

IN THE COURT OF APPEALS OF IOWA

No. 3-454 / 12-1987
Filed September 5, 2013

**RENE JUNK, As Parent and Next
Best Friend of Tyler Junk, a minor,
and TYLER JUNK, Individually,**
Plaintiffs-Appellants,

vs.

**HAROLD OBRECHT and
JIM BRENEMAN,**
Defendants-Appellees.

Appeal from the Iowa District Court for Polk County, Terry Rickers, Judge.

Plaintiffs appeal the district court's ruling granting summary judgment to defendants in this toxic tort action. **AFFIRMED.**

Tracy N. Tool and C.M. Bye of Bye, Goff & Rohde, Ltd., River Falls, Wisconsin, and Donald Beattie and Brett Beattie of Beattie Law Firm, Des Moines, for appellants.

Stephen Swofford, David R. Creagh, and David J. Richards of Hinshaw & Culbertson, L.L.P., Chicago, Illinois, and Frank Comito and Kent Gummert of Gaudineer, Comito & George, L.L.P., West Des Moines, for appellees.

Heard by Doyle, P.J., Bower, J., and Huitink, S.J.*

*Senior judge assigned by order pursuant to Iowa Code section 602.9206 (2013).

HUITINK, S.J.**I. Background Facts & Proceedings.**

The following facts may be determined from the record presented on the defendants' motion for summary judgment. In 1992, while Rene Junk was pregnant, she and her husband, Dean Junk, contracted with Terminex International Company to have their home treated for the presence of spiders. Over a period of three years, Terminex employees, including Harold Obrecht and Jim Breneman, sprayed the interior of the home with Dursban. The Junks' son, Tyler, was born later in 1992. Tyler suffers from physical, neurological, and psychological problems.

On October 3, 2005, Rene, as parent and next friend of Tyler,¹ filed an action in Iowa district court against Terminex, Dow Chemical Company, Dow AgroSciences, Obrecht, and Breneman, claiming Tyler's problems were caused by exposure to chlorpyrifos, a chemical in Dursban. Plaintiffs also claimed Obrecht and Breneman had told the Junks that Dursban was not harmful to human beings.

On defendants' request, the case was removed to federal court based on diversity jurisdiction. On October 3, 2006, the federal district court dismissed all of the counts against Breneman. On August 11, 2008, plaintiffs voluntarily dismissed their claims against Obrecht. The federal case continued against defendants Terminex, Dow Chemical, and Dow AgroSciences.

¹ At some point during this case's lengthy legal process, Tyler obtained his majority and was named as a plaintiff in his individual capacity.

Plaintiffs designated three expert witnesses: (1) Dr. Richard Fenske, a professor of environmental and occupational health sciences; (2) Dr. Cynthia Bearer, a pediatrician; and (3) Dr. Mohamed Abou-Donia, a professor of pharmacology, cancer biology, and neurobiology. In their affidavits, Dr. Bearer and Dr. Abou-Donia accepted the opinion of Dr. Fenske in his affidavit that while it was unknown how much chlorpyrifos Tyler had been exposed to, either in utero or as a child, the exposure probably exceeded the amount recommended by the Environmental Protection Agency (EPA).

Defendants filed a motion in limine seeking to exclude the testimony of Dr. Bearer and Dr. Abou-Donia. In an opinion dated September 11, 2008, the federal district court granted the motion as to the opinion of Dr. Abou-Donia because he did not estimate or calculate the levels of chlorpyrifos Rene or Tyler had been exposed to, stating only that it was enough to cause Tyler's neurobiological delays. The court issued a separate decision on the same day denying the motion in limine as to Dr. Bearer. *Junk v. Terminex Int'l Co.*, 577 F. Supp. 2d 1086, 1099 (S.D. Iowa 2008) (*Junk I*).

Defendants then filed a motion in limine seeking to exclude Dr. Fenske's and Dr. Bearer's specific causation opinions. The federal district court determined:

While Dr. Fenske reasonably estimates the amount of chlorpyrifos that was applied inside the Junk home, his opinions regarding the Junks' exposure and dosage suffer from a number of serious flaws. First, in rendering his opinions in this matter, Dr. Fenske did not apply the scientifically reliable model for estimating exposure that he typically utilizes in his research and teaching. Second, he based his opinion solely on the amount of chlorpyrifos applied to the Junk home without considering the size of the house, the areas treated,

and the amounts applied to the exterior of the home. Third, Dr. Fenske attempted to compare the circumstances of chlorpyrifos exposures in the Junk home with the circumstances of exposures that occurred in certain academic studies. These comparisons are not reliable because they lack a sufficient factual basis.

