

# National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



## Medical Factual Memorandum for Record

December 10, 2024

### A. CASE

NTSB ID: ERA23FA200  
Location: London, Ohio  
Date: April 18, 2023

### B. MEDICAL SPECIALIST

Specialist                                      Turan Kayagil, MD, FACEP  
National Transportation Safety Board  
Washington, DC

### C. DETAILS

#### 1.0 Description of Review

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

- Final Federal Aviation Administration (FAA) medical case review
- Autopsy reports (external examinations with toxicology reports) - flight instructor and student pilot
- FAA Forensic Sciences Laboratory toxicology reports - flight instructor and student pilot

## **2.0 Summary of Medical Facts**

### **2.1 Flight Instructor**

The 60-year-old male flight instructor's last aviation medical examination was January 4, 2022. At that time, he reported no medication use and no active medical conditions. He was issued a second-class medical certificate limited by a requirement to wear corrective lenses for near and distant vision.

The Montgomery County Coroner's Office performed the flight instructor's autopsy. An external examination was performed; at the discretion of the Coroner's Office, no internal examination was performed. According to the flight instructor's autopsy report, his cause of death was multiple blunt force injuries. Postmortem toxicological testing performed by the Coroner's Office did not detect any tested-for substances.

The FAA Forensic Sciences Laboratory also performed toxicological testing of postmortem specimens from the flight instructor. No tested-for substances were detected.<sup>1</sup>

### **2.2 Student Pilot**

The 43-year-old male student pilot had not applied for FAA medical certification. Medical certification is not required to receive dual flight instruction.

The Montgomery County Coroner's Office performed the student pilot's autopsy. An external examination was performed; at the discretion of the Coroner's Office, no internal examination was performed. According to the student pilot's autopsy report, his cause of death was multiple blunt force injuries. Postmortem toxicological testing performed by the Coroner's Office detected venlafaxine at 129 ng/mL and O-desmethylvenlafaxine (desvenlafaxine) at 504 ng/mL in the student pilot's heart blood.

The FAA Forensic Sciences Laboratory also performed toxicological testing of postmortem specimens from the student pilot. Venlafaxine was detected at 146 ng/mL in blood and at 1601 ng/mL in urine. Desvenlafaxine was detected at 560 ng/mL in blood and at 68,548 ng/mL in urine.

Venlafaxine is a prescription antidepressant medication. Desvenlafaxine is an active metabolite of venlafaxine and is also available as a prescription antidepressant medication. Venlafaxine has a variety of uses for depression, anxiety, and other

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<sup>1</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.

conditions. Venlafaxine commonly carries a warning that it can cause drowsiness, and that users should not drive, operate heavy machinery, or do other dangerous activities until they know how the drug affects them.<sup>2</sup> One small study of healthy subjects given relatively low doses of venlafaxine did not find a significant impact of venlafaxine on psychomotor and driving tests, except for some diminished performance on a test of sustained vigilance.<sup>3</sup> According to the FAA medical case review for this accident, venlafaxine was considered unacceptable for pilot medical certification. In April 2024, the FAA added venlafaxine to the list of antidepressants that may be considered for FAA medical certification via Special Issuance on a case-by-case basis, depending on an assessment of the underlying condition and response to treatment.<sup>4</sup>

Submitted by:

Turan Kayagil, MD, FACEP  
Medical Officer

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<sup>2</sup> National Institutes of Health National Library of Medicine. Effexor XR. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c848a5d8-ba94-4c84-80e3-0bf35fb8e32e>. Updated August 15, 2023. Accessed December 10, 2024.

<sup>3</sup> O'Hanlon JF, Robbe HW, Vermeeren A, van Leeuwen C, Danjou PE. Venlafaxine's effects on healthy volunteers' driving, psychomotor, and vigilance performance during 15-day fixed and incremental dosing regimens. *J Clin Psychopharmacol*. 1998;18(3):212-221. doi:10.1097/00004714-199806000-00006.

<sup>4</sup> Federal Aviation Administration. Decision considerations - aerospace medical dispositions, item 47, psychiatric conditions - use of antidepressant medications. Guide for Aviation Medical Examiners. [https://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/aam/ame/guide/app\\_process/exam\\_tech/item47/amd/antidepressants](https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/app_process/exam_tech/item47/amd/antidepressants). Updated April 24, 2024. Accessed December 10, 2024.