

National Transportation Safety Board

Office of Research and Engineering
Washington, DC 20594



Medical Factual Memorandum for Record

February 19, 2026

A. CASE

NTSB ID: CEN24LA144
Location: Muncie, Indiana
Date: April 1, 2024
Time: About 10:28 AM local time

B. MEDICAL SPECIALIST

Specialist JE Tuttle MD MHA FACS
National Transportation Safety Board
Washington, DC

C. DETAILS

1.0 Description of Review

For purposes of evaluating the pilot for potentially impairing medical conditions and substances, the above Medical Specialist reviewed the following sources of medical information, along with selected relevant regulation, medical literature, and investigator reports.

- Federal Aviation Administration (FAA) final medical case review
- Post-event medical records - pilot
- Toxicology report- pilot

2.0 Summary of Medical Facts

According to the FAA medical case review, the 65-year-old male pilot's last aviation medical examination was July 11, 2022. The pilot reported having high blood pressure, and hypothyroidism. The pilot reported taking losartan (a prescription medication commonly used to treat high blood pressure) and levothyroxine (a prescription medication commonly used to treat hypothyroidism). He reported that he had a medical evaluation for hematuria in 2020 that did not identify any abnormalities. The Aviation Medical Examiner (AME) noted that the pilot's high blood pressure met Conditions AMEs Can Issue (CACI) criteria. The AME issued the pilot a third-class medical certificate with the limitation that he must wear corrective lenses.

According to the post-crash pre-hospital and hospital records, the pilot required a prolonged extrication from the airplane wreckage by emergency medical services (EMS) after the accident. The pilot was given ketamine and etomidate by EMS before arriving to the hospital. On arrival to the hospital, the pilot received a massive transfusion of donated blood products, and was administered lidocaine.¹ The pilot was hospitalized for management of serious injuries. During his hospitalization he underwent imaging including brain imaging, which, in addition to identifying skull and brain injuries, also incidentally identified a developmental venous anomaly in the lateral left parietal lobe.² Given the poor prognosis of his injuries, the pilot was discharged from the hospital to hospice comfort care, and died April 20, 2024. No autopsy was performed.

The hospital performed a plasma ethanol test from a specimen that was collected from the pilot at 2:36 PM on the day of the accident. Ethanol was not detected.³ A hospital urine drug screen for drugs of abuse was performed on a urine specimen from the pilot collected April 2 at 1:16 AM. No tested-for substances were detected.⁴

¹ Donated blood may contain drugs. The screening routinely performed on donated blood does not test for drugs

Centers for Disease Control and Prevention. Clinical Testing Guidance for Blood Safety. Centers for Disease Control and Prevention website. <https://www.fda.gov/vaccines-blood-biologics/biologics-guidances/blood-guidances-Updated-August> 27, 2025. Accessed February 19, 2026.

² Such developmental venous anomalies frequently are asymptomatic, although sometimes they may cause symptoms such as headaches or seizures. Associated bleeding may also occur, but no evidence was found that the pilot's venous abnormality had bled.

³ The detection limit for the hospital ethanol testing was greater than 0.01 g/dL. According to the lab result report, hospital testing results for ethanol are to be used for medical purposes only.

⁴ Drugs included in the hospital urine drug screen included amphetamine, methamphetamine, barbiturates,

The FAA Forensic Sciences Laboratory performed toxicological testing of a specimen from the pilot collected from the pilot at 11:25 AM on the day of the accident.⁵ Diphenhydramine, ketamine, norketamine, etomidate, lidocaine, losartan, tamsulosin, atorvastatin, naproxen and acetaminophen were detected in blood. According to the FAA Forensic Sciences Laboratory report, the quantity of the pilot's specimen was not sufficient for quantitative testing.

Diphenhydramine is a sedating antihistamine medication widely available over the counter in multiple sleep aids and cold and allergy products. Diphenhydramine can cause cognitive and psychomotor slowing and drowsiness. It often carries a warning that it may impair performance of tasks like driving and operating heavy machinery.^{6,7} The FAA states that pilots should not fly within 60 hours of using diphenhydramine, to allow time for it to be cleared from circulation.^{8,9}

Ketamine and etomidate are intravenous anesthetic medications. Lidocaine is used as a local anesthetic and to treat some cardiac rhythm abnormalities.¹⁰ These substances were administered to the pilot during his post-crash care, as confirmed by review of the pilot's medical records. Norketamine is a metabolite of ketamine.

Losartan is a prescription medication used to treat high blood pressure. Tamsulosin is a prescription medication commonly used to treat symptoms of an enlarged prostate gland; atorvastatin is a prescription medication commonly used to treat high cholesterol; and naproxen is an over-the-counter nonsteroidal anti-inflammatory medication used to treat minor to moderate pain, inflammation and

benzodiazepines, cannabinoids, cocaine, opiates, phencyclidine, methadone, oxycodone, and buprenorphine.

⁵ The FAA Forensic Sciences laboratory has the capability to test for around a thousand substances including toxins, prescription and over-the-counter medications, and illicit drugs.

⁶ National Institutes of Health National Library of Medicine. Benadryl Allergy Liqui-Gels. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bfeae100-e2d1-4607-be3b-2d9b15cd4f7f>. Updated November 8, 2025. Accessed January 23, 2026.

⁷ Couper FJ, Huestis M, Fulford J, et al. Drugs and Human Performance Fact Sheets: 2024. Bts.gov. Published December 2024. <https://rosap.ntl.bts.gov/view/dot/78924>.

⁸ Federal Aviation Administration. Guide for aviation medical examiners: pharmaceuticals (therapeutic medications) do not issue - do not fly. Federal Aviation Administration website. https://www.faa.gov/ame_guide/pharm/dni_dnf. Updated July 10, 2023. Accessed January 23, 2026.

⁹ Federal Aviation Administration. Allergy - antihistamine & immunotherapy medication. Guide for Aviation Medical Examiners. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/media/AllergyAntihistamineImmunotherapyMedication.pdf. Updated October 26, 2022. Accessed January 23, 2026.

¹⁰ Beecham GB, Goyal A. Lidocaine. Nih.gov. Published 2019. <https://www.ncbi.nlm.nih.gov/books/NBK539881/>. Updated August 16, 2024. Accessed February 17, 2026.

reduce fever.¹¹ Acetaminophen is an over-the-counter medication commonly used to treat minor aches and pains and reduce fever.¹² Losartan, tamsulosin, atorvastatin, naproxen and acetaminophen are not generally considered impairing.

Submitted by:

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Medical Officer

¹¹ National Institutes of Health National Library of Medicine. Naproxen sodium tablet. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=10ee5bc0-509d-b549-e063-6394a90a5dca>. Updated May 26, 2025. Accessed January 26, 2026.

¹² National Institutes of Health. National Library of Medicine. Acetaminophen tablet. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c3b408ff-f47b-4fee-ade5-5db6e25f4ee0>. Updated June 30, 2010. Accessed March 13, 2025.