FIRST DIVISION
SMITH, P. J.,
MIKELL, and DILLARD, JJ.

June 15, 2011

In the Court of Appeals of Georgia

A11A0481. BUTLER et al. v. UNION CARBIDE CORPORATION.

MIKELL, Judge.

This is a toxic tort case involving product liability, negligence, and loss of consortium claims maintained by Laura Butler, individually and as administratrix of the estate of her late husband, Walter Butler,[1] against Union Carbide Corporation and 16 other companies.[2] The complaint alleges that Mr. Butler developed malignant mesothelioma due to his occupational exposure to products containing asbestos manufactured or sold by the defendants.

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[1] The complaint was filed by Walter and Laura Butler in February 2008. Mr. Butler died six months later, and Mrs. Butler was substituted as plaintiff.

[2] Union Carbide is the sole remaining defendant.

Before he died, Mr. Butler retained Dr. John C. Maddox, a pathologist, as his expert on specific causation; that is, whether asbestos from a Union Carbide product contributed to causing Butler's mesothelioma.[3] Maddox deposed that each exposure to asbestos above "background" levels, or those present in ambient air, contributed to causing the disease. A since-dismissed defendant, Reichhold, Inc., moved to strike Maddox's testimony, and Union Carbide joined the motion. After holding a hearing pursuant to *Daubert v. Merrill Dow Pharmaceuticals, Inc.*,[4] the trial court issued an extensively researched order[5] granting Union Carbide's motion. The trial court issued a separate order granting summary judgment to Union Carbide. Mrs. Butler appeals these orders. For the reasons that follow, we affirm.

Background

Mr. Butler was exposed to products containing asbestos from 1965 to 1973, when he worked at a company in Madison, then called Watertown Manufacturing, which made plastic handles for various household items. Mr. Butler was the

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[3] See, e.g., *Guinn v. AstraZeneca Pharmaceuticals LP*, 602 F3d 1245, 1249, n.1 (1) (B) (1) (11th Cir. 2010).

[4] *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U. S. 579 (113 SC 2786, 125 LE2d 469) (1993).

[5] The trial court's order is attached hereto as the Appendix.

"preforming" operator; it was his job to use a granulated, phenolic molding compound to make solid pellets of different sizes and weights. The pellets were then transferred to a press operator, who turned the pellets into plastic handles. Mr. Butler deposed that he used 50 to 100 bags of the molding compound daily; that each bag weighed 50 pounds; and that 15 to 20 times daily, he slit open the bags and poured the compound into a hopper that sat atop the preform machine, causing him to breathe in visible dust created by dumping the bags.

Mr. Butler identified Union Carbide as one of nine brands of molding compound that he recalled using on the job, although he testified that he mostly used products manufactured by Reichhold or Durez. A coworker testified that he recalled using "bakelite," which is the trade name for Union Carbide's product. Two other coworkers testified that they did not recall ever using a compound manufactured by Union Carbide.

Dr. Dennis Paustenbach, a toxicologist, reviewed Union Carbide's sales records during the relevant years and testified that Union Carbide sold 135,100 pounds of molding compound to Watertown, comprised of 45,650 pounds of heat-resistant product containing chrysotile asbestos and 89,450 pounds of general purpose material containing two to three percent asbestos. A representative of Union Carbide,

Carlos Martino, testified that the heat-resistant product contained 15 to 30 percent chrysotile asbestos. Dr. Paustenbach testified that the 135,100 pounds of Union Carbide product comprised one percent or less of the total number of pounds handled by Butler while he worked at Watertown. He also testified that the total amount of time Butler could have been exposed to the chrysotile material during his career was eight days.

A certified industrial hygienist, William M. Ewing, testified that Mr. Butler's exposure to asbestos from a Union Carbide molding compound was more than two fibers per cubic centimeter "on an eight hour time weighted average basis."[6]

In 2007, Dr. Maddox reviewed Mr. Butler's medical reports and concluded, to a reasonable degree of medical certainty, that his cumulative exposure to asbestos

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[6] Concentrations of asbestos fibers are generally measured in 'f/cc' or 'fibers per cubic centimeter' of air. A cubic centimeter is also equal to a milliliter. Cumulative asbestos exposure is measured by a time weighted average of the concentration of asbestos multiplied by the length of exposure. This measurement is usually expressed in units of f/cc-years, but can be scaled for any unit of time.

Anderson v. Saberhagen Holdings, Inc., 2011 U. S. Dist. LEXIS 15870, (II), n. 1 (E. D. Pa. Feb. 16, 2011).

caused his mesothelioma. Dr. Maddox was deposed on August 25, 2009. When asked whether he would offer an opinion that attributed causation to any specific company's products, Dr. Maddox testified as follows: "To the extent that the patient was exposed to any of these products, they contributed in a cumulative fashion to his total asbestos dose, which is what caused his mesothelioma." Dr. Maddox concluded that each exposure to asbestos above background level is a substantial contributing factor to causing mesothelioma, although he qualified his conclusion by explaining that "amphibole types are more potent that chrysotile." According to Dr. Maddox, Mr. Butler's testimony as to dust inhalation evidenced a substantial and significant exposure to asbestos, sufficient to cause mesothelioma.

In November 2009, Union Carbide joined co-defendant Reichhold's motion to strike Dr. Maddox's testimony that Butler's disease could be attributed to its product. The trial court granted the motion with respect to Reichhold but reserved ruling as to Union Carbide and requested additional briefing. Mrs. Butler moved for reconsideration and submitted in support thereof an eight-page affidavit from Dr. Maddox, dated January 26, 2010. In the affidavit, Dr. Maddox offered, for the first time, scientific support for his opinions, specifically "the capability of chrysotile asbestos to cause mesothelioma." Dr. Maddox concluded that although the amount

of Union Carbide products used at Watertown "may have been a small percentage of the overall amounts of phenolic molding compounds utilized at the facility, the amount of asbestos exposure that Mr. Butler had from this product would have been a significant contributing factor to the development of his mesothelioma and death."

The *Daubert* hearing was held on March 31, 2010. Dr. Maddox testified that each and every exposure to asbestos above background levels contributes to the development of mesothelioma. Dr. Maddox testified that "exposure to a genotoxic substance . . . [is] considered a no-threshold exposure" and must be counted as a causative factor.

The Trial Court's Order Striking Dr. Maddox's Opinion (Appendix)

The trial court concluded that Dr. Maddox "has not properly utilized the scientific method to make scientifically valid decisions in reaching his specific causation opinion as required by *Daubert*."[7] In reaching this conclusion, the court analyzed Dr. Maddox's testimony by applying the four noninclusive *Daubert* factors used in determining reliability: "(1) whether the theory or technique can be tested; (2) whether it has been subjected to peer review; (3) whether the technique has a high

[7] Appendix p. 12.

known or potential rate of error; and (4) whether the theory has attained general acceptance within the scientific community."[8]

The trial court determined that Dr. Maddox's opinion failed the first element because he relied on the theory that any exposure to the asbestos in Union Carbide's product would contribute to the development of mesothelioma, yet he testified that the theory was essentially untestable and had not been tested. The court also reasoned that Dr. Maddox's testimony failed the third element because "a nontestable hypothesis . . . cannot have an error rate."[9] The trial court then proceeded to consider the second element, peer review, and concluded, based on *Daubert*, that it was relevant but not dispositive, and far less crucial than "falsifiability"; i.e., the "testable and tested" and "error rate" elements. Concerning the fourth factor, general acceptance within the scientific community, the trial court stated that Dr. Maddox's opinion relied heavily on this factor and that any general acceptance shown for his opinion was far outweighed by its lack of scientific validity. Finally, the court found that Dr. Maddox was the "quintessential expert for hire" and, as a result, exercised

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[8] (Punctuation omitted.) *Webster v. Desai*, 305 Ga. App. 234, 235 (1) (699 SE2d 419) (2010), citing *Allison v. McGhan Med. Corp.*, 184 F3d 1300, 1312 (III) (C) (1) (b) (1) (11th Cir. 1999). See *Daubert*, supra 509 U. S. at 593-594 (II) (C).

