

**United States Court of Appeals  
FOR THE EIGHTH CIRCUIT**

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No. 07-3010

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Racheal L. Bland,

Appellant,

v.

Verizon Wireless, (VAW) L.L.C.;  
Cellco Partnership; Christopher  
Michael Reid,

Appellees.

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\* Appeal from the United States  
\* District Court for the  
\* Southern District of Iowa.  
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Submitted: May 12, 2008  
Filed: August 14, 2008

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Before RILEY, BOWMAN, and HANSEN, Circuit Judges.

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RILEY, Circuit Judge.

Racheal Bland (Bland) brings this action claiming she ingested freon after a Verizon Wireless, (VAW) L.L.C. (Verizon) employee sprayed canned air containing freon into her water bottle. Bland contends ingesting the freon caused her to suffer exercise-induced asthma. The district court<sup>1</sup> excluded evidence from Dr. Nancy

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<sup>1</sup>The Honorable Celeste F. Bremer, United States Magistrate Judge for the Southern District of Iowa, to whom the case was referred for final disposition by consent of the parties pursuant to 28 U.S.C. § 636(c).

Sprince (Dr. Sprince), Bland's treating physician, opining the freon caused Bland's exercise-induced asthma. The district court then granted defendants' motion for summary judgment because, without Dr. Sprince's testimony, Bland was unable to set forth sufficient evidence of causation. Bland appeals. We affirm.

## **I. BACKGROUND**

On June 8, 2005, Bland and her friend J.J. Roetlin (Roetlin) entered a Verizon store in Coralville, Iowa, so Roetlin could have his phone updated. When they left the store, Bland inadvertently left her water bottle behind. After Bland and Roetlin left, Verizon employee Christopher Reid (Reid) sprayed compressed air into Bland's water bottle "as a joke," believing the water bottle belonged to a fellow Verizon employee. The compressed air would freeze the top of the water in the water bottle, which supposedly was funny. Reid previously performed this same "joke" with his own water bottle and the water bottles of fellow employees. Once Reid drank the water in a bottle after such a "joke" and experienced no ill effects. No one else reported any adverse effects from drinking the water frozen in the bottles.

Shortly after Reid sprayed the compressed air into Bland's water bottle, Roetlin returned and retrieved Bland's water bottle from a Verizon employee. Several Verizon employees were laughing as Roetlin took the bottle, causing Roetlin to ask, "Is something funny? Did you piss in [the bottle] or something?" None of the Verizon employees responded and Roetlin left saying, "Take it easy." Though the Verizon employees never acknowledged taking any action, Roetlin jokingly reported to Bland, "I wouldn't drink that [because when I retrieved the bottle] they were laughing pretty hard . . . . Maybe they peed in it."

Neither Bland nor Roetlin attempted to open the water bottle or drink from it until after they drove to Roetlin's home to make dinner, a drive of 30 to 45 minutes. At Roetlin's home, Bland opened the bottle which "made a—kind of pressurized noise." Bland thought this sound was weird but figured it may have been caused by

the heat. Bland took a drink, then decided to smell the contents “because [she] thought it was odd that [the bottle] was pressurized,” even though she “didn’t know if it was going to stink from being in the heat or what.” Bland took a big whiff and the bottle “had a really potent smell that made me cough.” Bland “took another drink and kind of swished it around [her] mouth . . . trying to figure out if there was something in there or if [she] was just being crazy.” In total, Bland had “two or three drinks at most.” Bland then passed the bottle to Roetlin saying, “Smell this, it smells like plastic.”

Bland later reported to her doctor, “Immediately after drinking from the bottle she coughed a few times, and this coughing persisted for nearly an hour.” Bland also described a “sore sensation in her throat” and for the next few days a “raspy sensation in her lungs.” Bland developed a headache which persisted for about two weeks.

