



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

January 29, 2018

Mary Pat McKay, MD, MPH
Chief Medical Officer

A. ACCIDENT: WPR16FA158; Flagstaff, AZ

On August 2, 2016, about 2122 mountain standard time, a Piper PA-34-200T Seneca II, N82806, was destroyed when it impacted trees and terrain shortly after takeoff from Flagstaff Pulliam Airport (FLG), Flagstaff, Arizona. The airline transport pilot received fatal injuries. The personal flight was being conducted as a medical delivery mission for the volunteer organization Flights for Life (FFL), under the provisions of Title 14 Code of Federal Regulations Part 91. Night visual meteorological conditions prevailed at FLG at the time of the accident. No flight plan was filed.

B. GROUP IDENTIFICATION

No group was formed for the medical evaluation in this accident.

C. DETAILS OF INVESTIGATION

1. Purpose

This investigation was performed to evaluate the pilot for any medical conditions, the use of any medications/illicit drugs, and the presence of any toxins.

2. Methods

The FAA medical case review, autopsy report, toxicology findings, and the investigator's reports were reviewed.

FAA Medical Case Review

According to the FAA files, the 76 year old male pilot reported 11,858 total civil flight hours as of his last medical exam application, dated 3/01/2016. At that time, he was 72 inches tall and weighed 229 pounds. He had reported previous cataract surgery, a previous kidney injury, and previous orthopedic surgery. At the time of his last exam, he reported using amlodipine and valsartan to treat hypertension, aspirin, and

levothyroxine to replace deficient thyroid function. None of these medications are considered impairing. His thyroid function was reviewed. No other abnormalities were noted and he was issued a second class medical certificate limited by a requirement that he have available glasses for near vision.

Autopsy

According to the autopsy performed by Public Health Services District, Coconino County, Office of the Medical Examiner, the cause of death was multiple injuries and the manner of death was accident.

Examination of the body for natural disease was significantly limited by the severity of the pilot's injuries; neither the brain nor heart were available for examination.

Toxicology

Toxicology testing performed by the FAA's Bioaeronautical Sciences Research Laboratory identified metoprolol in muscle and lung. In addition, ethanol was identified in muscle (0.012 gm/dl) but was not detected in kidney tissue.

Metoprolol is a prescription blood pressure medication often marketed with the names Lopressor and Toprol. It is not generally considered impairing.¹

Ethanol is the intoxicant commonly found in beer, wine, and liquor. It acts as a central nervous system depressant. After ingestion, at low doses, it impairs judgment, psychomotor functioning, and vigilance; at higher doses it can cause coma and death. The effects of ethanol on aviators are generally well understood; it significantly impairs pilots' performance, even at very low levels.² Federal Aviation Regulations, Section 91.17 (a) prohibits any person from acting or attempting to act as a crewmember of a civil aircraft while having 0.040 gm/dl or more ethanol in the blood.³ After absorption, ethanol is quickly distributed throughout the body's tissues and fluids fairly uniformly. The distribution pattern parallels the water content and blood supply of each organ. Ethanol may also be produced in the body after death by microbial activity.⁴ In these cases, the amount of ethanol identified in different tissues may vary widely.

¹ National Institutes of Health. US National Library of Medicine. DailyMed. Metoprolol. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=a8374722-d2b5-4eb3-bbcd-6ddc52e763ba> Accessed 1/29/2018.

² Cook, C.C., Alcohol and aviation. Addiction (Abingdon, England), 1997. 92(5): p. 539-555.

³ US Government Printing Office .eCFR- Code of Federal Regulations. 91.17. Accessed 6/16/2015. Available from: <http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=14:2.0.1.3.10.1.4.9>.

⁴ Federal Aviation Administration. Forensic Toxicology Drug Information. Ethanol. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=60> Accessed 1/16/2018.

D. SUMMARY OF MEDICAL FINDINGS

The 76 year old male pilot reported 11,858 total civil flight hours as of his last medical exam application, dated 3/01/2016. At that time, he was 72 inches tall and weighed 229 pounds. He had reported previous cataract surgery, a previous kidney injury, and previous orthopedic surgery to the FAA. At the time of his last exam, he reported using amlodipine and valsartan to treat hypertension, aspirin, and levothyroxine to replace deficient thyroid function. None of these medications are considered impairing. He was issued a second class medical certificate limited by a requirement that he have available glasses for near vision.

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