

**Page 525**  
**590 N.W.2d 525**  
**Prod.Liab.Rep. (CCH) P 15,496**  
**Christopher M. LEAF, Appellee,**  
**v.**  
**GOODYEAR TIRE & RUBBER COMPANY, Appellant.**  
**No. 97-950.**  
**Supreme Court of Iowa.**  
**March 24, 1999.**

**Page 527**

L.W. Rosebrook of Ahlers, Cooney, Dorweiler, Haynie, Smith & Allbee, P.C., Des Moines, for appellant.  
Richard H. Doyle and Robert G. Tully of Galligan, Tully, Doyle & Reid, P.C., Des Moines, and Dorothy L. Dakin of Dakin Law Firm, Boone, for appellee.

Considered en banc.  
LARSON, Justice.

Christopher Leaf sued the Goodyear Tire & Rubber Company for personal injuries based on strict liability, and Goodyear appealed from the resulting judgment. We affirm.

Page 528

I. Facts and Proceedings.

We recite the facts as a jury could reasonably have found them. Leaf, who was an employee of Whyte's Tire Center, was injured when a Goodyear tire ruptured while Leaf was working on it. The original tread on Goodyear's tire had worn out, and it was retreaded at Jack's OK Tire Service and sent to Whyte's Tire Center. Leaf removed the old tire from its rim and replaced it with the retreaded Goodyear tire. Under normal circumstances, Leaf would then have inflated the tire in a safety cage as required by federal safety rules. See 29 C.F.R. § 1910.177 (1992). In this case, the bead on the retreaded tire would not seal on the rim, making inflation impossible without the use of a "bead blaster." This is a device that forces a rush of air between the tire and rim, causing the tire to expand and seal against the rim. The problem is a bead blaster cannot be used on a tire while the tire is in a safety cage, and OSHA recognizes an exception to the safety-cage requirement in such a case. See 29 C.F.R. § 1910.177(f)(5). When a bead blaster is used, the accepted practice is to partially inflate the tire with an air hose after the bead blaster seals the tire on the rim, then to complete the inflation process after the tire is placed in the cage.

In this case, Leaf left an air hose attached to the tire, which was still outside the cage, while he looked for a valve core. Air continued to enter the tire, which ruptured before Leaf could put it in the cage. Leaf sued Goodyear and Jack's OK Tire Service. Jack's settled prior to trial, and the case proceeded against Goodyear. The jury awarded Leaf \$274,225.90 on his strict-liability claim. The court denied Goodyear's motions for judgment NOV and new trial, and this appeal followed.

II. The Issues.

Goodyear raises five issues on appeal: (1) the court's refusal to rule as a matter of law that Goodyear's warning rendered the tire safe; (2) as a matter of law, the tire had been misused, relieving Goodyear of liability; (3) the court erred in admitting the testimony of Leaf's expert; (4) the court's instruction on "fault" was defective; and (5) the court erred in instructing that violation of an OSHA rule is evidence of negligence but not negligence per se.

We review a ruling on a motion for directed verdict for errors of law, and our review is limited to the grounds raised in the motion. *Pierce v. Staley*, 587 N.W.2d 484, 485 (Iowa 1998). In determining whether the trial court correctly found sufficient evidence to submit a claim to the jury, we view the evidence in the light most favorable to the nonmoving party. *Financial Mktg. Servs., Inc. v. Hawkeye Bank & Trust*, 588 N.W.2d 450, 460 (Iowa 1999). A motion for judgment notwithstanding the verdict (NOV) must stand or fall on the grounds raised in the motion for directed verdict. *Schlegel v. Ottumwa Courier*, 585 N.W.2d 217, 221 (Iowa 1998).

III. The Strict-Liability Claim.

The plaintiff's strict-liability claim is based on section 402A of the Restatement (Second) of Torts, which we adopted in *Hawkeye-Security Insurance Co. v. Ford Motor Co.*, 174 N.W.2d 672, 684 (Iowa 1970). Under this rule, (1) [o]ne who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection (1) applies although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

Restatement (Second) of Torts § 402A, at 347-48 (1965).

Page 529

A. The warning issue. Goodyear contends that comment j to section 402A relieves Goodyear of liability as a matter of law. That comment states, in part:

In order to prevent the product from being unreasonably dangerous, the seller may be required to give directions or warning, on the container, as to its use.

....

Where warning is given, the seller may reasonably assume that it will be read and heeded; and a product bearing such a warning, which is safe for use if it is followed, is not in defective condition, nor is it unreasonably dangerous.

