2022 IL App (1st) 211486

No. 1-21-1486

Opinion filed December 20, 2022

SECOND DIVISION

IN THE

APPELLATE COURT OF ILLINOIS

FIRST DISTRICT

DAVID MOLITOR, Plaintiff-Appellant, v. BNSF RAILWAY COMPANY, f/k/a Burlington Northern Santa Fe Railway Company, Defendant-Appellee.	))))))))))	Appeal from the Circuit Court of Cook County No. 2018 L 1934 The Honorable Mary Colleen Roberts, Judge Presiding.

PRESIDING JUSTICE FITZGERALD SMITH delivered the judgment of the court, with opinion.

Justices Howse and Ellis concurred in the judgment and opinion.

OPINION

¶ 1 The plaintiff, David Molitor, appeals the trial court's entry of summary judgment in favor of the defendant, BNSF Railway Company, in this action under the Federal Employers' Liability Act (FELA) (45 U.S.C. § 51 *et seq.* (2018)). The trial court granted summary judgment after barring the testimony of both of the plaintiff's expert witnesses, Hernando R. Perez, Ph.D., and Ernest P. Chiodo, M.D., based on the defendant's motions asserting that their testimony failed to satisfy the "general acceptance" test for the admission of expert testimony set forth in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) (*Frye* test). On appeal, the plaintiff argues that the trial court erred

in barring his experts' testimony and then entering summary judgment on that basis. For the reasons that follow, we reverse judgment of the trial court and remand for further proceedings.

¶ 2 I. BACKGROUND

¶ 3 The plaintiff was an employee of the defendant railroad from 1973 to 2014. In 2018, he filed a one-count complaint against the defendant under FELA (45 U.S.C. § 51 *et seq.* (2018)), alleging in general that, throughout his career, his job duties had required him to work in close proximity to, or inside of, idling locomotive engines, which exposed him on a daily basis to various toxic substances and carcinogens. The complaint alleged that his exposure to these substances over many years caused, in whole or part, his development of B-cell lymphoma, diagnosed in 2015. It alleged that, before and during the plaintiff's employment, the defendant knew of evidence demonstrating a positive correlation or causative link between the exposure to these toxic substances and carcinogens and the development of cancer. It alleged various ways in which the defendant was negligent in allowing the plaintiff's exposure to these cancer-causing substances. Additionally, although apparently not pled in the complaint, the plaintiff later testified that he was exposed throughout his career to herbicides, specifically Roundup, that were sprayed in the rail yards where he worked to control weed growth.

¶ 4 Discovery progressed, and the plaintiff ultimately disclosed two controlled expert witnesses to testify on his behalf. His liability expert was Dr. Perez, an industrial hygienist. His medical causation expert was Dr. Chiodo, an internal medicine physician who is also a licensed attorney and has various additional credentials. The defendant filed motions to bar the admission of the testimony of both of these experts on the basis that their testimony failed the *Frye* test. The trial court granted both motions, barred the testimony of both experts in their entirety, and entered summary judgment in the defendant's favor. We take the two experts in turn, addressing their

opinions and testimony and the basis upon which their testimony was barred.

¶ 5 A. Dr. Perez

¶ 6 Dr. Perez is an expert in the fields of industrial hygiene and occupational health who evaluated and expressed opinions about the plaintiff's working conditions during his employment with the defendant, specifically his exposure to diesel exhaust and herbicides. Dr. Perez holds a Ph.D. in industrial hygiene from Purdue University and a Master of Public Health degree in environmental and occupational health from Emory University. He is certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene and in the practice of safety by the Board of Certified Safety Professionals. Since 2015 he has been employed by the United States Citizenship and Immigration Services, part of the United States Department of Homeland Security, as its lead industrial hygienist and environmental hygiene program manager. In that capacity, he is the environmental and occupational health technical expert for the agency and is responsible for coordination and performance of industrial hygiene activities at its facilities across the country. Prior to that, he was employed as full-time faculty at the Drexel University School of Public Health from 2004 to 2014 and was director of its industrial hygiene consulting service from 2006 to 2014.

¶ 7 To reach his opinions in this case, Dr. Perez conducted an interview with the plaintiff and reviewed the plaintiff's deposition. He also reviewed various discovery materials produced by the defendant concerning diesel exhaust exposure levels to employees, including a 1997 presentation addressing the potential dangers of exposure to diesel locomotive exhaust, exposure levels, its risk as a human carcinogen, and steps to protect employees from diesel exhaust exposure. He also conducted a review of pertinent literature and the websites of various government agencies and organizations involving environmental issues and cancer research. Among the literature upon

which he particularly relied was a study by lead author Dr. Anjoeka Pronk, a research scientist at the National Cancer Institute of the National Institutes of Health. That study researched diesel exhaust exposure levels in occupational environments in which diesel engine use is common.

¶ 8 Dr. Perez's report states that the plaintiff "experienced chronic occupational diesel exhaust exposure during the forty-one (41) year period between 1973 and 2014." Dr. Perez relied on the fact that, from 1973 until 2003, the plaintiff's primary job duties involved switching train cars and making up trains at various local industry sites. From 1973 until 1993, the plaintiff worked as a yard switchman/brakeman. In 1993, he was promoted to conductor and continued performing switching duties and working switcher routes until 2003. He relied on the plaintiff's explanation that his job duties during this time involved either riding on, being on the ground directly adjacent to, or being in close proximity to idling or transiting switcher locomotives. He also relied upon the plaintiff's explanation that, between 1973 and the late 1980s, 95% of the locomotives used were older, high-emitting locomotives with cab environments that allowed for built-up concentrations of diesel exhaust. Dr. Perez explained that this statement by the plaintiff concerning these older, heavy-emitting locomotives was corroborated by the defendant's internal correspondence from 1996. In 2003, the plaintiff transitioned to the role of yardmaster, in which he spent the majority of his time indoors in an office environment, which continued until 2007. In 2008, he returned to work as a conductor and continued in that position until his retirement in 2014.

¶ 9 Dr. Perez expressed opinions that, between 1973 and approximately 1988 (while the older, heavy-emitting locomotives were in use), the plaintiff's average exposure to diesel exhaust was "consistent with the upper quartile of the low range, with frequent excursions into the intermediate range and occasional excursions into the high range." (These references to "ranges" pertained to the three ranges of elemental carbon exposure—which is an established surrogate for diesel

exhaust exposure—used by Dr. Pronk's team in its research of occupational exposures to diesel exhaust: low was less than 25 micrograms per square meter, intermediate was less than 50 micrograms per square meter, and high was between 27-658 micrograms per square meter.) Dr. Perez also explained that, between 1989 and 2003, the plaintiff's exposures were "consistent with the low range, with occasional excursions into the intermediate range." Between 2004 and 2007, the plaintiff's exposures were "consistent with ambient background concentrations, with occasional exposures into the low range." Between 2008 and 2014, the plaintiff's exposures were "consistent with the low range." Dr. Perez noted that these average exposure levels were also consistent with the typical exposure levels in railroad settings that had been documented in the defendant's training presentation from 1997, which indicated that levels of exhaust ranged up to about 47 micrograms per square meter. Dr. Perez stated that the plaintiff's locomotive cab environment would have exceeded these typical levels where visible buildup of exhaust had occurred. Dr. Perez further explained that the plaintiff's work settings were representative of environments associated with the elevated risk of occupationally related cancer.

