

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



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MEDICAL

Specialist's Factual Report

December 30, 2025

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A ACCIDENT

Location: Leyden, Massachusetts

Date: January 12, 2024

B MEDICAL SPECIALIST

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

C DETAILS OF THE INVESTIGATION

1.0 Purpose

This investigation was performed to evaluate the certificated flight instructor (CFI) and the pilot receiving instruction for potentially impairing medical conditions and substances.

2.0 Methods

The final Federal Aviation Administration (FAA) medical case review and the CFI's FAA medical certification file, personal medical records, autopsy, and toxicology reports were reviewed. The pilot receiving instruction's autopsy and toxicology reports were also reviewed. Selected investigator reports and relevant regulation and medical literature were also reviewed.

D FACTUAL INFORMATION

1.0 CFI

1.1 FAA Medical Records

According to FAA records, the 67-year-old male CFI's last aviation medical examination was May 4, 2023. At that time, he reported 14,850 total civilian flight hours. He was 69 inches tall and weighed 190 pounds. At that examination, the CFI reported using lisinopril, (a prescription medication commonly used to treat high blood pressure), chlorthalidone (a prescription diuretic commonly used to treat high blood pressure), atorvastatin (a prescription medication commonly used to treat high cholesterol), esomeprazole (an over-the-counter medication commonly used to treat acid reflux), acetaminophen (an over-the-counter medication commonly used to treat minor pain and fever), fluticasone (an over-the-counter nasal spray commonly used to

treat symptoms of season allergies), and hydrocortisone ointment (an over-the-counter steroid ointment commonly used to treat minor rashes). The CFI reported a history of high blood pressure, high cholesterol, alcohol dependency, and a conviction for driving under the influence (DUI) in 2004. The CFI was issued a second-class medical certificate with the limitation that he must wear corrective lenses to meet vision standards at all required distances.

According to the CFI's FAA medical certification file, the CFI had been arrested and convicted multiple times for DUI driving offenses. In 2004, the CFI self-reported his DUI conviction to the FAA and after review, the FAA asked the CFI to surrender his medical certificate. In 2004, the CFI completed an outpatient substance abuse rehabilitation program and joined Alcoholics Anonymous (AA). In May of 2006, the CFI re-applied for a medical certificate. Letters in support of his application were included in his FAA medical certification file including letters from his primary care physician, his counselor, and his AA sponsor. No rehabilitation treatment records were included in the file. In July of 2006, the FAA denied the CFI's application for a medical certificate as a result of a reported undefined "medical condition that required medications," (venlafaxine, a prescription medication commonly used to treat depression, alprazolam, a prescription potent benzodiazepine commonly used to treat anxiety and triazolam, a prescription benzodiazepine commonly used to treat sleep disorders). In October 2006, after receiving updated health information that reported that the CFI was no longer taking the mental health medications, the FAA granted an Authorization for Special Issuance to the CFI for a history of mental health disorders and alcohol abuse. The CFI was issued a third-class medical certificate without limitation. The authorization expired May 2007. In May 2007, after reviewing updated information from the CFI's treating physician, the FAA issued the CFI a letter of eligibility for a third-class medical certificate. In the letter, the FAA stated that "continued airman medical certification remains contingent upon your total abstinence from use of alcohol." The CFI was issued a third-class medical certificate with the limitation that he must have available glasses for near vision. The CFI maintained his FAA medical certificate with no further reports of DUI. In October 2015, the CFI received a letter of eligibility for a second-class medical certificate for a history of gout, use of corrective lenses, acid reflux, and hemorrhoids.

According to the CFI's medical certification file, the CFI underwent his biennial aviation medical examinations by 2 aviation medical examiners (AME)s that were in practice with his primary care physician for the time period reviewed until his aviation medical examination in 2009. At that examination, he saw another AME in his community that was not affiliated with his primary care physician; the CFI continued seeing the non-affiliated AME in his community until 2022. In 2022, he was evaluated by an AME that was not in his community, and was not affiliated with the previous AME's.