Junk v. Terminex Int'l Co., 594 F. Supp. 2d 1062, 1063 (S.D. Iowa 2008) (*Junk II*). The court concluded Dr. Fenske's opinion should be excluded because his methodology was not "scientifically valid," using the analysis of *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 591-95 (1993). *Id.* at 1074. The court also determined that because Dr. Bearer's opinion relied on the exposure analysis of Dr. Fenske, her opinion was also inadmissible. *Id.* at 1075.

Defendants Terminex, Dow Chemical, and Dow AgroSciences filed motions for summary judgment. On November 3, 2008, in an unpublished opinion, the federal district court granted their motions for summary judgment finding, "[w]ithout expert testimony regarding specific causation of Tyler Junk's injuries, Junk failed to create a genuine issue of material fact regarding causation." *Junk v. Terminex Int'l Co.*, 2008 WL 5142193, *3 (S.D. Iowa Nov. 3, 2008) (*Junk III*). The court also denied plaintiffs' motion to reconsider the granting of summary judgment.

The case was then appealed to the Eighth Circuit. *Junk v. Terminex Int'l Co.*, 628 F.3d 439 (8th Cir. 2010) (*Junk IV*). The court stated, "We agree with the district court that Dr. Fenske's failure to follow his own general practice and his reliance on unfounded assumptions in his comparative method created 'too great an analytical gap' between his opinion and the data on which it relied." *Id.* at 448. The court found "Dr. Bearer's differential diagnosis depended upon

Dr. Fenske's opinion on exposure." *Id.* at 449. The court also found, "Dr. Abou-Donia had no scientifically valid basis for assuming that Rene and T.J. Junk were exposed to unsafe chlorpyrifos levels." *Id.* at 449 n.4. The court concluded the district court did not abuse its discretion in excluding the opinions of Dr. Fenske, Dr. Bearer, and Dr. Abou-Donia. *Id.* at 448-49. The court determined because plaintiffs could not prove causation, defendants were entitled to summary judgment. *Id.* at 450. The court, however, determined the action against Breneman should not have been dismissed and remanded that claim to state court. *Id.* at 447.

On remand to the Iowa district court, plaintiffs amended their petition to reinstate their claim against Obrecht, and the case proceeded only against Obrecht and Breneman. While the case was on remand, Dr. Fenske filed a new affidavit that stated he believed his first affidavit had been correct. Dr. Bearer also filed a new affidavit that stated she agreed with Dr. Fenske's assessment as outlined in his first affidavit.

Defendants Obrecht and Breneman filed a motion for summary judgment, claiming plaintiffs could not establish a causal link between their actions and the injuries to Tyler. The Iowa district court determined the opinions of Dr. Fenske and Dr. Bearer should be excluded because they were not sufficiently reliable. The court then found, "Because toxic tort cases require expert opinion evidence, exclusion of that evidence will necessarily result in summary judgment in favor of the Defendants." The court then granted summary judgment to defendants.

Plaintiffs appeal the decision of the district court granting summary judgment to defendants Obrecht and Breneman.

II. Standard of Review.

A district court's determination concerning the admissibility of testimony by a proposed expert witness is reviewed for an abuse of discretion. *Quad City Bank & Trust v. Jim Kircher & Assocs., P.C.*, 804 N.W.2d 83, 92 (Iowa 2011). A court abuses its discretion when it exercises its discretion on grounds or for reasons that are clearly untenable or to an extent clearly unreasonable. *Id.* "A ground or reason is untenable when it is not supported by substantial evidence or when it is based on an erroneous application of the law." *Id.*

We review rulings on motions for summary judgment for the correction of errors at law. *Bierman v. Weier*, 826 N.W.2d 436, 443 (Iowa 2013). "Summary judgment is appropriately granted when there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law." *Id.* When a court considers a motion for summary judgment, it views the record in the light most favorable to the nonmoving party. *Id.*

III. Merits.

Iowa has generally maintained a liberal view on the admissibility of expert testimony. *Hutchison v. Am. Family Mut. Ins. Co.*, 514 N.W.2d 882, 885 (Iowa 1994). Iowa Rule of Evidence 5.702 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 expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise.

