

**PARKHILL V. ALDERMAN-CAVE MILLING & GRAIN CO. OF N.M., 2010-NMCA-110,
149 N.M. 140, 245 P.3d 585**

**JOEY PARKHILL and PAULA PARKHILL, a married couple, on their own behalf
and on behalf of their minor children, VICTORIA PARKHILL and REBEKAH
PARKHILL, Plaintiffs-Appellants,
v.
ALDERMAN-CAVE MILLING AND GRAIN COMPANY OF NEW MEXICO, Defendant-
Appellee.**

Docket No. 29,120

COURT OF APPEALS OF NEW MEXICO

2010-NMCA-110, 149 N.M. 140, 245 P.3d 585

October 6, 2010, Filed

APPEAL FROM THE DISTRICT COURT OF GRANT COUNTY, Kevin R. Sweazea,
District Judge.

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COUNSEL

Laurence M. Berlin, Reserve, NM, Moriarty, Badaruddin & Booke, Bradley L. Booke,
Missoula, MT, for Appellants.

Atkinson, Thal & Baker, P.C., John S. Thal, Clifford K. Atkinson, Elizabeth Losee,
Albuquerque, NM, for Appellee.

JUDGES

LINDA M. VANZI, Judge. I CONCUR: JAMES J. WECHSLER, Judge. MICHAEL E.
VIGIL, Judge (specially concurring).

AUTHOR: LINDA M. VANZI.

OPINION

VANZI, Judge.

{1} This is an appeal from the district court's decisions excluding the opinion testimony of Plaintiffs' two expert witnesses as to the cause of their medical conditions. Plaintiff Joey Parkhill also appeals a discovery-related ruling in which the district court dismissed his personal injury claims as a sanction for discovery abuses. For the reasons discussed below, we conclude that the district court did not err in excluding Plaintiffs' medical experts' causation testimony. Because we affirm the district court's ruling on the expert witnesses, we need not reach Plaintiff's sanction issue.

BACKGROUND

{2} Plaintiffs Joey and Paula Parkhill along with their two minor children (collectively, the Parkhills) operate several horse ranches located in southern New Mexico. Defendant Alderman-Cave Milling and Grain Company of New Mexico (ACMG) produces and markets horse feed in New Mexico.

{3} In April 2004, Joey Parkhill purchased eighty fifty-pound sacks (two tons) of ACMG horse feed. Mr. Parkhill distributed half of the horse feed to two ranches located in Dexter, New Mexico, delivering five bags to one ranch and thirty-five bags to the other. Mr. Parkhill took the remaining forty sacks of feed to his home ranch in Lordsburg, New Mexico.

{4} Over the course of the two weeks following Mr. Parkhill's purchase, the Parkhills fed the ACMG horse feed twice daily to the horses at the Lordsburg location. Three workers at the Dexter locations fed the ACMG horse feed twice daily to the horses at those locations. Between mid-April 2004, when the Parkhills began feeding the ACMG feed, and May 1, 2004, when the use of the ACMG feed was discontinued at all locations, several horses from all locations became sick and died. Additionally, the Parkhills claim that several mares spontaneously aborted.

{5} While investigating the deaths of the horses, the New Mexico Department of Agriculture took a number of samples of the feed. Testing showed that the samples contained small amounts of monensin, an antibiotic that is a common additive to livestock feed but is known to be toxic to horses and is, therefore, prohibited in horse feed. One sample of the horse feed contained 8 grams of monensin per ton and another sample contained 3 grams of monensin per ton. The remaining samples appear to have contained less than 2.3 grams of monensin per ton.

{6} The Parkhills allege that they experienced a number of physical symptoms within days after they started feeding their horses the ACMG feed and that their symptoms are related to their contact with the feed. The Parkhills claim that their symptoms included skin rashes, irritated eyes, brittle nails, and diarrhea. It does not appear from the record that any of the Parkhills sought medical treatment for their symptoms at the time of their contact with the ACMG feed. On June 30, 2004, approximately ten weeks after the horse feed had first been used, and approximately eight weeks after the feed was discontinued, Mr. Parkhill sought treatment from his doctor, Gregory Koury, M.D., for pain in his left shoulder related to Mr. Parkhill having recently been hit by a bull.

Subsequently, both Mr. and Mrs. Parkhill and their two daughters saw Dr. Koury for a variety of generalized health complaints: including dizziness and light-headedness, breathing difficulties, insomnia, decreased energy, irritability, elevated blood pressure, and weight gain. The three workers at the Dexter location did not report any adverse physical symptoms related to their contact with the horse feed.

{7} The Parkhills sought to have their treating physician, Dr. Koury, and another doctor, James Dahlgren, M.D., testify as experts on causation. Specifically, Dr. Koury and Dr. Dahlgren would testify that, to a reasonable degree of medical probability, the various health problems the Parkhills suffered since their contact with the ACMG horse feed in 2004 were caused by the Parkhills' exposure to monensin contained in the feed. ACMG filed a motion in limine to exclude both Dr. Koury's and Dr. Dahlgren's testimony. The district court held a two-day evidentiary hearing on the motion, during which several experts from both sides testified at length. The district court found that the testimony of both Dr. Koury and Dr. Dahlgren was not reliable, would not assist the trier of fact, and should, therefore, be excluded.

{8} The parties settled their claims with respect to the horses on October 10, 2008, and the district court subsequently entered a final judgment dismissing those claims with prejudice. In the settlement agreement, however, the Parkhills reserved their right to pursue claims for damages related to their personal health, and these claims are the basis of this appeal.

{9} On appeal, the Parkhills assert that the district court abused its discretion when the court excluded Dr. Dahlgren from testifying that, to a reasonable degree of medical certainty, exposure to monensin caused the Parkhills' physical symptoms. The Parkhills also contend that the district court erred by limiting Dr. Koury's testimony to his care and treatment of the Parkhills. We discuss each of the Parkhills' assertions in turn.

DISCUSSION

New Mexico Law Regarding the Admission/Exclusion of Expert Testimony

{10} We begin our discussion with a brief review of New Mexico law regarding the admission/exclusion of expert testimony. Admission or exclusion of expert testimony in New Mexico is governed by Rule 11-702 NMRA, which states:

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.

{11} In *State v. Alberico*, 116 N.M. 156, 166, 861 P.2d 192, 202 (1993), the New Mexico Supreme Court explained that Rule 11-702 establishes three prerequisites for admission of expert testimony: "(1) experts must be qualified; (2) their testimony must assist the trier of fact; and (3) their testimony must be limited to the area of scientific,

technical, or other specialized knowledge in which they are qualified.” *State v. Torres*, 1999-NMSC-010, ¶ 23, 127 N.M. 20, 976 P.2d 20.