1.2 Personal Medical Records

The CFI's personal medical records from his primary care physician's practice were reviewed for the three years prior to the accident. The CFI had visits at least yearly for the period reviewed. In the first visit note reviewed from May 2021, the CFI was being treated for anxiolytic (benzodiazepine) dependence, a generalized anxiety disorder, insomnia, high blood pressure, and seasonal allergies. The CFI's medication list at that time included lisinopril, chlorthalidone, atorvastatin, alprazolam, zolpidem (a prescription medication commonly used to treat insomnia) and citalopram (a prescription medication commonly used to treat depression). The reviewed primary care practice records included copies of hospital records from June 2021. In June 2021, the CFI was involved in a motor vehicle crash and on evaluation in the emergency department, was found to be intoxicated by alcohol. According to records included in the CFI's personal medical records, the Massachusetts State Highway Patrol submitted a request to immediately suspend the CFI's driver's license after the motor vehicle crash. In September 2021, the CFI's primary care physician submitted a Medical Evaluation form to the Massachusetts State Highway Patrol attesting to the CFI's fitness to drive. No further details regarding the CFI's driver's license status were included in the medical records. The last clinic visit reviewed was from October 2023. At his last clinic visit reviewed, the CFI's medication list continued to include alprazolam, zolpidem, and citalopram, and he reported drinking alcohol 2-3 times a week.

1.3 Autopsy

The Office of the Chief Medical Examiner, Commonwealth of Massachusetts, performed the CFI's autopsy. According to the CFI's autopsy report, his cause of death was multiple blunt force injuries, and his manner of death was accident. His aorta was noted to have moderate to severe plaque. The remainder of the autopsy examination did not identify other significant natural disease.

1.4 Toxicology

1.4.1 Autopsy Toxicology

Toxicology testing of postmortem specimens from the CFI was performed by the Commonwealth of Massachusetts Department of State Police, Forensic Sciences Division Crime Laboratory. Alprazolam was detected in cavity blood at 50 ng/mL. Amitriptyline, zolpidem, and citalopram (and metabolite) were detected in cavity blood. Citalopram was also detected in liver tissue at 24,744 ng/g. No other tested-for substances were detected. ¹

¹ According to the postmortem toxicology report from the Commonwealth of Massachusetts Department of State Police, Forensic Sciences Division Crime Laboratory, the laboratory tests-for ethanol, methanol, isopropanol, acetone, and organic bases and neutral substances (including amitriptyline, citalopram, zolpidem, and

1.4.2 FAA Toxicology

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens from the CFI.² Alprazolam was detected in cavity blood at 62 ng/mL and detected in urine at 1016 ng/mL. Alpha-hydroxyalprazolam was not detected in cavity blood and was detected in urine at 730 ng/mL. Amitriptyline was detected in cavity blood at 27 ng/mL and was detected in urine at 187 ng/mL. Nortriptyline was detected in cavity blood at 19 ng/mL and was detected in urine at 81 ng/mL. Zolpidem was detected in cavity blood at 136 ng/mL and detected in urine at 467 ng/mL. Citalopram was detected in cavity blood at 1416 ng/mL and in urine at 29625 ng/mL. N-desmethycitalopram was detected in cavity blood and was detected in urine at 5653 ng/mL. Atorvastatin, lisinopril, and indomethacin were detected in cavity blood and urine. Ethanol was not detected.

1.4.3 Descriptions of Detected Substances

Alprazolam is a potent prescription benzodiazepine medication commonly used to treat generalized anxiety disorders and panic disorders. Alprazolam is a federal Schedule IV controlled substance with a potential for dependence and withdrawal. Alprazolam medications typically carry a warning that use depresses central nervous system (CNS) function, and that users should be cautioned against engaging in hazardous occupations requiring mental alertness such as operating machinery or driving a motor vehicle.³ In addition to medicinal use, alprazolam is commonly misused.⁴ Alpha-hydroxyalprazolam is a less-potent active metabolite of alprazolam. The FAA considers alprazolam a “Do not issue/Do not fly” medication.⁵

Amitriptyline is a prescription tricyclic antidepressant that can be used to treat major depression. Amitriptyline medications commonly carry a warning that user should be advised as to the possible impairment of mental and/or physical abilities

alprazolam). Specimens are screened for amphetamines, benzodiazepines, cocaine, fentanyl, buprenorphine, methamphetamine, opiates, and cannabinoids.

² 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.

³ National Institutes of Health National Library of Medicine. Xanax. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=388e249d-b9b6-44c3-9f8f-880eced0239f>. Updated January 18, 2023. Accessed December 11, 2025.

⁴ Ait-Daoud N, Hamby AS, Sharma S, Blevins D. A review of alprazolam use, misuse, and withdrawal. *J Addict Med*. 2018;12(1):4-10. doi:10.1097/ADM.0000000000000350.