Under rule 5.702, the court must first determine whether the expert's testimony will assist the trier of fact. *Ranes v. Adams Labs., Inc.*, 778 N.W.2d 677, 685 (Iowa 2010). Next, the court must determine the qualifications of the expert in the context of the issues to be determined by the fact finder. *Id.*

On the first issue, the court must determine whether the evidence is relevant. *Id.* Expert opinion testimony is relevant only if it is reliable and helpful to the factfinder. *Taft v. Iowa Dist. Ct.*, 828 N.W.2d 309, 319 (Iowa 2013). This is because unreliable testimony does not assist the trier of fact. *Johnson v. Knoxville Cmty. Sch. Dist.*, 570 N.W.2d 633, 637 (Iowa 1997). "In assessing the reliability of scientific evidence under the first area of preliminary inquiry, we essentially utilize an ad hoc approach to decide if the scientific area of expertise produces results that are reliable enough to assist the trier of fact." *Ranes*, 778 N.W.2d at 685-86.

The Iowa Supreme Court has suggested that in some instances the following *Daubert* factors may be applied in assessing the reliability of proposed expert testimony: (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. *Williams v. Hedican*, 561 N.W.2d 817, 824 (Iowa 1997) (citing *Daubert*, 509 U.S. at 593-94). The *Daubert* factors "will be helpful to a court in assessing reliability of evidence in complex cases." *Leaf v. Goodyear Tire & Rubber Co.*, 590 N.W.2d 525, 532 (Iowa 1999). This case involves novel and complex scientific

evidence, and we determine the district court did not abuse its discretion in determining *Daubert* should be applied. See *id.* (noting courts have discretion to apply *Daubert* factors “if deemed helpful in a particular case”); see also *Ranes*, 778 N.W.2d at 687 (applying *Daubert* in a toxic tort case involving a complex issue of causation).

Under *Daubert*, the district court engages in “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 593. The district court thus assumes a “gatekeeper” function which requires it to determine whether scientific evidence is sufficiently reliable to be admissible.² *Williams*, 561 N.W.2d at 825. “[T]rial courts have a well-recognized role as guardians of the integrity of expert evidence offered at trials.” *Ranes*, 778 N.W.2d at 686.

In toxic tort cases, such as this one, where a party claims a particular drug or chemical caused the party’s injuries, the issue of causation is divided into two parts—general and specific. See *id.* at 687. “General causation is a showing that the drug or chemical is capable of causing the type of harm from which the plaintiff suffers.” *Id.* at 688. “Specific causation is a showing that the drug or chemical in fact caused the harm from which the plaintiff suffers.” *Id.* A plaintiff must prove both types of causation. *Id.*

² If the court considers one or more of the *Daubert* factors, the focus should be solely on the principles and methodology of the evidence, not the conclusions reached. *In re Detention of Holtz*, 653 N.W.2d 613, 616 (Iowa Ct. App. 2002).

The fighting issue in the present case surrounds the question of specific causation.³ “Specific causation in toxic-tort cases examines whether the toxin at issue could have reasonably caused the plaintiff’s specific alleged injuries.” *Id.* at 695. Dr. Bearer was the designated expert on the issue of specific causation. *Junk II*, 594 F. Supp. 2d at 1065. In an affidavit, Dr. Bearer gave the opinion, “Tyler Junk’s neurodevelopmental delay is the result of his exposure to Dursban both in utero and in the early years of his life.” *Junk I*, 577 F. Supp. 2d at 1093. In her specific causation analysis, however, Dr. Bearer relied on Dr. Fenske’s exposure analysis. *See Junk II*, 594 F. Supp. 2d at 1065. Dr. Bearer’s specific causation opinion was based on Dr. Fenske’s opinion Tyler had been exposed to levels of chlorpyrifos that exceeded levels recommended by the EPA. *See id.* at 1068-69.

Of particular value on this issue is the analysis of the United States Court of Appeals for the Eighth Circuit:

Dr. Richard Fenske was retained by Junk to offer his opinion on T.J.’s exposure to chlorpyrifos during his mother’s pregnancy and after his birth. Dr. Fenske’s academic experience and expertise are not in dispute. The district court concluded, however, that Dr. Fenske’s methodological approach in this particular case was not sufficiently reliable. Dr. Fenske testified that he generally employs a deterministic modeling approach to estimate toxic exposure levels. Since he lacked the data necessary to conduct such an analysis here, he could not estimate exposure levels as he normally does. Instead he resorted to a comparative analysis, analogizing to previous studies of household chlorpyrifos exposure before ultimately concluding that T.J. had been exposed to an unsafe level of the chemical.

