IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge Robert E. Blackburn

Civil Case No. 11-cv-01629-REB-CBS

THE TRUST DEPARTMENT OF FIRST NATIONAL BANK OF SANTA FE, COLORADO BRANCH,
RICHARD QUANZ as CO-TRUSTEES and
REPRESENTATIVES OF THE IRREVOCABLE TRUST OF STEPHEN MELENDY,
STEPHEN MELENDY,
LAWRENCE MELENDY,
JUDY MELENDY,
CHRISTOPHER W. MELENDY,
AIMEE R. MELENDY
AMANDA F. MELENDY, and
CHERIE D. FORD,

Plaintiffs,

NATIONAL FIRE INSURANCE COMPANY OF HARTFORD,

Intervening Plaintiff,

v.

THE BURTON CORPORATION,

Defendant.

ORDER DENYING DEFENDANT THE BURTON CORPORATION'S MOTION TO STRIKE THE TESTIMONY AND OPINIONS OF RICHARD STALNAKER UNDER FED.R.EVID. 702

Blackburn, J.

The matters before me are (1) **Defendant The Burton Corporation's Motion to Strike the Testimony and Opinions of Richard Stalnaker Under Fed. R. Evid. 702** [#81][1] filed April 9, 2012; and (2) **Defendant The Burton Corporation's Motion To**

[1] "[#81]" is an example of the convention I use to identify the docket number assigned to a specific paper by the court's electronic case filing and management system (CM/ECF).I use this convention throughout this order.

Strike the Plaintiffs' Response in Opposition to Defendant The Burton Corporation's Motion To Strike the Testimony and Opinions of Richard Stalnaker Under Fed. R. Evid. 702 [#89] filed May 9, 2012. I deny the motion to strike the expert opinion and deny the motion to strike the response brief as moot.

I. JURISDICTION

I have jurisdiction over this case pursuant to 28 U.S.C. § 1332 (diversity of citizenship).

II. STANDARD OF REVIEW

By its substantive motion, defendant seeks to strike the testimony and opinions of plaintiffs' expert witness, Dr. Richard Stalnaker. Rule 702 of the Federal Rules of Evidence, which governs the admissibility of expert witness testimony, provides that

> [a] witness who is qualified as an expert by knowledge, skill, experience, training or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

FED. R. EVID. 702. As interpreted by the Supreme Court, Rule 702 requires that an expert's testimony be both reliable, in that the witness is qualified to testify regarding the subject, and relevant, in that it will assist the trier in determining a fact in issue. ***Daubert v. Merrell Dow Pharmaceuticals, Inc.***, 509 U.S. 579, 589-92, 113 S.Ct. 2786, 2795-96, 125 L.Ed.2d 469 (1993); ***Truck Insurance Exchange v. MagneTek, Inc.***, 360 F.3d 1206, 1210 (10th Cir. 2004). The Supreme Court has described the court's role in weighing expert opinions against these standards as that of a "gatekeeper." *See*

Kumho Tire Company, Ltd. v. Carmichael, 526 U.S. 137, 147, 119 S.Ct. 1167, 1174, 142 L.Ed.2d 248 (1999).

Under ***Daubert*** and its progeny, an expert opinion is reliable if it is based on scientific knowledge. "The adjective 'scientific' implies a grounding in the methods and procedures of science. Similarly the word 'knowledge' connotes more than subjective belief or unsupported speculation." ***Daubert***, 113 S.Ct. at 2795. In short, the touchstone of reliability is "whether the reasoning or methodology underlying the testimony is scientifically valid." ***Id***.

The Tenth Circuit employs a two-step analysis when considering the admissibility of expert testimony under Rule 702. ***103 Investors I, L.P. v. Square D Co.***, 470 F.3d 985, 990 (10th Cir.2006). The first step is codified in Rule 702(a) and inquires whether the expert "is qualified . . . to render an opinion." ***Id***. A witness may be qualified as an expert by "knowledge, skill, experience, training, or education." **FED. R. EVID.** 702. In addressing an expert qualifications, the court should examine:

> whether the witness proposes to testify about matters growing naturally and directly out of research he or she conducted independent of the litigation, whether the witness developed opinions expressly for purposes of testifying, and whether the field of expertise claimed by the witness is known to reach reliable results for the type of opinion the witness intends to express.

