UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

RICHARD RIANI and KAREN RIANI,	)	
	)	
Plaintiffs,	)	
	)	**Civil Action No.**
v.	)	**07-40258-FDS**
	)	
LOUISVILLE LADDER, INC. and NATIONWIDE LADDER AND EQUIPMENT COMPANY, INC.,	)	
	)	
Defendants.	)	

MEMORANDUM AND ORDER ON DEFENDANTS' MOTIONS *IN LIMINE* AND MOTION FOR SUMMARY JUDGMENT

SAYLOR, J.

This is a product liability action arising out of an accident involving a stepladder. Plaintiff Richard Riani is a former electrician who injured his shoulder when he fell from an allegedly defective six-foot stepladder manufactured by Louisville Ladder, Inc. Riani's employer had purchased the ladder from Nationwide Ladder and Equipment Company. Plaintiff Karen Riani is Richard Riani's wife. Subject-matter jurisdiction is based on diversity of citizenship.

Defendants have filed two motions *in limine* seeking to exclude the testimony of plaintiffs' experts, one of whom is expected to testify as to lost wages and one as to the alleged design defect. Defendants have also filed a motion for summary judgment. For the reasons set forth below, the motions will be denied.

I. Background

The facts are set forth in the light most favorable to the plaintiffs.

A. Plaintiff's Injury

On July 20, 2005, Richard Riani was employed by Delsignore Electrical Contractors as an electrician. (Def. St. of Undisp. Facts at ¶ 1, 2). On that day, he and a co-worker, Bruce Rochette, were installing electrical tubing to protect the wiring of newly-purchased MRI equipment at Framingham Union Hospital. (Riani Dep. at 19-20). The tubing was to be attached in the ceiling space, above a series of removable 2 x 2 ceiling tiles. (Def. St. of Undisp. Facts at ¶ 4). Because the hospital ceiling space was crowded, the task required Riani and Rochette to bend the tubing. (Riani Dep. at 23-24). They accomplished this by marking the tubing while holding it up to the ceiling, bringing it down to the floor, and bending it with the use of a machine. (*Id.* at 24).

Riani and Rochette were both using stepladders at the time, which allowed them to hold up the tubing and determine where it needed to be bent. (*Id.* at 29). Riani set up his ladder and pushed down the supports. (Def. St. of Undisp. Facts at ¶ 6). He ensured that the ladder was stable. (*Id.*). The ladders were set up such that Rochette's ladder was about six to eight feet behind Riani, facing his back. (Riani Dep. at 29). Rochette ascended his ladder, reaching the fourth step. (Def. St. of Undisp. Facts at ¶ 6). Riani handed him the pipe and Rochette slid it through the ceiling space and down to the area above Riani. (Riani Dep. at 30-31). Riani then ascended his ladder to the fourth step, with his feet centered on the ladder. (*Id.* at 62-63; Rochette Dep. at 62). At that height, Riani's head and shoulders were in the space above the tile ceiling. (Riani Dep. at 34).

Riani then grabbed the pipe, held it above his head, and lined it up on the ceiling to make sure it was going to fit in the required area. (*Id.* at 32, 34). He testified that he recalls holding the

pipe during this time, but does not remember if he was holding it with one hand or two. (*Id.*). He also testified that he "might have had one hand on the ladder at one point." (*Id.*). He does not recall if his legs were touching the front face of the ladder just before he fell.[1] He does not believe that his legs or shins were touching the front face of the ladder, nor does he recall any part of his legs touching any part of the frame of the ladder at that time. (*Id.* at 62-63). As Riani and Rochette were about to take the pipe down, Riani twisted and felt the ladder disappear from underneath him. (*Id.* at 32-33, 34).[2] He does not recall in which direction he twisted, but he recalls that "[his] feet went up, and [he] went down." (*Id.* at 33). Riani landed with his right shoulder on the floor. (*Id.* at 35; Rochette Dep. at 34).

Rochette described the fall as follows. Rochette recalls holding most of the weight of the pipe while Riani reached with both hands in the air towards the pipe. (Rochette Dep. at 63-64). Riani repositioned his right hand further back around a 90-degree bend in the pipe, which caused him to rotate about 30 degrees to the right. (*Id.*). When Riani twisted, the ladder "very suddenly shifted" at about a 45-degree angle to the left. (*Id.* at 34). Riani fell with his feet above his shoulders and landed on his right shoulder. (*Id.* at 34, 35).

