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Pilots and Meds: Proceed with Caution

Last year the NTSB conducted a safety study that looked into the potential for pilot impairment from medications and drugs. Aviation was singled out not because the NTSB believes pilots to be the highest potential for drug abuse, but rather due to the fact that we have very good data that the other modes of transportation lack. In aviation, we have carefully annotated random drug and post-accident screening data, plus extremely detailed toxicology testing conducted by the Office of Aerospace Medicine's Civil Aerospace Medical Institute (CAMI) for all pilots involved in fatal accidents.

Over the study period (1990-2012), the NTSB found an increase in positive toxicology results — from less than 10 percent in 1990, to 40 percent in 2011. Some of this is likely due to the fact that CAMI has significantly increased the number of drugs they test for during the study period. It's also important to remember that a positive result on a toxicology test does not mean the pilot was impaired. Many drugs that create a positive result would not be considered a problem in aviation, but it does show that pilots, like the general population, are taking more medications than in the past. For these reasons, among others, the NTSB chose to focus on what kinds of drugs were found and how those frequencies changed.

The Old Nemesis

One of the most troubling and the most common result was for sedating antihistamines. While there are a few varieties of sedating antihistamines out there, the key offender in these cases was diphenhydramine (trade name is *Benadryl*), which can also be found in many sleep aids. We discussed this issue in the July/August 2014 edition of *FAA Safety Briefing* (https://www.faa.gov/news/safety_briefing/2014/media/JulAug2014.pdf) in the context of allergies and flying. A concerning trend, though, was the growth of this category throughout the study period. In the early years of the study sedating antihistamine use was detected in 5.6 percent of cases, while in the latter years it was detected in nearly 10 percent of cases. The near doubling of positive findings along with the obvious impairment potential of these drugs is what makes them a particularly troubling concern for us.

What's New?

One fairly dramatic change during the study period was in cardiovascular drug use. By the NTSB's classification, these include drugs used to treat hypertension (high blood pressure), control heart rate, or treat heart failure. These drugs more than quintupled during the study period, moving from 2.4 percent positive results in the early years to 12.4 percent in the most recent years. While this is troubling, it doesn't meet our level of concern over diphenhydramine because not all of the drugs in this category would be disqualifying or impairing. That's why it's important for you to work with your Aviation Medical Examiner (AME) when selecting treatment options.

Another concerning trend was the steady rise in the percentage of study pilots who tested positive for at least one of the potentially impairing drugs. The amount rose from just over 10 percent of pilots who tested positive, to well over 20 percent. Also, positive results for a drug that is typically taken for a potentially impairing condition (disclosed or undisclosed) more than doubled to over 10 percent. The take-home lesson for the aerospace medicine world is that we need to do a better job of helping pilots understand how medication can affect their fitness to fly.

Did You Know?

Did you know that some antidiarrheal medications could be disqualifying? That's because some of them contain opioids, which are a disqualifying ingredient. Did you know that *Chantix* is also disqualifying? Despite its smoking cessation benefits, *Chantix* has been linked with psychosis and suicidal thoughts in rare cases. And last, did you know that some of the medications used to treat migraines can be disqualifying? This is a great example in which the underlying condition is generally far more worrisome than the medication used to control that condition.

All of this is why providing a good history and a good list of any medications you are taking is so important. Please help us help you so that you might never become a tragic player in one of our future case studies.

James Fraser received a B.A., M.D., and M.P.H. from the University of Oklahoma. He completed a thirty year Navy career and retired as a Captain (06) in January 2004. He is certified in the specialties of Preventive Medicine (Aerospace Medicine) and Family Practice. He is a Fellow of the Aerospace Medical Association and the American Academy of Family Practice.