



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

March 15, 2022

Mary Pat McKay, MD, MPH
Chief Medical Officer

A. ACCIDENT: WPR22FA001; Chandler, AZ

Date: October 1, 2021

Injuries: 2 fatal; 2 uninjured

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 medical conditions, the use of medications/illicit drugs, and the presence of toxins.

2. Methods

The FAA medical case review, as well as autopsy reports and toxicology findings for the deceased and the investigator's preliminary report were reviewed. Relevant regulation and medical literature were reviewed as appropriate.

Helicopter Certified Flight Instructor (Fatal)

FAA Medical Case Review

According to the FAA medical case review, the CFI in the helicopter was a 27-year-old female. She had reported 426 total flight hours as of her last aviation medical exam, dated 8/27/2021. At that time, she was 66 inches tall and weighed 146 pounds. She had reported no medical conditions and no use of medications to the FAA. No significant abnormalities were identified and she was issued a second class medical certificate without limitations.

Autopsy

According to the autopsy report issued by the Maricopa County Medical Examiner, the cause of death was multiple injuries and the manner of death was accident. No significant natural disease was identified.

Toxicology

Toxicology tests performed by NMS Labs at the request of the medical examiner did not identify any tested-for substances.

Toxicology testing performed by the FAA's Forensic Sciences Laboratory did not identify any tested-for substances.¹

Helicopter Student Pilot (Fatal)

FAA Medical Case Review

According to the FAA medical case review, the student pilot in the helicopter was a 34 year old male. He had reported 0 flight hours as of his last aviation medical exam, dated 6/7/2021. At that time, he was 68 inches tall and weighed 218 pounds. He had reported eosinophilic esophagitis and the use of a fluticasone inhaler to treat it to the FAA. This is a steroid inhaler and its use is not considered impairing. No significant abnormalities were identified and he was issued a second class medical certificate without limitations.

Autopsy

According to the autopsy report issued by the Maricopa County Medical Examiner, the cause of death was multiple injuries and the manner of death was accident. No significant natural disease was identified.

Toxicology

Toxicology tests performed by NMS Labs at the request of the medical examiner did not identify any tested-for substances.

Toxicology testing performed by the FAA's Forensic Sciences Laboratory identified only amphetamine at 7 ng/ml in the student pilot's urine but none in blood.

Substance Description

Amphetamine is a Schedule II controlled substance that stimulates the central nervous system. It is available by prescription for the treatment of attention deficit disorder and narcolepsy. It carries a boxed warning about its potential for abuse and has warnings about an increased risk of sudden

¹ The FAA Forensic Sciences Laboratory has the capability to test for more than 1300 substances including toxins, common prescription and over-the-counter medications as well as illicit drugs. See: <http://jag.cami.jccbi.gov/toxicology/default.asp?offset=0>

death and the potential for mental health and behavioral changes.² In some preparations, the prescription drug is metabolized to amphetamine; commonly marketed names include Adderall, Dexedrine, and Vyvanse. After a single 30 mg oral dose, early blood levels averaged 0.111 ug/ml and average blood levels in adults using the long acting prescription orally for a week were about 0.065 ug/ml.³

However, amphetamine is also prepared and used as a street drug, often by snorting, inhaling, or injecting. Street preparations may begin with phenylpropanolamine, which may then contaminate the final product. Generally, levels above 0.2 are the result of mis-using amphetamine to maximize its psychoactive effects.⁴

Airplane Certified Flight Instructor (Uninjured)

FAA Medical Case Review

According to the FAA medical case review, the 43-year-old male airplane CFI had reported 330 total hours of flight experience as of the aviation medical exam dated 1/4/2021. At that time, he was 72 inches tall and weighed 160 pounds. He was issued a second class medical certificate limited by a requirement he have available glasses for near vision.

Airplane Student Pilot (Uninjured)

FAA Medical Case Review

According to the FAA medical case review, the 49-year-old male airplane student pilot had reported 0 total hours of civil flight experience as of the aviation medical exam dated 7/19/2021. At that time, he was 67 inches tall and weighed 168 pounds. He was issued a third class medical certificate without limitations.

D. SUMMARY OF MEDICAL FINDINGS

The 27 year old deceased helicopter CFI had reported no medical conditions or use of medications to the FAA. The autopsy report issued by the Maricopa County Medical Examiner, the cause of death was multiple injuries and the manner of death was accident. No significant natural disease was identified. Toxicology testing at two laboratories was negative.

The 34 year old male helicopter student pilot had reported having eosinophilic esophagitis and the use of a fluticasone inhaler to treat it to the FAA. The autopsy report issued by the Maricopa County Medical Examiner, the cause of death was multiple

² National Institutes of Health. US National Library of Medicine. Amphetamine salts.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=72ddd1c9-ddbd-4c95-acd9-003189a353a3>
Accessed 4/20/2017.

³ Amphetamine. In: Disposition of Toxic Drugs and Chemicals in Man. Ed: Randall C. Baselt. 9th edition. (2011) Biomedical Publications, Seal Beach, CA.

⁴ National Highway Traffic Safety Administration. Drugs and Human Performance Fact Sheets. Methamphetamine/Amphetamine.
<http://www.nhtsa.gov/people/injury/research/job185drugs/methamphetamine.htm>. Accessed 3/29/2017.

injuries and the manner of death was accident. No significant natural disease was identified. Toxicology testing identified 7 ng/ml of amphetamine in urine but none in blood.

The 43 year old male airplane CFI held a valid second class medical certificate limited by a requirement he have available glasses for near vision. He was uninjured in the crash.

The 49 year old male airplane student pilot held a valid third class medical certificate without limitations. He was uninjured in the crash.