Riani was diagnosed with a torn rotator cuff. He has undergone four surgeries since the incident. (Def.'s Mem. Ex. D).

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[1] Riani states that he does not "believe" that his shins were pressed against the ladder at the time of the incident, but he also says that he does "not remember." (Riani Dep. at 63). He also stated that it was his practice to lean against the ladder, and that he and other electricians "have nicks in [their] shins" from doing so. (*Id.*).

[2] When asked what he and Rochette were doing at the time that he fell, Riani responded "I think we were going to either take the pipe out, or [Rochette] wanted me to move it a certain way. I'm pretty sure we were ready to take it out because we needed some more bend in it, if I recall." (Riani Dep. at 34).

B. The Ladder

Riani was using a Louisville Ladder Model FS 1506, Type 1A stepladder at the time of his injury. (Def. St. of Undisp. Facts at ¶ 13). It was six feet long, made of fiberglass, and had a load capacity of 300 pounds. (Van Bree Rep. at 4). The ladder had five steps on the front side, and five horizontal back braces on the back (non-climbing) side. (*Id.* at 4-5). The ladder was manufactured after July 2000. (*Id.* at 5). Warning and instruction labels were present on the ladder, but not fully readable. (*Id.*). Areas of damage were noted on the ladder after the accident, but both parties' experts agree that the ladder was damaged when Riani fell on it, and that the damage was not the cause of the accident. (*Id.* at 13; Fournier Rep't at 16).

C. American National Standards Institute (ANSI) Standards

In 1918, a number of engineering societies and government agencies came together to form the American Engineering Standards Committee (AESC).[3] The AESC's primary purpose was to coordinate the development of uniform safety standards for industrial products to prevent workplace injuries. (*Id.*). The AESC underwent several periods of reorganization with accompanying name changes, but eventually adopted the title of American National Standards Institute ("ANSI") in 1969. (*Id.*). Soon thereafter, ANSI began to adopt standards for consumer products. Since then, several organizations with an interest in the safety of ladders (such as unions, insurers, and manufacturers' trade groups) have joined ANSI to help develop uniform standards for stepladders. Those standards have since been adapted by the Occupational Safety and Health Administration. *See* 29 C.F.R. § 1926.1053.

[3] ANSI: Historical Overview, American National Standards Institute website, http://www.ansi.org/about_ansi/introduction/history.aspx?menuid=1 (last visited July 7, 2010).

There are several ANSI tests designed to evaluate the propensity of a ladder to shift while in use. The first of these, the "racking resistance" test, involves applying a four-pound horizontal side load to the bottom of one foot of the ladder, and then releasing it. (Van Bree Rep. at 8-9). The resting position is marked, and then a six-pound horizontal side load is applied to the bottom of the same foot. (*Id.*). The threshold movement permitted for a safe ladder is twelve inches. (*Id.*). Both parties' experts performed this test on FS 1506 ladders, such as the one used by Riani on the date of the accident, and measured movement well within that safety threshold.[4]

The second of these tests, the "tortional stability" test, is conducted by affixing a lever arm to the front side of the top cap of the ladder and extending it 18 inches out to the side from the top-cap center line. (Van Bree Rep. at 9). A 200-pound distributed load is placed on the top cap and then a perpendicular test load of 30 pounds is applied to the end of the lever arm toward the rear of the ladder. (*Id.*). Foot movement exceeding one inch, or a failure of the ladder structure, would result in failure of the tortional stability test. Both parties' experts performed this test on FS 1506 ladders and found that the ladders passed the test.[5]

The parties agree that the ladder involved in this case conformed to ANSI standards. (Fournier Dep. at 76-77; Def. St. of Undisp. Facts at ¶ 18). Therefore, the central issue in plaintiffs' breach of warranty of merchantability claim is whether the ANSI standards are sufficiently comprehensive. An article with which both parties' experts are familiar points out the

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[4] Defendants' expert measured 5.72 inches of movement. (Van Bree Rep. at 9). Plaintiffs' expert measured 6.25 inches of movement. (Fournier Rep. at 4).