Restatement (Second) of Torts § 402A cmt. j, at 353 (1965) (emphasis added). In this case, Goodyear had stamped a warning on the tire that stated:

Serious Injury May Result From

Tire Failure Due to Underinflation/Overloading/Misapplication--

Follow Tire Placard Instructions in Vehicle

Check Inflation Pressure Frequently with Accurate Gauge

Explosion of Tire/Rim Assembly Due to Improper Mounting--Only Specifically Trained Persons Should Mount Tires

When Mounting Tire, Use Safety Cage and Clip-On Extension Air Hose to Inflate.

(Emphasis added.)

Goodyear argues that its warning about using a safety cage would have avoided the injury if Leaf had heeded the warning. Apparently believing the comment j defense only applied in a failure-to-warn claim, the court submitted it under Leaf's negligence claim but refused to do so in connection with the strict-liability claim. See *Olson v. Prosoco, Inc.*, 522 N.W.2d 284, 289 (Iowa 1994) (failure to warn may be submitted in negligence claim but not in both negligence and strict-liability claim). The issue is whether the court should have submitted Goodyear's comment j defense in connection with Leaf's strict-liability claim. Comment j has been held inapplicable in a defective-design--as opposed to a failure-to-warn--claim. See *Moulton v. Rival Co.*, 116 F.3d 22, 28 (1st Cir.1997). See generally, Annotation, Benjamin J. Jones, "Presumption or Inference in Products Liability Action Based on Failure to Warn, That User of Product Would Have Heeded an Adequate Warning Had One Been Given," 38 A.L.R.5th 683, 701-11 (1996) (discussing comment j and comparable rules under state cases).

The current status of comment j is uncertain. It has been deleted from the third Restatement of Torts, and it has been said that courts have "overwhelmingly rejected Comment j" because "warnings are an imperfect means to remedy a product defect." *Uniroyal Goodrich Tire Co. v. Martinez*, 977 S.W.2d 328, 336 (Tex.1998). A comment to the Restatement (Third) of Torts explains the rationale for rejecting comment j:

We decline ... to adopt any rule that permits a manufacturer or designer to discharge its total responsibility to workers by simply warning of the dangers of a product. Whether or not adequate warnings are given is a factor to be considered on the issue of negligence, but warnings cannot absolve the manufacturer or designer of all responsibility for the safety of the product.

Restatement (Third) of Torts, Products Liability § 2 cmt. 1 (1998). A reporter's note to the third Restatement characterizes comment j as "unfortunate language" that "has elicited heavy criticism from a host of commentators." *Id.* Rptr. Notes (citing Howard Latin, *Good Warnings, Bad Products, and Cognitive Limitations*, 41 *UCLA L.Rev.* 1193, 1206-07 (1994)).

While we have doubts that Goodyear's comment j argument would apply to Leaf's strict-liability claim, we do not decide the issue. Goodyear did not raise it in its motion for directed verdict, and the district court correctly ruled in its judgment NOV order that the issue had been waived. See *Schlegel*, 585 N.W.2d at 221.

B. The claim of misuse. Goodyear argues that Leaf did not meet the requirements of section 402A because he failed to show that the product was expected to and did reach the plaintiff without substantial change in condition. See *Fell v. Kewanee Farm Equip. Co.*, 457 N.W.2d 911, 918 (Iowa

Page 530

1990); Restatement (Second) of Torts § 402A(1)(b), at 348. Ordinarily, if mishandling or other alterations beyond the manufacturer's control render a product defective, the manufacturer is not liable. *Fell*, 457 N.W.2d at 918 (citing Restatement (Second) of Torts § 402A cmt. g, at 351 (1965)). However, a manufacturer will remain liable for an altered product if it is reasonably foreseeable that the alteration would be made and the alteration does not unforeseeably render the product unsafe. *Aller v. Rodgers Mach. Mfg. Co.*, 268 N.W.2d 830, 838 (Iowa 1978); see also *Crow v. Manitex, Inc.*, 550 N.W.2d 175, 180 (Iowa App.1996); *Smith v. Air Feeds, Inc.*, 519 N.W.2d 827, 831 (Iowa App.1994); *Hardy v. Britt-Tech Corp.*, 378 N.W.2d 307, 309 (Iowa App.1985). To support this argument Goodyear expressly raises one claim of abuse and suggests a second. We discuss both "claims."