{12} Pursuant to Rule 11-702, the district court is required to act as a “gatekeeper” to ensure that an expert’s testimony rests on both a reliable foundation and is relevant to the task at hand so that speculative and unfounded opinions do not reach the jury. *State v. Downey*, 2008-NMSC-061, ¶ 25, 145 N.M. 232, 195 P.3d 1244.

{13} In addition to the evidentiary reliability standard in Rule 11-702, the *Alberico* Court adopted the United States Supreme Court holding in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), establishing that it is an “error to admit expert testimony involving scientific knowledge unless the party offering such testimony first establishes the evidentiary reliability of the scientific knowledge.” *Torres*, 1999-NMSC-010, ¶ 24. “[I]n New Mexico, evidentiary reliability is the hallmark for the admissibility of scientific knowledge.” *Id.* ¶ 26. “[U]nder the Rules of Evidence the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but *reliable*.” *Id.* ¶ 25 (alteration omitted) (internal quotation marks and citation omitted).

{14} More recently, in *Torres*, our Supreme Court reasserted that New Mexico courts should apply the factors defined by the United States Supreme Court in *Daubert* when considering scientific testimony. The Court stated that

in considering the reliability of any particular type of scientific knowledge, the trial court should consider the following factors:

- (1) whether a theory or technique can be (and has been) tested;
- (2) whether the theory or technique has been subjected to peer review and publication;
- (3) the known or potential rate of error in using a particular scientific technique and the existence and maintenance of standards controlling the technique’s operation;
- (4) whether the theory or technique has been generally accepted in the particular scientific field.

Torres, 1999-NMSC-010, ¶ 25 (alteration omitted) (internal quotation marks and citation omitted). New Mexico courts rely upon the *Daubert* factors, along with a fifth factor: “whether the scientific technique . . . is capable of supporting opinions based upon reasonable probability rather than conjecture.” *State v. Anderson*, 118 N.M. 284, 291, 881 P.2d 29, 36 (1994) (internal quotation marks and citation omitted).

{15} Subsequent federal cases, such as *Kumho Tire Co. v. Carmichael*, 526 U.S. 147, 138 (1999), have gone further and required that all expert testimony, not just scientific testimony, be subject to the *Daubert-Alberico* standard. New Mexico courts have not adopted this requirement; rather, “New Mexico law requires only that the trial court establish the reliability of scientific knowledge, and does not apply the *Daubert-Alberico* standard to all expert testimony.” *State v. Lente*, 2005-NMCA-111, ¶ 4, 138 N.M. 312, 119 P.3d 737. With this guidance, we address the Parkhills’ claims.

Standard of Review

{16} Both parties agree that the appropriate standard of review for the district court's decision regarding the admission of expert testimony is abuse of discretion. "[T]he admission of expert testimony or other scientific evidence is peculiarly within the sound discretion of the trial court and will not be reversed absent a showing of abuse of that discretion." *Alberico*, 116 N.M. at 169, 861 P.2d at 205. "An abuse of discretion occurs when a ruling is clearly contrary to the logical conclusions demanded by the facts and circumstances of the case." *Sims v. Sims*, 1996-NMSC-078, ¶ 65, 122 N.M. 618, 930 P.2d 153.

{17} Additionally, the Parkhills argue that the district court erred as a matter of law by applying the *Daubert-Alberico* evidentiary standard to Dr. Koury's testimony because Dr. Koury did not—and was not required to—rely on scientific knowledge for his opinion. As our Supreme Court stated in *Torres*, "the initial determination of whether to apply the [*Daubert-Alberico*] standard entails a conclusion of law that is subject to de novo review." *Torres*, 1999-NMSC-010, ¶ 28. We therefore review de novo the district court's decision to apply the *Daubert-Alberico* standard to the portions of Dr. Koury's testimony that the court found required scientific knowledge. We then review the district court's decision to exclude Dr. Koury's and Dr. Dahlgren's expert testimony for an abuse of discretion.

***Daubert-Alberico* Applies to Dr. Koury's Testimony**

{18} The Parkhills contend that the district court erred in limiting the testimony of Dr. Koury within the unique context of this toxic tort. They assert that Dr. Koury properly applied a differential diagnosis to determine the cause of the Parkhills' symptoms and that because Dr. Koury was the Parkhills' treating physician, he was qualified as an expert to give his opinion as to causation in this case. The Parkhills further argue that Dr. Koury's opinion should not have been subjected to a *Daubert-Alberico* analysis because it was based on Dr. Koury's experience and training, not on scientific knowledge.

{19} In support of their position, the Parkhills cite *Banks v. IMC Kalium Carlsbad Potash Co.*, 2003-NMSC-026, ¶ 22, 134 N.M. 421, 77 P.3d 1014, which states that "[a] treating physician is uniquely qualified to give an opinion about his or her diagnosis of a patient and the admissibility of such testimony should be given due deference." In *Banks*, our Supreme Court went on to say that "[a] treating physician's testimony is based more on experience and training than on the kind of scientific knowledge to which New Mexico courts apply *Daubert-Alberico*." *Id.* (internal quotation marks and citation omitted). While the Parkhills accurately cite to *Banks*, we find that case distinguishable. In *Banks*, the Court found that the *Daubert-Alberico* requirements of showing evidentiary reliability of scientific evidence was not applicable under the particular provisions of NMSA 1978, Section 52-1-28(B) (1987) of the Workers' Compensation Act. *Banks*, 2003-NMSC-026, ¶ 11. The Court has not had the opportunity to address the issue in a context outside of the Workers' Compensation Act.

{20} In this case, the district court determined that Dr. Koury was qualified in his capacity as the Parkhills' treating physician to testify as to his differential diagnosis of the *internal* causes of the Parkhills' symptoms, e.g., Mr. Parkhill's obesity is a cause of his hypertension. The district court concluded that because Dr. Koury's testimony as to internal causation was based on his experience and training, rather than scientific knowledge, the testimony was not required to meet the *Daubert-Alberico* evidentiary standard. The district court noted, however, that in addition to testifying as to internal causation, the Parkhills also sought to have Dr. Koury testify to the *external* cause of their symptoms, i.e., that, to a reasonable degree of medical probability, the Parkhills' symptoms were caused by their exposure to monensin. The district court ruled that testimony as to external causation, or etiology, was beyond the expertise of the average treating physician and beyond the scope of a differential diagnosis conducted for the purposes of diagnosis and treatment. The district court ruled that testimony as to external causation required specific scientific knowledge and, therefore, such testimony must meet the *Daubert-Alberico* evidentiary standard. We agree.

{21} We conclude that the Parkhills' argument for the admissibility of Dr. Koury's overall testimony conflates the determination of the disease that is the cause of a patient's symptoms, which might be determined by applying a differential diagnosis, with the determination of the external cause of the disease itself which, as in the case before us, often requires a rigorous scientific analysis of the various external agents that might have caused the disease.