[9] Appendix, p. 22.

its discretion "to apply the *Daubert* factors with greater rigor."[10] Accordingly, the court ruled that Dr. Dr. Maddox's specific causation testimony "fail[ed] the *Daubert* test for scientific knowledge and therefore [was] *not* 'the product of reliable principles and methods' under OCGA § 24-9-67.1 (b) (2)."[11]

Discussion

1. Initially, we must note the distinction between general causation and specific causation. "General causation is whether a substance is capable of causing a particular injury or condition in the general population, while specific causation is whether a substance caused a particular individual's injury."[12] That occupational exposure to asbestos is capable of causing mesothelioma is not in question.[13] At issue

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[10] (Punctuation and footnote omitted.) *Johnson v. Manitowoc Boom Trucks*, 484 F3d 426, 435 (III) (C) (6th Cir. 2007).

[11] Appendix, p. 29.

[12] (Citation and punctuation omitted.) *Knight v. Kirby Inland Marine*, 482 F3d 347, 351 (III) (A) (5th Cir. 2007); accord *Guinn*, supra. See *Fulmore v. CSX Transp.*, 252 Ga. App. 884, 891 (1) (557 SE2d 64) (2001) (in FELA cases, plaintiffs must offer proof of general causation and specific causation), overruled on other grounds, *Norfolk & Western R. Co. v. Ayers*, 538 U. S. 135, 159 (III) (C) (123 SC 1210, 155 LE2d 261) (2003).

[13] See OCGA § 51-14-1 (a) (3): "Exposure to asbestos is associated with various types of cancer, including mesothelioma." See generally *John Crane, Inc. v. Highsmith*, 271 Ga. App. 13, 15 (3) (608 SE2d 690) (2004) (evidence supported verdict in negligence and strict liability action based on allegations that plaintiff's decedent contracted mesothelioma as a result of exposure to asbestos dust from products manufactured by the defendants).

in this appeal is the admissibility of expert testimony concerning whether asbestos from a Union Carbide molding compound contributed to causing Mr. Butler's mesothelioma.

"[T]he issue of the admissibility or exclusion of expert testimony rests in the broad discretion of the court, and consequently, the trial court's ruling thereon cannot be reversed absent an abuse of discretion."[14] The standard for admissibility of expert testimony is governed by OCGA § 24-9-67.1 (b), which provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact in any cause of action to understand the evidence or to determine a fact in issue, a witness qualified as an expert . . . may testify thereto in the form of an opinion or otherwise, if:
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> (1) [t]he testimony is based upon sufficient facts or data which are or will be admitted into evidence at the hearing or trial; (2) [t]he testimony is the product of reliable principles and methods; and (3) [t]he witness has applied the principles and methods reliably to the facts of the case.

As noted above, the trial court excluded Dr. Maddox's specific causation opinion by finding that it was not the product of reliable principles and methods. The

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[14] (Footnote omitted.) *Cotten v. Phillips*, 280 Ga. App. 280, 283 (633 SE2d 655) (2006). Accord *Mason v. Home Depot U.S.A.*, 283 Ga. 271, 279 (5) (658 SE2d 603) (2008). See *United States v. Brown*, 415 F3d 1257, 1264-1266 (III) (A) (11th Cir. 2005) (explaining deference accorded to decision of district court to admit or exclude expert testimony under *Daubert*).

court properly utilized federal authority, including *Daubert*, as permitted by OCGA § 24-9-67.1 (f) when determining whether the expert's testimony met the requirements of OCGA § 24-9-67.1 (b).[15] Such authority imbues trial courts with "substantial discretion in deciding how to test an expert's reliability."[16] Moreover, OCGA § 24-9-67.1 (b) is based upon Rule 702 of the Federal Rules of Evidence, which places the burden of establishing the reliability of the expert's opinion on the proponent.[17] Thus, Mrs. Butler was required to establish that Dr. Maddox's opinion is "the product of reliable principles and methods" pursuant to OCGA § 24-9-67.1 (b) (2).

Mrs. Butler argues that the trial court manifestly abused its discretion in striking Dr. Maddox's specific causation opinion for three reasons: Dr. Maddox utilized generally accepted, reliable methodology; his opinion is based on reliable science; and his opinions are widely accepted. Mrs. Butler contends that the trial

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[15] *Mason*, supra; *Bd. of Regents v. Casey*, 300 Ga. App. 850, 851 (686 SE2d 807) (2009).

[16] (Citation and punctuation omitted.) *Rink v. Cheminova, Inc.*, 400 F3d 1286, 1292 (II) (A) (11th Cir. 2005).

[17] *Mason*, supra (Fed. R. Evid. Rule 702 is based on the holdings in *Daubert*); *McClain v. Metabolife Intl.*, 401 F3d 1233, 1238 (II) (11th Cir. 2005).

court misconstrued Dr. Maddox's testimony that each exposure to asbestos above background level contributes to causing the disease. She also asserts that the trial court misapplied the *Daubert* factors. For the following reasons, we discern no manifest abuse of discretion in the court's decision.

(a) Mrs. Butler's contentions that Dr. Maddox utilized generally accepted, reliable methodology and based his opinion on reliable science are premised upon his reliance upon scientific literature. The literature, however, does not support his specific causation opinion based on the evidence shown in this case.

The record shows that the phenolic molding compound supplied by Union Carbide to Watertown during the time Butler worked there comprised one percent or less of the total amount of such compound to which Butler was exposed. During his deposition, Dr. Maddox did not offer an opinion that any specific company's products caused Butler's disease but stated instead that his cumulative occupational exposure to all of the products contributed to cause the disease. At the *Daubert* hearing, Dr. Maddox testified that, assuming Butler's exposure to asbestos from a Union Carbide compound reached two fibers per cubic centimeter on an eight-hour, time-weighted basis, it would take "just a few weeks" to reach a cumulative exposure of 0.15 fiber years. Dr. Maddox explained that studies showed a "statistical significance" of such

"low dose" exposure to asbestos. The evidence shows, however, that Butler's maximum exposure to Union Carbide's product was eight days. Moreover, although Dr. Maddox relied upon the Helsinki Criteria[18] in reaching his opinion, he admitted that this report did not address whether a component of a cumulative exposure of asbestos is causative.

In addition, the evidence showed that the asbestos fibers in Union Carbide's product were chrysotile.[19] One study on which Dr. Maddox relied states that the researchers "could not examine mesothelioma risk according to fiber types because our study design . . . did not allow us to identify those subjects whose exposure was only to chrysotile fibers."[20] In affirming a summary judgment for lack of evidence that the plaintiffs' decedent had been exposed to chrysotile asbestos in the defendant's joint compound products, the Texas Court of Appeals determined that Dr. Maddox's specific causation opinion did not raise an issue of fact as to whether the total dose

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[18] *Consensus report: Asbestos, asbestosis, and cancer: the Helsinki criteria for diagnosis and attribution*, Scand. J. Work Environ. Health, 1997: vol. 23, no. 4.

[19] The trial court did not address this issue.

[20] Iwatsubo, et al., *Pleural Mesothelioma: Dose Response Relation at Low Levels of Asbestos Exposure in a French Population-based Case-Control Study*, 148 Am J of Epidem 133, 141 (1998).

of chrysotile asbestos to which the decedent was exposed exceeded a minimum dose above which mesothelioma does not occur.[21] Specifically, the court found that the scientific literature upon which Dr. Maddox relied "is inconclusive regarding the effect of exposure to only chrysotile fibers"[22] and "does not support a minimum threshold dose for chrysotile only exposure that would increase one's risk of developing mesothelioma."[23] Although the Texas opinion did not involve a *Daubert* challenge, it nevertheless lends credence to the trial court's conclusion that Dr. Maddox's "no threshold" theory was scientifically unreliable.[24]

(b) Mrs. Butler also contends that the trial court erred by discounting the *Daubert* factor concerning whether Dr. Maddox's opinion had attained general acceptance within the scientific community.[25] She argues that it is widely accepted by courts, in this state and elsewhere, that any exposure to asbestos above background

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[21] *Smith v. Kelly-Moore Paint Co.*, 307 SW3d 829, 837-839 (Tex. App. 2010).