1. Alleged abuse of tire by prior owner. Goodyear claims the tire showed signs of having been run flat or underinflated, and this constitutes misuse. Leaf says the issue is not whether there was misuse by running it flat or underinflated but whether such misuse was reasonably foreseeable to Goodyear. This foreseeability inquiry should rarely be determined as a matter of law. *Smith*, 519 N.W.2d at 831.

The court's instruction stated:

The requirement that the tire be free from defects at the time it left Goodyear's control includes the requirement that necessary precautions be taken to keep the tire free from defects for a normal length of time when handled or used in a normal manner. However, Goodyear is not responsible if the tire was delivered free from defects and later mishandling, changes or other causes beyond its control make the product defective, unless that mishandling, change or other cause beyond Goodyear's control was reasonably foreseeable by it.

This is a correct instruction on the law, and substantial evidence supports the jury's verdict. Goodyear's own expert testified it is foreseeable that this type of tire would be used when it is underinflated or flat, especially when run as an inside dual.

2. Leaf's claimed abuse. Goodyear also asserts that Leaf negligently left the air hose on the tire for up to three minutes after the bead was sealed and still outside the cage "so that during the time period the full capacity of Whyte's' compressed air system was blasting into the tire while plaintiff rummaged around for a valve core." Goodyear makes this assertion in its statement of facts but did not include it in its written argument. In any event, the claim must be rejected. The evidence was unclear as to how long Leaf left the air hose attached to the tire before it ruptured; the testimony ranged from thirteen seconds to two or three minutes. Even accepting Goodyear's claim that Leaf left the air hose on the tire for two to three minutes, this does not necessarily mean Leaf overinflated the tire. Leaf's expert testified that, because Leaf had just used the bead blaster, the air pressure in the system would have been drawn down to the point where the air hose would have to be attached longer than normal to inflate the tire. In any event, the expert testified, the tire was not overpressurized at the time it ruptured. The jury was not compelled to find under these facts that Leaf's inflation procedure amounted to abuse.

C. Admission of testimony of Leaf's expert. Goodyear claims error in the court's ruling allowing the testimony of Leaf's expert, Dick Baumgardner. Goodyear claims Baumgardner was not qualified to give an opinion on the alleged design defect, and his proffered testimony failed to satisfy the test of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).

Iowa Rule of Evidence 402 provides a broad scope of evidence in general:

All relevant evidence is admissible, except as otherwise provided by the Constitutions of the United States or the State of Iowa, by statute, by these rules, or by other rules of the Iowa Supreme Court. Evidence which is not relevant is not admissible.

Similarly, Iowa Rule of Evidence 702 provides an expansive scope of expert testimony:

Page 531

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 expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise.

As we said in *Mensink v. American Grain & Related Industries*, 564 N.W.2d 376, 380 (Iowa 1997),

[Iowa Rule of Evidence 702] and our cases decided both before and after the adoption of the rule make it clear that we are committed to a liberal view on the admissibility of expert testimony, and we have been quite deferential to the district court in the exercise of its discretion in that area.

(citations omitted). And

[w]e will not reverse the trial court's receipt absent a manifest abuse of that discretion to the prejudice of the complaining party. We are committed to a liberal rule on the admission of opinion testimony, and only in clear cases of abuse would the admission of such evidence be found to be prejudicial.

*Iowa-Illinois Gas & Elec. Co. v. Black & Veatch*, 497 N.W.2d 821, 827 (Iowa 1993) (Citation omitted).

1. The Daubert analysis. Goodyear complains that Baumgardner's testimony should have been excluded by the court because Baumgardner "was not shown to have the background, education[,] training or experience which would be necessary to qualify him as an expert in the field of radial truck tire design engineering" under Daubert. The plaintiff's response is essentially threefold. The objection, which was not made prior to trial, was untimely; the admission of Baumgardner's testimony was proper under this court's liberal application of Iowa Rule of Evidence 702; and in any event, his testimony satisfied the test of Daubert. We affirm the court's ruling on the second ground.

Under Daubert,

the trial judge must determine at the outset, pursuant to Rule [of Evidence] 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.

Daubert, 509 U.S. at 592-93, 113 S.Ct. at 2796, 125 L.Ed.2d at 482 (footnotes omitted). Daubert also made "general observations," appropriate in the exercise of the court's "gatekeeping function," as we will discuss later.

Even though Daubert is based on Federal Rule of Evidence 702 and is not binding on our court in the application of our own evidence rules, we have discussed the Daubert analysis in five cases: Johnson v. Knoxville Community Sch. Dist., 570 N.W.2d 633 (Iowa 1997); Mensink, 564 N.W.2d at 380-81; Williams v. Hedican, 561 N.W.2d 817 (Iowa 1997); Carolan v. Hill, 553 N.W.2d 882 (Iowa 1996); and Hutchison v. American Family Mut. Ins. Co., 514 N.W.2d 882 (Iowa 1994).