{22} We find the Eleventh Circuit Court of Appeals' discussion of the distinction between the determination of the disease and a determination of the external causation of the disease in *McClain v. Metabolife International, Inc.*, 401 F.3d 1233, 1236 (11th Cir. 2005), to be instructive in this regard. At the outset, we note that in *McClain*, the Court of Appeals acknowledged that a differential diagnosis approach may offer an important component of a valid methodology and can satisfy a *Daubert* analysis if the expert can show the general toxicity of the drug by reliable methods. *Id.* at 1252-53. The Court explained that a "[d]ifferential diagnosis involves 'the determination of which one of two or more diseases or conditions a patient is suffering from, by systematically comparing and contrasting their clinical findings.'" *Id.* at 1252 (quoting *Dorland's Illustrated Medical Dictionary* 240 (Douglas M. Anderson et al. ed., 29th ed. 2000)). The Court went on to elucidate that this methodology leads to "the diagnosis of the patient's condition, not necessarily the cause of that condition." *McClain*, 401 F.3d at 1252 (citing Mary Sue Henifin et al., *Reference Manual On Scientific Evidence* 439, 481 (Fed. Jud. Ctr. 2d ed. 2000)). The Court noted that "[t]he more precise but rarely used term is differential etiology, which is a term used on occasion by expert witnesses or courts to describe the investigation and reasoning that leads to the determination of external causation." *McClain*, 401 F.3d at 1252 (internal quotation marks and citation omitted). *See also* Ian S. Spechler, *Physicians at the Gates of Daubert: A Look at the Admissibility of Differential Diagnosis Testimony to Show External Causation in Toxic Tort Litigation*, 26 Rev. Litig. 739, 743 (2007) (stating that a "[d]ifferential diagnosis refers to the clinical process by which doctors determine the internal disease that is causing a patient's suffering; differential etiology is used for determining the external

causes of the problems. In a differential diagnosis, a doctor isolates a disease that is causing the patient's symptoms, whereas differential etiology isolates an external factor that has caused the internal disease." (footnote omitted)); Edward J. Imwinkelried, *The Admissibility and Legal Sufficiency of Testimony About Differential Diagnosis (Etiology): Of Under—and Over—Estimations*, 56 Baylor L. Rev. 391, 402 (2004) ("If the key question is the cause of the illness rather than the nature of the illness, the physician uses a related, but distinct technique, that is, differential etiology."); David L. Faigman, *Symposium: The Role of the Judge in the Twenty-First Century, Judges as "Amateur Scientists"*, 86 B.U. L. Rev. 1207, 1221 (2006) ("Properly understood, differential diagnosis refers to the identification of the illness or behavioral condition that a person is experiencing. Differential etiology refers to the cause or causes of that condition." (footnotes omitted)).

{23} As our Supreme Court has declared, a treating physician in a workers' compensation case is uniquely qualified to give an opinion regarding his or her diagnosis of the disease causing the patient's symptoms. *Banks*, 2003-NMSC-026, ¶ 22. Even if we extend the Court's ruling in *Banks* to cases outside the workers' compensation context, we nevertheless conclude that a treating physician is not automatically qualified to testify as to the external agent that caused the patient's disease. We acknowledge that, in some circumstances, the use of a differential diagnosis can be a legitimate means of proving causation when the treating physician can determine with some degree of certainty the external cause of a patient's disease as part of the diagnosis and treatment process. For example, a physician may testify that the patient's broken leg was caused by the patient falling off of a roof. On the other hand, in many cases, including toxic tort cases like the one before us, the determination of the external cause of a patient's disease is a complex process that is unrelated to diagnosis and treatment, and which requires specialized scientific knowledge regarding the external agents involved. In such situations, a treating physician's expert opinion on causation is subject to the same standards of scientific reliability that govern the expert opinions of physicians who are hired only for the purposes of litigation.

{24} We conclude that in order for Dr. Koury to testify as to *external* causation of the Parkhills' symptoms, i.e., that monensin caused those symptoms, Dr. Koury's testimony must be found to be reliable under the *Daubert-Alberico* evidentiary standard. Therefore, we determine that, as a matter of law, the district court applied the appropriate evidentiary standards to the two separate aspects of Dr. Koury's testimony.

Exclusion of Dr. Koury's Testimony as to External Causation

{25} Having conducted a de novo review and determined that the district court properly applied the *Daubert-Alberico* evidentiary standard to the parts of Dr. Koury's testimony that require scientific knowledge, we now review the district court's exclusion of that testimony for an abuse of discretion.

{26} The district court determined that testimony as to the external causation of the Parkhills' symptoms required specific scientific knowledge that Dr. Koury did not

possess. The court found that Dr. Koury was not qualified to “render a reliable opinion on the subject [of] whether monensin was the external cause or etiology of the Plaintiffs’ medical symptoms” because he lacked the background, training, and experience required for such testimony. Additionally, the court found that Dr. Koury had not performed adequate research or analysis to acquire the information necessary to render a reliable opinion. Finally, the court found that Dr. Koury based his analysis on an assumption, which has no scientific basis, i.e., that monensin stays permanently in the human body. The district court concluded that this faulty assumption further rendered Dr. Koury unqualified to testify regarding monensin’s effect on the Parkhills.

{27} The Parkhills argue that the district court erred in excluding Dr. Koury’s testimony based on his qualifications. The Parkhills assert that no specialized training or experience, beyond being a medical doctor, is necessary for Dr. Koury to meet the first prerequisite for admission of expert testimony defined by our Supreme Court, i.e., that experts must be qualified. We disagree and conclude that a treating physician does not establish the reliability of his techniques or the validity of his conclusions simply by claiming he performed a differential diagnosis on a patient.

{28} New Mexico law is clear that “a witness must qualify as an expert in the field for which his or her testimony is offered before such testimony is admissible.” *Downey*, 2008-NMSC-061, ¶ 26 (internal quotation marks and citation omitted). Additionally, broad discretion is intentionally given to the trial court “to determine whether expert testimony will assist the trier of fact.” *Id.* “In determining whether an expert witness is competent or qualified to testify, the trial court has wide discretion.” *Lopez v. Reddy*, 2005-NMCA-054, ¶ 14, 137 N.M. 554, 113 P.3d 377 (alteration omitted) (internal quotation marks and citation omitted). “The qualifications of an expert are dependent on the type of negligence claimed and the medical complexity involved.” *Id.* ¶ 16.

{29} At the *Daubert* hearing, Dr. Koury stated his qualifications as follows: that he holds a medical degree from the University of New Mexico and is licensed to practice medicine in New Mexico; that he currently practices family medicine in Silver City, New Mexico, but is not board certified in family practice; that his only training related to toxicology was in two classes taken in medical school, pharmacology and biochemistry, and that neither class had any specific information regarding toxicology. Dr. Koury further testified that he did not consider himself to be an expert in toxicology by education, training, or experience.

