

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA

JEWELL RATLIFF

CIVIL ACTION

VERSUS

NO. 19-11299

MARQUETTE TRANSPORTATION  
COMPANY GULF-INLAND, LLC

SECTION M (1)

**ORDER & REASONS**

Before the Court is a motion *in limine* by plaintiff Jewell Ratliff to exclude the testimony of defendant's biomechanical expert, Marzieh Ardestani, Ph.D.<sup>1</sup> Defendant Marquette Transportation Company Gulf-Inland, LLC ("Marquette") responds in opposition.<sup>2</sup> Having considered the parties' memoranda, the record, and the applicable law, the Court issues this Order & Reasons denying the motion because Ardestani's opinions are relevant and reliable, and Ratliff's concerns about the sources and bases underlying them can be addressed through cross-examination and the presentation of countervailing expert testimony.

**I. BACKGROUND**

This matter concerns personal injuries allegedly sustained as a result of a maritime collision. On May 30, 2019, Ratliff was employed by Marquette as a deckhand and member of the crew of the *M/V St. Elmo*, a vessel owned and operated by Marquette.<sup>3</sup> While Ratliff was descending the stairs from the second deck to the lower-level galley, the *St. Elmo* collided with a

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<sup>1</sup> R. Doc. 31.

<sup>2</sup> R. Doc. 53. Ratliff's motion *in limine* was set to be submitted to the Court on June 3, 2021. R. Doc. 31-6. Local Rule 7.5 requires that a memorandum in opposition to a motion be filed no later than eight days before the noticed submission date, which in this case was May 26, 2021. Marquette filed its memorandum in opposition on May 27, 2021. R. Doc. 53. The Court hereby grants Marquette leave to file the untimely opposition memorandum and will consider the arguments made therein.

<sup>3</sup> R. Doc. 1 at 2.

barge, causing Ratliff to sustain injuries to his lower back and lumbar spine.<sup>4</sup> Ratliff filed this action against Marquette seeking damages under the Jones Act for Marquette's alleged negligence and under the general maritime law for unseaworthiness.<sup>5</sup>

To defend against Ratliff's claims, Marquette hired Ardestani, a biomechanical expert, who holds a Ph.D. in mechanical engineering with special emphasis on human biomechanics.<sup>6</sup> Ardestani visited the *St. Elmo* and reviewed Ratliff's sworn deposition testimony, Ratliff's medical records, the accident report, and numerous scholarly articles to prepare her report.<sup>7</sup> She notes that Ratliff gave varying accounts of the accident at his deposition and to medical providers.<sup>8</sup> In his deposition, Ratliff testified that the left-lower side of his back hit the handrail, but he told medical providers that he fell down the stairs.<sup>9</sup> Ardestani opines that "Ratliff's description of his body movement during the subject incident was not consistent with Newton's law of motion."<sup>10</sup> Further, she opines that, under "Newton's first law of motion and considering the location and orientation of the subject stairway in relation to the travel path of the boat, Mr. Ratliff's body would have undergone subtle lateral movements, which would have been safely controlled by cervical and lumbar musculature," such as would not be expected to cause structural injuries.<sup>11</sup> Moreover, Ardestani opines that the forces involved in the accident would not have caused the back conditions with which Ratliff has been diagnosed – lumbar disc herniation, bulging, and corresponding degenerative symptoms such as loss of disc height, canal stenosis, formation of osteophyte, and cervical facet syndrome.<sup>12</sup> Nor could this accident, according to Ardestani, have resulted in contact

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<sup>4</sup> *Id.*

<sup>5</sup> *Id.* at 2-5.

<sup>6</sup> R. Doc. 31-3 at 24, 26.

<sup>7</sup> *Id.* at 14-18.

<sup>8</sup> *Id.* at 4.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at 12.

<sup>11</sup> *Id.* at 4.

<sup>12</sup> *Id.*

between Ratliff's body and the handrail that could have extended from the rib to the back or caused blood in Ratliff's stool.<sup>13</sup>

## II. PENDING MOTION

Ratliff moves to exclude Ardestani's testimony as not satisfying the *Daubert* standard.<sup>14</sup> While Ratliff does not contest Ardestani's expertise or qualifications, he argues that her opinions will not help the trier of fact because they are not based on valid scientific analysis.<sup>15</sup> Ratliff states that Ardestani failed to make any calculation of either the forces involved in the collision or the deceleration of the vessel, and she did not interview him.<sup>16</sup> He argues that Ardestani's opinions are unreliable because they are not based on any scientific methodology and cannot be tested.<sup>17</sup>

In opposition, Marquette argues that Ardestani is unquestionably qualified to testify as a biomechanical expert and that her opinions are relevant and reliable.<sup>18</sup> As to relevance, Marquette argues that "the science of biomechanics is concerned with the study of human movement using principles of mechanics and applied anatomy," which Ardestani employed to conclude that the "the kinematic patterns and internal forces generated by the subject incident on Ratliff's tissues" are not consistent with the "mechanisms associated with the injuries he claims resulted from the incident."<sup>19</sup> Thus, says Marquette, Ardestani's testimony will help the trier of fact determine the central issue in this case – whether the incident in question caused Ratliff's alleged injuries.<sup>20</sup> With respect to reliability, Marquette argues that Ardestani conducted a proper biomechanical analysis based on the relevant literature and generally accepted principles of biomechanics.<sup>21</sup>

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<sup>13</sup> *Id.* at 4-5.