[5] Defendants' expert measured 0.4 inches of movement. (Van Bree Rep. at 9). Plaintiffs' expert measured no movement in one test, and 0.25 inches of movement in each of the subsequent two tests. (Fournier Rep. at 4).

following:

> A review of stepladder standards from the 1970s to the present day indicates that the standard requirements have not changed. Therefore, the current standards provide no additional protection over the worst ladders of the 1970s. Furthermore, the research and analysis performed for this study uncovered no justifiable reason for the published ANSI standard acceptable racking values.[6]

Plaintiffs contend that the ANSI standards are insufficient, and that they should be considered at best minimum requirements, as they do not accurately reflect the forces and loading conditions imposed on a ladder during use. (Fournier Rep. at 12-13). Plaintiffs assert that had defendants performed tests that reasonably reflected typical stepladder use movement, they would have realized that the FS 1506 model stepladder can move unexpectedly into unstable positions and cause the user to fall. (*Id.*)

II. Defendants' Motions in Limine

Defendants have moved to exclude the testimony of Craig Moore, who is plaintiffs' expert on damages, and Steven Fournier, who is plaintiffs' expert on the alleged design defect. For the reasons set forth below, the motion to exclude Moore's testimony will be denied without prejudice to renewal if an insufficient factual basis for his testimony has been established at trial. The motion to exclude Fournier's testimony will be denied.

A. Standard

The admissibility of expert testimony is governed by Fed. R. Evid. 702. That rule provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an

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[6] R. M. Obert et al., *A Hidden Stepladder Hazard (Excessive Twist Flexibility)*, Proceedings of the Human Factors and Ergonomics Society 47th Annual Meeting (2003).

> expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Rule 702 codifies the *Daubert* line of cases, in which the Supreme Court defined the trial courts' "gatekeeping" function "in regulating the admissibility of expert testimony." *United States v. Diaz*, 300 F.3d 66, 73 (1st Cir. 2002) (citing *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589-95 (1993) and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141, 147-49 (1999)).

This gatekeeping function of the Court requires a preliminary evaluation of both the reliability and the relevance of the proffered expert testimony. *Id*. When faced with a proffer of expert testimony, the Court must consider three issues: (1) whether the proposed expert is qualified by "knowledge, skill, experience, training or education"; (2) whether the proposed subject matter of the expert opinion properly concerns "scientific, technical, or other specialized knowledge"; and (3) "whether the testimony is helpful to the trier of fact, *i.e.*, whether it rests on a reliable foundation and is relevant to the facts of the case." *Bogosian v. Mercedes-Benz of N. Am., Inc.*, 104 F.3d 472, 476 (1st Cir. 1997).

In evaluating the reliability of scientific evidence, the Court must determine "whether the reasoning or methodology underlying the testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue." *Daubert*, 509 U.S. at 592-93; *Diaz*, 300 F.3d at 73. In *Daubert*, the Supreme Court delineated several factors a court may consider in undertaking its reliability analysis: (1) whether the scientific theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether a particular technique has a known potential rate of error;

(4) whether there exists or are maintained standards controlling the technique's operation; and (5) whether the theory or technique is generally accepted in the relevant scientific community. *Daubert*, 509 U.S. at 593-94; *see* Fed. R. Evid. 702 Advisory Committee Note to 2000 Amendments. These factors do not function as a definitive checklist for admissibility, and no single factor will be dispositive of the reliability inquiry. *See Daubert*, 509 U.S. at 592-95.

In evaluating the relevancy of the scientific evidence, the Court must determine whether the expert testimony is relevant, "not only in the sense that all evidence must be relevant, but also in the incremental sense that the expert's proposed opinion, if admitted, likely would assist the trier of fact to understand or determine a fact in issue." *Ruiz-Troche v. Pepsi Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 81 (1st Cir. 1998) (internal citation omitted). In other words, Rule 702 "requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." *Daubert*, 509 U.S. at 592; *Cipollone v. Yale Indus. Prods., Inc.*, 202 F.3d 376, 380 (1st Cir. 2000) (describing the "ultimate purpose of the *Daubert* inquiry" as determining the testimony's helpfulness to the jury).

