

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Medical Factual Memorandum for Record

July 22, 2024

A. CASE

NTSB ID: ERA22FA405
Location: Hartwell, Georgia
Date: September 10, 2022

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 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 report – pilot
- Toxicology report – pilot

2.0 Summary of Medical Facts

The 55-year-old male pilot's last aviation medical examination was May 13, 2022. At that time, the pilot was 66 inches tall and weighed 194 pounds. He reported no active medical conditions. He reported a history of a 2002 driving under the influence offense; in July 2015 he had received an FAA Letter of Eligibility for third-

class medical certification for an alcohol-related offense. No significant issues were identified at his last aviation medical examination and he was issued a third-class medical certificate limited by a requirement to wear corrective lenses.

The Georgia Bureau of Investigation, Division of Forensic Sciences, performed the pilot's autopsy. According to the pilot's autopsy report, his cause of death was multiple blunt impact injuries and his manner of death was accident. No significant natural disease was identified.

Postmortem toxicological testing by the FAA Forensic Sciences Laboratory identified ethanol at 0.045 g/dL in the pilot's cavity blood. Ethanol was not detected in the pilot's urine. N-propanol was also detected at a low level in cavity blood and was not detected in urine.

Ethanol is the intoxicating alcohol in beer, wine, and liquor, and, if consumed, can impair judgment, psychomotor performance, cognition, and vigilance.¹ FAA regulation imposes strict limits on flying after consuming ethanol, including a prohibition on piloting a civil aircraft while having a blood ethanol level of 0.04 g/dL or greater.² Alcohol consumption is not the only possible source of ethanol in postmortem specimens. Ethanol can sometimes be produced by microbes in a person's body after death.^{3,4}

N-propanol is another alcohol that can be produced by microbes in a person's body after death. Detection of n-propanol in a postmortem specimen is potentially indicative of postmortem microbial activity in the specimen.^{3,4}

Submitted by:

Turan Kayagil, MD, FACEP
Medical Officer

¹ Cook CCH. Alcohol and aviation. *Addiction*. 1997;92(5):539-555.

² [14 Code of Federal Regulations § 91.17](#).

³ Kugelberg FC, Jones AW. Interpreting results of ethanol analysis in postmortem specimens: a review of the literature. *Forensic Sci Int*. 2007;165(1):10-29. doi:10.1016/j.forsciint.2006.05.004.

⁴ Boumba VA, Exadactylou P, Velivasi G, Ziavrou KS, Fragkouli K, Kovatsi L. The frequency of ethanol, higher alcohols and other low molecular weight volatiles in postmortem blood samples from unnatural deaths. *Forensic Sci Int*. 2022;341:111503. doi:10.1016/j.forsciint.2022.111503.