[22] (Footnote omitted.) Id. at 837.

[23] (Emphasis omitted.) Id. at 839.

[24] See Appendix p. 22.

[25] See *Webster*, supra at 235 (1).

levels contributes to causing mesothelioma.[26] As noted above, however, a Texas appellate court rejected Dr. Maddox's "any exposure" theory, ruling that it failed to provide any evidence that plaintiffs' decedent's exposure to chrysotile-only asbestos products was a substantial factor in causing him to develop mesothelioma.[27] In the final analysis, nothing in the record or case law precluded the trial court from exercising its discretion to weigh this factor less heavily than the other three *Daubert* factors. The United States Supreme Court commented in *Kumho Tire Co., Ltd. v.*

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[26] See, e.g., *Betz v. Pneumo Abex LLC*, 998 A2d 962, 976 (Pa. Super. 2010) (trial court abused its discretion in excluding Dr. Maddox's opinion under *Frye* standard); *Anderson*, supra at 22 (V) (deeming admissible expert's opinion that "every occupational and bystander exposure to asbestos above background was a substantial contributing factor in causing [plaintiff's] mesothelioma"); *In re Asbestos Litig.*, 900 A2d 120, 132 (Del. Super. 2006) (crediting expert's opinion that "background . . . rate is basically zero") (footnote omitted). See generally *John Crane, Inc. v. Wommack*, 227 Ga. App. 538, 541 (2) (d) (489 SE2d 527) (1997) (Judgment entered on verdict affirmed where expert testimony at trial showed that "asbestos fibers are intrinsically dangerous and that the respiration of each fiber is cumulatively harmful, and physicians and other experts attributed [plaintiff's] asbestos-related diseases to his work").

[27] *Smith*, supra at 839. We do not mean to imply that a plaintiff in an asbestos case must prove that exposure to the product containing asbestos was a "substantial contributing factor" in the development of mesothelioma. Although plaintiffs in asbestos cases must show "prima-facie evidence of physical impairment," OCGA § 51-14-4, if the plaintiff "alleges mesothelioma caused by exposure to asbestos, . . . no further prima-facie evidence of physical impairment shall be required." OCGA § 51-14-3 (17) (A) (i), (B) (i).

Carmichael[28] that the question of "whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine."[29]

(c) Mrs. Butler also attacks the trial court's finding that Dr. Maddox was an "quintessential expert for hire" based, in part, on "the litigation orientation he exhibited in attempting to add a proper empirical basis for his opinion *after* he had originally stated his sworn opinion and the Court first found that it was inadmissible."[30] But there is evidence in the record to support this finding. It was not until he submitted an affidavit after his deposition that Dr. Maddox offered, for the first time, scientific support for his opinion concerning "the capability of chrysotile asbestos to cause mesothelioma." It was within the trial court's discretion "to apply the *Daubert* factors with greater rigor."[31]

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[28] 526 U. S. 137 (119 SC 1167, 143 LE2d 238) (1999).

[29] Id. at 153 (II) (C), citing *General Elec. Co. v. Joiner*, 522 U. S. 136, 143 (II) (118 SC 512, 139 LE2d 508) (1997).

[30] Appendix, pp. 26-27.

[31] *Johnson*, supra at 435 (III) (C).

(d) Mrs. Butler similarly contends that the trial court abused its gatekeeper function under *Daubert* by assessing Dr. Maddox's credibility. Of course, the

> [trial] court's gatekeeper role under *Daubert* is not intended to supplant the adversary system or the role of the jury. Quite the contrary, vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.[32]

But this discussion applies more appropriately to warn trial courts not to "evaluate the credibility of opposing experts and the persuasiveness of competing scientific studies."[33] In this case, the trial court did not weigh the testimony of conflicting expert opinions and did not determine that Dr. Maddox lacked general credibility.[34] Rather, the trial court stated that "while Dr. Maddox is undoubtedly a qualified

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[32] (Citation and punctuation omitted.) *Quiet Technology DC-8 v. Hurel-Dubois UK Ltd.*, 326 F3d 1333, 1341 (II) (A) (11th Cir. 2003).

[33] (Citations and punctuation omitted.) Id. Cf. *United States v. Brown*, supra, 415 F3d at 1267-1268 (III) (B) (in affirming *Daubert* ruling, court held that district court's "key credibility determination" regarding government's expert witnesses was not clearly erroneous.)

[34] See *Rink*, supra at 1293 (II) (A), n. 7 (explaining "the difference between a district court's evaluation of an expert's reliability, which is required by *Daubert*, and an expert's believability or persuasiveness, which is reserved for the trier of fact") (citation omitted).

doctor, he has not properly utilized the scientific method to make scientifically valid decisions in reaching his specific causation opinion as required by *Daubert*."[35]

Mrs. Butler argues that Dr. Maddox's inability to quantify Mr. Butler's increased risk of developing the disease from his exposure to Union Carbide's product does not affect the admissibility, under Georgia law, of his opinion as to specific causation. She cites *Fulmore v. CSX Transp.*,[36] in support of this proposition. *Fulmore* involved an appeal of 18 related negligence actions brought under the Federal Employers' Liability Act (FELA) by railroad employees who contracted asbestosis. The railroad argued that, absent evidence of the quantity of asbestos to which the employees were exposed while working there, plaintiffs could not show that the quantity of asbestos fibers in the air during the relevant times exceeded the then accepted threshold level of exposure value (TLV).[37] Plaintiffs' expert testified that the employees' exposures to visible dust from the use of asbestos-containing products "exceeded all TLVs that have ever existed."[38] Although the expert's

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[35] Appendix, p. 12.

[36] Supra.

[37] Id. at 886-887 (1).

[38] Id. at 890-891 (1).

qualifications were not challenged, the trial court concluded, without analysis, that the record did not demonstrate sufficient evidence concerning the dosage of asbestos to which plaintiffs were exposed.[39] We thus held that the trial court erred by granting summary judgment to the railroad on the ground that plaintiffs failed to prove that they had been exposed to a specific minimum level of asbestos sufficient to cause asbestosis.[40]

In contrast with *Fulmore*, the dispositive issue in the present case is a challenge to the expert, and the trial court has amply supported its decision excluding the expert's opinion under OCGA § 24-9-67.1 (b) (2). *Fulmore*, therefore, is not controlling on this issue.

Giving proper deference to the trial court's ruling, we cannot conclude that the court abused its discretion in excluding Dr. Maddox's specific causation testimony.[41]

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[39] Id. at n. 23.

[40] Id. at 885 (1).

[41] *General Elec. Co.*, supra ("Deference . . . is the hallmark of abuse of discretion review.") (citation omitted).

2. Because we have concluded that Dr. Maddox's expert testimony on specific causation was properly excluded, the only issue remaining before us is whether the trial court erred in granting summary judgment to Union Carbide.

Summary judgment is appropriate when no genuine issues of material fact remain and the evidence, construed in the light most favorable to the nonmoving party, warrants judgment as a matter of law.[42] A defendant may obtain summary judgment by showing "that there is no evidence sufficient to create a jury issue on at least one essential element of plaintiff's case."[43] "We review a grant of summary judgment de novo."[44]

Causation is an essential element of a toxic tort case, and proof of causation in such cases "generally requires reliable expert testimony."[45] Absent reliable expert

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[42] *Lau's Corp. v. Haskins*, 261 Ga. 491 (405 SE2d 474) (1991).

[43] Id.