The Rule 702 inquiry "is a flexible one, and there is no particular procedure that the trial court is required to follow in executing its gatekeeping function." *Diaz*, 300 F.3d at 74 (citation and internal quotation marks omitted). The Court enjoys "substantial discretion" in deciding whether to admit or exclude relevant expert testimony. *Mitchell v. United States*, 141 F.3d 8, 15 (1st Cir. 1998) (citing *General Elec. Co. v. Joiner*, 522 U.S. 136 (1997)). Of course, the focus of the Court's inquiry should be on the principles and methodology employed by the expert, not the ultimate conclusions. *Daubert*, 509 U.S. at 595. The Court must also evaluate carefully whether the challenge to the expert testimony goes more to the weight of the proffered opinion, rather

than its admissibility. *See Ruiz-Troche*, 161 F.3d at 85 (stating that the lack of peer-reviewed publications supporting the expert's opinion, alone, was not enough to disqualify its admissibility because the opinion rested upon good grounds generally and should be tested by the "adversarial process"); *Mitchell*, 141 F.3d at 15 (stating that expert's lack of specialty practice in the area about which he testified went to weight, not admissibility).

With these principles in mind, the Court will summarize the testimony and reports of the challenged experts and evaluate the parties' arguments for including or excluding the testimony.

B. Motion to Exclude the Testimony of Craig Moore

Defendants have moved to exclude the testimony of Craig Moore, plaintiffs' expert on damages. They contend that Moore's proposed testimony "lacks a sufficient basis in and, therefore, does not 'fit' the facts of this case." (Def.'s Mem. to Exclude Moore at 8). Specifically, defendants dispute Moore's assumptions that Riani was totally disabled and that his lost earnings should be calculated as though he would have been employed 40 hours per week, 52 weeks per year, until the age of 67. (*Id.* at 5).

In his deposition, Moore testified that he took the union wage for an electrician (with the accompanying benefits) and then multiplied it by 40 hours to come up with weekly earnings. (Moore Dep. at 1-72). He then multiplied these weekly earnings by 52 to calculate yearly earnings. *Id.*

Moore's report also shows that he used a "work-life to age 67 as a reasonable time horizon to estimate the present value of lost future earnings capacity." (Moore Rep. at 3). Assuming that Riani was totally disabled, and that he would work until age 67, Moore calculated the present value of his lost earnings to be $1,884,473. (*Id.* at 4-5).

Under Massachusetts law, Riani is entitled only to earnings that he probably would have earned—not those that he potentially could have earned. Simply stated, he is entitled only to compensation for the compensation that he, more likely than not, would have earned absent the accident. *See Timmons v. Mass. Bay Transp. Auth.*, 412 Mass. 646, 652 (1992) ("The determination of the extent of the plaintiff's diminished capacity must be based, at least, on probabilities") (citing *Rooney v. New York, N.H. & H.R.R.*, 173 Mass. 222, 227 (1899) (damages for loss of earning capacity limited to amount necessary "to compensate for a probable annual loss for a probable term of years")); *Doherty v. Ruiz*, 302 Mass. 145, 146 (1939) ("The element of damages in question is properly described as compensation for the diminution of earning power, or conversely as the value of that part of the plaintiff's capacity to work and earn of which he has been deprived"); *cf. Manley's Case*, 282 Mass. 38, 39 (1933) (holding, in context of worker's compensation, that "[c]ompensation cannot be awarded for lack of employment due to depressed business or want of demand for labor; diminished earning capacity resulting from the injury must be shown").

Defendants contend that there is no factual foundation for Moore's assumption that Riani—who suffered a shoulder injury— is totally disabled and cannot work. This Court may exclude expert testimony "where it finds that the testimony has no foundation or rests on obviously incorrect assumptions or speculative evidence." *Casas Office Machines Inc. v. MITA Copystar America,* 42 F.3d 668 (1st Cir. 1994); *see Quinones-Pacheco v. American Airlines, Inc.*, 979 F.2d 1, 7-8 (1st Cir. 1992) (where expert's testimony was "predicated on an assumption not supported by the record—the assumption that [plaintiff] suffered from a permanent, total disability—the district court did not err in excluding [it]"); *Elcock v. Kmart Corp.*, 233 F.3d 734

(3d Cir. 2000) (assuming total disability "absent sufficient factual predicates [is] a castle made of sand," and the expert opinion must be excluded). It should be noted, however, that challenges to the factual underpinnings of an expert's investigation "often go to the weight of the proffered testimony, not to its admissibility." *Crowe v. Marchand*, 506 F.3d 13, 18 (1st Cir. 2007).

There does not appear to be any evidence in the record that Riani is totally disabled and thus incapable of *any* kind of work.[7] Plaintiffs have submitted an unsworn letter from Riani's treating physician, Dr. Jon Warner, which indicates that Riani had "poor" shoulder function and was in "significant pain." Dr. Warner further opined that Riani has suffered a "permanent disability" from the injury and that "he will be unable to return to his occupation as an electrician." (Pl.'s Resp. Mem. re: Moore, Ex. B). However, "permanent" disability and "total" disability are not the same thing; it is certainly possible that a person could have a permanent shoulder disability but nonetheless engage in gainful work.