Roetlin also took a drink from the bottle but did not swallow. Both Bland and Roetlin reported not feeling well. They called the police. The police spoke to Reid, who admitted spraying compressed air<sup>2</sup> in Bland’s water bottle. Roetlin and Bland delivered the bottle to the University of Iowa Hygienic Lab (Lab) for testing. The Lab determined the bottle contained 820 parts per million (ppm) (.08%) of difluoroethane, a freon compound. The Lab then contacted the Iowa Poison Control Center (Poison Control) to determine what the Lab should tell Roetlin and Bland. After consulting Poison Control, the Lab contacted Roetlin and referred Bland and Roetlin “to a physician if experiencing symptoms.”

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<sup>2</sup>The compressed air at Verizon was called “Dust Blaster” and contained tetrafluoroethane. The compound detected in the Bland water bottle contents was difluoroethane. The mass spectrum analysis of tetrafluoroethane and the mass spectrum analysis of difluoroethane are not the same (four fluoro molecules vs. two fluoro molecules). The testing Lab had no explanation for why the water in Bland’s bottle would contain difluoroethane if the canned air contained tetrafluoroethane and not difluoroethane.

On July 13, 2005, Bland was seen by Dr. Sprince for the first time, complaining of shortness of breath when running. Bland's lung function test results were normal. Dr. Sprince initially thought Bland's shortness of breath might be due to lack of physical conditioning, change in her exercise routine or the July weather. Dr. Sprince eventually diagnosed Bland as having "exercise-induced asthma." Dr. Sprince theorized that "[b]ased on the initial clinical findings, [a] strong temporal relationship between the inhalation of Freon and the occurrence of respiratory symptoms, and the subsequent response to pre-exercise treatment with inhaled bronchodilator" that Bland's exercise-induced asthma was caused by the inhalation of freon.

Bland filed this action in the Iowa District Court for Johnson County on January 5, 2006. Verizon removed this action to federal court on January 26, 2006. Bland was granted leave to amend to add Celco Partnership and Reid as defendants. All defendants moved for summary judgment on May 21, 2007.

Bland sought to have the testimony of her treating physician, Dr. Sprince, admitted to establish a causal link between Bland's inhalation of freon and Bland's exercise-induced asthma. The district court excluded Dr. Sprince's testimony because Dr. Sprince's proffered testimony as to causation did not satisfy the standards for admission of expert scientific testimony under Daubert.<sup>3</sup>

## II. DISCUSSION

"We review for abuse of discretion rulings concerning the admissibility of testimony that is offered as expert opinion." Ahlberg v. Chrysler Corp., 481 F.3d 630, 635 (8th Cir. 2007) (citing Hickerson v. Pride Mobility Prods. Corp., 470 F.3d 1252, 1256 (8th Cir. 2006)). We will not reverse a district court's ruling on the admissibility of evidence "absent a clear and prejudicial abuse of discretion." Id. at 632 (quoting Pittman v. Frazier, 129 F.3d 983, 989 (8th Cir. 1997)).

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<sup>3</sup>Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993).

Federal Rule of Evidence 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, 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.

“A trial judge must make a preliminary assessment of whether the proffered expert’s methodology is both scientifically valid and applicable to the case.” Ahlberg, 481 F.3d at 635 (citing Daubert, 509 U.S. at 592-93). “Under Rule 702, as amplified by *Daubert*, factors bearing upon this determination include whether the expert’s theory or technique (1) can be and has been tested, (2) has been subjected to peer review and publication, (3) has a known or potential rate of error, and (4) has gained general acceptance in the relevant community.” Id. (citing Daubert, 509 U.S. at 593-94). “This ‘gatekeeping requirement’ is to ensure that the proffered expert exercises the same ‘intellectual rigor’ in the courtroom as does an expert in the relevant field.” Id. (citing Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999)).