⁵ FAA. Guide for Medical Examiners. Do not issue/Do not fly Medications. https://www.faa.gov/ame_guide/media/DNI_DNF_tables.pdf. Updated June 28, 2023. Accessed December 11, 2025.

required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle.⁶ Nortriptyline is a major active metabolite of amitriptyline. The FAA considers amitriptyline a Do not issue/Do not fly medication.^{5, 7}

Zolpidem is a prescription medication commonly used to treat short-term insomnia. It generally carries a warning that use may impair the ability to operate a motor vehicle or heavy machinery, including the next day after use. Drowsiness, prolonged reaction time, dizziness, blurred vision, and reduced alertness have been reported the next day after use in some patients. Use with other CNS depressants such as alprazolam is recommended to be avoided as CNS depressant effects will be additive.⁸ The FAA considers occasional or limited use of sleep aids, including zolpidem, allowable for pilots, provided they do not use the drug every day and they observe a sufficient waiting period for the drug to be cleared from circulation before flying.⁹

Citalopram is a prescription medication commonly used to treat major depression.¹⁰ Major depression can cause cognitive impairment, particularly of executive function. Antidepressant treatment may improve such impairment.^{11,12} In healthy individuals, studies of citalopram have not established that it causes cognitive

⁶ National Institutes of Health National Library of Medicine. Amitriptyline hydrochloride. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=227affe9-36ee-2423-e063-6394a90a58f6/> Updated September 19, 2024. Accessed December 11, 2025.

⁷ Federal Aviation Administration. Guide for aviation medical examiners: decision considerations - aerospace medical dispositions, item 47, psychiatric conditions - use of antidepressant medications. https://www.faa.gov/ame_guide/app_process/exam_tech/item47/amd/antidepressants#:~:text=If%20you%20are%20an%20ATCS,which%20the%20SSRI%20is%20used. Updated December 3, 2025. Accessed December 17, 2025.

⁸ National Institutes of Health National Library of Medicine. Zolpidem tartrate tablet. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=021153ce-fe27-4ed1-8d88-b4157b0ed734>. Updated November 16, 2023. Accessed June 27, 2024.

⁹ Federal Aviation Administration. Guide for Aviation Medical Examiners. Pharmaceuticals: Sleep Aids. https://www.faa.gov/ame_guide/pharm/sleepaids. Updated May 7, 2025. Accessed December 11, 2025.

¹⁰ National Institutes of Health National Library of Medicine. Citalopram hydrobromide tablet, film coated. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=2632b547-2e13-447f-ac85-c774e437d6a8>. Updated May 17, 2024. Accessed December 11, 2025.

¹¹ Snyder HR. Major depressive disorder is associated with broad impairments on neuropsychological measures of executive function: a meta-analysis and review. *Psychol Bull.* 2013;139(1):81-132. doi:10.1037/a0028727.

¹² Prado CE, Watt S, Crowe SF. A meta-analysis of the effects of antidepressants on cognitive functioning in depressed and non-depressed samples. *Neuropsychol Rev.* 2018 Mar;28(1):32-72. doi: 10.1007/s11065-018-9369-5.

or psychomotor impairment.^{13,14} However, citalopram sometimes carries a warning that any psychoactive drug may impair judgment, thinking, or motor skills, and that users should be cautioned about operating hazardous machinery, until they are reasonably certain that citalopram does not affect their ability to engage in such activities. A pilot on citalopram may be considered for FAA medical certification via authorization for special issuance only, due to the required detailed evaluation of the individual pilot's condition, including assessment of the pilot's cognitive function and response to medication.⁷ Caution is also advised in using amitriptyline in combination with other anti-depressants such as selective serotonin-reuptake inhibitors (SSRIs) as a result of increased risk of complications such as cardiac rhythm abnormalities, and confusion. If used together, close medical monitoring is recommended.^{6 10} N-desmethylocitalopram is a metabolite of citalopram.

Atorvastatin is prescription medication commonly used to treat high cholesterol. Lisinopril is a prescription medication commonly used to treat high blood pressure and indomethacin is a prescription non-steroidal anti-inflammatory drug (NSAID) commonly used to treat symptoms of arthritis. Atorvastatin, lisinopril, and indomethacin are not generally considered impairing.

2.0 Pilot Receiving Instruction

2.1 FAA Medical Case Review

According to the FAA medical case review, the 29-year-old-male pilot receiving instruction's last aviation medical examination was July 20, 2023. At that time, he reported 400 total civilian flight hours. He was 68 inches tall and weighed 201 pounds and reported no medical conditions. The pilot receiving instruction was issued a first-class medical certificate without limitations.

2.2 Autopsy

The Office of the Chief Medical Examiner, Commonwealth of Massachusetts, performed the pilot receiving instruction's autopsy. According to the pilot receiving instruction's autopsy report, his cause of death was multiple blunt force injuries, and his manner of death was accident. The autopsy examination did not identify significant natural disease.

