



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

December 10, 2014

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Medical Officer

A. ACCIDENT: ERA13FA144 - Lutz, Florida

On February 24, 2013, about 0830 eastern standard time, a Piper PA-28RT-201, N2895U, operated by a private individual, was destroyed when it collided with terrain, shortly after takeoff from Tampa North Aero Park (X39), Lutz, Florida. The private pilot was the sole occupant and was fatally injured. The private pilot did not have and instrument rating. Instrument meteorological conditions prevailed and no flight plan was filed for the flight destined for Crossville Memorial Airport-Whitson Field (CSV), Crossville, Tennessee.

B. GROUP IDENTIFICATION:

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

C. DETAILS OF INVESTIGATION

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.

Methods

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

FAA Medical Certification File

According to the pilot's FAA medical certification file, he was first issued a medical certificate in 1973. Between 1973 and his exam in 1977 he accumulated 160 flight hours. No medical certification examinations are recorded between 1977 and his current exam of August 20, 2012. On that exam he was 59 years old, 67 inches tall, weighed 158 pounds, and reported total of 125 flight hours. He reported no current medical concerns

in his medical history and the Aviation Medical Examiner (AME) found no abnormalities on physical examination. The AME issued the pilot a third class medical certificate with no restrictions or limitations.

Autopsy

The Florida District Six Medical Examiner determined the cause of death was blunt trauma and the manner of death was accident. The autopsy was limited due to traumatic tissue loss and decomposition. No underlying natural disease was identified.

Toxicology

Toxicology testing was performed by the FAA's Civil Aerospace Medical Institute. The analysis detected ethanol in chest cavity blood (0.030 mg/dl), and brain (0.028 mg/ dl) but no ethanol was detected in muscle.¹ N-Propanol was also detected but not quantified in cavity blood and brain.² Ethanol is a form of alcohol used as a social drug; N-Propanol is another form of alcohol. Both may be produced in body tissues after death due to microbial activity.

Toxicology testing also identified hydrocodone in cavity blood (0.118 mg/ml), liver (0.281 ug/g) and kidney (detected but not quantified). Hydrocodone is a controlled substance known to be sedating and typically prescribed to treat severe pain, marketed under various names including Vicodin and Histinex.³ The therapeutic range of hydrocodone is from 0.010 ug/ml to 0.050 ug/ml. It carries the warning – “may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery).⁴

Finally, dihydrocodeine was identified in cavity blood (detected but not quantified), liver (0.131 ug/ml) and kidney (detected but not quantified).⁵ Dihydrocodeine is a metabolite of hydrocodone and is also a Schedule II controlled substance known to be sedating and available by prescription, commonly marketed under various trade names including Didrate and Parzone.⁶

D. SUMMARY OF FINDINGS

The pilot reported no significant medical issues to the FAA on his last medical certification exam dated August 20, 2012. The medical examiner determined that cause of death was blunt trauma. The autopsy did not identify any natural disease. FAA toxicology detected ethanol in chest cavity blood (30 mg/dl), and brain (28 mg/ dl) but no ethanol was detected in muscle. N-Propanol was also detected but not quantified in cavity blood and brain. Hydrocodone was detected in the cavity blood (0.118 mg/ml); its metabolite dihydrocodeine was also detected but not quantified in cavity blood.

Reference

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- ¹ Federal Aviation Administration. Forensic Toxicology Drug Information. Ethanol. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=60> Accessed 11/26/2014
 - ² Federal Aviation Administration. Forensic Toxicology Drug Information. Propanol (N-). <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=179> Accessed 11/26/2014
 - ³ National Institute of Health, MedlinePlus. Hydrocodone Combination Products. <http://www.nlm.nih.gov/medlineplus/druginfo/meds/a601006.html> Accessed 12/05/2014
 - ⁴ Federal Aviation Administration. Forensic Toxicology Drug Information. Hydrocodone. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=73> Accessed 11/26/2014
 - ⁵ Federal Aviation Administration. Forensic Toxicology Drug Information. Dihydrocodeine. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=48> Accessed 11/26/2014
 - ⁶ National Institute of Health, Toxicology Data Network. Dihydrocodeine. <http://chem.sis.nlm.nih.gov/chemidplus/rn/125-28-0> Accessed 12/05/2014