[44] (Footnote omitted.) *Hoffman v. AC&S, Inc.*, 248 Ga. App. 608, 610 (2) (548 SE2d 379) (2001).

[45] (Citation and footnote omitted.) *Rodrigues v. Georgia-Pacific Corp.*, 290 Ga. App. 442, 444 (661 SE2d 141) (2008). Accord *Cowart v. Widener*, 287 Ga. 622, 628 (2) (b) (697 SE2d 779) (2010). See also *Shiver v Georgia & Florida Railnet*, 287 Ga. App. 828, 829 (1) (652 SE2d 819) (2007); *Rider v. Sandoz Pharm. Corp.*, 295 F3d 1194, 1197 (II) (11th Cir. 2002) ("Toxic tort cases . . . are won or lost on the strength of the scientific evidence presented to prove causation.") (citation omitted).

testimony that exposure to a Union Carbide product contributed to the development of Mr. Butler's mesothelioma, there is insufficient evidence to create a jury issue as to causation.[46]

Mrs. Butler argues that her claims may survive summary judgment pursuant to *Hoffman v. AC&S, Inc.*[47] and *Blackston v. Shook & Fletcher Insulation Co.*[48] Those cases stand for the proposition that

> the *threshold* for every theory is proof that an injured plaintiff was exposed to asbestos-containing products for which the defendant is responsible. That is, the plaintiff must present evidence that a particular defendant's asbestos-containing product was used at the job site and that the plaintiff was in proximity to that product at the time it was being used.[49]

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[46] At a hearing, Mrs. Butler's counsel acknowledged that if Dr. Maddox's specific causation testimony were struck, then the case would be "ripe for a summary judgment motion."

[47] Supra.

[48] 764 F2d 1480 (11th Cir. 1985).

[49] (Punctuation and footnote omitted; emphasis supplied.) *Hoffman*, supra at 611 (2); accord *Williams v. Flintkote Co.*, 256 Ga. App. 205, 206 (568 SE2d 106) (2002). See *Blackston*, supra at 1481.

There is evidence in the record that Mr. Butler was exposed to Union Carbide products at Watertown and that those products contained asbestos. Mrs. Butler argues that this evidence, combined with still admissible expert testimony, provides evidence to withstand summary judgment on the element of causation. Specifically, she argues that Dr. Maddox would be able to testify at trial concerning Mr. Butler's diagnosis of mesothelioma and the general causative relationship between the disease and exposure to asbestos. She also cites the industrial hygienist's testimony that Mr. Butler's exposure to asbestos from a Union Carbide product exceeded two fibers per cubic centimeter, which was higher than background levels.

Hoffman and *Blackston* are inapposite. The plaintiff in *Hoffman* failed to provide evidence of proximity to defendant's asbestos-containing product and thus could not prove even the basic, threshold requirement for recovery. In *Blackston* the 11th Circuit declined to "create a judicial presumption that a plaintiff was exposed to the asbestos in a defendant's products by simply showing that he worked at a job site at a time when the defendant's asbestos-containing products were used."[50] The issue in this case is specific causation, and Mrs. Butler has offered no evidence on

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[50] *Blackston*, supra.

that issue other than Dr. Maddox's testimony. Because it was properly excluded, Union Carbide is entitled to summary judgment.

Judgment affirmed. Smith, P. J., and Dillard, J., concur.

APPENDIX

ORDER GRANTING DEFENDANT'S MOTION TO STRIKE CERTAIN TESTIMONY OF PLAINTIFF'S PATHOLOGIST DR. JOHN MADDOX

Whether an expert witness's opinion is viewed under the "general acceptance" test set forth in *Frye v. United States*,[1] the Georgia "beyond the ken of the average layperson" test for normal expert opinion in *Smith v. State*,[2] or the Georgia "reach[ing] a scientific stage of verifiable certainty" test for an expert opinion based on a novel scientific procedure or technique in *Harper v. State*,[3] the test first enunciated in the United States Supreme Court decision of *Daubert v. Merrell Dow Pharmaceuticals*[4] in 1993 was a watershed departure.

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[1] *Frye v. United States*, 54 App. D.C. 46 (293 F. 1013) (DC Cir. 1923).

[2] *Smith v. State*, 247 Ga. 612 (277 S.E.2d 678) (1981). The rule set forth in Smith v. State is that expert opinion testimony on relevant issues to be decided by the jury is admissible where the conclusion of the expert is one which jurors would not ordinarily be able to draw for themselves. Id. at 619.

[3] *Harper v. State*, 249 Ga. 519, 524 (292 S.E.2d 389) (1982) (affirmed as the standard for new scientific evidence in Georgia criminal cases in *Vaughn v. State*, 282 Ga. 99 (3) (646 S.E.2d 212) (2007)),

[4] *Daubert v Merrell Dow Pharmaceuticals*, 509 U.S. 579 (113 S. Ct. 2786, 125 L. Ed. 2d 469, 113 S. Ct. 2786) (1993). While the *Daubert* decision maintained that it was interpreting Rules 702, 704 et al. of the Federal Rules of Evidence, the Federal Rules were subsequently significantly revised to correspond to the criteria of *Daubert*. *Daubert* combined the tests for the admissibility of testimony based on established and original scientific methods or techniques.

Twelve years after *Daubert*, the Georgia Legislature in 2005 passed OCGA § 24-9-67.1,which adopted the *Daubert* test for expert opinion testimony in civil actions in Georgia's state courts. This section, in pertinent part, provides:

> (a) The provisions of this Code section shall apply in all civil actions.[5] The opinion of a witness qualified as an expert under this Code section may be given on the facts as proved by other witnesses. The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing or trial. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.
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> (b) If *scientific*, technical, or other specialized *knowledge* will assist the trier of fact in any cause of action to understand the evidence or to determine a fact in issue, *a witness qualified as an expert* by knowledge, skill, experience, training, or education *may testify thereto in the form of an opinion or otherwise*, if:

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[5] However, OCGA § 22-1-14 (b) excludes condemnation cases from this code section.

(1) The *testimony is based upon sufficient facts or data* which are or will be admitted into evidence at the hearing or trial;

(2) The *testimony is the product of reliable principles and methods*; and

(3) The *witness has applied the principles and methods reliably to the facts* of the case.

(d) Upon motion of a party, the court may hold a *pretrial hearing to determine whether the witness qualifies as an expert and whether the expert's testimony satisfies the requirements of subsections (a) and (b) of this Code section.* Such hearing and ruling shall be completed no later than the final pretrial conference contemplated under Code Section 9-11-16. . . .

(f) It is the intent of the legislature that, in all civil cases, the courts of the State of Georgia not be viewed as open to expert evidence that would not be admissible in other states. Therefore, in interpreting and applying this Code section, the courts of this state may draw from the opinions of the United States Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993); *General Electric Co. v. Joiner*, 522 U.S. 136 (1997); *Kumho Tire Co. Ltd. v. Carmichael*, 526 U.S. 137 (1999); and other cases in federal courts applying the standards announced by the United States Supreme Court in these cases.[6]

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[6] Emphasis added.