¶ 10 Regarding the plaintiff's exposure to herbicides, Dr. Perez relied on the plaintiff's explanation that, at the railyard where he worked, large-scale spraying of herbicides had occurred one to two times per year over the course of his career. The plaintiff had explained that he was required to come into physical contact with visibly contaminated surfaces, such as switch handles, while performing his work after spraying had occurred. The plaintiff also described experiencing skin exposure to herbicide residue. He stated that he had once worked twelve hours on a spray-train from which Roundup was being sprayed along the tracks and he could smell the sprayed herbicide his entire shift.

¶ 11 Dr. Perez explained that several methods exist for estimating historical occupational

exposures when objective and specific measurement data are nonexistent. He stated, however, that expert assessment by industrial hygienists is considered the most accurate method for assessing chemical exposures in studies requiring this type of evaluation. He explained that the usefulness of this methodology has been documented for decades, citing a 1989 study establishing that " '[i]ndustrial hygienists were able to give remarkably accurate subjective estimates of the mean exposure without historical data and even better estimates with the data.' "[1] Dr. Perez stated that this type of expert assessment was what he had done in this case. He stated, "Through the collection of a job task history including specific information regarding determinations of exposure, [the plaintiff's] historical exposure conditions were assessed and reported within the context of the framework documented by Pronk *et al.*"

¶ 12 Finally, Dr. Perez explained that, at the time the plaintiff began his career in 1973, the railroad industry was aware of several of the health risks that diesel exhaust exposure posed to employees. Among other things, he references railroad industry documentation from 1955 recognizing the carcinogenic potential of diesel exhaust exposure. He also referenced the defendant's 1997 training presentation concerning the health claims associated with diesel exhaust exposure among workers.

¶ 13 Based on the above, Dr. Perez expressed opinions that the defendant was negligent, among other things, in failing to provide adequate air monitoring or to otherwise determine the plaintiff's level of exposure to diesel exhaust or herbicides, failing to provide him with adequate training and equipment to prevent or lessen his exposure, failing to implement controls to reduce or prevent his exposure, and failing to provide him with adequate warnings, training, and information about the hazards of exposure.

[1]Neil C. Hawkins & John S. Evans, *Subjective Estimation of Toluene Exposures: A Calibration Study of Industrial Hygienists*, 4 Applied Indus. Hygiene 61, 61 (1989).

¶ 14 At his discovery deposition, Dr. Perez further explained the methodology that he used to understand the plaintiff's past exposure to diesel exhaust and herbicides in his work environment. He explained that the method was called historical (or reconstructed) exposure assessment. It is a method that has been relied upon in industrial hygiene "for an extended period of time" and is "established in the literature." He explained his process as follows:

> "The first step is to obtain—so I reviewed industrial hygiene data from railroad environments provided by railroads in the peer-reviewed literature, etc., a large number of individual pieces of data. That knowledge, that understanding, that review with that assessment I went through the process of collecting an exposure history—a job history—for Mr. Molitor through our conversation. Through that process, I identified the sources of exposure, the pathways for the containment to reach his breathing zone specifically, because we're talking specifically about inhalation exposures here, with diesel exhaust, with insecticide, with herbicides *** there may have been exposure but the primary exposure with diesel exhaust would have been inhalation, and given the nature of enclosures of his environments, the proximity to sources, his description of the nature of the source itself relative to others that he has experienced over the course of his career and *** combining with my industrial hygiene experience and understanding of exposure in workplace settings to determine where he lies in the context of that framework provided by Pronk."

He testified that, in the field of industrial hygiene, "there are many instances during which we need to evaluate exposures for which there's no objective data. *** And in order to do that, we need to go back and reconstruct the exposures to these individuals, and this is how we do it."

¶ 15 In its motion to exclude the opinions and testimony of Dr. Perez, the defendant argued that

his opinions had not been shown to be "based upon generally accepted principles or sufficiently reliable so as to be admitted." It argued that Dr. Perez's only case-specific knowledge was a conversation with the plaintiff. Accordingly, Dr. Perez was unaware of facts such as the size of the locomotive with which the plaintiff worked, its manufacturer, the plaintiff's proximity to the source of diesel exhaust while performing job duties, the model of the locomotive or engine the plaintiff worked with between 1989-2003, the difference in the size and fuel efficiency of a switcher engine and regular locomotive, or whether switcher engines were less powerful than regular freight locomotives. The defendant's motion further asserted that Illinois law requires that "an expert witness must quantify the specific level of exposure to environmental chemicals in order to be admissible" and that an expert "cannot rely solely on a lay person's statements or testimony." The motion argued that it was "frankly unclear what method, if any, Perez employed to arrive at his opinions in this case," as he relied on "scant literature" and "limited independent knowledge of and experience with diesel exhaust analysis and testing procedures from which to draw upon." The defendant's motion was not supported by the affidavit of any expert witness.

¶ 16 In response, the plaintiff argued that the methodology by which Dr. Perez had assessed the plaintiff's historical exposures to diesel exhaust and herbicide was not new or novel and, therefore, it was not subject to a *Frye* test. Rather, it was generally accepted within the field of industrial hygiene and was identical to the methodology used by the defendant's own expert, Dr. Dallas Cowan. He cited Dr. Cowan's description of his own process for assessing the plaintiff's levels of past exposures was to review the plaintiff own testimony to "understand his job title, the types of duties that he conducted, the distance that he would have been from a point source of diesel exhaust, and then compare that with the peer-reviewed literature to understand the breadth of the scientific understanding of air concentrations in various workplace settings."

¶ 17 The trial court conducted a hearing. The hearing consisted entirely of attorney argument, with no testimony being given with respect to the motions. The trial court then issued a written order barring the testimony by Dr. Perez. Stating that a trial court must "look behind the expert's conclusions and analyze the adequacy of their foundation," the trial court found that Dr. Perez's opinions must be entirely barred for the reason that they lacked the necessary foundation for the court to determine whether they were based upon a methodology or principle that was generally accepted by the scientific community. The trial court found that Dr. Perez's opinions were not based on sufficient facts or data, but instead were based upon his conversations with the plaintiff in which he recounted his experience with diesel fumes and herbicides during the time he worked for the railroad. The court stated,

> "Perez admits he never went to any of the sites Molitor worked nor did he even consider factors that may be relevant to the formation of his opinions. Not considering these factors among other relevant data and relying instead on Molitor for facts he determined salient does not form a sufficient basis for his opinions."

¶ 18 C. Dr. Chiodo

¶ 19 Dr. Chiodo is a board-certified internal medicine and occupational medicine physician. In addition to his medical degree from Wayne State University School of Medicine, he holds a master of public health degree from Harvard University, a master of science in biomedical engineering from Wayne State University, a master of science in threat response management from the University of Chicago, a master of science in occupational and environmental health science with specialization in industrial toxicology from Wayne State University, and a master of science in evidence-based health care from the University of Oxford. He is also a licensed attorney. He is certified by the American Board of Industrial Hygiene as a certified industrial hygienist. He has

served as an assistant clinical professor of internal medicine, family medicine, and public health at Wayne State University School of Medicine and an assistant adjunct professor of industrial hygiene and toxicology at Wayne State University. He has also served as the medical director and manager of medical and public health services for the City of Detroit.