An expert cannot render an opinion that is based on an incorrect factual premise or an assumption as to which there is no evidence. *See Elcock*, 233 F.3d at 756 n. 13 ("[A] lost future earnings expert who renders an opinion . . . based on economic assumptions not present in plaintiff's case cannot be said to 'assist the trier of fact' as Rule 702 requires"); *Boucher v. United States Suzuki Motor Corp.*, 73 F.3d 18, 21-22 (2d Cir. 1996) ("Where lost future earnings are at issue, an expert's testimony should be excluded as speculative if it is based on unrealistic assumptions regarding the plaintiff's future employment prospects"). Because there is no evidence that Riani is totally disabled, Moore cannot testify that Riani is entitled to a specific

[7] There is evidence to the contrary; for example, the vocational expert's report states that Riani is capable of performing light work. (Def.'s Mem. to Exclude Moore, Ex. E at 8-9).

amount of damages based on that assumption.

It does not necessarily follow, however, that all of Moore's testimony must be excluded. Moore's calculation appears to be admissible on the issue of Riani's lost income—that is, the difference between what he would have earned as an electrician and what he can now earn—whether he is totally disabled or only partially disabled. For example, if the uncontroverted evidence shows that Riani is capable of performing *some* work, he is nonetheless entitled to show that his income has been reduced, and Moore's calculation would be relevant to that issue. It appears, therefore, that Moore's calculation as to the amount Riani would have earned as an electrician is admissible, as long as there is some proof that Riani's earning ability has been reduced because of the accident.

Defendants also contend that Moore's methods are simply too crude and too disconnected from the facts to be admissible. Among other things, the methodology assumes that Riani would work continuously, without interruption, at a union wage for the rest of his career, without a single week of unemployment or lost pay. It also assumes that he would continue to work well past normal retirement age. Those assumptions may well be unrealistic or even foolish. Nonetheless, those criticisms go to the weight to be given the testimony, not its admissibility. Defendants will have an opportunity to cross-examine Moore and attack his assumptions and his methodology.

In short, Moore will not be permitted to render an opinion as to Riani's damages based on the assumption that Riani is totally disabled from performing any kind of work. However, assuming a proper foundation has been laid, Moore will be permitted to testify as to what Riani would have earned as an electrician had he not been injured. Defendants' motion to exclude the

testimony of Craig Moore will therefore be granted in part and denied in part.

C. Motion to Exclude the Testimony of Steven Fournier

Defendants have also moved to exclude the testimony of Steven Fournier, plaintiffs' expert on liability. They contend (1) that Fournier's research methods are unreliable, (2) that his findings do not "fit" the facts of the incident, and (3) that his conclusions are speculative and insufficiently supported by the facts of the record. (Def.'s Mem. to Exclude Fournier at 14). The Court will address each of these issues in turn.

1. Reliability of Fournier's Research Methods

As noted, as part of his research, Fournier conducted the ANSI tests for racking and torsional stability. (Fournier Rep't at 4). However, because he believes that ANSI tests "do not . . . contain any in-use type tests," he conducted "dynamic simulated use tests" in which he "attempted to duplicate, as closely as possible, a staged work activity where the ladder user activities could be viewed simultaneously with the position of the ladder feet." (*Id.* at 5). The parties concede that Fournier's performance of the racking and torsional stability tests was accurate and reliable. (*see, e.g.*, Van Bree Dep. 129-132). The dispute, therefore, concerns the reliability of Fournier's "dynamic test."[8]

a. Dynamic Testing

Fournier's dynamic tests consisted of the following:

> The exemplar stepladder was set up on a sheet of plywood. [An individual] was provided with a safety harness and connected to a safety line to prevent a fall. . . . [He] was instructed to climb the exemplar stepladder up to the fourth step . . . [,] to hold up the end of a piece of [electrical metallic tubing,] and

[8] ANSI does not currently have any test protocols for dynamic testing of this type. (Fournier Dep. at 51). Therefore, dynamic testing is not currently standard. (*Id.* at 240).

