

# ALERT

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## **Pennsylvania Supreme Court Rules "Any Exposure" to Asbestos Fibers Does Not Pass Evidentiary Muster Under *Frye* (in a Decision with Significant Implications for Insurers)**

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On May 23, 2012, a unanimous Pennsylvania Supreme Court rejected the admissibility of "any exposure" expert opinion testimony, which is commonly advanced by asbestos plaintiffs. This theory posits that each and every fiber of inhaled asbestos is a substantial contributing factor to any asbestos-related disease, and therefore any exposure, however de minimus, is a cause of injury. *Betz v. Pneumo Abex, LLC*, No. 38 WAP 2010, Slip Op. 2 (Saylor, J. May 23, 2012). The court held that expert testimony to this effect did not pass the *Frye* test, which bars the admissibility of "novel scientific evidence" until it has achieved "general acceptance" in the "relevant scientific community."

In *Betz*, defendants were named in several underlying asbestos actions pending in the Court of Common Pleas. The defendants filed global *Frye* motions challenging the admissibility of the any exposure expert opinion evidence advanced by the plaintiffs in support of their argument that each exposure was a "substantial contributing factor" to the development of asbestos-related disease. Common Pleas Judge Robert J. Colville directed the parties to designate "test cases" to address the global *Frye* challenges, and ultimately *Betz* was selected for the *Frye* hearing. (The plaintiff in *Betz* alleged that his mesothelioma was caused by exposure to asbestos-containing friction products, such as brake linings, over the course of his 44-year career as an auto mechanic, but for purposes of the *Frye* motion, it was stipulated that each underlying plaintiff, "at a minimum[,] inhaled at least a single fiber or had at least single exposure to each of the defendants' products."). *Id.* at 15.

The plaintiff's expert, John C. Maddox, M.D., opined that "asbestos-related mesothelioma, like other diseases induced

by toxic exposures, is a dose responsive disease." Reasoning that "each of the exposures to asbestos contributes to the total dose[,] ... each exposure to asbestos is therefore a substantial contributing factor ...." (It was this causal leap that the trial court, and ultimately the Pennsylvania Supreme Court, rejected). Dr. Maddox offered the following analogy: "One drops marbles into the glass of water until the water finally overflows from the glass. Is it the first marble or the last marble that causes the glass to overflow? ... That's a cumulative effect."

The defense countered by presenting, *inter alia*, expert opinion testimony of M. Jane Teta, Dr.P.H., M.P.H., an occupational environmental epidemiologist, who described Dr. Maddox's any exposure theory as "nothing more than a mere assumption." *Id.* at 5. The defense pointed out that although Dr. Maddox's opinion recognized the critical importance of dose, his opinion failed to meaningfully consider this concept in arriving at the single fiber theory. Furthermore, Dr. Maddox acknowledged that he "picked and chose" among studies in that he failed to consider at least a dozen or more epidemiological studies that concluded that vehicle mechanics were *not* at an increased risk for mesothelioma as compared to the general public.

Judge Colville sustained the defendants' *Frye* challenge and precluded the plaintiffs from adducing any exposure opinion evidence at trial. Judge Colville concluded that a single fiber of asbestos could not be said, absent further direct proof, to constitute a substantial contributing factor. Acknowledging a plaintiff's inherent difficulty in procuring "direct or observational evidence of causation," the court nevertheless concluded that "reliable expert opinion

evidence was required from which a jury could infer that each of the defendants' products was a substantial factor in causing ... diseases." *Id.* at 19-20. Although the trial court "did not discount that a single fiber may possibly increase the risk of developing disease, it did not accept that an unqualified (and potentially infinitesimal) increase in risk could serve as proof that a defendant's product was a substantial cause of a plaintiff's or decedent's disease." *Id.*

The plaintiff appealed, and an *en banc* superior court reversed. That court rejected Judge Colville's conclusion that any exposure evidence was novel, it rejected the epidemiological evidence advanced by the defense, and, as the Pennsylvania Supreme Court later explained, at the "centerpiece of its opinion, the [Superior Court] returned to the idea that Judge Colville had *sua sponte* questioned the validity of extrapolation from scientific findings pertaining to high-dose exposures to low-dose scenarios." *Id.* at 24-25. The defendants then appealed to the Pennsylvania Supreme Court, which unanimously reversed the Superior Court's prior reversal.