United States v. Crabbe, 556 F.Supp.2d 1217, 1221 (D. Colo. 2008).

The second step of the admissibility analysis, codified in Rules 702(b), (c), and (d), examines "whether the expert's opinion is reliable." ***103 Investors I***, 470 F.3d at 990. Pursuant to Rule 702(b), "the proponent of the opinion must show that the witness gathered 'sufficient facts or data' to formulate the opinion." ***Crabbe***, 556 F.Supp.2d at

1223. This inquiry calls for a "quantitative rather than qualitative analysis." ***United States v. Lauder***, 409 F.3d 1254, 1264 n.5 (10th Cir. 2005).

Analysis under Rule 702(c) "involves two related inquires: (i) what methodology did the witness use to reach the opinion; and (ii) is that methodology generally deemed 'reliable' in the field in which the expert works." ***Crabbe***, 556 F.Supp.2d at 1222. "[T]he articulation of a methodology usually can be made without reference to the specific opinion or to any of the specific facts in the case; it is simply an explanation of the process the witness used." ***Id***. As for reliability, the question is "whether the reasoning or methodology underlying the testimony is scientifically valid." ***Daubert***, 113 S. Ct. at 2796. In assessing the reliability of the proffered methodology, the court should consider

> whether the theory or technique in question can be (and has been) tested, whether it has been subjected to peer review and publication, its known or potential error rate and the existence and maintenance of standards controlling its operation, and whether it has attracted widespread acceptance within a relevant scientific community.

Id. at 2790. These factors, however, "are neither exclusive nor dispositive." ***Crabbe***, 556 F.Supp.2d at 1223.

Finally, Rule 702(d) requires that the expert reliably apply "the principles and methods to the facts of the case." **FED. R. EVID.** 702(d). Factors that inform this analysis include, but are not limited to,

> (I) whether the expert employed the same degree of intellectual rigor in formulating the opinion as he or she would be expected to employ in his or her own professional life; (ii) whether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion (i.e., whether there is too great an analytical gap between the

> data and the opinion proffered); and (iii) whether the expert adequately accounted for obvious alternative explanations.

Crabbe, 556 F.Supp.2d at 1224. The requirement that the witness reliably apply his methods to the facts "is not an invitation to a court to assess the worth of the opinion itself. The court's focus is simply upon whether the witness followed the dictates of the methodology in considering the facts and data." ***Id.*** at 1223.

Guided by these principles, the trial court has broad discretion in determining whether expert testimony is sufficiently reliable and relevant to be admissible. ***Truck Insurance Exchange***, 360 F.3d at 1210; ***Smith v. Ingersoll-Rand Co.***, 214 F.3d 1235, 1243 (10th Cir. 2000). The overarching purpose of the court's inquiry is "to make certain that the expert . . . employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." ***Goebel v. Denver and Rio Grand Western Railroad Co.***, 346 F.3d 987, 992 (10th Cir. 2003) (quoting ***Kumho Tire***, 119 S.Ct. at 1176). "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." ***Daubert***, 113 S.Ct. at 2798.

III. ANALYSIS

On February 2, 2010, plaintiff Stephen Melendy lost control of his snowboard while navigating a feature at Winter Park Resort's Dark Territory terrain park. On landing from his jump, he caught the heel-side edge of his snowboard, striking his head on the snow. The Burton R.E.D. Hi-Fi II snowboard helmet he was wearing at the time "shattered," resulting in a severe closed-head injury and concomitant catastrophic brain damage. Plaintiffs contend that the helmet was improperly designed, manufactured,

distributed and marketed. They have sued defendant for negligence, negligent misrepresentation, strict products liability, violation of the Colorado Consumer Protection Act, breach of express and implied warranties.[2]

Defendant challenges the opinions of Dr. Richard Stalnaker, an expert in biomechanics, pursuant to Rules 702(b), 702(c), and 702(d), for lack of reliability.[3] However, I find and conclude that none of its arguments merits the exclusion of Dr. Stalnaker's proposed testimony and that the alleged deficiencies in his opinions may be explored adequately through cross-examination.

Defendant first claims that Dr. Stalnaker's opinions are not the product of reliable principles and methods. To rehearse, Rule 702(c) requires the court to identify the methodology used and to assess whether it is scientifically valid. **FED. R. EVID.** 702(c); ***Daubert***, 113 S.Ct. at 2796; ***Crabbe***, 556 F.Supp.2d at 1222. Dr. Stalnaker's opinions plainly clear both these hurdles.

