

# Funding for research into the Aerotoxic Syndrome is not made available

*Michel Mulder is a doctor and worked as an airline pilot for many years. He conducts scientific research into Aerotoxic Syndrome. Mulder was there at the very beginning of the Neurotoxicity Research Foundation. The major stumbling blocks: funding for research isn't made available and the aviation industry would rather silence people*

"Overworked, that was the company doctor's conclusion," Mulder begins his story. "That's how I found myself prematurely grounded. After six months, someone sent me an article from The Independent. It talked about nerve gases found in the air you breathe in the cabin and cockpit. Nerve gases undermine the nervous system. They reduce the conduction of a pulse in the nerve. If you ingest a lot of that stuff, you end up being unable to move and can die of respiratory problems."

## **Funding badly needed**

It seems a large group of people are suffering from this, not just pilots, but also people who are frequent flyers. It's caused by things like fume events, where the air from the turbines used to pressurise the cabin and air conditioning in an aircraft is contaminated with fluids like engine oil, hydraulic fluid, ice inhibitor fluid, and other potentially hazardous chemicals.

Following his findings, Mulder started his medical practice. Mulder: "I examined some 250 very severely neurologically affected colleagues from the cockpit and cabin crew. I also conducted post-mortem examinations, made documentaries, and filed lawsuits. This was all paid out of my own pocket, because you can't get funding for proper research on Aerotoxic Syndrome. Years ago, I was involved in founding the Neurotoxicity Research Foundation. That organisation is now encountering the same problem, there's no funding available for proper research."



## **Money and power**

The 'big boys' in the industry are the reason so little is known about Aerotoxic Syndrome, even though there are so many victims. "I've made several television programmes with Zembla on the subject. 'Poison in the cockpit' is the name of the documentary\*. After the second broadcast, parliamentary questions were raised in The Hague. A committee was set up to investigate, but they were hand-in-glove with the big stakeholders from the aircraft industry from the outset. Money and power play a major role here. And so the conclusion of the investigation was that it wasn't a big problem."

## **There's another way**

"The Neurotoxicity Research Foundation research is important because it may show that prolonged flying isn't healthy. Our whole society is full of poison, but the producers don't want to be held liable for it, afraid they will face massive claims. So they prefer not to change their ways. Even though there is another way. Dreamliner planes, for instance, bring in cabin air from outside. Which means toxic substances are no longer an issue. But converting all planes will cost millions, and you still have to justify that, as an airline. Because why do they have to be converted..."



Pathologist Frank van de Goot:

## It's easier to pretend there is no problem

*Frank Van de Goot is a pathologist. He studies tissue from living people, sick and healthy, and the deceased. Years ago, he met Michel Mulder, who asked him to examine the body of a pilot, and he has been involved in Aerotoxic Syndrome research ever since.*



**"WHEN YOU FIND WHAT YOU'RE LOOKING FOR, YOU HAVE TO BE CAUTIOUS ABOUT TUNNEL VISION"**

Long before his death, British Airways pilot Richard Westgate was convinced he had Aerotoxic Syndrome. He died after unintentionally overdosing on sleep medication. He donated his body to science. He wanted research done into whether he actually had Aerotoxic Syndrome, because he knew he wasn't the only one experiencing his symptoms. He was the first airman pathologist Frank Van de Goot ever examined. Van de Goot was asked to focus specifically on peripheral inflammation – nerve inflammation in the arms and legs. "Dr. Michel Mulder brought me in, and at first I thought he was nuts. No pathologist in the world cuts open legs. In the end, I did, and I studied the nerve. When I actually found peripheral inflammation, I was hesitant. When you find what you're looking for, you have to be cautious about tunnel vision. And about over-enthusiasm, which kills objectivity."

### Neurological damage

It turns out Westgate wasn't the only deceased pilot who'd suffered from Aerotoxic Syndrome. Van de Goot went on to study multiple pilots and flight attendants. "Time after time, they were found to have that same inflammation. You'd think that would make your case, but one had a drinking problem, another was known for their sexual escapades, and yet another had a heart defect. There's no homogeneous group, which means you're left with nothing." Over the years, Van de Goot discovered that the syndrome didn't just present in the nerves. "I received a section of heart and lung from another pilot, Mr Barolia, who had crashed in Africa. As soon as I put the section of heart under the microscope, it was clear he had lymphocytic myocarditis, an inflammation of the heart muscle. Then I went to look at all the other airmen I'd examined, and it turned out they all had it." That kind of cardiac inflammation is the result of neurological damage. And that neurological damage is caused by toxic substances. "Do you know who had that too? A rather well-known gentleman who experienced a fume event\* a few years ago on a flight from Austria to England. He died two months later. Cause of death: fatty liver and inflamed heart muscle. That man was George Michael."