{30} Specifically regarding monensin, Dr. Koury stated that he had not heard of the substance prior to meeting the Parkhills and that the bulk of his information regarding monensin came from the Parkhills. Dr. Koury also stated that he does not know how monensin is handled when it is fed to cattle, what constitutes the minimum harmful dose for a human being, or what constitutes the minimum harmful dose for an animal. Additionally, Dr. Koury stated that he had not consulted with any experts on the subject of monensin and that his opinions regarding monensin and its association with the Parkhills’ symptoms are based exclusively on his examination of the Parkhills and his own research. Finally, Dr. Koury testified that he was of the opinion that monensin is not

eliminated from the body, but rather stays in the body, even though he had no factual or experiential basis for that opinion, and there was expert testimony stating that monensin is excreted from the body very rapidly.

{31} Based on this testimony and a review of all written information submitted by the parties, the district court determined that Dr. Koury's differential diagnosis methodology was not scientifically reliable, and he was therefore not qualified to offer an expert opinion that required scientific knowledge of the properties, handling, and use of monensin. We conclude that substantial evidence supported the exercise of the district court's discretion to limit the testimony of Dr. Koury and to exclude his medical opinion as to causation. We affirm the district court's decision.

Exclusion of Dr. Dahlgren's Expert Testimony

{32} The Parkhills also proffered Dr. Dahlgren as an expert in environmental medicine and toxicology to testify that the Parkhills' illnesses were caused by their exposure to monensin. It is unclear from the record whether the district court found Dr. Dahlgren to be qualified to give his opinion that, to a reasonable degree of medical probability, the Parkhills' health symptoms were caused by their exposure to monensin. The court merely stated that it found his qualifications to be "less than stellar." The district court did, however, find that Dr. Dahlgren's testimony would not assist the trier of fact, as required by the second prerequisite defined by our Supreme Court in *Alberico*, because the testimony was not reliable under the *Daubert-Alberico* standard for scientific evidence. We agree with the district court that Dr. Dahlgren's testimony was not reliable under the *Daubert-Alberico* standard.

{33} The district court found that under the rules of *Daubert-Alberico*, Dr. Dahlgren's methodology had not been tested or peer reviewed. The district court further found that the methodology did not provide an estimate of the probability of error and that the doctor had not quantified a dose of the presumed toxic agent, monensin, as the basis for his opinion. Finally, the court noted Dr. Dahlgren's utter lack of familiarity with monensin and the manner in which the compound is used and handled in the industry. Based on these factors, the court determined that Dr. Dahlgren's opinion was unreliable and, therefore, inadmissible.

{34} The court reached its decision after a two-day evidentiary hearing during which the court heard testimony from five experts: Dr. Koury, specializing in family medicine; Dr. Dahlgren, specializing in internal medicine; Dr. Oehme, D.V.M., professor of toxicology at the Kansas State University Veterinary College; Dr. Fisher, board certified in toxicology; and Keith Behnke, Ph.D., professor of feed science at Kansas State University.

{35} The Parkhills do not address the reliability of Dr. Dahlgren's methodology—a differential diagnosis—for determining external causation of the Parkhills' symptoms in accordance with the *Daubert-Alberico* factors cited by the district court. Instead, the Parkhills cite a number of cases from other jurisdictions in which courts have found that

a properly employed differential diagnosis is a scientifically reliable methodology. The Parkhills argue that based on these cases, a general acceptance of the differential diagnosis methodology can be inferred. The Parkhills offer no other argument or evidence that a differential diagnosis is a scientifically reliable methodology for determining *external* causation. However, our Supreme Court concluded in *Alberico* and reiterated in *Torres*, “[i]t is improper to look for scientific acceptance only from reported case law.” *Alberico*, 116 N.M. at 167, 861 P.2d at 203; *Torres*, 1999-NMSC-010, ¶ 38. The policy behind our Supreme Court’s decision in *Alberico* is to “allow a trial court to admit evidence of scientific knowledge that is adequately valid (from a scientific viewpoint) to be sufficiently reliable (from an evidentiary viewpoint).” *Torres*, 1999-NMSC-010, ¶ 39.

{36} Consequently, as we have noted above, we do not believe that the Parkhills have established that a differential diagnosis is the proper methodology for determining external causation in this case. Even if we were to assume a properly applied differential diagnosis to be an acceptable method for determining the external cause of the Parkhills’ symptoms, the district court had to also determine that Dr. Dahlgren reliably applied that methodology to the facts of the present case. In *Downey*, our Supreme Court reiterated that expert testimony is only admissible under Rule 11-702 if it will assist the trier of fact, i.e., the expert testimony must be relevant. *Downey*, 2008-NMSC-061, ¶ 30. “One aspect of relevance is whether expert testimony proffered in the case is sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute.” *Id.* (internal quotation marks and citation omitted). “The primary inquiry is whether the scientific methodology ‘fits’ the facts of the case and thereby proves what it purports to prove.” *Id.* “[T]he reasoning or methodology underlying the testimony must not only be scientifically valid, it also must be properly applied to the facts in issue.” *Id.* (alterations, emphasis, internal quotation marks, and citations omitted).

{37} The district court found that in order for Dr. Dahlgren to apply his reasoning or methodology reliably to the facts in the present case, Dr. Dahlgren’s opinion must be based on some quantification of the dose of monensin received by the Parkhills. We agree. “Expert testimony may be received if, and only if, the expert possesses such facts as would enable him to express a reasonably accurate conclusion as distinguished from mere conjecture.” *Id.* ¶ 32 (internal quotation marks and citation omitted).

{38} While Dr. Dahlgren agreed that the dosage received by the Parkhills was critical in determining whether exposure to monensin could have caused the Parkhills’ physical symptoms, Dr. Dahlgren did not attempt to quantify the dose of monensin received by the Parkhills, nor did he make any statement to the effect that it was not possible to quantify the dose of monensin to which the Parkhills had been exposed. As our Supreme Court noted in *Downey*, “[e]xperts may, and often do, base their opinions upon factual assumptions.” *Id.* ¶ 34. However, the court went on to state that “those assumptions in turn must find evidentiary foundation in the record.” *Id.*

{39} We recognize that the precise dose of monensin received by the Parkhills may have been difficult to assess; nevertheless, it appears from the testimony of ACMG’s

expert, Dr. Fisher, a board certified toxicologist, that it was possible under the circumstances in the present case to give a reasonable estimate of the magnitude or concentration of monensin exposure received by the Parkhills.

{40} Dr. Dahlgren theorizes that the Parkhills' exposure to monensin occurred primarily through their inhalation of the dust from the feed generated during the feeding process. Samples of the Parkhills' feed, from the same lot as the feed that had been fed to the horses, were tested for monensin content by the New Mexico Department of Agriculture. Amounts of monensin found in the feed ranged from less than 2.3 grams per ton up to 8 grams per ton. Dr. Dahlgren, however, did not quantify any dosage based on these or any other tests.