Dr. Stalnaker's opinion clearly identifies the methodology on which he relied, that is, the testing standards and protocol developed by the National Operating Committee on Standards for Athletic Equipment ("NOCSAE"). NOCSAE (pronounced "noxey") is a non-profit corporation, formed in 1969, "in response to a need for a performance test standard for football helmets." NOCSAE, *Frequently Asked Questions and Answers, What is NOCSAE?* [hereinafter "***FAQ***"] (available at http://www.nocsae.org/faq/index.html#q1) (last accessed July 11, 2012). The

[2] Certain other claims were dismissed by stipulation of the parties. (***See* Order Granting Stipulation for Dismissal of Certain Claims for Relief** [#83] filed April 16, 2012.)

[3] Dr. Stalnaker's qualifications as an expert under Rule 702(a) are not at issue.

organization is comprised of representatives from various groups which have interests in athletic equipment, including manufacturers, trainers, coaches, sports medicine organizations, and consumer organizations. NOCSAE, *About NOCSAE* (available at http://www.nocsae.org/about/index.html) (last accessed July 11, 2012).[4] It promulgates voluntary standards designed "to reduce head injuries by establishing requirement [sic] of impact attenuation for football helmets/face masks, baseball/softball batting helmets, baseballs and softballs, and lacrosse helmets/face masks. These standards are adopted by various regulatory bodies for sports, including the NCAA and the National Federation of State High School Associations." ***FAQ**, What Are the NOCSAE Helmet Standards?*

NOCSAE's prescribed testing method and standards are based on research which began in 1971 in the Department of Neurosurgery Biomechanics Laboratory of Wayne State University and continues today at the Sports Biomechanics Laboratory of the University of Tennessee. The test method "incorporates many aspects of other recognized headgear performance standards . . . and draw[s] from work by others where appropriate for this test method. NOCSAE, *Standard Test Method and Equipment Used in Evaluating the Performance Characteristics of Protective Headgear Equipment*, *Summary of Test Method*, *Preface* at 1 (NOCSAE DOC 001-11m11) (Jan. 2011) [hereinafter "***Standards***"] (available at http://www.nocsae.org/standards/pdfs/Standards%20'11/ND001-11m11-Drop%20Impact%20Test%20Method%20.pdf) (last

[4] The organization's board of directors "is comprised of representatives from the American College Health Association, American Orthopedic Society for Sports Medicine, Athletic Equipment Managers' Association, National Association of Secondary School Principals, National Athletic Equipment Reconditioners' Association, National Athletic Trainers Association, American College of Sports Medicine, Sporting Goods Manufacturers' Association, and the College Football Association." ***FAQ**, Who Belongs to NOCSAE?*

accessed July 11, 2012). These standards are published and reviewed not less than every five years. ***Id.*** at 2.

The testing method proscribed by NOCSAE is clearly set forth in the ***Standards*** document:

> 5.1 A headgear is positioned on a headform[5] and then dropped in order to achieve an accepted free fall velocity. At impact, the instantaneous resultant acceleration is measured by the triaxial accelerometer[6] and the Severity Index[7] is calculated.
>
> 5.2 The impact velocities specified in the individual performance standards for impact testing shall be measured during the last 1.5 in. (40 mm) of free fall for each test.
>
> 5.3 If an impact that exceeds the specified velocity range results in a test exceeding the performance criterion, the testing for the sample shall be declared inconclusive and must be repeated.
>
> 5.4 . . . . To attain the proper velocity for an impact, it is likely that the drop height will need to be adjusted to compensate for both friction and velocity measurement error. If height adjustments made to attain the proper velocity for an impact account for more than 10% of the total drop height the drop system should be evaluated for repair.

Id. ¶ 5 at 9. Moreover, Dr. Stalnaker explained his rational for using the NOCSAE testing standards at his deposition:

> [The] reason that I use the NOCSAE equipment and standard is because it has a biofidelic head form which

[5] "An instrumented model human head designed to fit the carriage assembly and possessing a high bio-fidelity." (***Standards*** ¶ 3.17 at 5.)

[6] "A small piezoelectric acceleration transducer with three axes, designed specifically for vibration measurement in three orthogonal axes." (***Standards*** ¶ 3.39 at 8.)

