

## [Macleans.ca](#)

Canada's only national weekly current affairs magazine.

### [A new meaning to 'cabin fever'](#)

Jul 23, 2009 by Kate Lunau



As the airplane pulled up to the gate after a routine flight from Memphis to Dallas, veteran flight attendant Terry Williams saw something strange: a smoky haze, she says, was coming from the ventilation system. The fumes soon dissipated; but for Williams, their impact would be long-lasting. Since that flight two years ago, she says she's suffered from migraines, asthma, and a tremor in her left arm, as well as vision impairment and memory loss. "I don't feel I'm the wife my husband married, or the mother I want to be," says Williams, who has two young sons. "It's affected me in every possible way."

Williams, now 40, recently launched a lawsuit against Boeing and its subsidiary, McDonnell Douglas, contending the airplane's manufacturers "knew or should have known" that tainted fumes could enter the ventilation system, causing serious health effects to those on board. According to Seattle aviation attorney Alisa Brodkowitz, who's representing Williams, in most Boeing aircraft—including the MD-82 on which Williams was travelling—fresh air is sucked in through the jet engines before being cooled and vented into the cabin (mixed with filtered, recirculated air). Along the way, Brodkowitz says, it can pick up contaminants ranging from engine oil to metals.

Boeing isn't the only manufacturer that taps air off the engine to ventilate the cabin; this "bleed air system" has been standard for over 30 years, mainly because it's a cheap and efficient way to bring fresh, pressurized air into the cabin, says Christiaan van Netten, professor emeritus of toxicology at the University of British Columbia. "Everything is fine, if the engine is working properly," he says. "But if there's an oil leak, you've got a problem." Jet engine oil contains substances including tricresyl phosphate, a neurotoxin, and when the oil reaches high temperatures, he says, "carbon monoxide is released."

For Dr. Darren Jakubec, a family doctor in Smithers, B.C., this comes as no surprise. In 2004, on an

Air Canada flight to Winnipeg, his dog Sila died in the plane's cargo hold; an autopsy revealed the dog had "probable carbon monoxide poisoning." (Carbon monoxide sinks, van Netten notes, and so may have been denser in the cargo hold.) The case was settled out of court, but for Jakubec, it isn't resolved. "They didn't mistreat my dog; they killed her with toxins," he says. Air Canada did not respond to a request for comment.

It's hard to determine how frequently fume events occur. A 2002 U.S. National Research Council survey of three airlines found that on the British Aerospace 146 aircraft, which had the highest rate cited, air quality incidents happened up to 3.88 times per 1,000 flight cycles. For the Boeing 737, it was 0.09 times per 1,000. In her own analysis of sources, including incident reports to the U.S. Federal Aviation Administration, Judith Murawski, an industrial hygienist with the Association of Flight Attendants-CWA, "found an average of almost one [fume event] a day in the U.S. fleet, and that's guaranteed to be an underestimate," she says. (Fume events are almost certainly less common today, says van Netten, a co-author, since technology has improved.) No fume events were reported in Canada in 2008, Transport Canada notes.

According to Clement Furlong, professor of medicine and genome sciences at the University of Washington, exposure to contaminated cabin air can cause long-term health problems like those Williams describes. Due to drug interactions, metabolic differences and other factors, "some people are more susceptible than others," he says.

Boeing spokesperson Richard Schleh agrees that oil contaminants can enter the cabin, but "to the best of our knowledge, it doesn't happen very often," he says. When it does, "our studies indicate you're not getting enough to cause long-term health effects." As for Williams's lawsuit, "we don't know what role, if any, the airplane may have had in the alleged event," he says. (Boeing's new 787 Dreamliner doesn't use bleed air.)

Almost no one, it seems, disputes that contaminants can waft into an airplane cabin—yet as of now, Murawski says, detecting these fumes is effectively "up to people's noses." Canadian standards limit the amount of carbon monoxide that can be present in the airliner cabin, for example, but don't require that aircraft carry carbon monoxide detectors. And no sensors exist to measure tricresyl phosphate, which is the "primary chemical of concern," says Ruel Overfelt, executive director of the U.S. Air Transportation Center of Excellence for Airliner Cabin Environment Research. Why? Developing such a sensor "costs money," Overfelt says.

Even so, the U.S. House of Representatives recently passed legislation including a provision to develop bleed air sensors. When asked if any task forces were examining the issue here, Transport Canada responded in an email that it's "co-operat[ing] with the United States and European aviation authorities," but declined to describe any efforts of its own. As for Williams, she's hopeful public awareness about a little-known issue will emerge from her suit. "I flew many legs and never had a problem," she says. "One day changed my entire life."

Tags: [airplane](#), [asthma](#), [bleed air system](#), [Boeing](#), [migraines](#), [pets](#), [toxins](#), [vision impairment](#)  
Posted in [Health](#) | [4 Comments](#)

[Macleans.ca](#) is proudly powered by [WordPress](#)

<http://www2.macleans.ca/2009/07/23/a-new-meaning-to-%e2%80%98cabin-fever%e2%80%99/>

printed on Sep 29, 2009

☺