¶ 20 To reach his opinions in this case, Dr. Chiodo reviewed the complaint, the discovery depositions of the plaintiff and one of his treating physicians, the plaintiff's written discovery responses, the plaintiff's medical records, and the report of Dr. Perez. Dr. Chiodo's report notes that the plaintiff was born in 1954 and worked for BNSF from 1973 to 2008 as a switchman/brakeman, train conductor, and yard master. He also had a history of smoking. He had been diagnosed with diffuse B-cell lymphoma, a form of non-Hodgkin's lymphoma. He noted that Dr. Perez's report had indicated that it was his opinion that the plaintiff had exposure to diesel exhaust and herbicides during the course of his employment.

¶ 21 Dr. Chiodo's report then states, "Exposure to diesel exhaust is well known to cause lymphoma." It then sets forth the citation and abstract of a 2008 article by lead author Chandima P. Karunanayake, which studied the association between non-Hodgkin's lymphoma and occupational exposures related to long-held occupations. In pertinent part, the report identifies the results of that study to be that "constant exposure to diesel exhaust fumes" was one of the factors that "independently increased the risk of [non-Hodgkin's lymphoma]." The report also states that the article concluded, in pertinent part, that "[a]n increased risk of developing [non-Hodgkin's lymphoma] is associated with *** exposure to diesel fumes."

¶ 22 Dr. Chiodo's report goes on to state, "Exposure to herbicides is known to cause lymphoma." It then gives the citation and abstract to a 2014 article by lead author Leah Schinasi, which described the results of a systematic review and series of meta-analyses from nearly three decades

of epidemiologic research on the relationship between non-Hodgkin's lymphoma and occupational exposure to agricultural pesticide active ingredients and chemical groups. It states in part that "B cell lymphoma was positively associated with phenoxy herbicides and the organophosphorus herbicide glyphosate. Diffuse large B-cell lymphoma was positively associated with phenoxy herbicide exposure."

¶ 23 Dr. Chiodo's report concludes with his opinion to a reasonable degree of medical and scientific certainty "that the exposures to diesel exhaust and herbicides experienced by Mr. David Molitor during the course of his railroad employment were a significant cause of his development of Diffuse B-Cell Lymphoma."

¶ 24 In his discovery deposition, Dr. Chiodo testified multiple times that his opinions were not predicated on the articles he cited or on a search of the medical or scientific literature. Rather, he explained that he had known for a long time as a result of his training, education, and experience that diesel exhaust and herbicides were known causes of non-Hodgkin's lymphoma. He stated that he found the two articles and cited them to corroborate his opinion, but his opinion was not based on these articles. He testified that he found that the 2008 Karunanayake article corroborated his opinion at a 95% or greater probability level that diesel exhaust causes non-Hodgkin's lymphoma. He acknowledged that the article only used the word "association" with respect to diesel exhaust and non-Hodgkin's lymphoma, not "causation," but he testified that the word causation is a term that is rarely used in scientific articles. He explained, however, that despite its word usage, the article expressed its conclusions at a level of 95% probability that the results did not occur by random chance. He testified that he was not aware of any literature saying that the association of diesel exhaust with non-Hodgkin's lymphoma is due to some "confounder" or "confounding" effect, and thus he believes that it is a causal relationship.

¶ 25 While Dr. Chiodo was initially unaware during his testimony of what herbicides the plaintiff had been exposed to, his recollection was ultimately refreshed that the plaintiff had testified in his deposition that Roundup was used in his work environment. He then explained that the plaintiff had thus been exposed to glyphosates, which is a type of herbicide known to cause non-Hodgkin's lymphoma.

¶ 26 He testified that from a medical and toxicology standpoint, there was no threshold level of diesel exhaust or herbicide exposure below which it had no carcinogenic effect or could not cause B-cell non-Hodgkin's lymphoma. His understanding, however, was that the plaintiff, while working in a railyard, had been exposed to diesel exhaust and herbicides far greater than what the typical person would be exposed to in everyday life.

¶ 27 He testified multiple times that he "could" extrapolate from the fact that diesel exhaust was well-known to cause lung cancer that it could also cause other cancers, such as non-Hodgkin's lymphoma. He testified that if a person breathes in a chemical known to cause lung cancer, given the absorption into the blood that would occur, the same cancer-causing transformations would occur in the hematopoietic system that causes cancer in the lungs. He reiterated multiple times, however, that he did not have to extrapolate because he had articles directly on point confirming that non-Hodgkin's lymphoma is caused by diesel exhaust.

¶ 28 In its motion to exclude the testimony and opinions of Dr. Chiodo, the defendant argued that his opinions "were not rooted in generally accepted principles by medical causation experts." The defendant argued that Dr. Chiodo had improperly formed his opinion first, and only then sought out articles corroborating his opinion, without also searching for negative articles. It argued that his opinions were based on only two studies, and these studies referred only to an "association" between diesel exhaust and herbicides and B-cell lymphoma, not causation. The defendant then

argued that several recent federal court decisions rejected the notion that association and causation were the same. Finally, it argued that his extrapolation opinions were unsound, unfounded, and not generally accepted.

¶ 29 In response, the plaintiff argued that Dr. Chiodo used a reasoned and appropriate analysis to reach his opinions. He argued that Dr. Chiodo had reviewed the pertinent record in this case and applied his unique combination of training and experience to reach an opinion, which he then corroborated by citing peer-reviewed medical literature. The plaintiff argued that Dr. Chiodo had adequately explained why the use of the word "association," and not "causation," in his cited studies did not mean that those studies were unsupportive of the conclusion of a causative relationship between diesel exhaust and herbicides and non-Hodgkin's lymphoma. The plaintiff argued that the defendant was relying on inapposite case law applying the federal standard for the admission of testimony, not the *Frye* standard used in Illinois. He argued that Dr. Chiodo had taken the relevant facts of the plaintiff's case into consideration in forming his opinion and that any facts he did not consider went only to the weight to be given to his testimony, not its admissibility.

¶ 30 The trial court granted the defendant's motion to bar Dr. Chiodo's testimony. As it had done with Dr. Perez, the trial court first concluded that it must look behind Dr. Chiodo's opinions to what he had based those opinions on. The trial court then stated that neither of the two published studies upon which Dr. Chiodo relied supported his assertion that exposure to diesel exhaust or herbicides causes B-cell lymphoma. Instead, the trial court reasoned, those studies "claim there may be evidence of a positive 'association with' B-Cell Lymphoma." The court found that Dr. Chiodo had cited no scientific authority for his assertion that association essentially means causes if there is no confounder stated. The trial court further found that Dr. Chiodo had relied upon the extrapolation principle and then stated that neither the plaintiff nor Dr. Chiodo had provided

scientific evidence that the method Dr. Chiodo employed to reach his conclusions was generally accepted in the field of medical causation.

¶ 31 C. Summary Judgment

¶ 32 The trial court then concluded that, based upon its determination that the opinion evidence of Dr. Perez and Dr. Chiodo were inadmissible, the plaintiff would be unable to prove that any purported negligence on the part of the defendant medically caused or contributed to his development of B-cell lymphoma. Without evidence necessary to prove all elements of his claim, the trial court concluded that the defendant was entitled to summary judgment. The plaintiff thereafter filed a motion to reconsider, which the trial court denied. The plaintiff then filed a timely notice of appeal.