Bland sought to have the testimony of her treating physician, Dr. Sprince, admitted to establish a causal link between Bland’s inhalation of freon and Bland’s exercise-induced asthma. “A treating physician’s expert opinion on causation is subject to the same standards of scientific reliability that govern the expert opinions of physicians hired solely for purposes of litigation.” Turner v. Iowa Fire Equip. Co., 229 F.3d 1202, 1207 (8th Cir. 2000) (citing Kumho Tire, 526 U.S. at 151). The district court excluded Dr. Sprince’s causation testimony because Dr. Sprince (1) failed scientifically to eliminate other possible causes as part of her differential diagnosis; (2) did not know “what amount of exposure to [the] difluoroethane-containing Freon causes, or involves an appreciable risk of causing, asthma”; (3) “had no good grounds

for determining whether Bland was exposed to a sufficient dose of difluoroethane-containing Freon to have caused her asthma, because [Dr. Sprince] . . . could not determine or estimate the amount of difluoroethane or Freon . . . Bland was actually or probably exposed [to] when she smelled the water in her water bottle”; (4) could not extrapolate from the existing data because the gap between the data identified and Dr. Sprince’s proffered opinion was “‘simply too great an analytical gap’ . . . to support admissibility (quoting General Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997)) (citation omitted)”; (5) did not offer as evidence any personal experience with “‘treating other patients following a similar exposure to difluoroethane, Freon, or Freon with difluoroethane’”; and (6) reliance on temporal proximity, without more, is insufficient to establish causation.

Bland asserts the district court abused its discretion in holding Dr. Sprince’s causation opinion was scientifically unsupported because the opinion was the product of reliable methods and principles. Further, Bland asserts the district court “abused [its] discretion by imposing a burden of proof tantamount to scientific certainty rather than the preponderance of evidence standard required by law.”

### **1. Differential Diagnosis**

Bland asserts Dr. Sprince conducted a differential diagnosis which supports Dr. Sprince’s causation opinion. We have held, “a medical opinion about causation, based upon a proper differential diagnosis is sufficiently reliable to satisfy *Daubert*.” Turner, 229 F.3d at 1208. A “differential diagnosis [is] a technique that identifies the cause of a medical condition by eliminating the likely causes until the most probable cause is isolated.” Id. (citing Westberry v. Gislaved Gummi AB, 178 F.3d 257, 262 (4th Cir. 1999)). Dr. Sprince’s attempt to use a differential diagnosis to establish the inhalation or ingestion of freon caused Bland’s exercise-induced asthma fails because Dr. Sprince’s own testimony acknowledged the cause of exercise-induced asthma in the majority of cases is unknown. Where the cause of the condition is unknown in the majority of cases, Dr. Sprince cannot properly conclude, based upon a differential

diagnosis, Bland's exposure to freon was "the most probable cause" of Bland's exercise-induced asthma. As a practical matter, Dr. Sprince's causation opinion could not possibly be based upon a reasonable degree of medical certainty.

The district court further concluded Dr. Sprince failed to eliminate scientifically other possible causes as part of her differential diagnosis. Even if Dr. Sprince were able to link exercise-induced asthma to freon inhalation or ingestion, Dr. Sprince must also rule out other possible causes. *Id.* at 1209 (recognizing "an expert must 'rule in' the suspected cause as well as 'rule out' other possible causes" (citing Nat'l Bank of Commerce of El Dorado v. Associated Milk Producers, Inc., 22 F. Supp. 2d 942, 963 (E.D. Ark. 1998), aff'd, 191 F.3d 858 (8th Cir. 1999))). Dr. Sprince appears to have focused on the temporal link between Bland's exposure to the freon and the subsequent diagnosis of exercise-induced asthma. It does not appear Dr. Sprince ever conducted an investigation or analysis of Bland's home or other environments to determine other possible causes of Bland's exercise-induced asthma. See Marmo v. Tyson Fresh Meats, Inc., 457 F.3d 748, 758 (8th Cir. 2006) (holding the district court acted within its discretion in excluding the testimony of a toxicologist on medical causation where the toxicologist did not exclude confounding factors leaving open the possibility of competing causes). Where the majority of cases of exercise-induced asthma have no known cause, and where Dr. Sprince failed to do an investigation and analysis of Bland's home or other environments in search of other possible causes, the district court did not abuse its considerable discretion in determining Dr. Sprince's differential diagnosis did not satisfy Daubert.