{41} Dr. Fisher, on the other hand, made a determination of the likely worst-case dose of monensin the Parkhills could have received by assuming the highest amount of monensin found in any feed sample was present in all of the feed with which the Parkhills had contact. He also assumed that an extremely dusty environment in which 1% of the air would be dust from the grain (an environment in which it would be difficult to see more than a few feet) was present all times during all feedings; that the Parkhills were in this environment for an hour at each feeding; that the Parkhills inhaled the same volume of air that an average person would have inhaled during that time; that all grain and monensin dust in the air was of a size that could be inhaled and retained in the lungs; and that 100% of the amount inhaled was absorbed into the body.

{42} Based on this worst-case analysis, Dr. Fisher estimated that the maximum dose of monensin the Parkhills could have received in each one hour exposure would have been 0.038 milligrams per kilogram of body weight, an amount that, in his opinion, was unlikely to have caused any symptoms of toxicity in the Parkhills.

{43} The Parkhills do not offer evidence or argument to rebut Dr. Fisher's measurements or analysis, but rather assert that because of the alleged temporal relationship between the onset of the Parkhills symptoms and their exposure to monensin, quantifying the dosage received is not necessary to render a scientifically reliable opinion as to the effect of the exposure on the Parkhills. In support of their contention, the Parkhills cite several cases from other jurisdictions for the proposition that temporal relationships may be useful in determining causation where direct evidence of dosage cannot be obtained. *Curtis v. M & S Petroleum, Inc.*, 174 F.3d 661, 671 (5th Cir. 1999) (stating that the fact that workers displayed well-known symptoms of benzene exposure shortly after exposure to an unknown level of benzene could be used as a factor in determining dosage); *Christian v. Gray*, 2003 OK 10, ¶ 38, 65 P.3d 591 (stating that "the testimony of the expert should reveal a reliable method for determining the quantity of the toxin necessary to cause injuries of the type experienced by [the] plaintiff (general causation), unless [the] plaintiff can show that the circumstances are such that general causation should not be necessary"); *Wisner v. Ill. Cent. Gulf R.R.*, 537 So. 2d 740, 748 (La. Ct. App. 1988) (stating that "where there are no facts, such as the exact degree of [plaintiff's] exposure, we hold the experts are still entitled to offer their conclusions based on their areas of expertise"). These cases are not applicable to

the circumstances before us because direct evidence of the Parkhills' monensin dosage could have been obtained.

{44} The district court also found Dr. Dahlgren's opinion to be unreliable based on his "utter lack of familiarity" with monensin and the manner in which it is used and handled in the industry. Dr. Dahlgren stated that prior to being hired for the purposes of this lawsuit, he had no experience with or knowledge of monensin or any other chemical within the class of antibiotics of which monensin is a part. Dr. Dahlgren stated that he was aware from the reports and testimony of the other experts that monensin has been routinely used for many years as an additive in cattle and chicken feed in concentrations up to fifty times greater than the concentrations contained in the horse feed in the present case; however, Dr. Dahlgren stated that he had not researched what protective equipment, if any, was used within the industry when dealing with these feeds or whether there had been a single incident of health problems with workers in the industry. Dr. Dahlgren was also unaware that other people who had fed the monensin-contaminated feed (those feeding at the Dexter locations) had not experienced any adverse health symptoms. In short, Dr. Dahlgren failed to lay a scientific groundwork for the general toxicity of monensin and that it can cause the harm the Parkhills suffered.

{45} Finally, the district court noted that Dr. Dahlgren's opinions were generated solely for the purposes of the Parkhills' litigation and that "[i]t did not appear from the evidence that he had any specialized education in toxicology." See *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995) (emphasizing that "[o]ne very significant fact to be considered is whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying").

{46} We reiterate the direction given by our Supreme Court that the trial court has broad discretion in the admission or exclusion of expert evidence, and that the trial court's decision should be sustained "unless [it is] manifestly erroneous." *Alberico*, 116 N.M. at 169, 861 P.2d at 205 (internal quotation marks and citation omitted). Applying this standard to the facts of this case and based on a review of the record before us, we conclude that the district court did not abuse its discretion when it excluded the testimony of Dr. Dahlgren as unreliable. Therefore, we affirm the district court's decision.

CONCLUSION

{47} For the reasons set forth above, we affirm the district court's orders as to the exclusion of Dr. Koury's and Dr. Dahlgren's causation testimony. In light of our conclusion that the experts were properly excluded, we do not reach Mr. Parkhill's claim that the district court erred in dismissing his personal injury claims as a sanction for discovery abuse.

{48} **IT IS SO ORDERED.**

LINDA M. VANZI, Judge

I CONCUR:

JAMES J. WECHSLER, Judge

SPECIALLY CONCURRING OPINION

VIGIL, Judge (specially concurring).

{49} I agree with the majority that the district court did not abuse its discretion in excluding the proposed expert testimony of Dr. Koury and Dr. Dahlgren. However, I follow a fundamentally different analytical approach in considering the admissibility of this proposed expert testimony.

{50} The *Daubert-Alberico* factors are considered in relation to whether the methodology used by an expert to arrive at a conclusion is scientifically valid. *Daubert*, 509 U.S. at 592-93 (stating that a proffer of scientific testimony entails a “preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue”); *Downey*, 2008-NMSC-061, ¶ 30 (stating that for scientific evidence to be admissible under Rule 11-702, the reasoning or methodology underlying the testimony must be scientifically valid). However, in its consideration of whether the doctors were qualified to testify, the majority undertakes consideration of the *Daubert-Alberico* factors. Majority Op. ¶¶ 20-24, 32-35. This is not only unnecessary, it causes confusion.

{51} The *Daubert-Alberico* factors are considered only *after* the trial court has first determined that the proposed expert is qualified and that the proposed testimony will be helpful in deciding an issue of fact in the case. Neither of these two preliminary questions requires an analysis of the *Daubert-Alberico* factors. The trial court then determines if the proposed testimony involves scientific evidence. If the proposed testimony involves scientific evidence, the trial court then considers the *Daubert-Alberico* factors to determine if the methodology utilized by the expert is scientifically valid. If the proposed testimony does not involve scientific evidence, the *Daubert-Alberico* factors are not applicable.

{52} My second major disagreement with the majority is its analysis of whether a differential diagnosis performed by a qualified doctor may constitute sufficient proof of causation in a toxic tort case. Courts disagree on whether a doctor relying on a clinical differential diagnosis “can provide adequate proof of causation in a toxic tort action.” *Hollander v. Sandoz Pharms. Corp.*, 289 F.3d 1193, 1210 (10th Cir. 2002) (quoting *Federal Judicial Center, Reference Manual on Scientific Evidence, Supreme Court’s Trilogy on the Admissibility of Expert Testimony*, 34 (2d ed. 2000)). The result of the majority opinion discussion of this issue at ¶¶ 20-24 and its reliance on *McClain* is to exclude a doctor from ever being able to use a differential diagnosis to establish

causation in a toxic tort case. Not only do I disagree with such a sweeping conclusion, it is unnecessary. The admissibility of evidence is specific to each case, and we should only determine whether the district court abused its discretion in excluding the diagnoses in this case. See *Hollander*, 289 F.3d at 1210.