The district court identified several grounds for its decision that Dr. Fenske’s opinion was not sufficiently reliable: Dr. Fenske admitted that he had been unable to follow the modeling methods

³ The parties in this appeal do not dispute the issue of general causation, that is, whether chlorpyrifos exposure could lead to neurodevelopmental delays in children.

that he uses in his published research and teaching because he lacked the necessary data. In this case he used a comparative method instead, comparing the circumstances the Junks experienced to several studies which had measured the effects of chlorpyrifos exposure.

The court concluded that Dr. Fenske's comparative analysis depended on unsupported assumptions. He did not account for differences between conditions in the Junk household and those described in the articles he consulted. In one instance his only basis for comparison was the fact that the Junk household and those in a particular study were all treated with chlorpyrifos. In another he relied on a study where the only common variable between the Junks' experience and the homes studied was the total amount of chlorpyrifos applied. Dr. Fenske disregarded other important variables such as where and how chlorpyrifos was applied in a household and whether the homes in a comparison study were the same size as the Junks' home.

While Junk correctly notes that Dr. Fenske was not required to produce "a mathematically precise table equating levels of exposure with levels of harm," the district court did not apply such a high standard. Rather, the court determined that Dr. Fenske had not used a "scientifically valid" method to estimate that T.J.'s exposure exceeded a safe level. We agree with the district court that Dr. Fenske's failure to follow his own general practice and his reliance on unfounded assumptions in his comparative method created "too great an analytical gap" between his opinion and the data on which it relied. For these reasons we conclude that the district court did not abuse its discretion in excluding Dr. Fenske's expert opinion on chlorpyrifos exposure.

Junk IV, 628 F.3d 439, 448-49 (8th Cir. 2010) (citations omitted).

Like the federal courts, the Iowa district court rejected Dr. Fenske's comparative methodology. The Iowa district court stated:

This Court concurs that Dr. Fenske's opinions and conclusions are essential to the opinions and conclusions reached by Dr. Bearer and Dr. Abou-Donia. Consequently, their opinions and conclusions inherited the fatal flaws of those expounded by Dr. Fenske.

As noted above, the standard for assessing the admissibility of expert opinion evidence in this Court is virtually identical to the standard used in the federal courts. The federal district court appears to have applied the *Daubert* factors carefully. For these reasons, as well as the reasons the federal court gave for the

inadmissibility of the experts' testimony, the Court should also exclude the testimony.

We conclude the district court did not abuse its discretion in determining the opinion of Dr. Fenske was not admissible because the reasoning or methodology underlying the testimony was not scientifically valid. *See Daubert*, 509 U.S. at 593. “[S]cientific knowledge’ implies the opinion is based on more than unsupported speculation.” *Ranes*, 778 N.W.2d at 697. “[I]n order to qualify as ‘scientific knowledge,’ an inference or assertion must be derived by the scientific method.” *Id.* The scientific method used in Dr. Fenske’s first affidavit has been rejected by courts that have reviewed them. *Junk IV*, 628 F.3d at 448-49; *Junk II*, 594 F. Supp. 2d at 1074. Also, although Dr. Fenske and Dr. Bearer signed new affidavits after the case had been considered by the federal courts; those affidavits relied on the same analysis used in Dr. Fenske’s first affidavit.

Because Dr. Bearer and Dr. Abou-Donia relied on Dr. Fenske’s exposure analysis in reaching their own opinions, the Iowa district court did not abuse its discretion in determining their opinions were also not admissible. We are quite deferential to the district court in the exercise of its discretion in the admissibility of expert witness testimony. *Mensink v. Am. Grain*, 564 N.W.2d 376, 380 (Iowa 1997).

As noted above, in order to proceed in a toxic tort case, a plaintiff must prove general causation and specific causation. *Ranes*, 778 N.W.2d at 688. “In all circumstances involving expert testimony, the proponent of the evidence has the burden of demonstrating to the court as a preliminary question of law the witness’s qualifications and the reliability of the witness’s opinion.” *Id.* at 686. In

this case, plaintiffs have failed to show the testimony of their proposed expert witnesses on the issue of specific causation was sufficiently reliable to be admissible. Without expert testimony, plaintiffs did not offer sufficient evidence to generate a factual question on the issue of causation, and the court properly granted defendants' motion for summary judgment.

