

# National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



## Medical Factual Memorandum for Record

April 8, 2024

### A. CASE

NTSB ID: WPR22FA173  
Location: Grasmere, Idaho  
Date: May 8, 2022

### 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
- Autopsy report- pilot
- Toxicology report - pilot

## 2.0 Summary of Medical Facts

According to the FAA medical case review, the 48-year-old male pilot's last aviation medical examination was August 14, 2020. At that time, he was 69 inches tall and weighed 174 pounds. He reported Type I diabetes mellitus. He also reported using insulin lispro, often marketed as Humalog, and insulin largine, often marketed as Lantus. Both types of insulin are used to treat diabetes. The pilot was issued a third-class medical certificate by Special Issuance, limited by a requirement to wear corrective lenses, and not valid after August 31, 2022.

The first Authorization for Special Issuance for type I diabetes was June 6, 1998, with multiple subsequent renewals. The most recent Authorization was dated July 12, 2021.

The Owyhee County Coroner's Office performed the pilot's autopsy. According to the autopsy report, the pilot's cause of death was severe blunt force trauma to the chest and head. The autopsy did not identify evidence of significant natural disease. The autopsy report noted the presence of a continuous transcutaneous glucose sensor on the pilot's right upper arm.

At the request of the County Coroner's office, NMS Labs performed toxicological testing of cavity blood from the pilot. Caffeine was presumptively detected. No other tested-for substances (including diphenhydramine) were detected.<sup>1</sup> NMS Labs also performed a vitreous chemistry, which showed no significant abnormality; it did not detect glucose.

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens from the pilot.<sup>2</sup> Diphenhydramine was detected in urine but not in cavity blood. Atorvastatin and salicylic acid were detected in cavity blood and urine. Glucose was measured in urine at 29 mg/dL.<sup>3</sup>

Diphenhydramine is a sedating antihistamine medication widely available over the counter in multiple sleep aids and cold and allergy products. Diphenhydramine can cause drowsiness, worsen reaction time, and impair attention and memory. It

---

<sup>1</sup> Information about the blood testing procedure, including tested-for substances, is available on the NMS Labs website at Test Code [8052B](#).

<sup>2</sup> 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.

<sup>3</sup> Glucose in random fresh urine is normally 25 mg/dL or less. The FAA Forensic Sciences Laboratory considers glucose levels in postmortem urine to be abnormal if above 100 mg/dL. The choice of this value is discussed in FAA Aerospace Medicine Technical Report [DOT/FAA/AM-00/22](#).

often carries a warning that caution should be used when performing tasks such as driving and operating machinery.<sup>4,5</sup> The FAA states that pilots should not fly within 60 hours of using diphenhydramine, to allow time for it to be cleared from circulation.<sup>6</sup>

Caffeine is a central nervous system stimulant that is commonly ingested, included in coffee, tea, soft drinks, and chocolate. It is also an ingredient in certain anti-drowsiness and headache medications.<sup>7</sup> Atorvastatin is a prescription medication used to treat high cholesterol and reduce cardiovascular risk.<sup>8</sup> Salicylic acid is a metabolite of aspirin, an over-the-counter pain/fever relief medication also commonly used to mitigate cardiovascular risk.<sup>9</sup> Caffeine, atorvastatin, and aspirin/salicylic acid are not generally considered impairing.

Submitted by:

JE Tuttle MD MHA FACS  
Medical Officer

---

<sup>4</sup> National Institutes of Health National Library of Medicine. Benadryl-diphenhydramine hydrochloride tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=702f9786-7ce9-43e4-921d-e1db09612127>. DailyMed. Updated January 29, 2024. Accessed April 9, 2024.

<sup>5</sup> Couper FJ, Logan BK. Drugs and Human Performance Fact Sheets. National Highway Traffic Safety Administration. DOT HS 809 725. April 2014 (Revised). <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/809725-drugshumanperformfs.pdf>. Accessed April 9, 2024.

<sup>6</sup> 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](https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/media/AllergyAntihistamineImmunotherapyMedication.pdf). Updated October 26, 2022. Accessed April 9, 2024.

<sup>7</sup> National Institutes of Health National Library of Medicine. Caffeine tablet. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=6d9b3926-7198-5e00-e053-2a91aa0a9580>. Updated January 11, 2024. Accessed March 27, 2024.

<sup>8</sup> National Institutes of Health National Library of Medicine. Lipitor-atorvastatin calcium tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c6e131fe-e7df-4876-83f7-9156fc4e8228>. Updated December 1, 2022. Accessed April 9, 2024.

<sup>8</sup> National Institutes of Health National Library of Medicine. Lipitor-atorvastatin calcium tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c6e131fe-e7df-4876-83f7-9156fc4e8228>. Updated December 1, 2022. Accessed April 9, 2024.

<sup>9</sup> National Institutes of Health National Library of Medicine. Aspirin tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=b0e260a2-4e86-479a-b17b-60324694f669>. Updated February 21, 2024. Accessed April 9, 2024.