Actually, the Georgia statute is an incorporation of the Federal Rules of Evidence revised in light of *Daubert*. The Rules, and therefore our statute, reflect that the basis of an expert's opinion can be based on a wide spectrum of fields that range from highly scientific to non-scientific. While *Daubert* recognized this, it set out a non-exclusive, four-part test for when the opinion of the expert is based on "scientific knowledge,"[7] as follows:

> [1] Ordinarily, *a key question* to be answered in determining *whether a theory or technique is scientific knowledge* that will assist the trier of fact will be *whether it can be (and has been) tested.* "*Scientific methodology* today is based on generating hypotheses and testing them to see if they can be falsified; indeed, *this methodology is what distinguishes science from other fields of human inquiry.*" Green 645. See also C. Hempel, Philosophy of Natural Science 49 (1966) ("*[T]he statements constituting a scientific explanation must be capable of empirical test*"); K. Popper, Conjectures and Refutations: The Growth of Scientific Knowledge 37 (5th ed. 1989) ("*[T]he criterion of the scientific status of a theory* is its falsifiability, or refutability, or *testability*") (emphasis deleted).
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> [2] Another pertinent consideration is *whether the theory or technique* has been subjected to *peer review and publication. Publication* (which is but one element of peer review) is *not a sine qua*

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[7] As opposed to the *ipse dixit* of the expert. *General Electric Co. v. Joiner*, 522 U.S. 136, 146 (118 S.Ct. 512, 139 L.Ed.2d 508) (1997).

non of admissibility, it does *not necessarily correlate with reliability*, see S. Jasanoff, The Fifth Branch: Science Advisors as Policymakers 61-76 (1990), and in some instances well-grounded but innovative theories will not have been published, see Horrobin, The Philosophical Basis of Peer Review and the Suppression of Innovation, 263 JAMA 1438 (1990). Some propositions, moreover, are too particular, too new, or of too limited interest to be published. But submission to the scrutiny of the scientific community is a component of "good science," in part because it increases the likelihood that substantive flaws in methodology will be detected. See J. Ziman, Reliable Knowledge: An Exploration of the Grounds for Belief in Science 130-133 (1978); Reiman & Angell, How Good Is Peer Review?, 321 New Eng.J.Med. 827 (1989). The fact of *publication* (or lack thereof) in a peer reviewed journal thus will be a *relevant, though not dispositive, consideration* in assessing the scientific validity of a particular technique or methodology on which an opinion is premised.

[3] Additionally, in the case of a particular scientific technique, the court ordinarily should consider the *known or potential rate of error*, see, e.g., *United States v. Smith*, 869 F.2d 348, 353-354 (CA7 1989) (surveying studies of the error rate of spectrographic voice identification technique), and the existence and maintenance of standards controlling the technique's operation, see *United States v. Williams*, 583 F.2d 1194, 1198 (CA2 1978) (noting professional organization's standard governing spectrographic analysis), cert. denied, 439 U.S. 1117, 99 S.Ct. 1025, 59 L.Ed.2d 77 (1979).

> [4] Finally, "general acceptance" can yet have a bearing on the inquiry. A "*reliability assessment does not require, although it does permit, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community.*" *United States v. Downing*, 753 F2d, at 1238. See also 3 Weinstein & Berger ¶ 702[03], pp. 702-41 to 702-42. Widespread acceptance can be an important factor in ruling particular evidence admissible, and "a known technique which has been able to attract only minimal support within the community," *Downing*, 753 F.2d, at 1238, may properly be viewed with skepticism.[8]

Only (1) whether the theory or technique can be (and has been) tested and (3) the known or potential rate of error of a particular scientific technique "focus on scientific merit directly."[9]

Two important considerations can be noted from Justice Scalia's concurrence (with two Justices joining) in *Kumho Tire*, which states:

> I join the opinion of the Court, which makes clear that the discretion it endorses – trial-court discretion in choosing the manner of testing expert reliability – is not discretion to abandon the gatekeeping function. I think it worth adding that it is not discretion to perform the function inadequately. Rather, it is discretion to choose among

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[8] *Daubert* , 509 U.S. at 593-94. Emphasis added.

[9] 1 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony §1:15 (West 2009-2010 ed.).

> reasonable means of excluding expertise that is fausse and science that is junky. *Though, as the Court makes clear today, the Daubert factors are not holy writ, in a particular case the failure to apply one or another of them may be unreasonable, and hence an abuse of discretion.*[10]

Concerning this first consideration, the U. S. Supreme Court reminds trial judges on their duty to not balk at performing adequately this gatekeeping function.[11] "A trial court . . . abuses its discretion by failing to act as a gatekeeper."[12] On the second consideration, to counter the assertion that the four elements of the *Daubert* test are non-exclusive and that the standard is very flexible, "[c]ourts should remember Justice Scalia's warning in Kumho Tire that failure to apply the *Daubert* factors could

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[10] *Kumho Tire Co. Ltd v. Carmichael*, 526 U.S. 137, 158-59 (119 S.Ct. 1167, 1179) (1999). Emphasis added.

[11] However, a Georgia trial judge should be careful not to "enthusiastic[ally] embrace" this duty. *Hamilton King v. HNTB Ga., Inc*, 296 Ga. App. 864, 866 (1) (676 S.E.2d 287) (2009) (finding abuse of discretion where that court excluded expert testimony on traffic control devices on a construction project based on mistaken belief that strict application of the *Daubert* factors for scientific evidence was mandatory for this particular expertise). This would not appear to be a common temptation.

[12] *McClain v. Metabolife Int'l, Inc.*, 401 F.3d 1233, 1238 (11th Cir.2005)

itself constitute an abuse of discretion and when one or more *Daubert* factors do not apply, courts should say what criteria they relied upon to make their assessment."[13]

The Plaintiff's expert Dr. John Maddox based his opinion on differential diagnosis. As the Georgia Supreme Court in *Mason v. Home Depot USA, Inc.*[14] points out

> The [Plaintiffs] argue that since [their doctor expert] used the accepted medical methodology of differential diagnosis, the trial court could not properly find [his] methods to lack scientific support. However, "expert opinions employing differential diagnosis must be based on scientifically valid decisions as to which potential causes should be 'ruled in' and 'ruled out.' [Cit.]"' *Ervin v. Johnson & Johnson, Inc.*, 492 F.3d 901, 904 (7th Cir. 2007). [The doctor's] testimony did not establish that required basis for supporting the application of a differential diagnosis. The trial court's findings, based primarily on [the doctor's] own testimony, support the conclusion that [the doctor's] testimony regarding causation was not "the product of reliable principles and methods. . . ." OCGA § 24-9-67.1 (b) (2). *Moran v. Kia Motors America, Inc.*, [276 Ga. App. 96, 97 (1) (622 SE2d 439) (2005)].[15]

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[13] 1 David L. Faigman et al., Modern Scientific Evidence: The Law and Science ofExpert Testimony §1:15 (West 2009-2010 ed.).

[14] *Mason v. Home Depot USA, Inc.*, 283 Ga. 271, 279 (5) (658 S.E.2d 603) (2008).

[15] Emphasis added.

Thus, since the doctor expert's opinion must be based on scientifically valid decisions, the four-element *Daubert* test is appropriate and should be applied.[16]

Both the Plaintiff and the Defendant's pleadings, briefs, and letters made extensive reference to the cases in states that appear to still use the *Frye* test without denoting this. This diverted the Court's attention and energy from the relevant inquiry in the case.[17] Still, the briefs are otherwise ably presented by exemplary counsel in the instant case. After deducting the inapplicable *Frye* jurisdiction citations[18] the Court fonds persuasive the brief of the Defendant and grants its motion. The Court incorporates by reference the arguments made in Defendant's brief and will also make some other observations.

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[16] The abuse-of-discretion standard on review of a trial court's decision to admit or exclude expert testimony applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Thus, whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine. *General Electric Co. v. Joiner*, supra at 143, 118 S.Ct. 512. Since O.C.G.A. § 24-9-67.1(b) is based on Fed. R. Evid. 702, which in its present form is based on the holdings in *Daubert* , and the many cases applying *Daubert* , a trial court's application of the standards of *Daubert* is proper. *Mason v. Home Depot USA, Inc.*, supra at 279.

[17] This was compounded by the Court no longer having a law clerk due to the contraction of the State's judicial budget.

[18] Unless they provided cogent authority on a point that was still relevant to resolving the application of the *Daubert* test.

"The burden of laying the proper foundation for the admission of the expert testimony is on the party offering the expert, and admissibility must be shown by a preponderance of the evidence. *Daubert*, 509 U.S. at 592 n. 10,113 S.Ct. 2786 (citing *Bourjaily v. United States*, 483 U.S. 171, 175-76, 107 S.Ct. 2775, 97 L.Ed.2d 144 (1987))."[19] Therefore, the burden in this *Daubert* motion is on the Plaintiff, and it is a burden that the Plaintiff has not carried.