In Mensink we considered the nature of the proffered evidence to determine whether it was of a scientific or merely technical nature. We concluded Daubert was inapplicable because the evidence was of a technical nature--not "a highly complex matter of scientific evidence." Mensink, 564 N.W.2d at 381. The expert's testimony (regarding the properties and dangers of lightning) were "so 'close to the ken of the average layman' that a Daubert analysis would only complicate the court's decision regarding liability." *Id.* (quoting *State v. Hall*, 297 N.W.2d 80, 86 (Iowa 1980)). Daubert itself suggests that it is limited to scientific, as opposed to "technical or other specialized knowledge" under Federal Rule of Evidence 702. Daubert, 509 U.S. at 590 n. 8, 113 S.Ct. at 2795 n. 8, 125 L.Ed.2d at 481 n. 8 ("Our discussion [of Federal Rule of Evidence 702, applying to technical or other specialized knowledge as well as scientific evidence,] is limited to the scientific context because that is the nature of the expertise offered here.").

In Carolan we did not discuss the technical/scientific distinction but merely noted that Daubert reaffirmed the expansive scope

Page 532

of Federal Rule of Evidence 702. Carolan, 553 N.W.2d at 888. Similarly, in Hutchison we referred to Daubert and quoted from it regarding a court's task in assessing "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." Hutchison, 514 N.W.2d at 888 (quoting Daubert, 509 U.S. at 592-93, 113 S.Ct. at 2796, 125 L.Ed.2d at 482).

Despite our reference to Daubert in previous cases, we have neither adopted nor rejected it as a standard test for all expert-testimony cases. Our references to Daubert, in fact, have essentially just reinforced our broad interpretation of Iowa Rule of Evidence 702. See, e.g., Hutchison, 514 N.W.2d at 885 (noting Daubert reaffirmed Iowa's "liberal rule on the admission of opinion testimony"); and at 887 ("[W]e refuse to impose barriers to expert testimony other than the basic requirements of Iowa Rule of Evidence 702 and those described ... in Daubert."). In Williams we applied the Daubert test without deciding if it was required because Daubert was the basis of the district court's analysis, and the plaintiff did not object at trial or on appeal. Williams, 561 N.W.2d at 827. As a concurring opinion in Williams noted, the majority opinion should not be interpreted as an acceptance of Daubert because our common-law interpretation of rule 702 "has served us well and will continue to do so." Williams, 561 N.W.2d at 832 (Neuman, J., concurring).

2. Daubert not controlling. It is now time for us to decide what role we should give to Daubert in expert-testimony cases. Should we apply it only in cases of a scientific--but not technical nature? Should the Daubert analysis be applied to all cases involving expert testimony? Or should we adopt a variation of Daubert that will encourage, but not require, use of portions of Daubert's analysis? We elect the latter.

One problem in limiting Daubert to "scientific," but not "technical," evidence, as we did in Mensink, is that it is not always clear how the evidence should be classified. In some cases, the evidence may have characteristics of both technical and scientific evidence. As we said in *State v. Hall*, "distinguishing 'scientific' evidence from other areas of expert testimony is a difficult determination in many cases." 297 N.W.2d at 85 (citing McCormick's Handbook of the Law of Evidence § 203, at 490 (2d ed.1972)). On the other hand, subjecting all expert testimony--technical as well as scientific--to a Daubert analysis would unnecessarily complicate and confuse the court's analysis and unduly

lengthen many cases. As we have noted, the Daubert analysis "can be time-consuming and costly." Williams, 561 N.W.2d at 827. As already noted, Daubert itself suggests it does not apply in all cases.

Rule 702 and our cases applying it have served us well, and we see no need to replace them in favor of a mandatory application of the Daubert test, whether the evidence is scientific or technical in nature. Nevertheless, we believe the "observations" in Daubert will be helpful to a court in assessing reliability of evidence in complex cases. As Daubert noted,

[t]he inquiry envisioned by Rule 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity--and thus the evidentiary relevance and reliability--of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.

509 U.S. at 594-95, 113 S.Ct. at 2797, 125 L.Ed.2d at 483-84 (footnote omitted). And in Hall we said:

Obviously the complexity of the subject matter will influence the foundational showing of reliability. For example, the foundation for neutron activation analysis, as in *United States v. Stifel*, 433 F.2d [431,] 435-41 [ (6th Cir.1970) ], or polygraph evidence as in *State v. Conner*, 241 N.W.2d [447,] at 459 [ (Iowa 1976) ], would require greater input from the scientific community than, for example, blow-ups of handwriting exemplars, ballistic comparisons, or tire tracks.

