

Cabin fever: A bad case of Aerotoxic syndrome?

Campaigners claim toxic fumes inside aircraft pose serious health risks to passengers and crew. Now MPs are asking for a public inquiry. Should we be worried? Jimmy Lee Shreeve reports

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Photoshot

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Here we go again,” thought BAe 146 pilot John Hoyte, as the cabin of the aircraft filled with smoke. It was nauseating and made his head spin. But, horrible though it was, it was part of his job. No big deal.

Or so he thought until his health began to seriously deteriorate.

“Frequently, we would have the cabin full of blue smoke as a result of the air system overcooking,” recalls John, who flew BAe 146s for 16 years until he was forced to stop because of chronic fatigue, difficulty thinking, memory loss, distorted vision and slurred speech. “This meant that the whole crew was affected by these fumes for about 10 to 15 minutes.”

It isn't just BAe 146s that are affected by toxic fumes. Boeing 757s, Airbus A320s, Boeing 737s and Embraer ERJ-145s have all had incidents reported.

Nor is the experience restricted to aircrews – passengers are affected, too. On a Swedish flight some years ago, Captain Neils Gomer would have passed out if he

hadn't reached for the oxygen (the aircraft might have crashed too). When he went to check on his passengers, many were close to unconsciousness – the crew described them as being in a “zombie-like condition”.

In 2000, an American businesswoman, Robin Montmayeur, got on board United Airlines Flight 201 (an Airbus 320) going from Washington, DC to San Diego. Little did she know that her health would be affected for years, possibly permanently. “The passenger cabin was filled with noxious fumes right after take-off,” she recalls. “All I had at the time was my leather coat and I placed this over my face to act as a filter.” It didn't work; during the two hours of exposure, Montmayeur was suffered extreme tiredness and dizziness and had trouble breathing. “It was horrible,” she says.

The nightmare didn't end there. After getting back home, she was diagnosed with extreme respiratory irritation and suffered from memory loss, insomnia and involuntary shaking of her head and chest. Doctors had no idea of the cause; it was a “mystery illness”.

“They don't know what to do with us,” Montmayeur says. “I've been put on antidepressives, I've been told I hyperventilate, I've been told a host of things that are just so far from the truth.”

So what is the truth? According to experts, the mystery illnesses are down to an organophosphate called tricresyl phosphate (TCP), which is used as an anti-wear additive in jet-engine fuel. The toxin enters the cabin as a result of the “bleed air” system used on modern aircraft. Air is drawn out of the compression section of the engine and cooled. It then enters the cabin, where it mixes with re-circulated air that has passed through filters designed to remove bacteria and viruses.

The problem is that these re-circulated air filters don't remove fumes or vapours from the engine. So if engine oil or hydraulic fuel leaks, toxic chemicals can contaminate the cabin air supply – exposing crew and passengers to organophosphates, which are known to be extremely hazardous to health. Exposure to TCP can lead to long-term respiratory problems, extreme drowsiness, headaches, even brain tumours.

Some scientists have dubbed the condition “Aerotoxic syndrome” and believe it's on a par with Gulf War syndrome – the difference being that it can affect anyone who flies, either regularly for their work or even on a one-off holiday flight. And flying business class doesn't make you any safer – everyone breathes the same air.

Dr Sarah Mackenzie Ross, a clinical neuropsychologist at the University of London, says the illness could be affecting up to 200,000 passengers a year. Many experts and campaigners consider that a conservative figure. In January this year, investigative journalists from German and Swiss TV secretly took 31 swabs from aircraft cabins on popular airlines. These were analysed in the laboratories at the University of British Columbia under the supervision of Professor Christian van Netten, a leading toxicologist. Twenty-eight of the swabs were found to have dangerously high levels of TCP.

In 2006, John Hoyte and 26 other pilots were tested at University College London. All were found to have cognitive dysfunction and highly abnormal amounts of jet-engine oil chemicals in their blood and fat.

Hoyte says he is only now beginning to recover from the effects of his 16-year exposure to TCP. But he's angry; not only did it ruin his health (he doubts he'll make a complete recovery), but it broke up his marriage. "Being ill like this has huge implications," he says. "It stops you working, and those around you are bound to suffer too."

In a bid to make the public aware of what he calls the "hidden dangers" of flying, he has set up Aerotoxic.org, where he invites others to share their stories of health problems after flying.

Hoyte would like the airlines to accept responsibility for so-called Aerotoxic syndrome, but this doesn't look as though it will happen soon. The UK Civil Aviation Authority denies putting the public or aircrews at risk. "We reject claims that we are putting the travelling public at risk. Safety is and always will be our first priority," the CAA said.

However, the Global Cabin Air Quality Executive, which represents 500,000 aviation workers, insists that the CAA is sweeping a serious threat to public health under the carpet. Last week, it sent out its "Welcome Aboard Toxic Airlines" DVD to all MPs and peers to get the point across.

Now, opposition parties are calling for a public inquiry. "There is strong evidence that air contamination in certain aircraft can put aircrews and passengers at very serious risk of long-term ill health," says the Lib Dem transport spokesman Norman Baker. "We have known that these dangers exist for some time, yet the government has ignored calls for a public inquiry. It cannot continue to flatter commercial interests at the expense of public safety."

Solutions are possible. Pall Aerospace, a firm specialising in filtration systems, says it could filter out the toxins. But to install such filter systems in air fleets would cost millions – and critics say this is why the airlines are stalling.

But, as John Hoyte says: "Airlines would probably only need to add 10p to the price of tickets to cover the costs of fitting filtration systems, and most air travellers would accept that in the interests of their health. It would be a small price to pay, especially when you consider that pilots can be knocked out by the fumes, which means there's every chance a plane could crash."

If you fly and are concerned about Aerotoxic syndrome, Hoyte suggests you pick up a Flyer's Friend face-mask from Aerotoxic.org/store, which will help to protect you from organophosphate poisoning.

Aerotoxic Association: www.aerotoxic.org; *Global Cabin Air Quality Executive:* www.gcaqe.org