As defendant clearly states, the pivotal controversy on this motion is whether the expert doctor's opinion properly supports specific causation[20] of Mr. Butler's injuries by Defendant's product. A review of the asbestos-related cases show that the great majority either pre-date *Daubert* or involve the application of *Frye* or other tests.[21] In fact, the Plaintiff has presented grounds for Dr. Maddox's expert opinion that are adjusted to the former "general acceptance" test set forth in *Frye* supplemented by publications or "beyond the ken of the average layperson" test in

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[19] *Allison v. McGhan Medical Corporation*, 184 F.3d 1300, 1306 (1999). See also, *McClain v. Metabolife Int'l Inc.*, supra at 1238.

[20] As opposed to general causation. 3 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §21:2, Specific and general causation (West 2009-2010 ed.)

[21] 3 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §26:16, (West 2009-2010 ed.)

Smith v. State. However, while Dr. Maddox is undoubtedly a qualified doctor, he has not properly utilized the scientific method to make scientifically valid decisions in reaching his specific causation opinion as required by *Daubert*.

Turning to the first element of the *Daubert* scientific test, Dr. Maddox's opinion squarely, inseparably relies on the theory that "any exposure" to the asbestos of Defendant's product will cause injury, also called "the linear non-threshold model for causation.[22] However, Dr. Maddox testified that this "any exposure" or "non-threshold" theory is not practically testable and has not been tested.[23] Therefore, it fails the first "key" element of the four-part *Daubert* test for scientifically valid knowledge: "whether [the theory or technique] can be (and has been) tested."

In addition to the statements that the *Daubert* Court made showing that this first element of the test is the crux of scientific methodology, *Modern Scientific*

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[22] The doctor's opinion would be the product of this theory or method even if it is based on additional data submitted to him by a hypothetical question. Moreover, OCGA § 24-9-67.1 (d) requires the reliability and relevance of the expert opinion be established at this pre-trial hearing.

[23] For similar interrelation between these criteria, see *Rink v. Cheminova, Inc.*, 400 F.3d 1286, 1292 (11th Cir. 2005).

Evidence: The Law and Science of Expert Testimony[24] states, in pertinent part, the following:

> [Sir] Karl Popper, cited by the *Daubert* Court, originally posited the testability criterion as a prerequisite to calling a statement "scientific." *In effect, if a statement could not be tested, then it could never achieve the designation "science."* Its success as science, however, depended entirely on the molts ofthat testing and the sorts of tests carried out....
>
> Contrary to Popper's original formulation of falsifiability, the Court selected this factor as one of four possible indices of validity. For Popper, falsifiability was the criterion of scientific status.[25] In fact, courts will find application of *Daubert* difficult if they treat testability as an optional factor. The other three factors all presuppose testability; in science, a nontestable hypothesis cannot have an error rate and is exceedingly unlikely to be published in a peer-reviewed journal and achieve general acceptance. Indeed, since *Daubert*, courts generally appear to treat testability as a prerequisite rather than just another factor. In practice, therefore, the *Daubert* testability criterion is entirely consistent with Popper's philosophy.[26]

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[24] 1 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony §1:16, (West 2009-2010 ed.).

[25] "Whereas the [*Daubert*] Court stated that testability was 'a key question,' Popper would have said that it was 'the' key question." Id., fn. 6.

[26] Emphasis added.

"The first of these considerations, which asks whether the theory or methodology has been subjected to the scientific method, is the most weighty."[27] In fact, "scientists whose conviction about the ultimate conclusion of their research is so firm that they are willing to aver under oath that it is correct prior to performing the necessary validating tests could be viewed . . . as lacking the objectivity that is the hallmark of the scientific method."[28]

> It is well established that a plaintiff in a toxic tort case must prove that he or she was exposed to and injured by a harmful substance manufactured by the defendant. *Wright v. Willamette Industries, Inc.*, 91 F.3d 1105, 1106 (8th Cir.1996); *Wintz By and Through Wintz v. Northrop Corp.*, 110 F.3d 508, 515 (7th Cir.1997); *Allen v. Pennsylvania Engineering Corp.*, 102 F.3d 194,199 (5th Cir. 1996). In order to carry this burden, a plaintiff must demonstrate "the levels of exposure that are hazardous to human beings generally as well as the plaintiff's actual level of exposure to the defendant's toxic substance before he or she may recover." *Wright*, 91 F.3d at 1106.
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> [In a *Daubert* motion concerning plaintiff's expert's testimony], [w]e believe a plaintiff must prove level of the exposure using

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[27] *Bradley v. Brown*, 852 F. Supp 690, 698 (N. D. Ind. 1994), decision aff'd, 42 F.3d 434 (7th Cir. 1994).

[28] *Claar v. Burlington Northern R. Co.*, 29 F.3d 499, 503 (9th Cir. 1994). Emphasis added.

techniques subject to objective, independent validation in the scientific community. See *Moore v. Ashland Chemical, Inc.,* 151 F.3d 269, 276 (5th Cir.1998) (en banc). At a minimum, the expert testimony should include a description of the method used to arrive at the level of exposure and scientific data supporting the determination. The expert's assurance that the methodology and supporting data is reliable will not suffice. Id. "Scientific knowledge of the harmful level of exposure to a chemical plus knowledge that plaintiff was exposed to such quantities are minimal facts necessary to sustain the plaintiff's burden in a toxic tort case." *Allen,* 102 F.3d at 199. Absent supporting scientific data, Mitchell's estimates and Herron's conclusions are little more than guesswork. Guesses, even if educated, are insufficient to prove the level of exposure in a toxic tort case. See *Daubert,* 509 U.S. at 589, 113 S.Ct. at 2795 (unsupported speculation and subjective belief insufficient to meet Fed.R.Evid. 702's reliability requirement). . . .

Under *Daubert,* proposed expert testimony must be supported by "appropriate validation – ie., 'good grounds,' based on what is known." 509 U.S. at 590,113 S.Ct. 2786. The plaintiff need not prove that the expert is undisputably correct or that the *expert's theory is "generally accepted" in the scientific community. Moore,* 151 F.3d at 276. Instead, the plaintiff must show that the method employed by the expert in reaching the conclusion is scientifically sound and that the opinion is based on facts which sufficiently satisfy Rule 702's reliability requirements. E.g., *In re Paoli R.R. Yard PCB Litig.,* 35 F.3d 717, 744 (3d Cir. 1994). . . .

> Under *Daubert* , "any step that renders the analysis unreliable ... renders the expert's testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology." *In re Paoli R.R. Yard PCB Litig.,* 35 F.3d 717, 745 (3d Cir. 1994).[29]

"It is improper for an expert to presume that the plaintiff 'must have somehow been exposed to a high enough dose to exceed the threshold [necessary to cause the illness], thereby justifying his initial diagnosis.' This is circular reasoning."[30]

The claim that there is no known safe level of exposure does not mean that none exists; it simply means science today has not or cannot, with current scientific expertise or relying on existing studies, determine what that level of exposure is.[31] Dr. Maddox admitted that everybody has breathed some asbestos fibers. In the older members of our society, there is hardly any one who has not had even more exposure

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[29] *Mitchell v. Gencorp*, 165 F.3d 778, 781 (10th Cir.1999), (quoting *Wright v. Willamette Indus. Inc.*, 91 F.3d 1105, 1106 (8th Cir.1996)). Emphasis added. See also *Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 278 (5th Cir.1998) (excluding expert testimony which "offered no scientific support for his general theory that exposure to toluene solution at any level would cause RADS.")

[30] *Mancuso v. Consolidated Edison Company of New York*, 967 F. Supp. 1437, 1450 (S.D. N.Y. 1997). Emphasis added.