297 N.W.2d at 85.

We are not alone in adopting a limited application of Daubert. In *McDaniel v. CSX Transportation, Inc.*, 955 S.W.2d 257, 265 (Tenn.1997), the court said: "Although we do

Page 533

not expressly adopt Daubert, the non-exclusive list of factors to determine reliability are useful in applying Rules 702 and 703." Some states flatly reject Daubert. For example, in *Dow Chemical Co. v. Mahlum*, 114 Nev. 1468, 970 P.2d 98 (1998), the court stated:

We have considered Dow Chemical's argument that this court should adopt the decision of the United States Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* ... regarding the admissibility of scientific evidence. The interpretation of a federal counterpart to a Nevada rule of evidence may be persuasive, but is not controlling. We believe that the Daubert doctrine is a work in progress, and that we should observe the doctrine's further development in the federal courts before concluding that Daubert should be adopted as the law of this state. Above all, we do not presently perceive a need to adopt Daubert, based on our perception of developments in Nevada law, and we therefore decline to do so.

Id. at 108 n. 3 (citations omitted).

In *Armstrong v. City of Wichita*, 21 Kan.App.2d 750, 907 P.2d 923, 929 (1995), the court declined to adopt Daubert and stated: "There are a number of reasons why we decline to apply the Daubert test. The most significant is that Daubert does not apply to Kansas cases." The Kansas court adhered to the "general acceptance" test of Frye. Id. In *State v. Copeland*, 130 Wash.2d 244, 922 P.2d 1304, 1315 (1996), the court declined to follow Daubert in favor of retaining the Frye test "where novel scientific evidence is concerned." In *State v. Carter*, the Nebraska Supreme Court stated that "Daubert, by its own terms, does not apply to state court proceedings" and declined to adopt that test in favor of retaining the Frye test in determining the admissibility of DNA evidence. *State v. Carter*, 246 Neb. 953, 524 N.W.2d 763, 778 (1994) (clarified by *State v. Freeman*, 253 Neb. 385, 571 N.W.2d 276, 293 (1997)). In *People v. Leahy*, 8 Cal.4th 587, 34 Cal.Rptr.2d 663, 882 P.2d 321, 331 (1994), the court said that California's previous case law "survived Daubert in this state, [and nothing cited] persuades us to reconsider or modify [the prior case law] at this time."

We hold that trial courts are not required to apply the Daubert analysis in considering the admission of expert testimony. Nevertheless, trial courts may find it helpful, particularly in complex cases, to use one or more of the relevant Daubert "considerations" in assessing the reliability of expert testimony. See Hall, 297 N.W.2d at 85 (testimony must be reliable). Therefore, trial courts may, in their discretion, consider the following factors if deemed helpful in a particular case: (1) whether the theory or technique is scientific knowledge that can and has been tested, (2) whether the theory or technique has been subjected to peer review or publication, (3) the known or potential rate of error, or (4) whether it is generally accepted within the relevant scientific community. If a trial court considers these factors, the court should focus solely on the principles and methodology, not on the conclusions that they generate. See Daubert, 509 U.S. at 593-94, 113 S.Ct. at 2797, 125 L.Ed.2d at 483.

IV. The Proper Test for Admission of Expert Testimony in Iowa.

To be admissible in an Iowa court the evidence, of course, must be relevant. Iowa R. Evid. 402. Second, it must be evidence in the form of "scientific, technical, or other specialized knowledge [that] will assist the trier of fact to understand the evidence or to determine a fact in issue." Iowa R. Evid. 702. Third, the witness must be "qualified as an expert by knowledge, skill, experience, training, or education." Id. In addition, any potential for an exaggerated

effect of the proffered evidence should be considered. Polygraph evidence is illustrative of this problem. We have said that

the breadth, sensitivity and importance of the inference from polygraph evidence demands a higher standard of trustworthiness than is required of other kinds of scientific evidence.... In a field where so much depends on subjective analysis by the machine operator and the outcome of trial may well turn on the polygrapher's opinion, we believe a strong showing of scientific acceptance and evidentiary reliability must be made.

