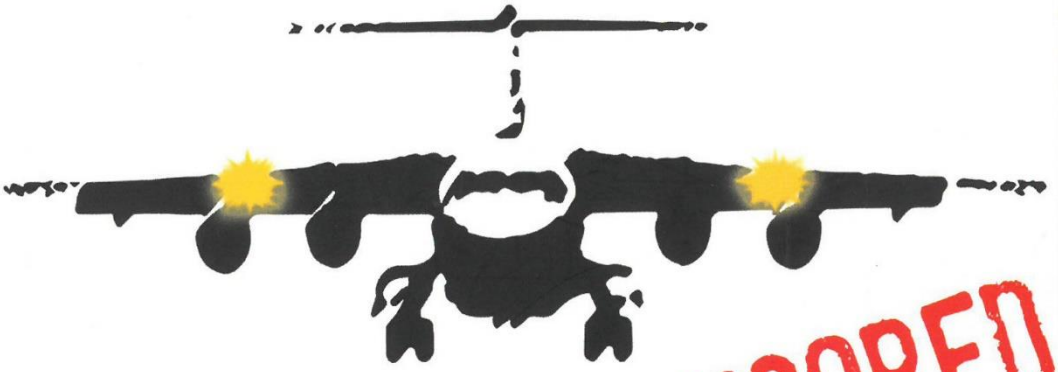
Aerotoxic Syndrome

Aviation's Darkest Secret



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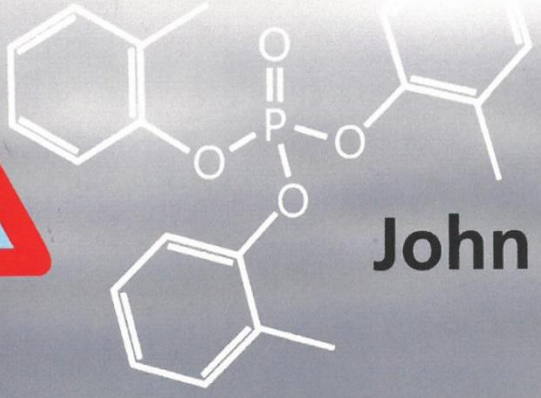

John Hoyte

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All in the mind?

Miraculous escapes and horrific incarceration

This is the story of Len Lawrence, a pilot who was right to fear admitting to his physical symptoms. The saga that followed lost him his wife, home, liberty and personal assets.

Len not only experienced fume events, he recorded them, so there can be no question that they occurred. The first he recorded was on 29 November 1991. He was co-pilot on an aircraft that had passed V1 (the speed at which the aircraft is committed to becoming airborne) during its takeoff run when the flight deck suddenly filled with hot acrid fumes. Both he and his captain were blinded by them. They could neither see outside the cockpit nor see the instruments clearly. Their skin was burning and they found it difficult to breathe. And at the same time they were accelerating in excess of 160 mph. They put on their oxygen masks, started their emergency drill and warned Air Traffic Control that they were in an emergency situation.

Fortunately the captain was a highly experienced pilot with many years' experience of the aircraft model they were flying. He had to feel his way along the instrument panel to locate the dump valve, which effectively lets air out of the aircraft. Within about three seconds the fumes cleared. The whole fume incident had lasted for about 15 seconds. The aircraft then made an emergency landing and all on board were evacuated.

Len's last recorded fume event occurred in 2004. The handling pilot was a recently retired UK Civil Aviation Authority (CAA) flight operation inspector, so he could hardly have been more distinguished or experienced in his profession. He and Len, his co-pilot, noticed an oily smell on the flight deck. Len still can't understand exactly what happened, but he knows that the aircraft descended to less than 500 feet above the city of Amsterdam. The only time it is ever safe to be this

low is during takeoff and landing, but the pilots had not just taken off and were not planning to land. Although Len wasn't actually flying the aircraft, it worries him greatly that he failed to intervene promptly and ensure the pilot corrected the course. Both men were still thoroughly confused when they eventually instigated a climb to 1,500 feet.

The next day the same two men were flying the aircraft to Italy, when Swiss air traffic control gave them an instruction to reroute over Switzerland. As Len puts it:

> Both the captain and I were unable to process the information being given. That was my last ever flight before I resigned. Why did I resign? Because I could not, and indeed still cannot, think clearly enough to fly.

You might well think Len was lucky to still be alive, and not to have killed anyone else. But he certainly wasn't lucky in what followed. Although evidence of the effects of breathing toxic fumes was made known to the psychiatrists to whom he was referred, they chose not to consider this option, and instead to diagnose him with a mental illness. Solicitors who became involved also failed to suggest this alternative explanation. Len was effectively 'held captive' as a mental patient for almost eighteen months, heavily medicated, during which time most of his assets were disposed of. At last, the fifth psychiatrist he was seen by reviewed the evidence, and he was referred for specialist treatment for poisoning by a substance that had been identified as tricresyl phosphate.

