

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



WPR24FA001

MEDICAL

Specialist's Factual Report

September 9, 2025

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A. ACCIDENT

Location: Twisp, Washington
Date: October 1, 2023

B. MEDICAL SPECIALIST

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

C. DETAILS OF THE INVESTIGATION

1.0 Purpose

This investigation was performed to evaluate the pilot for potentially impairing or incapacitating medical conditions and substances.

2.0 Methods

The pilot's Federal Aviation Administration (FAA) medical certification file and FAA medical case review were reviewed, as was his autopsy report (including death investigation report and NMS Labs toxicology report) and FAA Forensic Sciences Laboratory toxicology report. Scene photographs of medications recovered from the wreckage were reviewed. Selected investigator reports and relevant regulation and medical literature also were reviewed.

D. FACTUAL INFORMATION

1.0 FAA Medical Certification

According to FAA records, the 59-year-old male pilot had a history of a traumatic brain injury (TBI) sustained in a helicopter crash in August 2009. No brain abnormality was identified on head computed tomography (CT) imaging at that time. The FAA issued the pilot an eligibility letter for third-class medical certification in February 2011; the FAA medical certification file indicated that this was done without neuropsychology and cognitive testing to usual FAA specifications, based on the results of a normal reported neurologic examination and a successful tabletop exercise with an Aviation Safety Inspector (ASI).

In August 2021, the pilot was involved in a possible air rage incident that was investigated by the FAA, including for unusual aggressive behavior by the pilot towards the pilot of a helicopter operating under Part 135, as reported by multiple

witnesses. In October 2021, the FAA instructed the pilot to undergo neuropsychological and psychiatric evaluations by a Human Intervention Motivational Study (HIMS) psychiatrist and HIMS neuropsychologist.

The pilot's last aviation medical examination was December 1, 2021. At that time, he was 72 inches tall and weighed 249 pounds. He reported past medical history including low testosterone treated with testosterone replacement. He reported no other medication use. He had not yet undergone his neuropsychological and psychiatric evaluations as previously instructed. The Aviation Medical Examiner (AME) deferred the third-class medical certification decision to the FAA, commenting, "RED BOXED unable to issue."

The pilot was evaluated by a HIMS psychiatrist on December 27, 2021. Possible neurocognitive disorder and possible maladaptive personality traits were noted. The pilot was evaluated by a HIMS neuropsychologist evaluation on December 28, 2021. This evaluation included detailed neurocognitive testing. Deficits in learning, memory, and aspects of executive functioning were identified; the pilot's TBI history was noted as a possible contributing factor.

An FAA neuropsychologist reviewed the case in April 2022, concluding that the pilot exhibited aeromedically significant cognitive deficits, specifically auditory memory, visual spatial learning and memory, and executive problem solving deficits. The neuropsychologist believed those deficits, although of unclear cause, posed significant safety risk. An FAA psychiatrist reviewed the case in May 2022, concluding that the pilot was not medically qualified, due to aeromedically significant cognitive deficits and a mild neurocognitive disorder with behavioral disturbance (specifically disinhibition), due to TBI.¹ Neither the neuropsychologist nor the psychiatrist were able to provide recommendations that would mitigate the high level of aeromedical safety risk. In June 2022, the FAA denied the pilot's application for third-class medical certification. On August 1, 2022, the pilot requested reconsideration.

On August 15, 2022, a reviewing FAA behavioral neurologist reported that the results of the airman's cognitive testing and clinical history were consistent with mild cognitive impairment/mild neurocognitive disorder, with mixed amnesic and executive features, which precluded medical certification because there was no way to reduce associated aeromedical risk to an acceptable level. The behavioral neurologist also stated that TBI was a possible explanation for the airman's unexpected behaviors and abnormal cognitive testing, and that cognitive and behavioral problems exist on a spectrum, frequently overlap, and may share common underlying neuropathology.

¹ In addition to considering the pilot's behavior in the August 2021 incident, the psychiatrist considered a 2019 event in which the pilot's aircraft contacted a utility line, and after which the pilot had not responded to FAA requests for additional information.

An FAA psychiatrist subsequently reviewed the prior evaluations, test results, and records related to the August 2021 incident, and spoke with an involved ASI about the investigation of the incident. In an August 24, 2022, memorandum, the FAA psychiatrist stated he was in agreement with prior reviewers regarding the disqualifying diagnosis of aeromedically significant cognitive deficits. The psychiatrist stated that TBI could not be excluded as contributory to the pilot's cognitive deficits, but that other possible contributions, including disqualifying maladaptive personality traits not due to TBI, also could not be excluded. The psychiatrist noted that the pilot's disinhibited behaviors during the August 2021 incident correlated clinically with the cognitive deficits found on subsequent testing, including poor impulse control and inability to maintain self-awareness and self-control; the testing also indicated below-average problem solving and diminished ability to adapt to a novel situation. The psychiatrist indicated diagnoses of aeromedically significant cognitive deficits; mild cognitive impairment; and an unspecified mental condition (disinhibition due to one or more etiologies) leading to an overt unsafe air act, including legal interference in a Part 135 operation. The psychiatrist concluded that the pilot's aeromedical psychiatric safety risk was very high, and recommended denial of his application for third-class medical certification, based on the objective findings of mild cognitive impairment from his neuropsychological testing, as well as the correlated behavioral history that contributed to the August 2021 incident.

