

## **Michel Mulder, MD**

This is where it all started for me in 1985, Khartoum, first mission for Doctors Without Borders to set up an airbridge for the refugee camps in Darfur, Sudan.



Engine start up for the first early morning run in this vintage 1953 C130A model, the year of my own birth! And 1985, the year where Dr. Harry Hoffmann, then flight surgeon of the USAF later helped to coin the term "Aerotoxic Syndrome", by which he described the symptoms aircrew were suffering flying these aircraft, the Hercs.

It was also my first experience of a recurrent severe headache after each flight in these "Beasts of the sky". To only hear Prof. Abou Donia say recently that a headache is the hallmark of exposure to organophosphates. These compounds can cause diffuse cell death in the brain with subsequent swelling and headache as result. There is nowhere to go for our brain, as observed in my first post-mortem case of an affected crew member (2013).

It was my initial plan to gain some experience in commercial flying and in the meantime set up a dedicated airline to provide airlift capability for humanitarian disasters in Africa, after having obtained my medical degree at the University of Amsterdam and Airline Transport License in 1989. This turned out to be a very ambitious plan, which I had to stop in 1997. My regular work as an airline pilot and Aviation Medical Examiner was slowly becoming more difficult. Symptoms like fatigue, cognitive disturbances, memory loss, mood changes etc. were becoming more prominent. I was then captain on the Fokker 70. This turned out to be a rather contaminated airplane (TNO). In the waiting room for the company doctor I met several colleagues with the same set of symptoms. Company diagnosis was Burn Out, a non-DSM IV diagnosis. It was my first episode of a 4 months recovery. After that I started on the B767. 6 years later I was grounded and my flying career was terminated in 2006. All my results were substandard during my simulator check. I thought I was "Fit to Fly" and it turned out that I resembled a "drunken driver", still "convinced to drive home safely".

It has taken me several years of hard work to find out what was the matter and how to regain some of my own health in return. I decided to dedicate my life to the research and treatment of affected aircrew and passengers, when my brain started to function and I could read an article again or a small book. I have seen about 250 badly affected people in my practise so far. Mostly from an aviation background and some from the off-shore industry.

Since 2012 we have seen 5 post-mortem cases, cockpit and cabin. All share similar unique damages, which are possibly related to long-term low level exposure to organophosphates in cabin air. See enclosed articles.

For some of our test programs, set up at different universities, an elaborate approval from a Medical-Ethical commission had to be obtained. Interesting to realise that such an approval will never be given off for a test, whereby we want to expose human beings in a controlled chamber with varying levels of burned oil products and very low levels of nerve gas components.

For people requiring medical assistance after a fume event or suffering chronic symptoms, which may be connected to your work as an aircrew member or frequent flyer, please send an email to:

[aeromed@neomailbox.ch](mailto:aeromed@neomailbox.ch)

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