¶ 33 II. ANALYSIS

¶ 34 On appeal, the plaintiff argues that the trial court erred in granting summary judgment in favor of the defendant because the opinions of Dr. Perez and Dr. Chiodo satisfied the *Frye* test and should not have been barred.

¶ 35 A. Legal Standards

¶ 36 We begin by setting forth the legal standards pertinent to this appeal. As an appeal coming before this court on the trial court's granting of summary judgment in favor of the defendant, our review is *de novo. Walker v. Chasteen*, 2021 IL 126086, ¶ 13. A motion for summary judgment should be granted where the pleadings, depositions, and admissions on file, together with any affidavits, show that there is no genuine issue as to any material fact and that the moving party is clearly entitled to judgment as a matter of law. 735 ILCS 5/2-1005(c) (West 2020). Where it is determined that a plaintiff cannot establish a necessary element of his cause of action, summary judgment is proper. *Bagent v. Blessing Care Corp.*, 224 Ill. 2d 154, 163 (2007).

¶ 37 We deal here with an action under the FELA. The FELA is a federal law providing that a common carrier by railroad shall be liable in damages for an employee's "injury or death resulting in whole or in part from the negligence of any of the officers, agents, or employees of such carrier." 45 U.S.C. § 51 (2018). It was enacted in 1908 to provide a federal remedy for railroad workers who suffer personal injuries as a result of the negligence of their employer. *Atchison, Topeka & Santa Fe Ry. Co. v. Buell*, 480 U.S. 557, 561 (1987). It eliminates a number of traditional defenses to tort liability to facilitate recovery in meritorious cases. *Id.* It is recognized as a broad remedial statute that is to be liberally construed to accomplish the objectives of Congress. *Id.* at 562.

¶ 38 Given these goals and the language of the statute, it has been recognized that "in comparison to tort litigation at common law, 'a relaxed standard of causation applies under FELA.' " *CSX Transportation, Inc. v. McBride*, 564 U.S. 685, 691-92 (2011) (quoting *Consolidated Rail Corp. v. Gottshall*, 512 U.S. 532, 542-43 (1994)). The FELA does not incorporate "proximate cause" standards used in nonstatutory common law tort actions. *Id.* at 688 (citing *Rogers v. Missouri Pacific R.R. Co.*, 352 U.S. 500 (1957)). Rather, the test " 'is simply whether the proofs justify with reason the conclusion that employer negligence played any part, even the slightest, in producing the injury or death for which damages are sought.' " *Id.* at 692 (quoting *Rogers*, 352 U.S. at 506).

¶ 39 Where an action under the FELA is brought in state court, questions concerning the admissibility of evidence are governed by state law. *Noakes v. National R.R. Passenger Corp.*, 363 Ill. App. 3d 851, 854 (2006). Accordingly, in an action under the FELA in Illinois, the *Frye* test is the standard exclusively used to determine the admission of expert testimony. *Id.* at 854-55; see *Donaldson v. Central Illinois Public Service Co.*, 199 Ill. 2d 63, 76-77 (2002), *abrogated in part on other grounds by, In re Commitment of Simons*, 213 Ill. 2d 523 (2004); *In re Detention of New*, 2014 IL 116306, ¶ 25. "The *Frye* standard, commonly called the 'general acceptance' test, dictates

that scientific evidence is only admissible at trial if the methodology or scientific principle upon which the opinion is based is 'sufficiently established to have gained general acceptance in the particular field in which it belongs.' " *Donaldson*, 199 Ill. 2d at 77 (quoting *Frye*, 293 F. at 1014). The *Frye* test has now been codified in the second sentence of Illinois Rule of Evidence 702 (eff. Jan. 1, 2011):

> "Where an expert witness testifies to an opinion based on a new or novel scientific methodology or principle, the proponent of the opinion has the burden of showing the methodology or scientific principle on which the opinion is based is sufficiently established to have gained general acceptance in the particular field in which it belongs."

¶ 40 Several important considerations are involved in applying the *Frye* test. First, "general acceptance" does not concern the ultimate conclusion that the expert reached. *Donaldson*, 199 Ill. 2d at 77. Rather, the focus is the underlying methodology that the expert used to generate the conclusion. *Id.* If the underlying method that the expert used to generate his or her opinion is reasonably relied upon by experts in the pertinent scientific field, then the factfinder may consider the opinion, regardless of the novelty of the conclusion reached. *Id.*

¶ 41 Second, general acceptance does not mean universal acceptance. *Id.* It does not require that the methodology be accepted by unanimity, consensus, or even a majority of experts. *Id.* at 78. A methodology is not generally accepted, however, if it experimental or of dubious validity. *Id.* The *Frye* standard is meant to exclude methods new to science that undeservedly create a perception of certainty when the basis for the evidence or opinion is actually invalid. *Id.*

¶ 42 Third, the *Frye* standard does not make the trial judge a "gatekeeper" of all expert opinion testimony. *Id.* Rather, a trial judge may apply the *Frye* test only if the methodology or scientific principle offered by the expert to support his or her conclusions is "new" or "novel." *Id.* at 78-79.

While identifying whether a scientific technique is new or novel is not always easy, one will meet this standard if it is " 'original or striking' or does 'not resembl[e] something formerly known or used.' " *Id.* at 79 (quoting Webster's Third New International Dictionary 1546 (1993)). Also, the *Frye* standard is applied only to "scientific" evidence, which is evidence that is "the product of scientific tests or studies." *People v. McKown*, 226 Ill. 2d 245, 254 (2007).

¶ 43 Fourth, the supreme court has rejected the notion that Illinois uses a "*Frye*-plus-reliability" standard. *Donaldson*, 199 Ill. 2d at 81. In other words, a *Frye* test does not involve a component by which the trial court, after determining whether a technique or methodology is generally accepted, also inquires into whether the expert's opinion is "reliable." *Id.* at 80-81; see also *Simons*, 213 Ill. 2d at 532 ("Under the *Frye* standard, the trial court is not asked to determine the validity of a particular scientific technique."); *In re Commitment of Sandry*, 367 Ill. App. 3d 949, 966 (2006) ("inquiry into the validity or reliability of a methodology is outside the scope of the *Frye* test"). Rather, questions concerning the underlying data upon which the expert relied go to the weight of the evidence, not its admissibility. *Donaldson*, 199 Ill. 2d at 81. Questions concerning an expert's application of generally accepted techniques likewise go to the weight of the evidence, not admissibility. *Id.*

¶ 44 Finally, exclusion of testimony through the general acceptance test must not be used as a substitute for an attorney's traditional methods of advocacy in exposing shaky but admissible evidence through vigorous cross-examination and the presentation of contrary evidence at trial. *Id.* at 88.

¶ 45 The proponent may prove general acceptance of a particular methodology by pointing to scientific publications, prior judicial decisions, practical applications, and the testimony of scientists about the attitudes of their fellow scientists. *Mitchell v. Palos Community Hospital*, 317

Ill. App. 3d 754, 762 (2000). A trial court's *Frye* analysis is subject to *de novo* review. *Simons*, 213 Ill. 2d at 530-31. In conducting such a *de novo* review, the reviewing court may similarly consider not only the trial court record but also, where appropriate, sources outside the record, such as legal and scientific articles and court opinions from other jurisdictions. *Id.* at 531.