[7] "A measure of the severity of impact with respect to the instantaneous acceleration experienced by the headform as it is impacted. Acceptable Severity Index (SI) levels measured during impact cannot exceed the limit specified in the individual standard performance specification." (***Standards*** ¶ 3.33 at 7.)

> gives out information that is on a one-to-one par with humans. If I drop a NOCSAE head form onto a plate and it reads a certain number of Gs, it's as if I took an average person of that same size and weight and everything and dropped it on the same plate . . . there's a one-to-one correspondence between the head form and injury relating to humans so that the numbers I get from the head form testing from NOCSAE is directly related to people.

(**Plf. Resp. App.**, Exh. 3 at 38.)

Although defendant faults Dr. Stalnaker's use of this testing protocol on several grounds, none is sufficient to demonstrate that his chosen methodology is so unreliable as to fail to pass muster under Fed. R. Evid. 702(c).[8] For example, defendant points out that the NOCSAE testing equipment cannot imitate the helmet impact site. Rule 702(c), however, does not require the level of precision that defendant implies is necessary by this argument. It is not necessary that the accident conditions be replicated identically; substantial similarity is enough. ***See Hoffman v. Ford Motor Co.***, 2009 WL 712361 at *4 (D. Colo. March 16, 2009). Moreover, Dr. Stalnaker acknowledged this limitation and, to compensate for it, ran two sets of tests, which resulted in impact sites just to the right and the left of the actual impact site, from which he was able to extrapolate regarding the actual impact site. (**Def. Motion App.**, Exh. A at 7 [#81], filed April 9, 2012). I find this testimony sufficient to withstand defendant's Rule 702(c) challenge. Any perceived deficiencies in this testing procedure can be adequately explored on cross-examination or exposed through competing evidence.

Defendant claims Dr. Stalnaker was unable to ensure that the Modular Elastomer Programmer ("MEP") pad, which is used to approximate the impact surface, was

[8] Defendant also appears to have overlooked the fact that its own expert, Peter David Halstead, himself tested the subject helmet using the NOCSAE protocol. (**Plf. Resp. App**., Exh. 4 at 42.)

sufficiently similar to the landing surface conditions at the time of the accident. Because the accident occurred on hard packed snow, Dr. Stalnaker chose a one-half inch test MEP pad for the drop surface to "represent the crushing effect of the snow." (***Id.***) Defendant proffers no reason why this choice was improper, much less one sufficient to justify striking the opinion.

Defendant also faults Dr. Stalnaker for using different model year exemplar helmets than the helmet in question. ***See id.*** (noting that "[t]he subject helmet was manufactured July of 2009 with the exemplar helmets showing manufactured dates of May 2010 (5) and June 2011 (2)"). Nevertheless, despite the different model years, Dr. Stalnaker observed that "there appeared to be no changes made in the shell or liner design of the R.E.D. Hi-Fi II." ***Id.*** Defendant identifies no other changes between the actual helmet and the exemplars that might undermine Dr. Stalnaker's reliance on these latter-day models.

Finally, defendant asserts that Dr. Stalnaker did not consider the ASTM F2040 standard for snow helmets.[9] Dr. Stalnaker more than adequately explained why he chose the NOCSAE testing protocol of the ASTM F2040 standard. Specifically, he noted that ASTM did not give provide "a one-to-one correspondence between the head form and injury relating to humans so that the numbers I get from the head form testing from NOCSAE is directly related to people." ***Id.*** at 9. Regardless of the alleged superiority of the ASTM F2040 standard, the existence thereof, by itself, does not

[9] ASTM F2040, adopted and published in September, 2000, "defines performance requirements for non-motorized recreational snowsports helmets, using impact protection standards comparable to current bicycle helmet requirements," and gives manufacturers three standards from which to choose in designing and building protective headgear for skiers and snowboarders. Compliance with ASTM F2040 is entirely voluntary. (**Plf. Resp. App.**, Exh. 7 at 2-3). The NOCSAE standards have been developed for football and lacrosse helmets.

undermine an expert's reliance on an otherwise valid methodology.

In sum, I find and conclude that defendant has not shown that Dr. Stalnaker's opinions are not based on reliable principles and methods. Its arguments go to the weight, not the admissibility, of Dr. Stalnaker's opinions, and thus do not merit exclusion of the opinion.