DISCUSSION

New Mexico Law Regarding the Admission of Expert Testimony

{53} The admission of all expert testimony is governed by Rule 11-702. Rule 11-702 is entitled, “Testimony by experts,” and it 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.

{54} It is now settled that under Rule 11-702 there are three prerequisites for the admission of all expert opinion testimony: “(1) experts must be qualified; (2) their testimony must assist the trier of fact; and (3) their testimony must be limited to the area of scientific, technical, or other specialized knowledge in which they are qualified.” *Torres*, 1999-NMSC-010, ¶ 23. The burden is on the proponent of the testimony to satisfy each of the prerequisites before the expert evidence is admissible. *State v. Downey*, 2008-NMSC-061, ¶ 25 (stating that Rule 11-702 predicates the admissibility of expert testimony on the satisfaction of the three requirements); *State v. Morales*, 2002-NMCA-052, ¶ 21, 132 N.M. 146, 45 P.3d 406 (stating that expert testimony may be admitted under Rule 11-702 if the proponent establishes these three prerequisites). I now discuss these prerequisites.

{55} First, “Regardless of whether the subject matter involves scientific, technical, or other specialized knowledge, however, a witness must qualify as an expert in the field for which his or her testimony is offered before such testimony is admissible.” *Torres*, 1999-NMSC-010, ¶ 45; see *Downey*, 2008-NMSC-061, ¶ 26 (quoting *Torres*, 1999-NMSC-010, ¶ 45). The trial court’s determination is reviewed for an abuse of discretion. See *Torres*, 1999-NMSC-010, ¶ 40 (concluding that the evidence failed to establish that a police officer was qualified to testify about the scientific bases of horizontal gaze nystagmus (HGN) testing); *State v. Stills*, 1998-NMSC-009, ¶ 34, 125 N.M. 66, 957 P.2d 51 (examining the evidence and concluding it supported a finding that the witness was an expert); *State v. Lasworth*, 2002-NMCA-029, ¶ 17, 131 N.M. 739, 42 P.3d 844 (noting that the state contended the trial court abused its discretion by ruling its witness was not qualified as an expert).

{56} If the witness is qualified, the second condition for the admission of expert evidence must be satisfied. This requirement, that the testimony must assist the trier of fact, is primarily one of relevance. *Anderson*, 118 N.M. at 291, 881 P.2d at 36. “One aspect of relevance is whether expert testimony proffered in the case is sufficiently tied

to the facts of the case that it will aid the jury in resolving a factual dispute.” *Downey*, 2008-NMSC-061, ¶ 30 (internal quotation marks and citation omitted). In addition, if the witness cannot explain how the testimony proves an issue in the case, it does not assist the trier of fact. See *Torres*, 1999-NMSC-010, ¶ 40 (concluding that since the testimony of a police officer did not explain how a horizontal gaze nystagmus (HGN) test proved intoxication, his testimony concerning the test did not assist the trier of fact); Rule 11-401 (defining “relevant evidence” as “evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence”).

{57} The third requirement for the admission of expert testimony has received the most attention. In *Alberico*, 116 N.M. at 165-68, 861 P.2d at 201-04, our Supreme Court abandoned the “general acceptance” test of *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923), in favor of the more flexible *Daubert* test for determining if expert opinion evidence involving “scientific knowledge” is reliable and therefore admissible under Rule 11-702. See also *State v. Tollardo*, 2003-NMCA-122, ¶ 17, 134 N.M. 430, 77 P.3d 1023 (stating that *Alberico* adopted “a more flexible inquiry” in which the general acceptance of the theory or technique is considered but is not controlling). In determining whether to admit expert opinion involving “scientific knowledge,” the trial court considers a non-exclusive list of factors adopted from *Daubert* which include:

- (1) whether a theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known potential rate of error in using a particular scientific technique and the existence and maintenance of standards controlling the technique’s operation; and (4) whether the theory or technique has been generally accepted in the particular scientific field.

Anderson, 118 N.M. at 291, 881 P.2d at 36 (internal quotation marks and citation omitted). In *Alberico*, 116 N.M. at 167, 861 P.2d at 203, our Supreme Court added another factor: (5) “whether the scientific technique is based upon well-recognized scientific principle and whether it is capable of supporting opinions based upon reasonable probability rather than conjecture.” See *Anderson*, 118 N.M. at 291, 881 P.2d at 36 (noting the addition of this requirement by *Alberico*). The trial court’s application of the *Daubert-Alberico* factors is reviewed for abuse of discretion. *Tollardo*, 2003-NMCA-122, ¶ 16.

{58} However, the *Daubert-Alberico* factors apply *only* when the trial court is evaluating scientific testimony; they do not apply when evaluating non-scientific testimony. *Torres*, 1999-NMSC-010, ¶ 43; *State v. Aleman*, 2008-NMCA-137, ¶ 6, 145 N.M. 79, 194 P.3d 110. The initial question of whether the expert opinion involves scientific knowledge, which must meet the standard of evidentiary reliability set forth in *Daubert-Alberico* presents a question of law which is reviewed de novo. *Torres*, 1999-NMSC-010, ¶ 28; *Aleman*, 2008-NMCA-137, ¶ 6; *Tollardo*, 2003-NMCA-122, ¶ 9; *Morales*, 2002-NMCA-052, ¶ 18.

{59} Summarizing: (1) The proponent of any expert evidence must first establish that the proposed witness is qualified to give an expert opinion in the relevant field. This determination lies in the discretion of the trial court. If the witness is not qualified, the inquiry ends, and the evidence is not admissible. (2) If the witness is qualified as an expert, the proponent of the evidence must demonstrate that the testimony will assist the trier of fact. Again, this determination lies in the discretion of the trial court, and its determination will depend on a myriad of factors, including the nature of the case, and the purpose for which the evidence is being offered. (3) If the first two requirements are satisfied, the trial court must then determine whether the proposed testimony involves scientific evidence. This is an issue of law, reviewed de novo on appeal. The trial court applies the *Daubert-Alberico* factors to assess whether the proposed testimony is reliable and therefore admissible if it determines that the testimony involves scientific evidence. The *Daubert-Alberico* factors do not apply if the expert testimony is non-scientific and is based on the knowledge, experience, or training of the witness. To some degree, these considerations and the showing required to satisfy them may overlap. However, to the extent possible, consideration should be given to each separate prerequisite on its own. This will simplify and focus any pretrial hearing which may be held to consider the admissibility of expert testimony and appellate review of the trial court's decision.