¶ 46 B. Dr. Perez

¶ 47 As explained in the background above, the trial court barred Dr. Perez's entire testimony based upon its determination that it must " 'look behind the expert's conclusion[s] and analyze the adequacy of the[ir] foundation,' " quoting *Soto v. Gaytan*, 313 Ill. App. 3d 137, 146 (2000). Upon doing so, the trial court concluded that the opinions expressed by Dr. Perez "lack a reliable foundation, that is, they are not based on sufficient facts or data." Instead, the trial court reasoned, Dr. Perez's opinions were based on his conversation with the plaintiff recounting his experience with diesel fumes and herbicides during his years working for the defendant. The court noted that Dr. Perez did not go to any of the sites where the plaintiff had worked, "nor did he even consider factors that may be relevant to the formation of his opinions." The trial court determined that the opinions of Dr. Perez lacked the necessary foundation for the court to determine whether they were based on a methodology that was generally accepted by the scientific community, and therefore it barred their admission at trial.

¶ 48 On appeal, the plaintiff argues that the trial court misapplied the *Frye* standard by first considering whether his testimony had a sufficient foundation for the conclusions he reached. He argues that the *Frye* test does not include analyzing the factual basis for an expert's opinion, which goes only to the weight of the testimony, not its admissibility. He notes that *Soto*, the case relied upon by the trial court, did not involve a *Frye* test. Instead, *Soto* involved whether a plaintiff's treating physician could express an opinion about the permanency of the plaintiff's injury in the

absence of a recent examination of the plaintiff prior to trial. See *id.* at 139. The majority in *Soto* cited *Frye* as support for the proposition that a trial court acts as the "gatekeeper" of proposed opinion evidence that a jury may hear. *Id.* at 146. Then, in what was clearly *dicta*, the majority went on to state that "[p]ursuant to *Frye*, the trial court closely examines proposed opinion testimony from a scientific expert to determine whether it bears sufficient indicia of reliability to submit to the jury." *Id.* It stated that as gatekeeper, "the trial court plays a critical role in excluding testimony that does not bear an adequate foundation of reliability." *Id.* at 147. The plaintiff here points out that *Soto* was decided two years prior to *Donaldson*, which clarified that the *Frye* test did not involve any analysis into the "reliability" of an expert's methodology or conclusions and that questions concerning underlying data goes to the weight, not the admissibility, of evidence.

¶ 49 In response, the defendant points out that since *Donaldson*, decisions of this court have continued to state that a trial court's role is to examine the reliability of proposed scientific opinion testimony before allowing a jury to hear it. See, *e.g.*, *Poliszczuk v. Winkler*, 387 Ill. App. 3d 474, 495 (2008) ("Pursuant to *Frye* *** the trial court closely examines proposed opinion testimony from a scientific expert to determine whether it bears sufficient indicia of reliability before the testimony is submitted to the jury." (citing *Soto*, 313 Ill. App. 3d at 146-47)); *Roach v. Union Pacific R.R.*, 2014 IL App (1st) 132015, ¶ 55 (citing *Soto* for the proposition that a trial court acts as " 'gatekeeper' allowing through only reliable and relevant evidence for consideration by the jury"); *Bangaly v. Baggiani*, 2014 IL App (1st) 123760, ¶ 155 (citing *Soto* for the proposition that one of the trial court's focuses in determining whether to allow expert testimony is that "the testimony must be reliable and have a proper basis for the opinion to meet foundational requirements"); *People v. Safford*, 392 Ill. App. 3d 212, 221 (2009) (citing *Soto* for the proposition that admission of expert testimony requires the proponent to lay an adequate foundation

" 'establishing that the information upon which the expert bases his opinion is reliable' " (quoting *Hiscott v. Peters*, 324 Ill. App. 3d 114, 122 (2001), citing *Soto*, 313 Ill. App. 3d at 146)).

¶ 50 Several points must be made about the cases cited by the defendant. First, none of these cases cited by the defendant involved a *Frye* test. Thus, none of these statements concerning the trial court's examination of the "reliability" of proposed expert testimony actually occurred in the context of a *Frye* analysis. Both *Poliszcuk* and *Roach* involved issues about whether physicians could express medical causation opinions in the absence of a recent examination of the plaintiff. *Poliszczuk*, 387 Ill. App. 3d at 495-96; *Roach*, 2014 IL App (1st) 132015, ¶¶ 61-65. *Bangaly* addressed the trial court's decisions about whether to allow an attorney and a political science professor to give testimony on the validity of a marriage under the law of the country of Mali. *Bangaly*, 2014 IL App (1st) 123760, ¶¶ 158-71. In *Safford*, the issue was whether the trial court erred in allowing an expert in fingerprint examination to testify without explaining the evidentiary foundation for his conclusion. *Safford*, 392 Ill. App. 3d at 219. None of these issues are subjects for a *Frye* test, and, thus, none of these cases support the proposition that a trial court analyzes the reliability of the factual foundation of an expert's testimony as a component of the *Frye* test.

¶ 51 Second, when our cases cite the principle that a trial court must ensure that an adequate foundation has been established that the information upon which an expert bases his or her opinion is "reliable," this refers to the requirement of ensuring that the facts or data upon which the expert has based his or her opinion is "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." Ill. R. Evid. 703 (eff. Jan. 1, 2011); see *People v. Simmons*, 2016 IL App (1st) 131300, ¶¶ 115, 124 (citing *City of Chicago v. Anthony*, 136 Ill. 2d 169, 186 (1990)); *Wilson v. Clark*, 84 Ill. 2d 186, 193 (1981) ("the key element in applying Federal Rule 703 is whether the information upon which the expert bases his opinion is of a type that is

reliable"). The reference to "reliability" under this principle does not refer to whether an expert has set forth sufficiently detailed reasons for his or her opinions. *Simmons*, 2016 IL App (1st) 131300, ¶ 124.

¶ 52 We reiterate that it is not part of the *Frye* test for a trial court to examine the "reliability" or "validity" of the underlying data on which an expert's opinion is based. See *Donaldson*, 199 Ill. 2d at 81 ("the *Frye*-plus-reliability test impermissibly examines the data from which the opinion flows"). The test is exclusively whether the scientific methodology or principle is generally accepted in the particular scientific field in which it belongs. *Id.* at 77. It is unclear from the trial court's order whether the court was intending to analyze the reliability of the factual foundation for Dr. Perez's opinions as part of its *Frye* analysis, or whether it was making a preliminary inquiry prior to applying the *Frye* test. See *Northern Trust Co. v. Burandt & Armbrust, LLP*, 403 Ill. App. 3d 260, 278 (2010) (describing a *Frye* determination as a "threshold matter" and holding opinion evidence satisfying *Frye* may nevertheless be excluded for lack of an evidentiary foundation).

¶ 53 Thus, we will consider the trial court's analysis as a pre-*Frye* test preliminary inquiry into whether the opinions of Dr. Perez were so deficient in their factual foundation that his testimony must be stricken in its entirety. In doing so, we recognize that the factual basis for a witness' opinion is a matter generally held to go to the weight of the evidence, not its admissibility. *Snelson v. Kamm*, 204 Ill. 2d 1, 26-27 (2003). The information used or not used by an expert is generally not a sufficient reason to bar an expert's testimony as lacking foundation. *Noakes*, 363 Ill. App. 3d at 858-59 (citing *Turner v. Williams*, 326 Ill. App. 3d 541, 555 (2001)). Also, " '[g]reat liberality is allowed the expert in determining the basis of his opinions.' " *Swartz v. Sears, Roebuck & Co.*, 264 Ill. App. 3d 254, 276 (1993) (quoting *Melecosky v. McCarthy Brothers Co.*, 115 Ill. 2d 209, 216 (1986)); *Jackson v. Seib*, 372 Ill. App. 3d 1061, 1072 (2007). It is presumed that the special

knowledge that experts possess gives them the ability to judge the reliability of the information upon which they base their opinions. *Swartz,* 264 Ill. App. 3d at 276. That said, an expert witness cannot base an opinion on mere conjecture or guess. *Dyback v. Weber*, 114 Ill. 2d 232, 244 (1986).

