1978, and first experienced problems with his hands in 1993. During a hunting trip that year, his hands turned white and became numb. Before that time, he had experienced “a normal tiredness and fatigue and aching” in his hands. (JA 168.) He did not see a doctor about the white hands occurrence, but mentioned it during a routine physical exam with a nurse at Brush Wellman in October of 1993. Kern testified that the nurse “just kind of—she might have said something. I don’t know. But it was like no big deal. And we just proceeded with the exam.” (JA 170.) He stated that the nurse

did not tell him that the hand problem might have any connection to his work, and did not send him to see a doctor. The nurse's report from that appointment was submitted into evidence. As read by the nurse at trial, the report included the following notations:

Notice midring, little fingers . . . both hands white, blanched numb—unable to straighten. Went home and was unable to straighten digits until he ran warm H2O [sic] across inner wrist areas. Eventually circulation restored and feeling returned. Raynaud's[?] Told him he should get it evaluated. . . . Also told Hank Arbo, plant manager, possibility of work-related cause. Does do job involving vibration.

(JA 209.) At trial, the nurse did not remember specifically what she told Kern at the appointment.

Kern testified that his hands turned white a few times when he was swimming during the summer of 1994, and also during the hunting season in 1994. It never occurred while he was at work, however, and he associated the problem with cold rather than with work-related activities. Kern testified that at his company physical in 1994, he mentioned the problem again and the nurse “really didn't think much of it and just proceeded with the examination.” (JA 172.) Early in 1996, he first suspected that his hand problem might be work-related after he discussed the issue with Moyer. In May 1996, Dr. Grundy told him that he had Raynaud's disease caused by vibration from the swager.

We reject Fenn's assertion that Kern's claim is time-barred as a matter of law. The nurse's testimony was not definitive, and a question of material fact was presented as to whether Kern possessed sufficient information prior to 1996 to put him on notice that a wrong may have been committed against him. The District Court properly concluded that the statute of limitations issue should be sent to the jury.

3. Thomas Sechrist

Sechrist testified that in 1992, he fractured his left wrist and

hurt his right hand and shoulder in a fall. Following this accident, he began to experience weakness in his right hand that he described to several doctors, who told him that the problem was due to old age and the fall. In July 1993, he saw Dr. Holm, who wrote in his notes that Sechrist had “numbness in his right hand, especially in the lateral three fingers. He feels his right hand grasp may be diminished.” (JA 148.) He began to experience white fingers when he was cold. He continued to see doctors about the hand problems in 1994 and 1995, and the doctors “kept blaming it on being an old person.” (JA 135.) In 1996, Dr. Grundy told Sechrist that he had Raynaud’s disease caused by vibration from the swager.

Fenn argues that Sechrist’s position on a Brush Wellman committee organized in June 1995 to purchase a new swager shows that he was (or should have been) aware of an injury because the committee knew of workers’ hand complaints and the possible role of the swager. Sechrist disputed this view at trial, testifying that the committee only “looked at a new swager. We were just looking for a new swager.” (JA 157.) The “Memorandum of Justification” prepared by the committee states that:

In December 1994, the Reading Plant received word from corporate medical staff that several bull block operators had symptoms in their hands and wrists that were indicative of cumulative trauma/repetitive motion related injuries. . . . Operators attributed these symptoms to vibration caused by swaging operations.

(JA 1421.) The report went on to state that:

The Rod & Wire Team established a committee to develop, review and evaluate potential solutions to this safety problem. The committee met several times and discussed many possible scenarios. The solution determined to be most feasible and limit injury to employees is to purchase and install a new swaging machine

(JA 1423.)

Although the committee report indicates that Sechrist was

aware of a connection between the Fenn swager and employee hand problems in June 1995, we conclude that a question of fact remained for the jury as to whether Sechrist knew or should have known at the time that his hand injuries were caused by the swager. According to his own testimony, Sechrist did not know until 1996 that his injury was caused by the swager, since his doctors had repeatedly attributed his hand problems to old age. This Court has concluded that under Pennsylvania law, “lay persons should not be charged with greater knowledge of their physical condition than that possessed by the physicians on whose advice they must rely.” Debiec, 352 F.3d at 131 (quoting Bohus, 950 F.2d at 929). Although there is “some point in time when a patient’s own ‘common sense’ should lead her to conclude that it is no longer reasonable to rely on the assurances of her doctor,” this Court is “mindful that ‘to put upon [a patient] the duty of knowing the nature of her ailment and its relation to her prior treatment before it is ascertained with a degree of certainty by the medical profession is a great burden to impose upon her.’” Bohus, 950 F.2d at 930 (quoting Stauffer v. Ebersole, 560 A.2d 816, 818 (Pa. Super. Ct. 1989)) (alteration in original). Based on the inaccurate diagnoses Sechrist repeatedly received from his doctors, we approve the District Court’s conclusion that whether Sechrist’s claim was barred by the statute of limitations presented a question of fact for the jury. See Debiec, 352 F.3d at 136 (concluding that the issue of reasonable diligence was for the jury to decide where the plaintiff consistently received inaccurate diagnoses from a doctor as to the cause of her injury).

III. Conclusion

For the foregoing reasons, we will affirm the District Court’s denial of judgment as a matter of law, but will reverse the District Court’s denial of Fenn’s motion for a new trial.¹²

¹² Because we remand for a new trial, we find it unnecessary to consider Fenn’s additional claims that the District Court gave improper jury instructions, erred in excluding scientific guidelines for vibration exposure, and incorrectly ignored foreseeability as it relates to plaintiffs’ failure-to-warn claim. In addition, our holding renders moot Fenn’s claim that the damages awarded by the jury

were excessive and that the District Court erred in granting delay damages to the plaintiffs.