A stewardess's story

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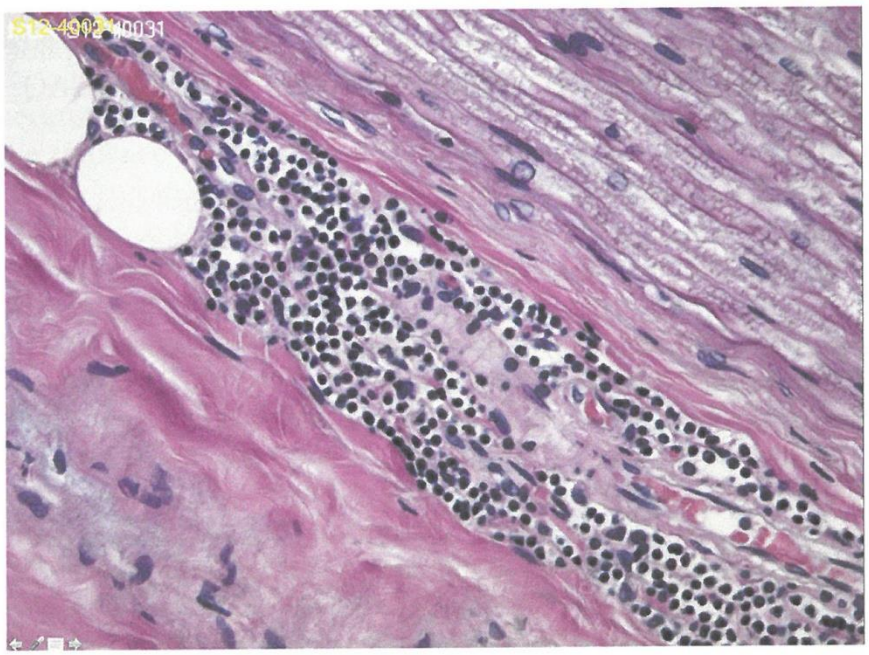
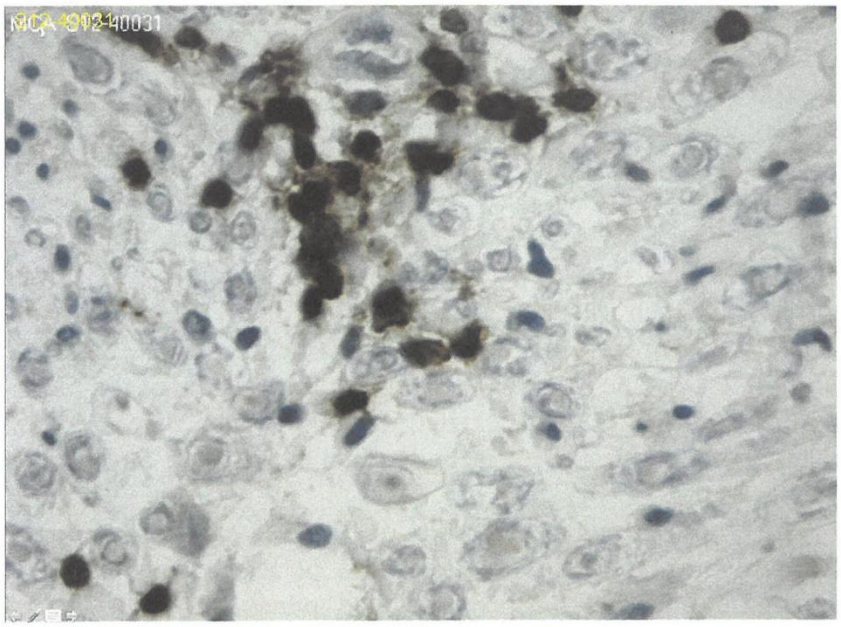
Hot off the press: a crucial report

Sunday 27 July 2014 saw the publication of a much-anticipated scientific report by Professor Mohamed Abou-Donia (Duke University Medical School), Dr Frank van de Goot (an internationally renowned forensic pathologist) and Dr Michel Mulder (consultant in aviation medicine, former KLM pilot and aerotoxic sufferer). The report details the findings of the two main tests carried out before and after the death of Richard Westgate (see pages 156–8). The paper, dryly titled



Cross-section through a peripheral nerve, showing demyelination (absence of white material) and lymphocytic invasion (black dots). White blood cells 'munching' away inside the nerve. Dr Mulder commented, 'This man didn't feel anything any more in his hands [or] feet because of it.'[1]



T-Lymphocyte infiltration of peripheral nerve. Lymphocytic myocarditis, visible, is the active stage of an auto-immune reaction. Dr Mulder commented, 'This picture only is already sufficient proof for explaining a possible cause of death.'[2]

'Autoantibody markers of neural degeneration are associated with post-mortem histopathological alterations of a neurologically-injured pilot',[3] represents the strongest ever link between exposure to contaminated cabin air and neurological damage.

The first test was a blood test before death which found 'grossly elevated'[4] levels of brain-specific auto-antibodies present in Richard's blood. These act as 'biomarkers' indicating brain injury. This was not a new type of test as details had been published in BALPA's conference proceedings of April 2005, and the tests Professor Abou-Donia carried out on my blood in 2006, 2009 and 2012 had similar high levels of auto-antibodies to Richard's and other aircrew.

Professor Abou-Donia commented, 'This subject was one of the worst cases of OP poisoning I have come across. In all my specialized tests for neuro-specific auto-antibodies he was the worst by far.' He added:

The air transport industry constantly overlooks three vital