## **2. Lack of Data**

The district court's decision to exclude Dr. Sprince's causation opinion is also supported by Dr. Sprince's lack of knowledge as to (1) "what amount of exposure to [the] difluoroethane-containing Freon causes, or involves an appreciable risk of causing, asthma"; and (2) what amount of difluoroethane-containing freon "Bland was actually or probably exposed [to] when she smelled the water in her water bottle." "Critical to

a determination of causation is characterizing exposure.” Federal Judicial Center, The Reference Manual on Scientific Evidence 472 (2d ed. 2000). “The magnitude or concentration of an exposure should be estimated” and “[t]he temporal aspects of the exposure should be determined—whether the exposure was short-term and lasting a few minutes, days, weeks, or months, or was long-term and lasted for years.” Id. Dr. Sprince lacked knowledge regarding what level of exposure to freon constitutes an appreciable risk of causing asthma and the specific concentration and degree of Bland’s exposure to the freon. Without knowledge of these data points, Dr. Sprince could not extrapolate from the existing data because, as the district court reasoned, the gap between the data identified and Dr. Sprince’s proffered opinion was “‘simply too great an analytical gap’ . . . to support admissibility.” (quoting General Elec., Co., 522 U.S. at 146).

Lacking data regarding (1) what exposure levels would involve an appreciable risk of asthma, and (2) Bland’s actual exposure level, the district court then looked for other evidence which would support Dr. Sprince’s causation opinion. The court suggested one way in which Dr. Sprince may have been able to buttress her opinion would be offering as evidence any personal experience with treating other patients following a similar exposure to difluoroethane, freon, or freon with difluoroethane. When asked about her personal experience treating other patients with similar exposure, Dr. Sprince admitted she had no such experience. See Kumho Tire, 526 U.S. 151-52 (explaining experience-based testimony requires court scrutiny to determine whether the “same level of intellectual rigor” was employed).

The only remaining basis for Dr. Sprince’s causation opinion is temporal proximity, that is, Bland’s inhalation or ingestion of the contents of the water bottle occurred shortly before Bland was diagnosed with exercise-induced asthma. “In the absence of an established scientific connection between exposure and illness, or compelling circumstances . . . the temporal connection between exposure to chemicals and an onset of symptoms, standing alone, is entitled to little weight in determining

causation.” Moore v. Ashland Chem., Inc., 151 F.3d 269, 278 (5th Cir.1998) (footnote reference omitted). “Under some circumstances, a strong temporal connection is powerful evidence of causation.” Bonner v. ISP Techs., 259 F.3d 924, 931 (8th Cir. 2001) (citation omitted). “[I]f a person were doused with chemical X and immediately thereafter developed symptom Y, the need for published literature showing a correlation between the two may be lessened.” Id. (quoting Heller v. Shaw Indus., Inc., 167 F.3d 146, 154 (3d Cir. 1999)). The temporal relationship often will be only one of several factors, and the weight to be given to the temporal relationship “will differ depending on the strength of that relationship.” Heller, 167 F.3d at 154. Here, the district court properly discounted all the other factors supporting Dr. Sprince’s opinion Bland’s exposure to freon caused Bland’s exercise-induced asthma leaving only temporal proximity to support Dr. Sprince’s causation opinion. Even though the Lab suggested Bland go to the doctor if she had symptoms, Bland did not make an appointment with a doctor until two to three weeks after the incident, and did not visit a doctor until consulting Dr. Sprince on July 13, 2005, five weeks after the incident. Where the sole support for Dr. Sprince’s causation opinion is the temporal connection, the five week delay between Bland’s exposure to the freon and Bland’s visiting a doctor, with a subsequent diagnosis of exercise-induced asthma, is insufficient to support Dr. Sprince’s causation opinion. The district court did not abuse its broad discretion in excluding Dr. Sprince’s causation testimony.

### **III. CONCLUSION**

Having determined the district court’s decision to exclude the causation testimony of Dr. Sprince was not an abuse of discretion, we conclude, under a de novo review, see Green v. Franklin Nat’l Bank of Minneapolis, 459 F.3d 903, 910 (8th Cir. 2006), the district court did not err in granting defendants’ motion for summary judgment because, as a matter of law, Bland cannot establish causation without expert testimony. We affirm.