

Jobs, individuals, asbestos exposure, and doubt science

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Late career surprise

One of the biggest shocks of my career was to discover that a study of mine¹ had been used for over a decade to assert that vehicle mechanics could not contract mesothelioma from their work.

I found out in a roundabout way. An occupational health physician wrote an “amicus brief”² to the Michigan Supreme Court summarizing evidence that asbestos from brake linings can cause mesothelioma. A quote from the abstract gives a flavour of why the brief was written:

“This article outlines the evidence supporting the conclusion that asbestos from brakes can and does cause mesothelioma, and describes the defendants’ attempts to fabricate doubt about this conclusion.”

She asked for signatures from researchers who agreed with her summary. Little did I know that my signature would cause a stir in the mesothelioma legal world.

Getting involved with the law

I received a call from a lawyer shortly afterwards. He told me that our article “Mesothelioma surveillance to locate sources of exposure to asbestos”¹ was being used in US courts as evidence against vehicle and brake mechanics with mesothelioma.

He was surprised that I had signed the amicus brief and wanted to know if I would explain why in a deposition for a mesothelioma case in which the defendants were brake manufacturers and large automobile companies. I agreed.

As indicated by the title of our article, our research was built on the well documented evidence that asbestos causes mesothelioma. We wanted to see if mesothelioma cases might lead us to identify BC occupations previously unknown to be asbestos exposed.

The study was modelled on one done in Italy, where rag workers with no known asbestos exposure were found to have elevated mesothelioma risk.

This led to the discovery that they baled their product in bags that had once contained asbestos. Our BC study examined mesothelioma by occupational groups and found a number with elevated risk, but not vehicle mechanics. This was the evidence being used to fight US compensation claims.

A simple solution: Explain the misinterpretation of our work

I explained that the question we addressed in our paper was not the same as the one that needed to be asked in compensation cases: Was this person with mesothelioma exposed to enough asbestos in his or her job to cause this cancer?

The risk ratio for mechanics in our study reflected the average exposure of all mechanics in the study. Many reported no brake repair work at all, and those who did, did it intermittently as part of a broad array of general duties at service stations.

Compare this with the exposure of the mesothelioma case whose claim I was asked to comment on: a brake mechanic for a major automaker, repairing and replacing brakes every day all day for 40 years, sanding brakes and using compressed air for cleaning. Compensation claims are about an individual’s exposure, whereas relative risks for a job reflect the average exposures of the group.

Educating the academic: There is no simple solution to doubt science

The lawyer told me that my testimony in this one case could be used in other cases, but unfortunately this was not the end of the story. A group of academics frequently employed to fight mesothelioma claims published a review article³ citing our paper¹ – as a “tier 1” study in support of their argument.

I wrote a letter to the editor⁴ to make sure that the important distinctions above were in the public domain. I hoped that the following point would help make the difference between individual and group risk clear:

“Studies of chrysotile miners and textile workers have found elevated risks of mesothelioma, whereas studies of vehicle mechanics and brake repair workers typically have not. Does this mean that vehicle mechanics and brake repair workers are somehow immune to the effects of asbestos, that they are especially resistant, superhuman? No, they simply work in a job that has very varied exposures, so detecting occupation-disease relationships is difficult.”

Recently, I heard again from the lawyer who alerted me to the use of our research. He sent me text from a recent trial. It included this exchange:

*Lawyer: Teschke goes on to say: “I do not normally accept legal work, but agreed to take part as an expert witness in one case to point out some problems in interpretation of epidemiological evidence such as ours in these cases.” And she also wrote this letter to the editor for the purpose of saying: I don't like what's happening here. Is that fair?
Doubt scientist: Well, I don't think that that actually fully characterizes Dr. Teschke's letter. She doesn't want science to be used in court.*

Sigh.

My respect for lawyers who have to fight these cases one at a time is huge. And I am thankful that in BC, mesothelioma compensation claims are rarely, if ever, denied.

Dr Kay Teschke (bio)



Bio: Dr Kay Teschke is Professor Emeritus of the School of Population and Public Health at the University of British Columbia where she was on faculty for 33 years. Her work focused on exposure assessment for epidemiological research including studies of Parkinson's disease, cancer, respiratory disease, gastrointestinal illnesses, back injuries, and more recently traffic injuries.

She helped develop and lead the Occupational and Environmental Hygiene Graduate Program, the Cycling in Cities Research Program, and the Strategic Training Program Bridging Public Health, Engineering, and Policy Research.

She currently serves on the Board of Directors of WorkSafeBC, BC Road Safety Strategy Working Committees, and the BC Road Safety Law Reform Group. She received her academic training at Trent University, BCIT, the University of California at Berkeley, and the University of Washington in Seattle.

References

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