

11th Circ. Confirms Experts Must Prove Causation

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In toxic tort litigation, the admissibility of expert testimony on causation often presents a dispositive question. Thus, motions to exclude expert testimony on causation are often a make-or-break moment that can put an end to a case before the costs and risks of trial create settlement leverage for even frivolous claims. The Eleventh Circuit's recent decision in *Chapman v. Procter & Gamble Distributing LLC*, 766 F.3d 1296 (11th Cir. 2014) is a good illustration.

In *Chapman*, the court of appeals affirmed summary judgment for the defendant based on the exclusion of all expert testimony opining that a calcium-zinc compound in Fixodent denture adhesive caused the plaintiff's neurological disorder. The opinion addresses several critical considerations bearing on the admissibility of expert testimony that advances novel theories of causation and ultimately concludes, quoting the trial court, that "taking everything together, there is enough data in the scientific literature to hypothesize causation, but not to infer it. Hypotheses are verified by testing, not by submitting them to lay juries for a vote." [1] This holding emphasizes that, while juries remain the ultimate arbiters of fact, plaintiffs are not entitled to roll the dice on an untested theory simply because they are able to find someone with credentials who is willing — for a price — to advocate that theory.



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General Causation: The Importance of General Acceptance

With respect to general causation, the *Chapman* opinion demonstrates that acceptance in the scientific community continues to play a critical role in the admissibility of expert testimony, even though *Daubert* held that general acceptance alone is not decisive. In previous cases, the Eleventh Circuit has recognized two categories of expert testimony on general causation. In the first category are opinions asserting a causal relationship that is generally recognized in the medical or scientific community (e.g., the relationship between asbestos exposure and mesothelioma or smoking and lung cancer). The second category involves theories of causation that have not yet garnered widespread acceptance in the relevant field. Whereas courts need not conduct a full-scale *Daubert* analysis before admitting testimony in the first category, they must rigorously apply the *Daubert* framework to those opinions asserting theories of causation that have not yet reached the stature of general acceptance. In *Chapman*, this full-scale analysis involved "a thorough hearing and consideration of thousands of pages

of filings by the parties, including the experts' reports and depositions, and scientific literature.”[2]

Chapman is important because it emphasizes that the distinction between these two categories must be drawn with a low level of generality — and in product liability toxic-exposure cases must be specific to the allegedly toxic chemical used in the product. The plaintiff's experts in Chapman argued that their theory was generally accepted because it was undisputed that excessive zinc can cause copper deficiency, which can lead to neurological disorders, and because a case report had “hypothesized [that] zinc in denture adhesives may lead to copper deficiency, which could cause neurologic injury.”[3] The Eleventh Circuit affirmed the trial court's determination that this was insufficient to put the experts' testimony into the first category of general acceptance because it did not “show that *the zinc compound in Fixodent*” is generally recognized to cause the type of neurological injury alleged by the plaintiff.[4]

Chapman teaches that a party defending a motion to exclude expert testimony on causation must produce evidence of general acceptance that is specific to the cause at issue. It is not enough to draw analogies from superficially similar causes. A theory of causation should be considered novel — and subject to a full and exhaustive Daubert analysis — unless it can be shown that the precise theory urged by the expert has attained general acceptance in the relevant field.