[31] Although Washington state is apparently a *Frye* jurisdiction, this Court agrees with the Washington trial court that said this in *Free v. Amelek.*

to asbestos since its use was prevalent in manufactured products, insulation, etc., for many years. Yet, the admitted extreme rarity of mesothelioma demonstrates that logically there is a threshold exposure for harm. Otherwise, the huge exposed population of people receiving low or even moderate doses would more frequently have this terrible disease. The dose-response relationship with its threshold just has not been established by adequate testing as of this date. Also, Dr. Maddox stated that there are idiopathic causes of mesothelioma. Without quantification of the dose-response and its threshold for asbestos when does one *scientifically* rule out this as a cause and not asbestos?[32]

Daubert does not permit experts to speculate about what they concede is not known by use of the scientific method. "[T]he courtroom is not the place for scientific guesswork, even of the inspired sort. *Law lags science; it does not lead it.*"[33]

In an attempt to validate Dr. Maddox's practically untestable and admitted untested "any exposure" theory,[34] Dr. Maddox has relied heavily upon standards promulgated by regulatory agencies.

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[32] Especially asbestos from a particular product by a specific defendant.

[33] *Rosen v. Ciba Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996). Emphasis added

[34] Also called the linear non-threshold model for causation.

> The regulatory and civil litigation arenas have different goals that generate different questions about toxicological findings. Within the regulatory arenas the critical question is whether there might be a harmful effect in humans even though the toxicological research has uncovered little by way of adverse effects in animals or other biological systems. In private litigation the crucial issue is whether the known effect in a test animal is probative of causation in humans. *As some courts have noted, the regulatory threshold is therefore considerably lower than required in tort claims.*[35]

Considering this difference, *Mitchell v. Gencorp Inc.*[36] stated:

> The methodology employed by a governmental agency "results from the preventive perspective that the agencies adopt in order to reduce public exposure to harmful substances. The agencies' threshold of proof is reasonably lower than that appropriate in tort law, which traditionally makes more particularized inquiries into cause and effect and requires a plaintiff to prove that it is more likely than not that another individual has caused him or her harm."

Apparently, even a *Frye* jurisdiction, New York, has held, "[S]tandards promulgated by regulatory agencies as protective measures are inadequate to demonstrated legal

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[35] 3 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §22:1 (West 2009-2010 ed.) Emphasis added.

[36] *Mitchell v Gencorp,* 165 F.3d 778, 783 n.3 (10th Cir.1999). Emphasis added.

causation."[37] Closer to home on this issue, the 11th Circuit in *McClain v. Metabolife Int'l, Inc.*,[38] states:

> O'Donnell's[39] use of FDA data and recommendations raises a more subtlemethodological issue in a toxic tort case. The issue involves identifying and contrasting the type of risk assessment that a government agency follows for establishing public health guidelines versus an expert analysis of toxicity and causation in a toxic tort case.
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> The Reference Manual on Scientific Evidence explains that
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> [p]roof of risk and proof of causation entail somewhat different questions because risk assessment frequently calls for a cost-benefit analysis. The agency assessing risk may decide to bar a substance or product if the potential benefits are outweighed by the possibility of risks that are largely unquantifiable because of presently unknown contingencies. Consequently, risk assessors may pay heed to any evidence that points to a need for caution, rather than assess the likelihood that a causal relationship in a specific case is more likely than not.

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[37] *Parker v. Mobil Oil Corp.*, 7 N.Y.3d 434, 449 (857 N.E.2d 1114) (2006). Emphasis added.

[38] *McClain v. Metabolife Int'l, Inc.*, supra at 1249 (11th Or. 2005). Emphasis added.

[39] Mr. O'Donnell was one of two expert witnesses Plaintiffs offered to prove causation.

> Margaret A. Berger, *The Supreme Court's Trilogy on the Admissibility of Expert Testimony*, in Reference Manual on Scientific Evidence, 33 (Federal Judicial Center, 2d. ed.2000). *Obviously, in a toxic tort case the court must focus on assessing causation, not on a cost-benefit analysis for restricting the sale and use of a drug.*

The Plaintiff counted heavily on the Helsinki Criteria,[40] which was developed in Finland. This trial court does not think that the Plaintiff has properly fulfilled the Helsinki Criteria.[41] Moreover; the Helsinki Criteria were not formulated with compliance with the *Daubert* test in mind nor does it supplant it. The Helsinki Criteria seems more appropriate as authority to consider on the "general acceptance" test of *Frye*.[42]

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[40] See Asbestos, asbestosis, and cancer: the Helsinki criteria for diagnosis and attribution, Scandinavian Journal of Work, Environment and Health,1997.

[41] Especially on the compilation of data that should be the basis for the attribution of cause. For instance, Mr. Butler's deposition testimony was inherently under the partisan pressures of litigation in which he was a litigant. Yet, Dr. Maddox takes the highly questionable position that Mr. Butler's work history as found in this deposition was just as objective and reliable as such obtained by trained interviewers using the structured questionnaires and checklists described by the Helsinki Criteria as the means of obtaining this. This appears as a prime example of the *ipse dixit* of an expert as recognized by *General Electric Co. v. Joiner*, 522 U.S. 136, 146 (1997).

[42] Which, of course, is also the fourth, only corroborative element of the superseding *Daubert* test.

Besides the federal court cases cited in Defendant's brief that rejected the "any exposure" or "non-threshold" theory upon which Dr. Maddox depends,[43] *Wills v. Amerada Hess Corp.*[44] and *McClain v. Metabolife Int'l Inc.*,[45] do so. "Occasionally, plaintiffs have attempted to sidestep difficulties involved in establishing dosage by arguing a "no-threshold" theory, i.e., that any exposure to the substance in question is capable of causing plaintiff's ailment. Courts have been reluctant to absolve plaintiffs of the burden of showing dosage on the basis of this theory. [Cit.]"[46]

In summary on the first, crucial element of *Daubert*'s scientific knowledge test, Dr. Maddox's "any exposure" theory is, at most, scientifically-grounded speculation: an untested and potentially untestable hypothesis.[47] Therefore, Dr. Maddox's opinion testimony fails this overarching element of the test.

Since Dr. Maddox's "any exposure" theory has not been tested, the Court will jump to the third element of the *Daubert* test, since it is the only other element of the

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[43] Defendant's supplemental memorandum, page 33 et seq.

[44] *Wills v. Amerada Hess Corp.*, 379 F.3d 32, 49 (2nd Cir. 2004).

[45] *McClain v. Metabolife Int'l, Inc.*, supra at 1240. The ruling here is a complex one based on several factors.

[46] 3 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science ofExpert Testimony §22:5, (West 2009-2010 ed.).

[47] *Golod v. La Roche*, 964 F. Supp. 841, 848 (S.D.N.Y. 1997).

test to "focus on scientific merit directly."[48] "[I]n science, a nontestable hypothesis [such as Dr. Maddox's theory] cannot have an error rate."[49] Moreover, error rate deals with the practical application of a tested theory so one litigation advantage of an untested hypothesis is that it has no error rate for its proponent to confront; it is just based on the "imaginings" of its proponent expert. But, "[c]ourts after all, operate in the real world" and need valid applications of the scientific method to provide the scientific knowledge to be used in the opinions of experts who will provide essential testimony to juries.[50]

On the second element of the *Daubert* test, peer review and publication, Dr. Maddox cited some in support of his opinion. The *Daubert* Court itself said, "Publication (which is but one element of peer review) is not a sine qua non of admissibility, it does not necessarily correlate with reliability . . . The fact of publication (or lack thereof) in a peer-reviewed journal thus will be a relevant, though

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[48] 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science ofExpert Testimony §1:15 (West 2009-2010 ed.)

[49] 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony § 1:16 (West 2009-2010 ed.) Emphasis added. See also *In re Rezulin Products Liability Litigation*, 369 F. Supp. 2d 398, 423 (S.D. N.Y. 2005); and *Wills v. Amerada Hess Corp.*, 379 F.3d 32, 39 (2nd Cir. 2004).