> [hold] it over his head to simulate Mr. Riani's position and movements. [He] was also instructed to press his legs against the front face of the ladder to help him stabilize him and prevent him from losing his balance during his work task. . . . [He] was then instructed to shift weight from one foot to the other. During these movements, the ladder legs were observed to see if they moved and if one of the rear legs remained up in the air.

(Fournier Rep. at 5).[9] Fournier used two video cameras to record the tests: one to view the stepladder feet and one to view the user's movements. (*Id.*).

Defendants' expert, Michael Van Bree, also conducted dynamic testing. He described his testing as follows:

> [An individual] used a weight belt to match the 251 pound weight of Mr. Riani at the time of the accident. Each ladder was first climbed deliberately with a pause of both feet on each step while ascending to the fourth. The second [part of the] test recorded forces during a normal foot over foot climb to the fourth step. Once on the fourth step, body weight was shift[ed] fully to the left [foot] and then right foot a couple [of] times. Reaching left, right, front, back[,] and overhead were also investigated. The third [part of the] test [involved the individual] reaching overhead and twisting as well as interacting with the pipe. Not only was this done in a normal fashion, . . . but it was also done aggressively.

(Van Bree Rep't at 10).

Fournier conducted his dynamic tests using three different combinations of user movements and ladder leg starting positions: (1) the user shifts his weight, with all four ladder legs on the ground; (2) the user twists, with one of the ladder legs positioned in the air; and (3)

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[9] When asked to describe the simulated movements, Fournier stated as follows: "Basically shifting of feet and movements of the hands and body on the ladder. It's not a test protocol that I would suggest, because it cannot be duplicated, you know, routinely. We have given consideration . . . to developing a testing protocol utilizing essentially a stick-built figure, that weights could be applied to, that could be moved in a manner that would produce reasonable reproducibility, and, therefore, may be able to be determined to be utilized as a dynamic test." (Fournier Dep. at 50-51).

Van Bree describes Fournier's testing as a "type two racking test." (Van Bree Dep. at 117-18). In short, he says that such tests have "never really been studied and refined." (*Id.*). He contends that the test has "certainly been considered [by ANSI] but [does not] scientifically add[] any value to what the ANSI standard cover[s]." (*Id.*).

the user twists rapidly, with one of the ladder legs positioned in the air. (Fournier Rep't at 5-6). Each of these combinations was tested five times. (*Id.*). Fournier reported the following results:

First, when the user shifted his weight with all four ladder legs beginning on the floor, one ladder leg moved up in the air in four of the five trials. (*Id.* at 5). No ladder leg movement was observed during the fifth trial. (*Id.*).

Second, when the user twisted his body approximately 30 degrees clockwise with the left rear ladder leg in the air, it caused the ladder to move in all five trials. (*Id.* at 6).[10] When the ladder movement occurred, the user did not lose his balance or fall. Fournier accounted for this by noting that the user had an expectation of the impending ladder movement and was able to compensate for it. (*Id.*).

Third, when the user twisted his body rapidly to the left with the left rear leg up in the air, it caused the ladder to tip over quickly. (*Id.*). The user lost his balance and would have fallen, but for the protective harness he was using. (*Id.*).

In contrast, Van Bree found that the ladder did not move off of the ground at all, despite his weight movements. (Van Bree Rep't at 10). Only when he purposefully tipped the ladder to the left did it fall down. (*Id.*).

b. Fournier's Proposed Alternative Designs

In addition to testing the FS 1506 ladder as it was manufactured, Fournier also tested two modified versions of the ladder. He modified the ladder in two ways. On the first version, he added "two stiffener plates on both spreaders on either side of the hinges [of the ladder]."

[10] Fournier chose to test a 30-degree angle because Rochette's account of Riani's fall was that Riani reached back with his right hand, causing him to "rotate about 30 degrees to the right." (Rochette Dep. at 63-64).

(Fournier Rep't at 4). On the second version, he added a "hinged plate that extended from the inside of the fourth step to a rear section brace just below the spreader assembly." (*Id.*).

Fournier's modified ladders were tested with the same methods that he used on the original FS1506 ladder. He reported the following results:

During the racking test, the modified ladder with the two stiffener plates reduced the amount of racking to 1.75 inches. (*Id.*).[11] With the hinged plate, the racking was reduced to between 1.5 and 1.75 inches. (*Id.*).[12] Both of these measurements are substantially below the approximately 6-inch racking movement observed with the testing of the unmodified ladder.