General Causation: Quantity Is Not a Substitute for Quality

With respect to the actual Daubert analysis, the trial court in Chapman “[r]ecogniz[ed that] all substances potentially can be toxic,” which means that “the relationship between dose and effect ... is the hallmark of basic toxicology and is the single most important factor to consider in evaluating whether an alleged exposure caused a specific adverse effect.”[5] Yet, the plaintiff's experts could not “determine how much Fixodent must be used for how long to increase the risk of a copper-deficiency, or for how long a copper-deficiency must persist before an individual is at an increased risk of developing a [neurological disorder].”[6] The experts also could not identify any epidemiological evidence demonstrating a causal relationship and did not even know the background risk for the neurological injury alleged by the plaintiff.[7] Labeling these the “primary methods” for proving causation in a toxic-exposure case, the trial court found this to be a fatal flaw in the experts' opinions. Reiterating that appellate courts must give great deference to the trial court's decision “even if a decision on expert testimony is outcome determinative,” the Eleventh Circuit affirmed the trial court's conclusion that “[b]ecause these experts have failed to demonstrate the primary methods for proving [that] the zinc in Fixodent causes [neurological injury], their secondary methodologies, including plausible explanations, generalized case reports, hypotheses and animal studies are insufficient proof of general causation. This latter evidence could mislead the jury by causing it to consider testimony that was insufficient by recognized primary methodologies to prove [that] using Fixodent causes [neurological injury].”[8]

Experts presenting novel theories of causation often try to conceal the lack of objective evidence confirming the reliability of their theory by offering up large volumes of collateral evidence that is not viewed as confirming evidence within the relevant field, provides support for only part of the theory or addresses only tangentially related issues. Under Chapman, it should be much harder to fend off a Daubert challenge with this type of “reliability by association” argument. Expert testimony must be shown to be reliable using the primary methods of validation in the relevant field. Otherwise, the volume of collateral evidence offered by an expert is misleading, not validating.

Specific Causation: Differential Etiology Raises Rather than Resolves Daubert Issues

The Eleventh Circuit also affirmed the Chapman trial court's exclusion of the plaintiff's specific-causation

expert, whose opinions were based on a differential etiology. As the Eleventh Circuit held, differential etiology is “a scientifically accepted methodology,” but the plaintiff’s expert “did not follow it.”[9] Specifically, a valid differential etiology requires the expert to “compile a comprehensive list of hypotheses that might explain a plaintiff’s condition” and then “provide reasons for rejecting alternative hypotheses using scientific methods and procedures and the elimination of those hypotheses must be founded on more than subjective beliefs or unsupported speculation.”[10] Yet the plaintiff’s expert in Chapman “failed to consider obvious alternative causes” for the plaintiff’s condition and instead “pursued his view that zinc-associated copper deficiency was responsible” without providing any legitimate reason for ruling out other potential causes.[11]

When experts lack a valid, reliable basis for attributing the plaintiff’s injury to a particular cause, they often claim to have based their opinion on a “differential diagnosis” or “differential etiology.” Like the Eleventh Circuit in Chapman, however, other federal courts of appeals have correctly observed that “[s]imply claiming that an expert used the ‘differential diagnosis’ method is not some incantation that opens the Daubert gate.” *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 674 (6th Cir. 2010).[12] Instead, the use of a differential diagnosis or etiology simply shifts the focus of the Daubert inquiry to the methods that the expert used when ruling in and ruling out potential diagnoses or causes. If those methods do not pass muster under Daubert, then neither does the opinion based on them. In short, a differential diagnosis or etiology is only as good as its parts.

Chapman is a well-reasoned opinion that builds on prior case law in positive ways and should be useful in future challenges to speculative or untested expert opinions. It closes several loopholes that parties often use to evade rigorous application of Daubert to the specific novel theory of causation they are advocating. In that way, it furthers Daubert’s goal of preventing costly and risky litigation based on unverified methodologies that should not be allowed into a courtroom.

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[1] *Id.* at 1311.

[2] *Id.* at 1304.

[3] *Id.* at 1299.

[4] *Id.* at 1304 (emphasis added).

[5] *Id.* at 1307.

[6] *Ibid.*

[7] *Id.* at 1307-8.

[8] *Id.* at 1305, 1308.

[9] Id. at 1309.

[10] Ibid.

[11] Id. at 1311.

[12] See also, e.g., *Myers v. Ill. Cent. R.R.*, 629 F.3d 639, 645 (7th Cir. 2010); *Heller v. Shaw Indus. Inc.*, 167 F.3d 146, 156 (3d Cir. 1999).

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