<sup>14</sup> R. Doc. 31.

<sup>15</sup> R. Doc. 31-2 at 4-7.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> R. Doc. 53 at 4-10.

<sup>19</sup> *Id.* at 5-6.

<sup>20</sup> *Id.* at 6.

<sup>21</sup> *Id.* at 6-8.

### III. LAW & ANALYSIS

#### A. *Daubert* Standard

A district court has discretion to admit or exclude expert testimony under the Federal Rules of Evidence. *General Elec. Co. v. Joiner*, 522 U.S. 136, 139 (1997). In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993), the Supreme Court held that Rule 702 requires a district court to act as a gatekeeper to ensure that “any and all scientific testimony or evidence admitted is not only relevant, but reliable.” Rule 702 of the Federal Rules of Evidence provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

The reliability inquiry requires a court to assess whether the reasoning or methodology underlying the expert’s testimony is valid. *See Daubert*, 509 U.S. at 592-93. In *Daubert*, the Supreme Court listed several non-exclusive factors for a court to consider in assessing reliability: (1) whether the theory has been tested; (2) whether the theory has been subjected to peer review and publication; (3) the known or potential rate of error; and (4) the general acceptance of the methodology in the scientific community. *Id.* at 593-95. However, a court’s evaluation of the reliability of expert testimony is flexible because “[t]he factors identified in *Daubert* may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert’s particular expertise, and the subject of his testimony.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999) (quotations omitted). In sum, the district court must ensure “that an expert, whether basing

testimony upon professional studies or personal experiences, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Id.* at 152. The party offering the testimony must establish its reliability by a preponderance of the evidence. *See Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 276 (5th Cir. 1998).

Next, the district court must determine whether the expert’s reasoning or methodology “fits” the facts of the case and whether it will assist the trier of fact to understand the evidence, *i.e.*, whether it is relevant. *Daubert*, 509 U.S. at 591. An expert’s testimony is not relevant and may be excluded if it is directed to an issue that is “well within the common sense understanding of jurors and requires no expert testimony.” *Vogler v. Blackmore*, 352 F.3d 150, 155 (5th Cir. 2003). Further, an expert cannot make “legal conclusions reserved for the court,” credit or discredit witness testimony, or “otherwise make factual determinations reserved for the trier of fact.” *Highland Cap. Mgmt., L.P. v. Bank of Am., N.A.*, 574 F. App’x 486, 491 (5th Cir. 2014).

Rule 702 also requires that an expert be properly qualified. Generally, if there is some reasonable indication of qualifications, the district court may admit the expert’s testimony, and then the expert’s qualifications become an issue for the trier of fact. *Rushing v. Kan. City S. Ry. Co.*, 185 F.3d 496, 507 (5th Cir. 1999), *superseded in part by statute on other grounds as noted in Lester v. Wells Fargo Bank, N.A.*, 805 F. App’x 288, 291 (5th Cir. 2020). A witness qualified as an expert is not strictly confined to his area of practice but may testify regarding related applications; a lack of specialization goes to the weight, not the admissibility of the opinion. *Cedar Lodge Plantation, L.L.C. v. CSHV Fairway View I, L.L.C.*, 753 F. App’x 191, 195-96 (5th Cir. 2018).

**B. Analysis**


Ratliff does not argue that Ardestani is unqualified to testify as an expert in biomechanics. Rather, he argues that Ardestani did not calculate the forces involved in the accident or speak with him. After reviewing the record and Ardestani's report, the Court finds that Ardestani's report is reliable and relevant and her testimony as a biomechanical expert will help the trier of fact to determine whether the accident in question could have caused the injuries Ratliff claims. Ardestani's methodology of reviewing the facts, scene, and scholarly literature, and then employing principles of Newtonian physics, dynamics, mechanics, tissue mechanics, anatomy, and physiology are generally accepted in the scientific community and by other sections of this court. *See Collins v. Benton*, 2020 WL 3605942, at \* 6-7 (E.D. La. July 2, 2020) (collecting cases). Ratliff's concerns regarding the bases and sources of Ardestani's opinions go to the weight, not admissibility, of the testimony and can be addressed through cross-examination and the presentation of countervailing expert testimony.

**IV. CONCLUSION**

Accordingly, for the foregoing reasons,

IT IS ORDERED that Ratliff's motion *in limine* to exclude Ardestani's testimony from trial (R. Doc. 31) is DENIED.

New Orleans, Louisiana, this 3<sup>rd</sup> day of June, 2021.

  
BARRY W. ASHE  
UNITED STATES DISTRICT JUDGE