During the torsional stability test, the modified ladder with the two stiffener plates moved between 0 and 1.25 inches. (Fournier Rep't at 5). With the hinged plate, it moved between 0 and 0.25 inches. (*Id.*).[13] Both of these measurements are comparable to the movement of between 0.25 and 0.40 inches observed with the testing of the unmodified ladder.

Fournier also engaged both of his proposed modified designs in the dynamic tests. He found that, while the ladder moved, all four feet always remained in contact with the ground. (*Id.*). However, Van Bree's testing of the modified designs led to different results. He found that even the modified ladders can be "shifted so that a rear foot lifts off the floor," but the shifts involved "pulling on a rail while mounting the ladder, and by applying excessive loads." (Van Bree Rep't at 12).

c. Admissibility of Fournier's Testing Methodology

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[11] Van Bree tested the modified ladder and reached the same result. (Van Bree Dep. at 130).

[12] Van Bree observed an average of 1.81 inches. (Van Bree Rep't at 9).

[13] Van Bree arrived at the same results. (Van Bree Dep. at 130).

For the following reasons, the Court finds that Fournier's methodology is sufficiently reliable to justify its admittance at trial.

Methods similar to Fournier's dynamic testing have been used by researchers who have published in peer review journals.[14] Those researchers recognize the same fact that Fournier and Van Bree discuss—namely, that ANSI tests do not test actual use of the ladder. Both the published tests and Fournier's tests involve the use of individuals who independently sway and twist on the ladders. Because each individual's weight-shifting is unique and difficult to recreate, the tests are not standardized or uniform. While standardization and uniformity are clearly desirable in scientific testing, the failure to create such a test is not necessarily fatal. Here, it appears that a functional analysis of the ladder's response to conditions of actual use does not easily lend itself to a standardized or uniform test, ,given the variety of human movement. Nonetheless, at least three factors weigh in favor of admissibility here.

First, the form of the test was relatively simple; the jury can readily comprehend the nature of the test, and compare it to the facts as relayed by the witnesses. Second, and significantly, the tests were recorded by video. The opposing expert can thus evaluate the test precisely as it was performed. Indeed, the opposing expert can show the test to the jury and explain in detail why it does not fit the facts of the case or is otherwise not meaningful. Third, the opposing expert (Van Bree) did not take issue with the concept of dynamic testing, and in fact performed a version of that testing himself. "Acceptance of the methodology by the other party's expert may give

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[14] *See* Obert, *supra* note 4; K. J. Seluga et al., *Stepladders - Why They're Not Safe*, American Soc. of Mechanical Engineers Int'l Mechanics Engineering Congress and Exposition (2008); K. J. Seluga et al., *Analysis and Testing of a Hidden Stepladder Hazard - Excessive Twist Flexibility*, INT'L JOURNAL OF INJURY CONTROL AND SAFETY PROMOTION, 14:4, 215-224 (2007).

additional credence to the reliability of the proffered testimony." *Correa v. Cruisers*, 298 F.3d 13, 26 (1st Cir. 2002).

In short, the methodology employed by Fournier will not be excluded under Rule 702. Any flaws in his methodology can be addressed by defendants through cross-examination and the jury may to determine how much weight to afford his findings.

2. Whether Fournier's Analysis "Fits" the Facts of the Case

Defendants contend that plaintiffs' only asserted theory of the case has been that the rungs of the ladder caved in, causing it to collapse and injure Riani. They assert that Fournier's opinion that the ladder was "walked" and became unstable as a result is irrelevant to that theory of the case.

The complaint includes, among other things, claims of negligence, breach of implied warranty of merchantability, and breach of implied warranty of fitness for a particular purpose. It includes the following language:

> On or about July 20, 2005 . . . Riani[] was using the subject product . . . when the subject product fractured or failed causing [him] to fall from the subject product and suffer serious bodily injury.
> . . .
> [T]he ladder was defective and unreasonably dangerous and was caused to bend, distort and fail during the subject product's ordinary intended and foreseeable use; that proper and adequate instructions and warnings were not provided with the subject product; and [that the defendants were] otherwise negligent to be further shown by the evidence.
> . . .
> Subject product was defective, not of merchantable quality, and unreasonably dangerous for its user in that the design, manufacture and assembly of the subject product resulted in the subject product fracturing and failing during its ordinary and foreseeable use."

(Compl. ¶¶ 7, 18, 25).