¹³ Fairweather DB, Pozzo CD, Kerr JS, Lafferty SV, Hindmarch I. Citalopram compared to dothiepin and placebo: effects on cognitive function and psychomotor performance. *Hum Psychopharmacol*. 1997;12(2):119-126.

¹⁴ Paul MA, Gray QW, Love RJ, Lange M. SSRI effects on psychomotor performance: assessment of citalopram and escitalopram on normal subjects. *Aviat Space Environ Med*. 2007;78(7):693-697.

2.3 Toxicology

2.3.1 Autopsy Toxicology

Toxicology testing of postmortem specimens from the pilot receiving instruction was performed by the Commonwealth of Massachusetts Department of State Police, Forensic Sciences Division, Crime Laboratory. No tested-for substances were detected.¹

2.3.2 FAA Toxicology

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens of the pilot receiving instruction.² Naproxen was detected in cavity blood and naproxen testing was inconclusive in urine. Desloratidine testing was inconclusive in cavity blood and desloratidine was detected in urine. No other tested-for substances were detected.

2.3.3 Descriptions of Detected Substances

Naproxen is an over-the-counter NSAID commonly used to treat pain, fever, and inflammation. Desloratidine is an over-the-counter non-sedating antihistamine commonly used to treat symptoms of seasonal allergies and colds. It is also a metabolite of loratidine (which was not detected in this case). Naproxen and desloratidine are not generally considered impairing.

E SUMMARY OF MEDICAL FACTS

1.0 CFI

According to FAA records, the 67-year-old male CFI's last aviation medical examination was May 4, 2023. At that time, he reported 14,850 total civilian flight hours. At that examination, the CFI reported using lisinopril, chlorthalidone, atorvastatin, esomeprazole, acetaminophen, fluticasone, and hydrocortisone ointment. The CFI was issued a second-class medical certificate with the limitation that he must wear corrective lenses to meet vision standards at all required distances.

According to the CFI's FAA medical certification file, the CFI had been arrested and convicted multiple times for DUI driving offenses. The last documented arrest and conviction reported to the FAA was in 2004. This conviction resulted in the FAA requesting the CFI to surrender his medical certificate. After several years of rehabilitation and close medical monitoring, an authorization of special issuance and a letter of eligibility from the FAA, the CFI's medical certificate was renewed in 2007.

The CFI's personal medical records from his primary care physician's practice were reviewed for the three years prior to the accident. In the first visit note reviewed from May 2021, the CFI was being treated for anxiolytic (benzodiazepine) dependence, a generalized anxiety disorder, insomnia, high blood pressure, and seasonal allergies. The CFI's medication list at that time included lisinopril, chlorthalidone, atorvastatin, alprazolam, zolpidem, and citalopram. In June 2021, the CFI was involved in a motor vehicle crash and on evaluation in the emergency department, was found to be intoxicated by alcohol. At his last clinic visit reviewed in 2023, the CFI's medication list continued to include alprazolam, zolpidem, and citalopram.

The Office of the Chief Medical Examiner, Commonwealth of Massachusetts, performed the CFI's autopsy. According to the CFI's autopsy report, his cause of death was multiple blunt force injuries, and his manner of death was accident. His aorta was noted to have moderate to severe plaque. The remainder of the autopsy examination did not identify other significant natural disease.

Toxicology testing of postmortem specimens from the CFI was performed by the Commonwealth of Massachusetts Department of State Police, Forensic Sciences Division Crime Laboratory. Alprazolam was detected in cavity blood at 50 ng/mL. Amitriptyline, zolpidem, and citalopram (and metabolite) were detected in cavity blood. Citalopram was also detected in liver tissue at 24744 ng/g. No other tested-for substances were detected.

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens from the CFI. Alprazolam was detected in cavity blood at 62 ng/mL and detected in urine at 1016 ng/mL. Alpha-hydroxyalprazolam was not detected in cavity blood and was detected in urine at 730 ng/mL. Amitriptyline was detected in cavity blood at 27 ng/mL and was detected in urine at 187 ng/mL. Nortriptyline was detected in cavity blood at 19 ng/mL and was detected in urine at 81 ng/mL. Zolpidem was detected in cavity blood at 136 ng/mL and detected in urine at 467 ng/mL. Citalopram was detected in cavity blood at 1416 ng/mL and in urine at 29625 ng/mL. N-desmethycitalopram was detected in cavity blood and was detected in urine at 5653 ng/mL. Atorvastatin, lisinopril, and indomethacin were detected in cavity blood and urine. Ethanol was not detected.

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Submitted by:

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