Defendant next challenges Dr. Stalnaker's opinions under Rule 702(b), which analyzes whether the expert's opinions are based on "the amount of data that the methodology itself demands." ***Crabbe***, 556 F.Supp.2d at 1223. Dr. Stalnaker based his opinions on facts and data gathered from several sources, including: (1) Mr. Melendy's medical records; (2) color photos of the accident site; (3) inspection of the subject helmet; (4) defendant's responses to plaintiffs' first set of interrogatories; (5) photographs with measurements from Winter Park resort investigators; (6) and an accident reconstruction conducted by one Seth Bayer.

Defendant has not shown that this quantum of evidence is insufficient in terms of the methodology on which Dr. Stalnaker relied. ***See Lauder***, 409 F.3d at 1264 n.5 (relevant inquiry under Rule 702(b) is quantitative rather than qualitative). Instead, it complains that Dr. Stalnaker formulated his opinions without reading witness statements or speaking with anyone present when the accident occurred, and that his testing therefore failed to adequately replicate the accident scenario. To the extent this argument states an objection under Rule 702(b), I reject it. Mr. Bayer's reconstruction of the accident, on which Dr. Stalnaker relied in formulating his own opinions, did review percipient witness statements, as well as photographs of the accident site and the ski resort's investigation materials. In addition, Mr. Bayer personally examined the accident

site and provided a thorough analysis of the kinematics of the accident. Defendant has neither argued nor demonstrated that Dr. Stalnaker erred in relying on this report in formulating his own opinions. I therefore reject its Rule 702(b) challenge.

Finally, defendant maintains that Dr. Stalnaker did not reliably apply the facts and data to the methodology he used, in violation of Rule 702(d). The relevant inquiry under here focuses on whether Dr. Stalnaker "followed the dictates of the methodology in considering the facts and data." ***Crabbe***, 556 F.Supp.2d at 1223. I find that he did so. As detailed in his report, Dr. Stalnaker followed the NOCSAE testing protocol, observing that

> at almost every drop height, the liner of the [Burton] R.E.D. Hi-Fi II cracked and the shell tore. In the event of an impact, if the liner cracks, the shell should be designed to contain the liner in order to distribute the load evenly over the head. . . . [I]f the design of the [Burton] R.E.D. Hi-Fi II helmet had included a more deformable and ductile liner and a tougher shell, it would have held together absorbing enough energy to have greatly minimized, if not prevented Mr. Melendy's injury.

(**Plf. Resp. App.**, Exh. 2 at 10.) These opinions are based on the test results and graphically illustrated in Dr. Stalnaker's report, showing a correlation between his data and Mr. Bayer's accident kinematics. Defendant's continued criticism of the NOCSAE protocol and the materials on which Dr. Stalnaker relied provide no grounds for finding a violation of Rule 702(d).

Defendant's other various arguments, many of which are premised on Dr. Stalnaker's responses to deposition questions, do not convince me that these opinions are unreliable to the extent that would call for their wholesale exclusion from evidence. Defendant appears to demand that a deponent possess both encyclopedic knowledge

and instantaneous recall, but Dr. Stalnaker's expert report more than adequately addresses each of these alleged shortcomings. The matters to which defendant points in this regard are either addressed therein and/or go only to the weight of Dr. Stalnaker's opinions, not their admissibility *vel non*.[10]

THEREFORE, IT IS ORDERED as follows:

1. That **Defendant The Burton Corporation's Motion to Strike the Testimony and Opinions of Richard Stalnaker Under Fed. R. Evid. 702** [#81] filed April 9, 2012, is **DENIED**; and

2. That **Defendant The Burton Corporation's Motion To Strike the Plaintiffs' Response in Opposition to Defendant The Burton Corporation's Motion To Strike the Testimony and Opinions of Richard Stalnaker Under Fed. R. Evid. 702** [#89], filed May 9, 2012, is **DENIED AS MOOT**.

Dated July 13, 2012, at Denver, Colorado.

BY THE COURT:

Robert E. Blackburn
United States District Judge

[10] I also deny defendant's motion to strike plaintiffs' response as in violation of the court's Civil Practice Standards. While it appears that plaintiffs did in fact finesse their brief in order to make their prior, non-conforming, brief come within the page limitations of the Practice Standards, this is not the type of "hanging offense" on which I typically allow an opponent to avoid a decision on the merits.