Page 534

Conner, 241 N.W.2d at 459 (noting unique and potentially unwarranted impact of polygraph evidence). In the present age of exploding technical and scientific developments and claims of "junk science," other "expertise" might be proffered that will, like polygraph evidence, have the potential to achieve an exaggerated impact on the fact-finding process. Such evidence might be so novel or complex that the court, in its discretion, will require proof of acceptance of the theory or technique in the scientific community, one of the "considerations" suggested by Daubert, 509 U.S. at 593-94, 113 S.Ct. at 2797, 125 L.Ed.2d at 483; see also Hall, 297 N.W.2d at 85 (complex cases may benefit from input from scientific community).

#### V. Application of the Test.

A. The procedure. The plaintiff claims Goodyear failed to make a timely objection to the testimony of the plaintiff's expert. Leaf had designated Baumgardner as an expert in August 1995, and Baumgardner signed an interrogatory as an expert in September 1995. Goodyear indicated at the beginning of the trial in August 1996 that some type of Daubert challenge would be raised, but it did not raise a specific objection to Baumgardner's testimony until Baumgardner had begun to testify. The plaintiff contends Goodyear lost its right to object because it should have raised the issue of Baumgardner's qualifications prior to trial. We do not resolve the expert-testimony objection on the basis of timeliness, but we do note that rule of evidence 104(a) and its comment suggest that issues of admissibility of expert testimony will be raised prior to trial. Rule 104(a) provides:

Preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence shall be determined by the court, subject to the provisions of subdivision "b" [regarding relevancy conditioned on facts]. In making its determination it is not bound by the rules of evidence except those with respect to privileges.

The committee comment to the rule states:

Rule 104(a) establishes a procedure whereby preliminary matters concerning both exclusion and admission of evidence can be addressed by the Court. While Iowa has enjoyed the liberal use of the motion in limine with regard to the exclusion of an anticipated evidentiary offer, there is no Iowa counterpart regarding an advance determination with respect to admission. It is felt that the rule will greatly facilitate the orderly admission of evidence.

See *Hose v. Chicago N.W. Transp. Co.*, 70 F.3d 968, 973 n. 3 (8th Cir.1995) ("Challenges to the scientific reliability of expert testimony should ordinarily be addressed prior to trial."). While we believe the issue of Baumgardner's qualifications should have been addressed prior to trial, we consider the merits of Goodyear's objection raised at trial.

B. The witness's qualifications. Leaf's expert, Dick Baumgardner, graduated from Ohio State University in industrial design and education. Soon after graduation, he worked for the Firestone Tire Company in its engineering department. While at Firestone, he "worked the bugs" out of tubeless truck tires. He also worked on tire and tread design and was responsible for producing truck tires that have been used for almost forty years. At one time, he was in charge of truck tire tread design and was placed in charge of Firestone's truck tire engineering department. At that time, Firestone was the biggest truck tire manufacturer in the world. While at Firestone, Baumgardner went from truck tire engineering to retread engineering and eventually retired after twenty-seven years with Firestone. Following his retirement, he went into the consulting business and he has on occasion run the world's largest tire trade show. He has conducted seminars at Clemson University for three years, presenting technical information to tire people from most of the world's tire companies. He is a member of the Society of Automotive Engineers, the National Association of Professional Accident Reconstructionists, and various tire associations. He is a member of the American Society for Testing and Materials, which sets standards for basic tests on tires. He is a member of various tire associations made up of tire engineers and chemists. He has written over 200 articles and has submitted technical

Page 535

papers to the Society of Automotive Engineers. He also has assisted OSHA in drafting new safety material regarding tires. His experience in the tire industry exceeds thirty years. Goodyear argues that Baumgardner was not "qualified as an expert by knowledge, skill, experience, training, or education," as required by rule 702. Specifically, Goodyear

points to these deficiencies in Baumgardner's qualifications: (1) he had "no relevant academic credentials, such as professional engineering degrees"; (2) he had no experience in actually designing complete radial tires; (3) he had done no scientific testing to determine if there was a feasible alternative design, and he knew of no one who had published material on an alternate design; and (4) his experience with other Goodyear tires was "all anecdotal" and involved only a handful of cases for which he had no statistical information.

Goodyear's first objection, that Baumgardner did not have "relevant academic credentials," is without merit. Baumgardner has a degree in industrial design and education, and he testified that there is not such a thing as an engineering degree in tire manufacturing or design. Further, we have said that no particular education is required; experience is sufficient to qualify a witness as an expert. Hutchison, 514 N.W.2d at 887-88 ("The criteria for qualifications under rule 702--knowledge, skill, experience, training or education--are too broad to allow distinctions based on whether or not a proposed expert belongs to a particular profession or has a particular degree.").