Unlike the Superior Court, the Supreme Court agreed that Judge Colville's decision to conduct a *Frye* hearing was appropriate because the trial court had articulated grounds to believe the plaintiff's expert witness testimony had "not applied accepted scientific methodology in a conventional fashion," and also because "a reasonably broad meaning should be ascribed to the term 'novel.'" *Id.* at 43-44. The court approved of Judge Colville's circumspection with respect to "the considerable tension between the any-exposure opinion and the axiom (manifested in myriad ways both in science and daily human experience) that the dose makes the poison." *Id.* at 44. Perhaps most significantly, the court rejected the any exposure theory because it permitted generalized assumptions of causation to trump "the more conventional route of establishing specific causation (for example, by presenting a reasonably complete occupational history and providing some reasonable address of potential sources of exposure other than a particular defendant's product)." *Id.* at 44-45. Indeed, the court found it quite significant that Dr. Maddox's testimony "reflected his unfamiliarity with the test-case plaintiffs' ... history of exposure to asbestos." *Id.* at 13, 15, 46, 48.

The court further rejected the plaintiff's assertion that testimony of experts such as toxicologists and epidemiologists could not be utilized to counter the plaintiff's expert "pathology" testimony. According to the court, Dr. Maddox had offered a "broad-scale opinion on causation applicable to anyone inhaling a single asbestos fiber above background exposure levels" — an opinion not based on any "particular clinical diagnosis." The court found that Dr. Maddox's testimony was grounded in general "risk assessment" as opposed to pathology, and thus an epidemiologist such as Dr. Teta, who testified that "scientific methodology with respect to disease causation [was at the] core [of the] discipline" could be used to counter Dr. Maddox's testimony, which the court found to be hardly "pathological" in nature. *Id.* at 45-47.

The crux of the Supreme Court's holding, and largely the issue that drove the trial court's ruling, was the courts' view that "one cannot simultaneously maintain that a single fiber among millions is substantially causative, while also conceding that a disease is dose responsive." *Id.* at 48. Dr. Maddox himself highlighted the importance of considering (1) the potency of the fiber, (2) the concentration of exposure, and (3) the duration of the exposure. Yet, the court found that meaningful consideration of these factors was inherently lacking in the any exposure theory advanced by Dr. Maddox and the plaintiffs. The court did acknowledge the inherent difficulties faced by plaintiffs suffering from diseases with long latency periods, but concluded that the legal standard in Pennsylvania requires specific causation. *Id.* at 49-50, 53 ("Certainly a complete discounting of the substantiality in exposure would be fundamentally inconsistent with Pennsylvania law.") (citing *Gregg v. V-J Auto Parts Co.*, 943 A.2d 216 (Pa. 2007)). As to Dr. Maddox's analogy, the court explained:

"The force of his marbles-in-a-glass illustration changes materially upon the recognition that, to visualize this scenario in terms of even a rough analogy, one must accept that the marbles must be non-uniform in size (as asbestos fibers are in size and potency), microscopic, and million-fold. From this frame of reference, it is very difficult to say that a single one of the smallest of microscopic marbles is a substantial factor in causing a glass of water to overflow."

*Id.* at 50.

The defense's experts indicated that Dr. Maddox's methodology failed to follow "acceptable scientific practice, *inter alia*, in that it contained large analytical gaps [and] was in conflict with the dose-relationship; and it was internally inconsistent." *Id.* at 52. The court also found it significant that Dr. Maddox was unprepared to discuss the epidemiological studies that he discounted, and it rejected the plaintiff's "efforts to invoke case reports, animal studies, and regulatory standards," for purposes of proving "substantial-factor causation, since the most these can do is suggest that there is underlying risk from the defendants' products, a proposition with which Judge Colville did not disagree."

The *Betz* decision has profound implications for insurers, defendants, and plaintiffs alike. Under *Betz*, unless and until the state of scientific evidence progresses such that the any exposure theory becomes generally accepted in the relevant scientific community (which, as *Betz* indicates, includes epidemiologists, toxicologists, industrial hygienists, and others in addition to pathologists), an asbestos claimant can no longer rely on general causative assumptions to allege

that even the smallest exposure to asbestos is a *substantial* causative factor in the development of asbestos-related disease. That claimant now must put forth detailed evidence of exposure, which likely must include an individual work history that accounts for exposure information that includes dose, duration, and intensity of the fibers of particular product(s) at issue.

Pennsylvania now joins Texas as the only other state high court to formally bar the introduction of any exposure evidence.

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*To discuss any questions you may have regarding the opinion discussed in this Alert, or how it may apply to your particular circumstances, please contact:*

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