{60} When all the factors are considered, the admission of expert testimony is within the discretion of the trial court and will not be reversed absent a showing of abuse of that discretion. *Alberico*, 116 N.M. at 169, 861 P.2d at 205. "An abuse of discretion standard of review, however, is not tantamount to rubber-stamping the trial judge's decision. It should not prevent an appellate court from conducting a meaningful analysis of the admission [of] scientific testimony to ensure that the trial judge's decision was in accordance with the Rules of Evidence and the evidence in the case." *Id.* at 170, 861 P.2d at 206; see *Downey*, 2008-NMSC-061, ¶ 24 (repeating this observation of *Alberico*). Moreover, in light of the liberal approach of our rules of evidence to the admission of evidence and the heightened qualifications of modern day jurors, any doubt regarding the admissibility of expert opinion evidence "should be resolved in favor of admission, rather than exclusion." *Lee v. Martinez*, 2004-NMSC-027, ¶ 16, 136 N.M. 166, 96 P.3d 291 (citing 1 Jack B. Weinstein & Margaret A. Berger, *Weinstein's Federal Evidence* xix (2d ed. 2003)); see *Aleman*, 2008-NMCA-137, ¶ 30.

{61} I now apply the foregoing analysis to consider whether the district court abused its discretion in this case when it ruled that the testimony of the Parkhills' experts was not admissible.

Qualifications of the Experts

{62} The foundation for determining whether the expert is qualified is to identify what the issue is that requires expert testimony. This insures that an accurate determination can then be made by the trial court that the witness has the requisite knowledge, skill, experience, training, or education to qualify as an expert in the relevant field.

{63} The central issue in this case is whether the monensin in the horse feed caused the Parkhills' adverse physical symptoms. On the record before the district court, it was demonstrated that the most relevant field of expertise which applies in resolving this disputed fact is toxicology. "The science of toxicology attempts to determine at what doses foreign agents [monensin in horse feed] produce their effects [of adverse physical symptoms in the Parkhills]." *Federal Judicial Center, Reference Manual on Scientific Evidence, Reference Guide on Toxicology*, 403 (2d ed. 2000). Stated in legal terms, this is a classic toxic tort case. "Scientific knowledge of the harmful level of exposure to a chemical, plus knowledge that the plaintiff was exposed to such quantities, are minimal facts necessary to sustain the plaintiffs' burden in a toxic tort case." *Allen v. Pa. Eng'g Corp.*, 102 F.3d 194, 199 (5th Cir. 1996).

{64} The Parkhills sought to introduce the opinion of Dr. Koury, their treating physician, that the monensin in the horse feed caused their physical symptoms. The district court made findings of fact that Dr. Koury is a family practice doctor who provided the services of a family practitioner to the Parkhills, which included a diagnosis of their conditions and treatment. On the other hand, the district court also found that Dr. Koury is not, and has never been, trained as a toxicologist; he knew nothing about monensin prior to this litigation; he did not estimate any dose of monensin to which the Parkhills were exposed; and he did not estimate the duration of the Parkhills' claimed exposure to monensin.

{65} The district court concluded that "Dr. Koury lacks the background, training and experience required to render a reliable opinion on the subject whether monensin was the external cause or etiology of the [Parkhills'] medical symptoms." These findings are not challenged, and they are supported by the evidence presented to the district court. I therefore conclude that the district court did not abuse its discretion in determining that Dr. Koury was not qualified under Rule 11-702.

{66} The Parkhills also sought to introduce testimony from Dr. Dahlgren, whom they hired to testify as an expert on causation. Dr. Dahlgren is board-certified in internal medicine, and the Parkhills asserted his medical specialty is "assessing and diagnosing toxic exposures in the environment[.]" However, Dr. Dahlgren had no idea how much monensin the Parkhills were exposed to, and he made no attempt to calculate the dose. Moreover, Dr. Dahlgren never heard of monensin before this case; knew nothing about livestock feeding practices or the widespread use of monensin in livestock feed; had never studied the class of antibiotics (ionophores) involved in this dispute before he was hired in this lawsuit; never met, spoke to, or examined the Parkhills; and acknowledged he developed his opinions regarding toxicity solely for purposes of this litigation.

{67} The district court found that it did not appear from the evidence that Dr. Dahlgren had any specialized education in toxicology, that "his qualifications are less than stellar," and concluded that he was not qualified to testify as an expert. In light of the evidence presented to the district court, I cannot conclude that the district court abused its discretion in finding that Dr. Dahlgren was not qualified to render an opinion on causation in this case.

Expert Testimony Must Assist the Trier of Fact

{68} The Parkhills nevertheless argue that Dr. Koury and Dr. Dahlgren are medical doctors who are qualified to perform a differential diagnosis. Since the opinions of the doctors are based on the differential diagnosis they performed, the Parkhills assert that they were qualified to testify that monensin in the horse feed caused their adverse physical symptoms. I assume that a doctor's experience or training qualifies the doctor to perform a differential diagnosis and therefore proceed to an analysis of whether the Parkhills satisfied the second requirement for the admission of expert testimony under Rule 11-702.

{69} A “[d]ifferential diagnosis refers to the process by which a physician *rules in* all scientifically plausible causes of the plaintiff’s injury. The physician then *rules out* the least plausible causes of injury until the most likely cause remains. The remaining cause is the expert’s conclusion.” *Hollander*, 289 F.3d at 1209 (emphasis added) (alterations omitted) (internal quotation marks and citation omitted); see *Federal Judicial Center, Reference Manual on Scientific Evidence, Reference Guide on Medical Testimony*, 481 (2d ed. 2000) (defining a differential diagnosis as “[t]he term used by physicians to refer to the process of determining which of two or more diseases with similar symptoms and signs the patient is suffering from, by means of comparing the various competing diagnostic hypotheses with the clinical findings”).

{70} To establish cause in a toxic tort case with a differential diagnosis, the evidence must show both “general causation” and “specific causation.” See *Norris v. Baxter Healthcare Corp.*, 397 F.3d 878, 881 (10th Cir. 2005) (citing *Raynor v. Merrell Pharms., Inc.*, 104 F.3d 1371, 1376 (D.C. Cir. 1997) (discussing causation in toxic tort cases in terms of general causation and specific causation)). “General causation is whether a substance is capable of causing a particular injury or condition in the general population and specific causation is whether a substance caused a particular individual’s injury.” *Id.* at 881; see also *Federal Judicial Center, Reference Manual on Scientific Evidence, Reference Guide on Medical Testimony*, 481, 483 (stating that “[g]eneral causation is established by demonstrating (usually by reference to a scientific publication) that exposure to the substance in question causes (or is capable of causing) disease” and that “[s]pecific, or individual, causation is established by demonstrating that a given exposure is the cause of an individual’s disease”). A differential diagnosis to establish causation in a toxic tort case therefore necessarily assumes that the “final, suspected cause remaining after the process of elimination must actually be capable of causing the injury” or disease. See *Norris*, 397 F.3d at 885 (emphasis omitted) (quoting *Hall v. Baxter Healthcare Corp.*, 947 F. Supp. 1387, 1413 (D. Or. 1966)) (quoting *Cavallo v. Star Enter.*, 892 F. Supp. 756, 771 (E.D. Va. 1995)), *aff’d on this ground, rev’d on other grounds*, 100 F.3d 1150 (4th Cir. 1996). Thus, where the evidence fails to establish that the suspected cause is actually capable of causing the injury or disease (general causation), a differential diagnosis cannot reliably point to the suspected cause as the actual cause (specific causation). In the language of Rule 11-702, this results in an unreliable opinion that does not assist the trier of fact, and it is not admissible. See *Downey*, 2008-NMSC-061, ¶¶ 30, 32 (reiterating that expert testimony is inadmissible

under Rule 11-702 unless it will assist the trier of fact, and that expert testimony which is “mere conjecture” is inadmissible (internal quotation marks and citation omitted)).