Goodyear also notes that Baumgardner has not actually designed "a complete radial tire," and he had done no scientific testing to determine whether there was a feasible alternative to Goodyear's design. These factors could, and possibly did, affect the weight of Baumgardner's testimony, but they do not render his testimony inadmissible. See *Compton v. Subaru of Am., Inc.*, 82 F.3d 1513, 1520 (10th Cir.1996) (witness qualified to testify regarding unsafe cartops, even though he had not conducted or observed rollover tests or static tests for roof crush).

A plaintiff may present evidence of an alternative design to help prove that the design in question is unreasonably dangerous. *Palmer v. Avco Distrib. Corp.*, 82 Ill.2d 211, 45 Ill.Dec. 377, 412 N.E.2d 959, 964 (1980) (unreasonable danger can be proved in two ways, including "evidence that the Avco spreader could have been designed to prevent a foreseeable harm without hindering its function or increasing its price"). However, proof of the development of an alternative design is not a prerequisite to an expert's qualification. *Thornton v. Caterpillar, Inc.*, 951 F.Supp. 575 (D.S.C.1997).

Defendants object that [the expert] has never designed or developed a coupling system for the purpose of attaching implements to a bucket loader, nor has he ever designed an active warning device. The Restatement of Torts does not require an expert to actually construct an alternate design as a prerequisite to his testimony. According to Restatement (Third) of Torts: Prod. Liab. § 2(e)(T.D. No. 2, 1996):

While plaintiff must prove that a reasonable alternative design would have reduced the foreseeable risks of harm, § 2(b) does not require the plaintiff actually to produce a prototype in order to make out a prima facie case. For example, qualified expert testimony on the issue suffices if it reasonably supports the conclusion that a reasonable alternative design could have been adopted at the time of sale.

*Id.* at 578-79.

Goodyear also points out that Baumgardner has done no scientific testing himself, but this, of course, is not required. *Compton*, 82 F.3d at 1520. Baumgardner testified he had studied others' scientific materials, and the jury could weigh the extent of his involvement in assessing the weight of Baumgardner's testimony. Goodyear also contends that Baumgardner's information about the Goodyear tires was "merely anecdotal"; however, this again goes to the weight of Baumgardner's testimony.

We believe the court was well within its discretion in finding Baumgardner qualified.

C. The proffered testimony. Baumgardner testified that Leaf acted properly in inflating the tire, and the rupture was

Page 536

not caused by any overinflation by him. In his opinion the tire was defective, partly because the wires within the body of the tire had flexed in a concentrated area, called a "hinge point," causing them to break. He compared this flexing with a rapid bending of a wire in a concentrated area, as many have done (probably for lack of pliers) to purposely break a wire. He testified that the contour of the tire body lends itself to increased flexing of the wires and should have been modified to help reduce the problem of flexing. He testified that Firestone, a Goodyear competitor, had avoided this type of problem by providing a different contour to the tire and a different positioning of the wires. He stated:

This particular tire is defective because it demonstrates the presence of a hinge point in the tire that should not exist in tires. One of the first principles, if you're going to run it, if you're going to flex an object like a tire a million times every 1000 to 2000 miles, the tire has to be flexible and that there should not be any one localized spot which is subject to failure.

The witness stated that Goodyear should have changed the location and contents of the wire and the amount of twist in the wire. He also testified that Goodyear should have changed the configuration of the body of the tire. The goal would be to avoid a hinge point.

The witness's testimony in the present case was quite simple to understand: Goodyear should have changed the location twist and contents of the wire and it should have changed the configuration of the rubber sidewalls to protect the wire. The trial court's analysis, although phrased as a Daubert-type test, was adequate, and its conclusion that Baumgardner's testimony was sufficient to establish the defective design was supported by the record.

#### VI. The Court's Instruction on "Fault."

Goodyear argues Jury Instruction No. 15 unfairly portrayed the fault issues as relating only to Goodyear and not to Leaf. The instruction stated:

In these instructions I will be using the term "fault." Fault means one or more acts or omissions towards the person or property of the actor or of another which constitutes negligence, or which subjects a person to strict liability in tort. Pertaining to the claims in this case, the concept of "strict liability" deals with the condition of the tire in question. "Negligence" on the other hand focuses on the reasonableness of [ ] Goodyear's conduct as it pertains to warning or failing to warn about claimed dangers posed by the tire.

The term "fault" also includes the unreasonable assumption of risk and unreasonable failure to avoid an injury. These concepts focus on the conduct of the Plaintiff, Mr. Leaf. Each of these terms will be discussed further below.