[50] See 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony § 1:20 et seq. (West 2009-2010 ed.)

not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised.[51]

> The *Daubert* Court ... concluded that peer review and publication is a factor to be considered in assessing admissibility, but is not a prerequisite.
>
> The limitations of peer review and publication are akin to those of using general acceptance, discussed below, as a factor. Both criteria are mere proxies for the determinative factor. The value of peer review depends on the quality of those reviewers. If scientist publish in journals with lax standards, the criterion is not likely to lead to the exclusion of bad science. . . . Judges would be well-advised to return to the [other] two factors the Court identified, falsifiability and error rate. These two criteria clearly indicate the Court's choice of conventional ("scientific realist") view of the scientific method. . . . *In short, "peer review and publication" do not themselves establish the "reliability" of the proffered knowledge.*[52]

The instant Court follows this suggested path in weighing much more heavily the testable and tested element and the error rate element of the *Daubert* test.

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[51] *Daubert*, 509 U.S. at 593-94. Emphasis added.

[52] 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony § 1:23, (West 2009-2010 ed.) Emphasis added.

Finally, this Court looks at the fourth element of the *Daubert* scientific test: general acceptance. Dr. Maddox's opinion relies heavily on this factor. Of course, as the instant Court pointed out earlier, the Plaintiff s expert, in its estimation, used the *Frye* test bolstered by publications to support his position.[53] As the *Daubert* Court itself said on this element, "A 'reliability assessment does not require; 'although it does permit, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community.'"[54]

> Like peer review and publication, general acceptance is only as good as the field that is surveyed. Under *Frye*, of course, general acceptance was the standard by which expert testimony was judged. But general acceptance operates differently under *Daubert*, where it is used in conjunction with other factors and is no longer a necessary or sufficient condition for admission. . . . The first question *Daubert* requires judges to ask is, "where are the data?," and failure to produce them should result in exclusion of the expert opinion.[55]

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[53] Nothing the Court says in ruling on this motion should be taken to disparage the advocacy of the Plaintiff's attorneys. They are truly excellent attorneys who have presented their case and conducted themselves professionally. Their presentations were done with great skill and technical prowess. You just have to play the ball where it lies – or, at least, that's the case in this trial court's opinion.

[54] *Daubert*, 509 U.S. at 594. Emphasis added.

[55] 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §1:24, (West 2009-2010 ed.). Emphasis added.

Of course, in the instant case, a tested threshold is part of the missing data, just as the missing testing is part of the unreliable method.

Actually, Georgia in 1982[56] had rejected the *Frye* "general acceptance" test long before the *Daubert* case in 1993.

In the instant case, the Court finds that any general acceptance shown for the Plaintiff's expert opinion is far outweighed by its lack of scientific validity. "Courts have been surprised at *Daubert*'s tendency to lead toward exclusion of evidence when applied to fields that for too long rested on uncritical consensus rather than uncompromising empirical investigation."[57]

In addition to the factors enunciated by the Supreme Court, subsequent courts have recognized the so-called "fifth factor,"[58] namely, "whether experts are proposing to testify about matters growing naturally and directly out of research they have

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[56] See *Harper v. State*, supra at 524 (1982).

[57] 1 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §1:15, (West 2009-2010 ed.)

[58] *Smelser v. Norfolk S. Ry. Co.,* 105 F.3d 299, 303 (6th Cir.1997). This factor is the first of five additional factors in determining reliability from The Advisory Committee Notes to Rule 702.

conducted independent of litigation, or whether they have developed their opinions expressly for purposes of testifying."[59]

As pointed out by the federal Middle District of Georgia case of *Bowers v. Norfolk Southern Corporation*,[60] "The Sixth Circuit has suggested that 'if a proposed expert is a "quintessential expert for hire," then it seems well with in a trial judge's discretion to apply the *Daubert* factors with greater rigor.' *Johnson v. Manitowoc Boom Trucks, Inc.*, 484 F.3d 426, 435 (6th Cir. 2007)."[61]

For the reasons stated in Defendant's brief, the Court finds that Dr. Maddox easily qualifies as such a "quintessential expert for hire" not only for the length, frequency, and the apparent lucrativeness but also the litigation orientation he exhibited in attempting to add a proper empirical basis for his opinion *after* he had originally stated his sworn opinion and the Court first found that it was inadmissible.

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[59] *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1317 (9th Cir.1995).

[60] *Bowers v. Norfolk Southern Corporation*, 537 F.Supp.2d 1343, 1354 n. 8 (M.D. Ga. 2007).

[61] Similarly, "[b]ecause Metabolife's experts formulated their opinions for purposes of litigation, the Court must scrutinize closely the stated bases of those opinions." *Metabolife International, Inc. v. Wornick*, 72 F. Supp. 2d 1160, 1168-69, aff'd in part, rev'd in part on other grounds, 264 F.3d 832 (9th Cir. 2001). See also 3 David L. Faigman et al., *Modern Scientific Evidence*: The Law and Science of Expert Testimony §§ 21:12, 23:22, (West 2009-2010 ed.).

This transgressed the scientific rule that the empirical data should lead to the theory, not vice versa.[62] Although no person probably enjoys seeing their testimony discounted, during his live testimony at the hearing on this motion Dr. Maddox's behavior seemed much more consistent with an advocate than a dispassionate scientist/witness.

Of course, the admissibility of Plaintiff's expert doctor's opinion on specific causation of Defendant's product in this civil litigation is the subject of the instant motion. Applying the *Daubert* test on this expert opinion is a very different inquiry than what is done on reviewing causation on a motion for summary judgment in Georgia; however, this was relied upon by the Plaintiff. The Defendant rebutted this well in its brief, but it should be additionally pointed out that the case[63] on which Plaintiff relied predates the passage of the *Daubert* statute in Georgia.

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[62] This "horse after the cart" was much too extensively performed to justify it as just providing an affidavit to respond to Defendant's motion for summary judgment. The qualitative and quantitative nature of this supplementation was a clear attempt at rationalization of an opinion after the opinion had been made. This may be common to litigation, but it is poor science.

[63] *John Crane, Inc. v. Jones*, 278 Ga. 747 (604 S.E.2d 822) (2004).

On determining the proper methodology that applies in the instant case, it should be noted that *Shiver v. Georgia & Florida Railnet, Inc.*,[64] said, ''The trial court correctly identified two methods by which the plaintiff in a chemical exposure case may show specific causation in a manner that satisfies the *Daubert* standard: (1) 'dose/response relationship' or 'threshold phenomenon'; and (2) 'differential diagnosis.'"[65] However, the authority cited for these two methods is *Hardyman v. Norfolk & Western R. Co.*[66] which is a carpal tunnel syndrome case that says dose-response is not the applicable method to determine specific causation for this kind of injury whereas differential diagnosis does apply. This humble trial court submits that this is a different proposition than giving two methods for specific causation for a chemical exposure case. As previously discussed, it appears that dose-response with an established threshold for when dose starts to cause harm would be necessary for a proper differential diagnosis to be done. Otherwise, the doctor does not have a scientific basis for ruling in a specific asbestos-containing product as a

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[64] *Shiver v. Georgia & Florida Railnet, Inc.*, 287 Ga. App. 828, 829 (1) (652 S.E.2d 819) (2007).

[65] Emphasis added.

[66] *Hardyman v. Norfolk & Western R. Co.*, 243 F.3d 255, 260-265 (II) (B) (6th Cir.2001).

possible cause before he begins the process of ruling out possible causes. A proper dose-response methodology and differential diagnosis would appear not to be two mutually exclusive or alternative methods of specific causation but all part of the same overall method of specific causation in a chemical exposure case.

In conclusion, Dr. Maddox's opinion testimony fails the *Daubert* test for scientific knowledge and therefore is not "the product of reliable principles and methods" under OCGA § 24-9-67.1 (b) (2).

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