

In Pa., 'Any Exposure' Does Not Equal Causation

Law360, New York (June 14, 2012, 1:03 PM ET) -- Pennsylvania's Supreme Court has dealt a unanimous[1] blow to plaintiffs' asbestos lawyers, and potentially to plaintiffs' lawyers in a wide range of pharmaceutical, chemical and tobacco products cases requiring scientific evidence to prove specific causation.

Upholding the trial court's Frye ruling, the court rejected plaintiffs' expert's reliance on the "any exposure" theory to prove specific causation in an asbestos case.

More importantly, it made plain that it is the plaintiff's burden to prove by accepted and not "novel" scientific evidence that the exposure to a particular defendant's product was sufficient to be a "substantial cause" of injury. *Betz v. Pneumo Abex LLC*, No. 38 WAP 2010, slip op. at 43-44 (Pa. May 23, 2012).

Background

The Supreme Court's decision in *Betz* arose from a global Frye challenge to the "any exposure" theory of causation brought by defendants in numerous Pennsylvania asbestos cases.

That theory posits that because there is no proven "safe" dose of asbestos, any exposure to asbestos, no matter how small, may be deemed a substantial factor in the development of asbestos-related disease.

Further, plaintiffs have used the "any exposure" theory to argue that every exposure from every defendant's product was a substantial cause of their disease, no matter how minimal relative to a plaintiff's cumulative lifetime exposure.

In order to resolve this global challenge, Judge Robert Colville, presiding in the trial court, established test cases — *Betz* being one of them — and held a Frye hearing to evaluate the admissibility of testimony provided by plaintiffs' expert, Dr. John C. Maddox.

A pathologist, Maddox testified that because all exposure can cause harm, he considered nonessential to his analysis any review of the individual exposure histories of the individual test plaintiffs. Maddox explained the theory driving his causation opinions by analogy:

"The more common analogy that has been used is the example of a glass of water. 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? Well, both, all of them. The marbles cause the glass to overflow."

Defendants objected to the testimony of Maddox, arguing that the weight of the scientific literature has not demonstrated that all low-dose asbestos exposure causes asbestos-related disease, and that the “any exposure” theory is therefore at odds with the science.

Lower Court Rulings

After lengthy consideration, Colville ruled in favor of defendants. Although he did not question Maddox on general causation, he was skeptical of Maddox’s ability to use the “any exposure” theory to conclude that a particular defendant’s product, as opposed to some other exposure, substantially caused the harm. *Id.* at 20.

In fact, he found Maddox’s admission that there is an association between the level of exposure and the level of risk at variance with the logic of the “any exposure” theory. *Id.* at 20.

Colville also was concerned with Maddox’s “extrapolation down” methodology, that is, his reliance on studies demonstrating that asbestos is dangerous at high doses to infer that asbestos is therefore similarly dangerous at low doses.

Indeed, he noted that the fact a hired scientific expert espouses a theory as scientifically valid does not obligate a court to accept that theory where it plainly does not make scientific sense. *Id.* at 20-21.

The Superior Court of Pennsylvania reversed Colville’s decision. As a preliminary matter, the Superior Court believed that Maddox’s testimony was not “novel” and was therefore not properly subject to a Frye challenge. *Id.* at 23.

The Superior Court approved of Maddox’s use of extrapolation, and went on to hold that defendants had failed to demonstrate that Maddox’s methodology was not generally accepted. *Id.* at 24.

The Pennsylvania Supreme Court accepted review and reversed the decision of the Superior Court.

The Supreme Court’s Analysis

At the outset, the Supreme Court rejected the argument that Maddox’s methodology was not “novel.” The court noted that the test of novelty is not whether a theory has been offered repeatedly by hired experts in litigation, but whether it stands up to scrutiny under the light of a rational scientific inquiry.

The court recognized that jurors are heavily influenced by expert opinions and could easily be misled by distortion of the evidence. *Id.* at 43.

The court thus thought “it would be naïve ... to assume that the possibility for distortion is limited to the very newest realms of science,” *Id.*, and with a nod to *Grady v. Frito Lay Inc.*, 576 Pa. 546, 557, 839 A.2d 1038, 1045 (2003), ascribed a “reasonably broad meaning” to the term novel. *Betz* at 43.

Importantly, the court further determined that “a Frye hearing is warranted when a trial judge has articulable grounds to believe that an expert witness has not applied accepted scientific methodology in a conventional fashion in reaching his or her conclusions.” *Id.* at 43-44.

The court also made plain that the “any exposure” theory as used by Maddox was an attempt to use general causation evidence to end-run each plaintiff’s duty to prove actual harm in a particular case (specific causation). *Id.* at 44.

Indeed, like the trial court, it noted that Maddox did not trouble himself to learn anything about the plaintiffs' exposure histories or other possible sources of injury.

The court also was not swayed by Maddox's reliance on case reports, animal studies and regulatory standards, which it found were "ineffectual in terms of substantial-factor causation, since the most these can do is suggest that there is underlying risk from the defendants' products." *Id.* at 48.

The court was particularly troubled by the inconsistency between two opinions expressed by Maddox: First, that each and every exposure to even a single asbestos fiber constitutes a substantial cause of disease, and second, that asbestos-related diseases are dose-responsive, meaning that the risk of disease varies based on the character and quantity of asbestos exposure.

The court held that the "any exposure" theory is fundamentally inappropriate in such a context, stating that "one cannot simultaneously maintain that a single fiber among millions is substantially causative, while also conceding that a disease is dose-responsive." *Betz.* at 48.

The court was unconvinced by Maddox's analogies, noting that:

"[t]he force of his marbles-in-a-glass illustration changes materially upon the recognition that ... the marbles must be nonuniform in size ... 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 court also criticized Maddox's reliance on extrapolation in support of his opinions. Maddox relied on studies demonstrating increased risk of disease associated with exposures to high doses of asbestos to argue that exposures to low doses of asbestos had to be similarly associated with an increased risk of disease.

The court demonstrated a healthy level of skepticism of the "extrapolation down" technique without entirely precluding its use.

The court held that such extrapolation is appropriate only when supported by "sufficiently strong logic supporting the inference," *id.* at 34 n.20, and noted that "the breadth and character of an expert's extrapolations are relevant to the scientific acceptance of his methodology." *Id.* at 52. d May 2012 / Issue 57 3

Impact of the Decision

Betz clearly has great significance for asbestos litigation, where plaintiffs will now have to do more than simply demonstrate that they experienced a de minimis exposure to a particular defendant's product; instead, they will have to demonstrate that the dose of a specific exposure is sufficient to constitute a substantial cause of disease.

But the greatest impact of *Betz* may be for defendants in other products cases. Defendants in such cases should be able to utilize *Betz* to further bolster challenges to methodologies employed by plaintiffs' experts who rely on evidence of general risk as a surrogate for a testable methodology establishing specific causation.

Betz holds that plaintiffs will not succeed in "evad[ing] a reasoned Frye inquiry merely by making references to accepted methods in the abstract." *Id.* at 52. Plaintiffs' experts will need to show that their methods fit the particular case and were applied in a scientifically sound way.

Betz should also provide defendants with guidance in opposing “extrapolation down” arguments, which lack support in the scientific literature, and strengthening dose-response arguments, particularly in cases where exposure was minimal.

Importantly, in ongoing litigation where plaintiffs continually use the same experts to advance the same theories using the same methodologies, Betz may provide defendants who have lost previous Frye challenges with another bite of the apple, since it offers a new controlling authority on which to mount stronger attacks.

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[1] Justice Orie Melvin was the only justice who did not participate in the decision.

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