(Emphasis added.)

Jury instructions are to be read and considered as a whole, not "piecemeal or in artificial isolation." *State v. Simpson*, 528 N.W.2d 627, 632 (Iowa 1995) (citing *Sanders v. Ghrist*, 421 N.W.2d 520, 522 (Iowa 1988)). Instructions 17 to 24 informed the jury of the elements of Leaf's strict-liability claim and defined an "unreasonably dangerous" product. They specifically stated that Leaf had the burden to prove these elements. These instructions also include elements of Goodyear's state-of-the-art defense. Instructions 30-34 provide the comparative fault principles and describe how Leaf's share of the fault could reduce or eliminate his recovery. These instructions also listed the elements Goodyear must prove to establish its defense that Leaf was at fault or assumed the risk. When all of the instructions are read together, they adequately and accurately explain fault as it related to both Leaf and Goodyear.

#### VII. The Effect of OSHA Violations.

Goodyear challenges instruction No. 34, which stated:

Mr. Leaf was required to exercise reasonable care for his own safety. This means that, if, in the exercise of ordinary care under the circumstances, he could have taken some particular action to avoid an injury, then he was under a duty to take such action.

In this case Goodyear claims that Mr. Leaf unreasonably failed to take action to

Page 537

avoid an injury by failing to follow Iowa's occupational safety and health laws which direct a person who is servicing a tire to:

- a. Not inflate a tire unless and until it is contained in an approved safety cage;
- b. Use an approved air line assembly with clip-on chuck, extension hose and in-line pressure gage to inflate truck tires;
- c. Stand away from the immediate area and trajectory zone of the tire while inflating it.

Goodyear urges us to reexamine and extend the negligence-per se rule reaffirmed in *Wiersgalla v. Garrett*, 486 N.W.2d 290 (Iowa 1992). There, we said that,

if a statute or regulation such as an OSHA standard provides a rule of conduct specifically designed for the safety and protection of a certain class of persons, and a person within that class receives injuries as a proximate result of a violation of the statute or regulation, the injuries "would be actionable, as ... negligence per se."

*Id.* at 292 (quoting *Koll v. Manatt's Transp. Co.*, 253 N.W.2d 265, 270 (Iowa 1977)). The injuries would not be actionable as a negligence-per se claim unless "the harm for which the action is brought must be of the kind which the statute was intended to prevent; and the person injured, in order to recover, must be within the class which [the statute] was intended to protect."

*Id.* *Wiersgalla* held that an employer's violation of an OSHA or IOSHA standard would be negligence per se only in an action by an employee against an employer. In other cases, the violation of an OSHA standard is only evidence of negligence. *Id.* Goodyear argues the policies underlying *Wiersgalla* also support a holding that an employee's violation of an OSHA regulation should be considered negligence per se because the rules were enacted for the protection of employees.

OSHA standards were designed to protect employees from unsafe conditions in the workplace created or permitted by the employer. They were not intended to establish negligence per se in an action by an employee against a third party. We adhere to the rule of *Wiersgalla* and reject Goodyear's negligence-per se argument.

We find no error in any of the matters raised on appeal and therefore affirm.

AFFIRMED.

All justices concur except LAVORATO and CARTER, JJ., who concur specially.

LAVORATO, Justice (concurring specially).

I think the result the majority reaches is correct. But I would reject the Daubert analysis. Daubert is a federal response to the Frye test. This test excluded scientific evidence if it was not based on a scientific technique generally accepted as reliable within the scientific community. See *Frye v. United States*, 293 F. 1013, 1014 (D.C.Cir.1923). We rejected the Frye test in *State v. Hall*, 297 N.W.2d 80, 85 (Iowa 1980), so there really is no reason for us to adopt Daubert. I think our interpretation of Iowa Rule of Evidence 702 based on common-law principles since Hall has served us well to this point, and I see no reason to depart from that interpretation now. See *Williams v. Hedican*, 561 N.W.2d 817, 832 (Iowa 1997) (Neuman, J., concurring).

The majority tries to make it clear that the Daubert considerations are simply guidelines and not binding. Nevertheless, I fear there might be a tendency to routinely apply these considerations to exclude expert testimony, which we have traditionally recognized as relevant and reliable. We have repeatedly recognized that trial judges have broad discretion on the admissibility of expert testimony. It seems to me that the majority's opinion would start us down the slippery slope of blindly following Daubert in the future, resulting in undue restrictions on this discretion.

CARTER, J., joins this special concurrence.