Riani also stated in a response to an interrogatory that "the ladder [he] was on suddenly kicked out from under [him]." (Def.'s Statement Mat. Facts, Ex. J at 2). He also noted that the ladder "failed, causing [him] to fall," a number of times throughout his response. (*Id.* at 4-5).

In his deposition, Riani repeatedly testified that he felt the ladder "disappear" from underneath him. (Riani Dep. at 33, 35, 36). He was then asked, "And your belief is that the failure was that the ladder somehow bent and distorted?" to which he replied, "yes." (*Id.* at 35). He was also asked, "[T]he damage that we see in the ladder caused you to fall rather than having happened in the fall?" to which he answered, "That's my belief anyways." (*Id.* at 38).[15]

Although far from precise, it appears that the allegations of the complaint—in particular, the use of the word "fail"—are broad enough to permit plaintiff to go to trial on the theory that the ladder "walked" and became unstable. Plaintiffs' theory of failure certainly may have been less than fully focused at the outset of the litigation, but defendants do not appear to have been unfairly prejudiced by plaintiffs' approach, or to have lacked timely notice as to the precise nature of the claim or its factual basis. Thus, the Court concludes that it is not unfair to permit Fournier to proceed on the present theory at trial, and the testimony will not be excluded as irrelevant.

3. Whether Fournier's Conclusions Are Based on Facts in the Record

Defendants further contend that Fournier's testimony assumes that Riani's shins were pressed against the top of the ladder, and that the ladder would not have "walked" otherwise. Indeed, Fournier expressly admits as much. (Fournier Dep. at 13).

Defendants also assert that Riani's shins were not pressed against the ladder, and that this

[15] Rochette testified in his deposition that "the ladder very suddenly shifted." (Rochette Dep. at 34).

is not a disputed issue of fact. However, plaintiffs contend, and this Court agrees, that the issue of Riani's shin placement immediately preceding the incident is a disputed issue. Although Riani states that he does not "believe" that his shins were pressed against the ladder at the time of the incident, he also says that he does "not remember." (Riani Dep. at 63). He also stated, quite clearly, that it was his practice to lean against the ladder—and that he and other electricians "have nicks in [their] shins" from doing so. (*Id.*). Indeed, both parties' experts read Riani's deposition testimony and interpreted it to mean that he was leaning against the ladder just before he fell.[16]

Rochette may or may not have seen the position of Riani's shins before the incident; he did not testify either way in his deposition.[17] Viewing the evidence in the light most favorable to Riani, the Court must assume that his shins were against the ladder. Fournier's conclusions are

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[16] Van Bree's testimony was as follows:

> Q: Do you understand that Mr. Riani had his legs up against the ladder when he was working as well?
>
> A: Yes.
>
> Q: Did you gain any information indicating that Mr. Riani had his legs up against the ladder . . . to brace himself while he was performing his work?
>
> A: That was my understanding from his deposition, he indicated where his left and right feet were spread apart and his lower body was contacting the ladder with his legs, which is a normal standing position."

(Van Bree Dep. at 157).

[17] Rochette's testimony was as follows:

> Q: Did you see [Riani] standing on one foot at any time or shifting his weight terribly on the ladder?
>
> A: No. No. His feet never moved. His feet were stationary on the fourth rung, and they were—they were spread out across the rung."

(Rochette Dep. at 67).

thus sufficiently based on facts in the record to be admitted at trial.[18]

II. Defendants' Motion for Summary Judgment

Defendants' motion to exclude Fournier's testimony includes a motion for summary judgment as well. However, the motion requires and assumes the exclusion of Fournier's testimony. Because the Court has decided to the contrary—that is, that Fournier's testimony will be admitted—the defendants' motion for summary judgment is without basis and will be denied.

V. Conclusion

For all the foregoing reasons, defendants' motion to exclude Moore's testimony is DENIED without prejudice, defendants' motion to exclude Fournier's testimony is DENIED, and defendants' motion for summary judgment is DENIED.

So Ordered.

/s/ F. Dennis Saylor
F. Dennis Saylor IV
Dated: July 14, 2010 United States District Judge

[18] Objections as to the factual foundation of an expert's testimony often go to the weight of the testimony, and not to its admissibility. *Crowe*, 506 F.3d at 18 ("these matters are for the jury, not for the court. This is as it should be; the district court's gatekeeping function ought not to be confused with the jury's responsibility to separate wheat from chaff.").