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### The cover-up

Van de Goot has a clear answer for why we hear so little about this in the media, and why any attention Aerotoxic Syndrome does receive quickly fizzles out. "The government and the aviation industry don't want this. Bear in mind that the aviation industry has the most work-related disability cases and plenty of unusual disorders. There are few fields that can count depression, high levels of suicidality and pulmonary embolisms as common threads. The embolisms are allegedly caused by long sedentary periods. Believe me,

**"THE AVIATION INDUSTRY HAS THE MOST WORK-RELATED DISABILITY CASES"**

people who drive taxis every day aren't developing pulmonary embolisms, nor are people who spend every day sitting at their computers. Professor Abadonia was looking into this issue in Canada. He was promoted away and reassigned from his role. He can never do research again. The parents of Andreas Lubitsch, the German Wings pilot who crashed his plane in the Alps in 2015, were paid hush money. That's a known fact. The pilot himself was given an unmarked headstone. The site of his grave isn't public knowledge. In his case, it's also worth noting that two days after the crash, an official announcement was made that he'd committed suicide. A typical investigation takes several years, but they were able to tell us within 48 hours."

### Screening for genetic disorders

Not everyone is susceptible to Aerotoxic Syndrome. In practice, 1 in 5,000 people are at risk of severe symptoms. "It isn't a generalised population. Aerotoxic Syndrome develops in an isolated population. The RIVM did, at one point, conduct a study among 50,000 random subjects. Nothing came of it. That's right. The 1 in 5,000 get lost in these kinds of studies. But if you survey 5,000 people with symptoms, prepare to be shocked by the results. That's exactly what the Neurotoxicity Research Foundation wants to do. These researchers want to look at what happens at the cellular level in the mitochondria. Then you can identify which genetic trait causes that 1 person in 5,000 to get sick, while someone else could swim in that same toxic substance, so to speak, and never be affected. Professors in Nijmegen have already been working on it. And several Scandinavian airlines have volunteers ready to participate in the research. But that research can only go ahead if the funding is available, and thus far, it hasn't materialised. Incidentally, do you know which pilot had that genetic marker to get sick? Exactly: Lubitsch."

### The arrival of the Dreamliner

"Right now, there's one aircraft that uses outside air for oxygen supply inside the cabin and aircraft and cockpit. Slowly but surely, I expect more and more of that kind of aircraft to be made. And this problem will eventually disappear. But that's only true for cabin crew and passengers. People working on the ground, standing behind the engines to load suitcases on board will continue to get sick. It will be brushed off as 'a tough job'. And because it's so few people, relatively speaking, we accept that as a society. It's also a much easier cause to blame, because it means there isn't really a problem."

## Would you like to help us?

We could really use your donation for the research.

Donating is easy via the QR code.



## "ALL THE AIRMEN I EXAMINED HAD HEART MUSCLE INFLAMMATION"



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\* An event where the tap air from turbines used to pressurise the cabin and air conditioning in an aircraft has been contaminated with fluids like engine oil, hydraulic fluid, ice inhibitor fluid, and other potentially hazardous chemicals.



# Aerotoxic Syndrome is the end of the line for many airline staff

“We have to do something for these people!”



*Drs Gijs de Jong is secretary for the board of the Neurotoxicity Research Foundation. He's been committed to research into Aerotoxic Syndrome, among other things, since the very beginning of the Foundation. His views are clear: right now, funding and attention are the key elements for conducting this research.*

## What do you do for the foundation?

“With the support from others, I drafted the policy plan for the foundation and make sure it is updated regularly. That helps us stay up to date, and as a Foundation Board we can try to create the conditions within which the foundation can work.”

## Why do we hear so little about Aerotoxic Syndrome in the media?

“Airports and airlines don't want to hear about it. It matters whether you're unfit for work because of your general health or because of a work-related disease. It has to do with the benefit that has to be paid to the worker. People working under aircraft and cabin crew are breathing air that contains toxic substances. Unions don't know enough about Aerotoxic Syndrome to stand up for their members. And we've seen that investigative journalists aren't taking it on, they say they're too busy with other projects. It may be because they see this problem as too small, compared to other diseases.”

## Why did you decide to join the board?

“I was asked. I believe you have to be ready when you are called upon and you have the talent to do what's being asked of you. The research the Foundation wants to conduct is all about people. I think that's important. You can gauge the culture and civilisation of a country by what we do for weaker people. I spoke to a flight attendant whose job made her unable to function. She was 30, very sick, had two young children and was on her own. And she's

not the only one. I think we should do something for those people.”

## What makes this research so important?

“People who fly a lot face Aerotoxic Syndrome. In a nutshell, if a pilot gets it, that's the end of the line. It's even been said that the co-pilot of the German Wings flight in 2015 didn't crash the plane himself in the Alps, he was probably already unconscious due to Aerotoxic Syndrome. That's why proper research is important for flight safety. And after this research, we'll be able to provide better treatment for people adversely affected by the syndrome. If we understand the effect of toxic substances, we can also try to prevent people from developing the syndrome.”

## What is most important right now?

“The research costs money, a lot of money. Right now, blood tests are being done, but more research is needed. Which means a lot more money; we're talking millions. We've written to the Dutch Brain Foundation, but they don't want to take part. Other funders we've contacted have also said 'no' thus far. That's a problem, but we aren't giving up yet.”



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## YOUR DONATION HELPS!

If you'd like to contribute to this study or any of the others, you can do so by making a donation. Our foundation has ANBI status. Donations can be made to bank account number **NL15TRIO0320573613**. If you would like more information, please contact us. We would be happy to talk to you.

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