¶ 54 As stated above, the principal reason cited by the trial court for its conclusion that Dr. Perez's opinions were not based on sufficient facts or data was the fact that his opinions were based upon a conversation with the plaintiff in which he recounted his experience with diesel fumes and herbicides while working for the defendant. On appeal, the defendant likewise characterizes Dr. Perez's opinions as unreliable and lacking foundation because his assessment of the plaintiff's exposures "was gleaned solely from plaintiff's description in conversations that occurred decades after exposure." However, the fact that an expert's opinion is based upon information received from an interested litigant is generally considered relevant only to the weight that it should be given, not to its admissibility. *Peach v. McGovern,* 2019 IL 123156, ¶ 54 (citing *J.L. Simmons Co. ex rel. Hartford Insurance Group v. Firestone Tire & Rubber Co.*, 108 Ill. 2d 106, 117 (1985)).

¶ 55 The defendant further contends on appeal that the speculative nature of Dr. Perez's analysis is shown by his testimony that he was unable to identify from the data any clear pattern indicating that the age of an engine affected its emission levels or exposure to those working on or near it because that depended also on how well the engine had been maintained and whether it had any faulty systems. It asserts that Dr. Perez admitted during his deposition that he had only speculated that the smaller switcher engines that the plaintiff used between 1973 and 1988 were worn out and exposed to higher levels of exhaust. And it asserts that he testified that he did nothing to research the difference between emissions from a freight locomotive and a switcher engine and that he did not know the make or model of the locomotive used by the defendant between 1973-1988, the size of the engine in a BNSF switcher locomotive, or the fuel efficiency of the engine at issue.

¶ 56 Furthermore, the defendant criticizes Dr. Perez for not using the results of the defendant's own diesel exhaust and pesticide studies in his analysis, although Dr. Perez testified in his deposition that he disputed the accuracy of the defendant's internal studies on the issue. The defendant asserts that Dr. Perez thus ignored the available data and instead accepted the plaintiff's "self-serving testimony" and reached conclusions that were unsupported by the railroad testing and the Pronk framework. According to the defendant, the Pronk study actually concluded that trainmen in situations similar to the plaintiff were exposed only to "low levels of diesel exhaust."

¶ 57 We hold that an adequate foundational basis exists for Dr. Perez to express the opinions that he did in this case. The facts and data upon which he based his opinion came from the plaintiff's deposition, his own interview with the plaintiff, his review of the documents and internal correspondence that the defendant produced during discovery, various scientific articles in peer-reviewed publications, and information published on the websites of various government agencies and scientific organizations. These materials are similar to the kinds of information that expert witnesses routinely rely upon in many cases of this nature. The fact that Dr. Perez obtained a first-hand account of the plaintiff's diesel exhaust exposures from reading the plaintiff's deposition and interviewing him does not affect the admissibility of his testimony. See *id.* Furthermore, Dr. Perez testified that the plaintiff's recounting of his exposures was corroborated by some of the defendant's internal communications and training presentation materials. Lacking specific measurements of the plaintiff's historical exposures, Dr. Perez explained why he believed the peer-reviewed, published study by Dr. Pronk allowed him to accurately estimate the plaintiff's historic levels of exposure after interviewing the plaintiff. It was for Dr. Perez to determine the informational basis necessary to express an opinion. *Swartz*, 264 Ill. App. 3d at 276.

¶ 58 We find that the defendant's various criticisms of the factual basis for Dr. Perez's testimony

all go to the weight to be given to his testimony, not to its admissibility. This is true of his knowledge concerning information about the locomotives used by the plaintiff in his job. See *Noakes*, 363 Ill. App. 3d at 859 (medical experts' unfamiliarity with various aspects of plaintiff's work affected only weight to be given to evidence and could be brought to light on cross-examination). Also, we find that Dr. Perez adequately explained his reasons for why he did not believe that the defendant's internal diesel exhaust and pesticide studies were reliable. The defendant will have the opportunity to bring out these purported shortcomings in his testimony through cross-examination at trial.

¶ 59 Although the trial court did not reach the question of whether the methodology used by Dr. Perez to reach his opinions satisfied the *Frye* test, we find it clear that he employed a methodology that is generally accepted within the field of industrial hygiene for estimating the plaintiff's historical exposures to toxic substances. As set forth in greater detail above, Dr. Perez described a methodology that he referred to as historical exposure assessment, which he testified was well-established in the scientific literature of the field of industrial hygiene and had been used for decades to estimate past exposures in situations where objective data did not exist. That methodology involved his review of peer-reviewed literature and other data that had studied occupational exposure to various contaminants in railroad environments. He then interviewed the plaintiff to ascertain his job history, work environment, proximity to sources of contaminants, and the nature of the contaminant sources he had experienced over the course of his career. Then, using his training and expertise in industrial hygiene, Dr. Perez was able to combine this information to gain an understanding of where the plaintiff fell within the context of the framework described in the scientific literature, specifically the study by Pronk.

¶ 60 First, nothing about this process strikes us as particularly new or novel and thus subject to a

Frye analysis. *Donaldson*, 199 Ill. 2d at 79 ("[o]nly novelty requires that the trial court conduct a *Frye* evidentiary hearing"). Even if it was, however, we have reviewed the scientific articles that Dr. Perez cited in support of the general acceptance of this methodology, and we find this methodology well-described. These articles generally describe industrial hygienists performing interviews with subjects to review job history information to assess whether an individual has had exposure to the contaminant of interest and rating the exposure on a scaling system based on a comparison with scientific literature studying the exposures of interest.[2] Thus, we conclude that this methodology has found general acceptance among at least "some reasonable subset" of scientists within the field. See *Sandry*, 367 Ill. App. 3d at 965. Furthermore, we take judicial notice that, although employing the more stringent federal standard of Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), at least six other judicial decisions have approved of Dr. Perez's use of the historical exposure assessment methodology as a basis for expressing opinions in cases similar to this one. See *Lemberger v. Union Pacific R.R. Co.*, 463 F. Supp. 3d 954, 967-68 (D. Neb. 2020); *Ranney v. Union Pacific R.R. Co.*, No. 8:18-CV-59, 2020 WL 3036200, at *8 (D. Neb. Jun. 5, 2020); *Bettisworth v. BNSF Ry. Co.*, No. 8:17-CV-491, 2020 WL 3498139, at *4-6 (D. Neb. Jun. 29, 2020); *Jorn v. Union Pacific R.R. Co.*, No. 8:18-CV-138, 2020 WL 6261693, at *8 (D. Neb. Oct. 22, 2020); *Cleaver v. Union Pacific R.R.*

[2]Hawkins, *supra*, at 61 ("Each industrial hygienist participated in a three-hour personal interview *** [during which the] expert reviewed chemical process information and then subjectively assessed the distribution of exposures and the average exposure among the workers. *** Industrial hygienists estimated the average exposure and the 90th percentile of the exposure distribution with remarkable accuracy."); V. McGuire *et al.*, *Assessment of Occupational Exposures in Community-Based Case-Control Studies*, 19 Ann. Rev. of Pub. Health 35, 40-41 (1998) ("The use of an industrial hygienist *** is considered the most accurate method for assessing chemical exposures in population-based case-control studies. Generally, one or more industrial hygienists review job history information obtained from an in-person interview to assess whether an individual has had exposure to each chemical agent of interest. The expert or experts rate the exposure on a scaling system. *** Continually updated bibliographic literature that is specific to putative exposures of interest is needed.").