We affirm the decision of the Iowa district court.

AFFIRMED.

Bower, J., concurs; Doyle, P.J., dissents.

DOYLE, P.J. (dissenting)

I respectfully dissent. Whatever deficiencies that may have existed in Dr. Fenske's opinions when rejected by the federal courts were remedied following remand to the Iowa district court. I disagree with the district court's evaluation that "Dr. Fenske's comparative quantitative approach still falls short of being a generally accepted scientific methodology."

After defendants moved for summary judgment, Dr. Fenske submitted an affidavit based on recent science and analysis. Referring to a 2010 paper, Dr. Fenske employed a quantitative exposure reconstruction method to determine Tyler and Rene's exposure levels to chlorpyrifos.⁴ Citing to the paper, Dr. Fenske explained,

quantitative exposure reconstruction techniques are "based on similar exposure data (either historical or current), data collected during simulation studies, or biological monitoring data." Ideally, exposure measurements (e.g., air samples, surface contamination) collected at the time of the exposure event can be used in an exposure reconstruction, with personal measurements preferred over area measurements. If such data are not available, then exposure measurements from similar scenarios can be used.

Here, and not surprisingly under the circumstances, no personal or area measurements were made of chlorpyrifos exposure at the Junk residence. Dr. Fenske's exposure reconstruction methodology used data from a number of studies published in peer-reviewed literature. Dr. Fenske concluded: "Given the repeated applications of Dursban in the Junk residence and Tyler Junk's

⁴ The paper cited by Dr. Fenske is Jennifer Sahmel et al., *The Role of Exposure Reconstruction in Occupational Human Health Risk Assessment: Current Methods and a Recommended Framework*, 40 *Critical Revs. in Toxicology*, Oct. 2010, at 799-843. I note this paper was not in existence when Dr. Fenske's opinions were rejected by the federal courts.

continuous exposure to chlorpyrifos over more than two years, it is reasonable to conclude that such exposures could result in adverse neurological outcomes.” Further, he concluded: “These data provide persuasive evidence that Rene Junk was exposed during pregnancy to chlorpyrifos levels following indoor residential Dursban crack-and-crevice applications sufficient to produce neurological effects in her child.” Finally, he opined: “Rene Junk was almost certainly exposed during her pregnancy to levels of chlorpyrifos sufficiently high enough to produce neurologic deficits in the child that she carried,” and “Tyler Junk was almost certainly exposed to levels of chlorpyrifos during early childhood that exceeded the U.S. Environmental Protection Agency’s current regulatory concern levels.”

In a perfect world, actual exposure measurements would have been taken in the Junk residence at the time of exposure. Without those measurements, it is up to the scientist to select the methodology to use based upon the data available, and I find no fatal flaw in the methodology used by Dr. Fenske. Some of the published studies relied upon by Dr. Fenske were sufficiently similar to the Junks’ situation, and Dr. Fenske reasonably and validly used them in his quantitative exposure reconstruction. I find nothing in the record to suggest that Dr. Fenske’s conclusions were the result of methodology so unreliable as to render their admission an abuse of discretion. He should not have been excluded as an expert witness.

The district court found Dr. Fenske’s opinions and conclusions were essential to the opinions and conclusions reached by plaintiffs’ expert witnesses Drs. Bearer and Abou-Donia. Consequently, the court excluded their testimony

reasoning that their opinions and conclusions inherited the fatal flaws the court found in the opinions and conclusions expounded by Dr. Fenske. Having found no fatal flaw in Dr. Fenske's methodology, I believe Drs. Bearer and Abou-Donia should not have been excluded as expert witnesses.

I conclude the district court abused its discretion by finding Dr. Fenske did not practice a reliable methodology in reaching his opinions and conclusions. Furthermore, the opinions and conclusions of Drs. Bearer and Abou-Donia should not have been excluded. As recognized by the majority, the fighting issue in this case surrounds the question of specific causation. I believe the Junks offered sufficient evidence to generate a factual question for the jury on that issue. It was therefore improvident for the district court to grant summary judgment in favor of defendants.

Iowa state courts are committed to a liberal view of the admissibility of expert testimony. See *Leaf v. Goodyear Tire & Rubber Co.*, 590 N.W.2d 525, 532 (Iowa 1999). Here, the gate should have swung open, not slammed shut.