{71} I now turn to the specific facts of this case. The district court made specific findings that Dr. Koury did not perform adequate research to reliably determine that monensin generally is, to a reasonable medical probability, capable of causing the varied symptoms observed in the Parkhills in the human population as a whole. “No such research has been presented to the Court.” Instead, the district court found that Dr. Koury presumed general causation, and “Dr. Koury has no reliable scientific basis for that presumption.” These findings have support in the evidence presented to the district court and are not specifically challenged.

{72} Dr. Dahlgren testified he was aware from the reports and testimony of other experts that monensin has been routinely used for many years as an additive in cattle and chicken feed in concentrations up to fifty times greater than the concentrations contained in the horse feed in the present case; however, Dr. Dahlgren stated that he had not researched what protective equipment, if any, was used within the industry when dealing with these feeds or whether there had been a single incident of health problems with workers in the industry. Dr. Dahlgren was also unaware that other people who had fed the monensin-contaminated feed (those feeding at the Dexter locations) had not experienced any adverse health symptoms. In addition, the district court was presented with evidence that the Parkhills’ own veterinary toxicologist stated that in his nearly fifty years of experience as a veterinary toxicologist, and despite monensin’s wide-spread use for more than thirty years in livestock feeding operations throughout the world, “I’ve never known a human that’s been affected.”

{73} In light of the foregoing evidence, I conclude it was well within the discretion of the district court to conclude that the differential diagnoses of Drs. Koury and Dahlgren were not sufficiently reliable because they were lacking in the necessary foundation of general causation. See *Hollander*, 289 F.3d at 1210-11 (concluding that differential diagnosis expert testimony of a causal connection between a prescription drug (Parlodel) and the plaintiff’s stroke was inadmissible because the trial court did not abuse its discretion in concluding the experts failed to demonstrate by reliable evidence that the drug can cause strokes); *Norris*, 397 F.3d at 885-86 (holding that experts’ differential diagnoses that were contrary to all available epidemiological evidence that silicone breast implants did not cause diseases at issue were not admissible); *Raynor*, 104 F.3d at 1375-76 (holding that differential diagnosis which concluded that Bendectine caused the child’s birth defects was inadmissible because a link between Bendectine and birth defects (general causation) was missing).

{74} In contrast to the case before us, in *Ambrosini v. Labarraque*, 101 F.3d 129, 135-36 (D.C. Cir. 1996), the court held that a differential diagnosis opinion was admissible to defeat summary judgment in a case where the plaintiffs alleged that the prescription drug Depo-Provera caused a child’s birth defects. The plaintiffs presented expert testimony from an epidemiologist that the drug could cause birth defects like the child’s (general causation) and testimony from an expert on birth defects that the drug caused

the child's birth defects (specific causation). The court concluded that in light of this evidence, the experts' testimony would assist the trier of fact to understand the evidence or determine a fact in issue. *Id.* In the case before us, however, the differential diagnoses of Drs. Koury and Dahlgren lack reliability and, therefore, would not assist the trier of fact. The consequence is that their opinions are inadmissible.

{75} The Parkhills argue this case presents "unique circumstances" and therefore general causation is not required. I agree that the evidence may demonstrate to the trial court that there are unique circumstances that make a presentation of evidence of general causation unnecessary or impossible. See *Hollander*, 289 F.3d at 1211-12 (stating that a medical expert must not always cite published studies on general causation in order to reliably conclude that a particular object caused a particular illness where the first several victims of a new toxic tort are involved "simply because the medical literature, which will eventually show the connection between the victims' condition and the toxic substance, has not yet been completed") (quoting *Turner v. Iowa Fire Equip. Co.*, 229 F.3d 1202, 1209 (8th Cir. 2000)); *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 155 (3d Cir. 1999) (stating that a medical expert is not always required to cite published studies on general causation because this "would doom from the outset all cases in which the state of research on the specific ailment or on the alleged causal agent was in its early stages"; but emphasizing that the diagnosis must otherwise be trustworthy); *Ambrosini*, 101 F.3d at 138 (stating "the fact that a case may be the first of its type, or that the plaintiff's doctors may have been the first alert enough to recognize a causal connection," does not render an expert's opinion inadmissible and that when an expert is "concededly well qualified" in the field and "when the underlying basis or methods of an expert's opinions are of a type reasonably relied upon by the experts in the field, the court must allow the opinion to be assessed by the factfinder" (alteration omitted) (internal quotation marks and citations omitted). In addition, I note *Rubanick v. Witco Chem. Corp.*, 593 A.2d 733, 747-48 (N.J. 1991), in which the New Jersey Supreme Court undertook a general analysis of cases addressing causation in toxic tort cases and concluded:

[W]e hold that in toxic-tort litigation, a scientific theory of causation that has not yet reached general acceptance may be found to be sufficiently reliable if it is based on a sound, adequately-founded scientific methodology involving data and information of the type reasonably relied on by experts in the scientific field. The evidence of such scientific knowledge must be proffered by an expert who is sufficiently qualified by education, knowledge, training, and experience in the specific field of science. The expert must possess a demonstrated professional capability to assess the scientific significance of the underlying data and information, to apply the scientific methodology, and to explain the bases for the opinion reached.

However, I agree with Defendant that the Parkhills failed to demonstrate to the district court that such unique circumstances exist in this case to conclude that the district court abused its discretion in excluding the opinions of Drs. Koury and Dahlgren.

CONCLUSION

{76} For the foregoing reasons, I agree with the majority that the district court did not abuse its discretion by excluding Plaintiff's proffered expert testimony in this case. I also agree with the majority that *Banks* does not apply in considering the admissibility of the Parkhills' expert testimony. Majority Op. ¶ 23. However, because the majority undertakes a fundamentally different analysis in considering the admissibility of the proposed expert testimony, and the majority analysis goes too far by excluding differential diagnosis testimony to establish cause in all toxic tort cases, I specially concur.

MICHAEL E. VIGIL, Judge

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