Co., No. 8:18-CV-512, 2021 WL 75259, at *6 (D. Neb. Jan. 7, 2021); *Edgett v. Union Pacific R.R. Co.*, No. 8:18-CV-407, 2021 WL 1238498, at *10 (D. Neb. Apr. 1, 2021).

¶ 61 Accordingly, we hold that the historical assessment exposure methodology employed by Dr. Perez in this case satisfies the *Frye* test of general acceptance within the field of industrial hygiene. As such, the trial court erred in barring him from expressing opinions and testimony at trial.

¶ 62 C. Dr. Chiodo

¶ 63 With respect to Dr. Chiodo, the trial court barred his testimony, based on its conclusion that he had relied on two published articles for his opinion that diesel exhaust and herbicides cause B-cell non-Hodgkin's lymphoma and neither of those articles supported his conclusion. The trial court found instead that these studies merely "claim there may be evidence of a positive 'association with' B-Cell Lymphoma." The trial court stated that Dr. Chiodo had advanced no scientific authority that "association" essentially means "causation" if no confounder is identified. The trial court also found that Dr. Chiodo had relied upon the extrapolation principle, and it then stated that neither the plaintiff nor Dr. Chiodo had provided scientific evidence that the method Dr. Chiodo employed to reach his conclusions were generally accepted in the field of medical causation.

¶ 64 On appeal, the plaintiff argues that the trial court erred in this analysis. First, the plaintiff contends that Dr. Chiodo's testimony does not implicate *Frye* because he did not use any new or novel methodology to conclude that the plaintiff's exposure to diesel exhaust and herbicide was a likely cause of his non-Hodgkin's lymphoma. He argues that Dr. Chiodo explained that his opinion was based upon his knowledge, training, and experience that exposure to these carcinogens causes lymphoma and that he used two studies recognizing an association between diesel exhaust and herbicide exposure and lymphoma to corroborate his opinion. The plaintiff further asserts that Dr.

Chiodo adequately explained that his method for doing so is generally accepted and that it is also generally accepted that exposure to diesel exhaust causes non-Hodgkin's lymphoma at a probability level of 95% or greater.

¶ 65 For its part, the defendant argues that Dr. Chiodo's deposition testimony displayed the absence of a generally accepted methodology. It asserts that Dr. Chiodo denied any knowledge of the plaintiff's exposure to diesel exhaust and herbicides, that he had little to no experience diagnosing or treating B-cell non-Hodgkin's lymphoma, and that he had never published studies or performed his own research pertaining to the disease. The defendant asserts that Dr. Chiodo was unaware of information in the scientific literature concerning the dose necessary for herbicides or diesel exhaust fumes to cause an individual to develop B-cell lymphoma. The defendant further asserts that Dr. Chiodo knew almost nothing about the plaintiff's associated risk factors, including whether he was obese, whether he had a previous diagnosis of cancer, or what amount of time he spent in specific roles during his railroad employment. The defendant states that, despite this lack of knowledge, he simply testified that no threshold level exists below which diesel exhaust or herbicide exposure cannot cause lymphoma.

¶ 66 The defendant characterizes Dr. Chiodo's methodology as having "created an opinion to support plaintiff's theory" and then seeking out a single study "not to gather the available scientific data, but only to corroborate his guesswork." According to the defendant, Dr. Chiodo admitted that he ignored or did not look for studies negative to his opinion. The defendant contends that Dr. Chiodo's reliance upon his knowledge, training, and experience in reaching his opinions is undermined by the fact that he had no experience as a physician treating patients with B-cell

lymphoma or with publishing about the disease or exposures.[3]

¶ 67 The defendant states that the 2008 Karunanayake study cited by Dr. Chiodo does not recognize that a causal connection exists between diesel exhaust experienced by railroad workers and B-cell lymphoma. Rather, it recognizes only that an "association" exists. The defendant further states that the study's authors noted a potential flaw in that the participants in the study had a prior personal history of cancer three times that of the control group.

¶ 68 Regarding the 2014 Schinasi article cited by Dr. Chiodo, the defendant asserts that Dr. Chiodo "refused to confront whether the herbicide to which plaintiff was exposed even was addressed." The defendant states that, when Dr. Chiodo was confronted with data that glyphosate (the herbicide identified as the one the plaintiff was exposed to) had not been listed by the International Agency for Research on Cancer as a human carcinogen, Dr. Chiodo did not disagree.

¶ 69 After carefully considering the parties' arguments, we agree with the plaintiff that the medical causation testimony expressed by Dr. Chiodo in this case is not the type of scientific testimony subject to a *Frye* analysis. In general, testimony by a physician about whether a particular event or thing caused an injury is rarely subject to exclusion through the *Frye* test. See, *e.g.*, *Noakes*, 363 Ill. App. 3d at 856-58 ("Medical testimony is not novel."); *Wartalski v. JSB Construction & Consulting Co.*, 384 Ill. App. 3d 139, 146 (2008); *Northern Trust Co.*, 403 Ill. App. 3d at 276-77; *Mitchell*, 317 Ill. App. 3d at 762; but see *Agnew v. Shaw*, 355 Ill. App. 3d 981, 990 (2005) (finding no abuse of discretion in trial court's ruling that methodology of "backward extrapolation" was not generally accepted); *Kane v. Motorola, Inc.*, 335 Ill. App. 3d 214, 222 (2002) (finding trial

[3]Both the plaintiff and defendant assert that Dr. Chiodo also used the methodology of extrapolation to reach his opinions in this case. However, we disagree. He testified multiples times during his deposition that he "could" have used this methodology. He explained, however, that he did not need to extrapolate because he had two articles clearly corroborating what he knew from his experience and training.

court did not abuse its discretion in barring experts who were "unable to explain what steps they took or methodologies they used to extrapolate their opinions" that radio frequency emitted by antenna caused plaintiff's brain tumor); *Durbin v. Illinois Workers' Compensation Comm'n*, 2016 IL App (4th) 150088WC, ¶ 39 (employing *Frye* analysis to uphold workers' compensation arbitrator's barring of causation opinion based on scientific articles).

¶ 70 Initially, we have difficulty determining exactly what the defendant contends is new or novel with respect to Dr. Chiodo's testimony that implicates *Frye*. The defendant does not squarely address the plaintiff's argument on this point in its brief. The only thing it refers to as "novel" is Dr. Chiodo's statement that "associated with" means "causes" in the absence of a confounder. The defendant describes Dr. Chiodo's methodology for reaching his opinions in a way that could be characterized as perhaps "unreliable" but not new or novel. For example, the defendant states that Dr. Chiodo's methodology was to reach his opinion first and then seek out a single study that would corroborate his research, without also looking for negative studies. However, there is nothing new or novel about an expert first having an opinion based on training, education, and experience and thereafter conducting a literature search for articles corroborating that opinion. Criticisms that an expert's literature search was not thorough does not make such a methodology new or novel. Similarly, most of the rest of the defendant's criticisms go to specific facts that Dr. Chiodo allegedly failed to take into account, studies or publications that he has not undertaken, and disagreement with the conclusions of the articles that he cited. However, these kinds of criticisms do not make his methodology new or novel.