The most recent FAA communication to the pilot regarding his medical certification was an October 2022 final denial letter for traumatic brain injury; aeromedically significant cognitive deficits; cognitive impairment; and a mental condition, unspecified (disinhibition due to one or more etiologies); which were described as being incompatible with aviation safety. As of the accident date, the pilot did not possess a valid FAA medical certificate. The denial of his most recent application for medical certification also disqualified him from exercising sport pilot privileges.²

2.0 Autopsy

The Snohomish County Medical Examiner's Office performed the pilot's autopsy, under the authority of the Okanogan County Coroner's Office, which performed the death investigation. According to the pilot's autopsy report, his cause of death was multiple blunt force injuries. His heart was described as globular and floppy, with dilatation of both cardiac ventricles. Visual examination of the heart, although somewhat limited by injury, did not identify other significant natural disease, nor did the remainder of the autopsy examination.

² [14 Code of Federal Regulations 61.23\(c\)\(2\)\(ii\)](#)

3.0 Toxicology

3.1 NMS Labs Toxicology

At the request of the Okanogan County Coroner's Office, NMS Labs performed toxicological testing of postmortem cavity blood from the pilot. No tested-for substances were detected.³

3.2 FAA Toxicology

The FAA Forensic Sciences Laboratory also performed toxicological testing of postmortem specimens from the pilot.⁴ Celecoxib and naproxen were detected in cavity blood and urine.

3.3 Descriptions of Detected Substances

Celecoxib is a prescription non-steroidal anti-inflammatory medication that can be used to treat musculoskeletal pain. Naproxen is a non-steroidal anti-inflammatory medication that is available without a prescription and commonly is used for control of pain and fever. Celecoxib and naproxen are not generally considered impairing.

4.0 Medication Photographs

Reviewed scene photographs included a bottle labeled as celecoxib, with the pilot's name. Photographs also showed multiple capsules of appearance consistent with celecoxib and one tablet of appearance consistent with naproxen, not in containers labeled with a name.

Other photographed containers bearing labels with the pilot's name were labeled as injectable testosterone, as-needed hydrocodone/acetaminophen (a prescription combination of opioid and non-opioid pain medications), ondansetron (a prescription anti-nausea medication), and tadalafil (a prescription medication that may be used for erectile dysfunction or as a sexual enhancement aid). Of the containers labeled with the pilot's name, only the hydrocodone/acetaminophen container had contents that were visible in the reviewed photographs clearly enough to be identified; those visible contents were tablets of appearance consistent with hydrocodone/acetaminophen. Notably, hydrocodone, acetaminophen, ondansetron, and tadalafil were not detected by postmortem toxicology testing (and testosterone

³ The NMS Labs toxicology report listed tested-for substances as: amphetamines, barbiturates, benzodiazepines, buprenorphine/metabolite, cannabinoids, cocaine/metabolites, fentanyl/acetyl fentanyl, methadone/metabolite, methamphetamine/MDMA, opiates, oxycodone/oxymorphone, phencyclidine, acetone, ethanol, isopropanol, methanol, dichloromethane, and carboxyhemoglobin.

⁴ 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.

was not tested for). Other medications that were not labeled with the pilot's name also were visible in the photographs, including a medication labeled as belonging to the pilot's dog.

E. SUMMARY OF MEDICAL FACTS

The 59-year-old male pilot's last aviation medical examination was December 1, 2021. At that time, he reported past medical history including low testosterone treated with testosterone replacement. His application for third-class medical certification was deferred and he underwent a series of neuropsychological and psychiatric evaluations related to an August 2021 aviation-related incident in which the pilot had been witnessed exhibiting unusual aggressive behavior. The pilot's evaluations identified deficits in learning, memory, and aspects of executive functioning, with aspects of diminished impulse control, self-awareness, problem solving, and adaptability; residual effects from a 2009 traumatic brain injury were considered as possibly contributing to these deficits. The pilot's medical certification was denied in June 2022. In August 2022, the pilot requested reconsideration. After additional FAA review, in October 2022 the pilot received a final denial for traumatic brain injury; aeromedically significant cognitive deficits; cognitive impairment; and a mental condition, unspecified (disinhibition due to one or more etiologies); which were described as being incompatible with aviation safety. As of the accident date, the pilot did not possess a valid FAA medical certificate. The denial of his most recent application for medical certification also disqualified him from exercising sport pilot privileges.

According to the pilot's autopsy report, his cause of death was multiple blunt force injuries. His heart was described as globular and floppy, with dilatation of both cardiac ventricles. Visual examination of the heart, although somewhat limited by injury, did not identify other significant natural disease, nor did the remainder of the autopsy examination. The pilot's postmortem toxicological testing detected celecoxib and naproxen in cavity blood and urine.

Submitted by:

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