¶ 71 Instead of Dr. Chiodo's methodology, it seems that what the defendant is suggesting is new or novel is the existence of a causal link between diesel exhaust or herbicide exposure and non-Hodgkin's lymphoma. Again, however, as judges without medical training, we have difficulty with

how to credit such an assertion. According to Dr. Chiodo, who is the only scientific expert to weigh in on the matter in this case, these are well known causal links, not new or novel ones. He cites two peer-reviewed articles which, according to him, support this conclusion at a 95% probability. The defendant has not countered these assertions with any affidavit from an expert witness of its own, nor has it cited the deposition testimony of any other expert demonstrating that this causal link is new or novel. Likewise, the defendant has also not cited any peer-reviewed articles stating that this causal link has been shown not to exist. All we have is argument by the defendant's attorneys on this point. Our supreme court has observed that the primary focus of a *Frye* test is " 'counting scientists' votes.' " (Internal quotation marks omitted.) *Simons*, 213 Ill. 2d at 532 (quoting *People v. Miller*, 173 Ill. 2d 167, 205 (1996) (McMorrow, J., concurring)). And essentially the defendant here has not shown us any scientists' votes that we can count in its favor on this matter.

¶ 72 Furthermore, absent some other evidence, we do not believe that the causation opinions expressed by Dr. Chiodo are made subject to *Frye* merely by the fact that the two articles cited by him do not definitively state that diesel exhaust or herbicides cause non-Hodgkin's lymphoma. These articles clearly state that there is an increased risk or "association" between exposure to these contaminants and non-Hodgkin's lymphoma. According to Dr. Chiodo's interpretation, they state these conclusions at a level of 95% probability that the results did not occur by random chance. The appellate court has previously rejected arguments to exclude causation testimony under *Frye* based on scientific articles recognizing only an "association" or "increased risk" between a thing and an injury without using the word "cause." *Northern Trust Co.*, 403 Ill. App. 3d at 277. Also, neither the *Frye* test nor Illinois law in general requires definitive medical or scientific agreement on the existence of a causal relationship before a jury may hear evidence on

the issue. *Donaldson*, 199 Ill. 2d at 78 (" '[a] cause-effect relationship need not be clearly established by animal or epidemiological studies before a doctor can testify that, in his opinion, such a relationship exists' " (quoting *Ferebee v. Chevron Chemical Co.*, 736 F.2d 1529, 1535-36 (D.C. Cir. 1984))); *id.* at 91 ("Illinois law does not require unequivocal or unqualified evidence of causation"). The proper way to address the inconclusiveness of these studies is through cross-examination and the presentation of contrary evidence. However, the statements within the studies go to the weight to be given to Dr. Chiodo's opinions, not to the admissibility of his testimony. *Swartz*, 264 Ill. App. 3d at 277.

¶ 73 We also do not find Dr. Chiodo's causation opinions to implicate the policy concerns of *Frye*. The *Frye* test is primarily concerned with evaluating evidence produced through scientific tests or studies that a jury may improperly regard with a sense of "infallibility" (*Donaldson*, 199 Ill. 2d at 86) or accord an undue significance due to its equating of science with truth. *McKown*, 226 Ill. 2d at 254. Such concerns are not present with the causation testimony expressed by Dr. Chiodo. Disputes regarding medical causation issues are common, and juries routinely hear and evaluate disputed medical causation evidence in cases like this one. Experience informs us that juries do not view as infallible or equate with truth an expert's statement that he knows the cause of the plaintiff's injury from his experience as a physician or the fact that a medical journal article can be cited to corroborate his opinion. This is especially true in cases such as this, where the scientific literature cited is not unequivocal in its findings of causation and acknowledges the flaws in its study, facts which must either be fronted on direct examination or exposed by opposing counsel through cross-examination.

¶ 74 Finally, we find perhaps the most persuasive support for our conclusion in the following observation quoted by our supreme court in *Donaldson*:

> " 'Judges, both trial and appellate, have no special competence to resolve the complex and refractory causal issues raised by the attempt to link low-level exposure to toxic chemicals with human disease. On questions such as these, which stand at the frontier of current medical epidemiological inquiry, if experts are willing to testify that such a link exists, it is for the jury to decide whether to credit such testimony.' " *Donaldson*, 199 Ill. 2d at 81 (quoting *Ferebee*, 736 F.2d at 1534).

We believe that this principle applies with respect to Dr. Chiodo's testimony in this case. The proper way for the defendant to address the weaknesses it perceives in his testimony is through vigorous cross-examination and the presentation of contrary medical evidence through its own witnesses at trial. The trial court erred in barring Dr. Chiodo from expressing opinions and testimony at trial.[4]

¶ 75 D. Summary Judgment

¶ 76 The defendant's motion for summary judgment was predicated entirely upon its argument that the opinions of Dr. Perez and Dr. Chiodo were inadmissible in their entirety and that, therefore, the plaintiff could not establish the elements of his claim under the FELA. The trial court's order granting summary judgment in favor of the defendant was similarly predicated on this conclusion. As we have reversed the trial court's order barring those witnesses, we must likewise reverse the entry of summary judgment in favor of the defendant. We conclude that, with the admissible testimony and opinions of Dr. Perez and Dr. Chiodo, a genuine issue of material fact exists with

[4]We point out that we are only addressing the issue of whether the opinions and testimony of Dr. Perez and Dr. Chiodo should have been barred in their entirety for failure to satisfy the *Frye* test. We express no opinion about whether any part of the testimony of either witness could later be stricken for any different reason. See *Northern Trust Co.*, 403 Ill. App. 3d at 278 ("a *Frye* determination is a threshold matter and *** opinion evidence surviving a *Frye* challenge may nevertheless be excluded if it lacks an evidentiary foundation").

respect to all essential elements of the plaintiff's claim under the FELA. See *Bahus v. Union Pacific R.R. Co.*, 2019 IL App (1st) 180722, ¶ 31 (to survive a motion for summary judgment in an action under the FELA, the plaintiff must offer evidence that could prove the common law elements of negligence, including duty, breach, foreseeability, and causation).

¶ 77 III. CONCLUSION

¶ 78 For the reasons set forth above, the trial court's order barring Dr. Perez and Dr. Chiodo from giving opinions or testimony at trial and granting summary judgment in favor of the defendant is reversed, and this cause is remanded for further proceedings.

¶ 79 Reversed and remanded.

***Molitor v. BNSF Railway Co.*, 2022 IL App (1st) 211486**

Decision Under Review:	Appeal from the Circuit Court of Cook County, No. 18-L-1934; the Hon. Mary Colleen Roberts, Judge, presiding.
Attorneys for Appellant:	Stephen F. Monroe, of Marc J. Bern & Partners, LLP, of Chicago, and Jonathan Sternberg, of Jonathan Sternberg, Attorney, P.C., of Kansas City, Missouri, for appellant.
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