



Dr. Michelle Watters, MD, PhD, MPH
Medical Officer
National Transportation Safety Board

Date: January 18, 2022
NTSB Accident Number: ERA21FA224

Medical and Pathological Information:

According to the FAA medical case review, the 60-year-old male pilot held a first class medical certificate with the limitation that he must have available glasses for near vision. At his most recent FAA medical certification examination (12/23/20), he reported 20,000 total flight hours and was 71 inches tall and weighed 220 pounds. He reported the use of no medications and having no medical issues.

According to autopsy report from the Department of Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, South Carolina, the cause of death of the pilot was massive total body blunt trauma and the manner of death was accident. The examination to identify any natural disease was limited by extensive trauma.

Toxicology testing performed for the Department of Pathology and Laboratory Medicine's office detected ethanol at 0.225 milligrams per hectogram^[2] (mg/hg) and isopropanol in the pilot's liver tissue. Caffeine was also detected in his liver tissue. Toxicology testing performed by the FAA Forensic Sciences Laboratory detected ethanol in the pilot's liver tissue at 0.078 gm/hg and in his muscle tissue at 0.144 gm/hg; n-propanol was detected in muscle tissue. The non-sedating fever and pain medication acetaminophen was detected in his liver and muscle tissue.^[3]

Ethanol is a social drug commonly consumed by drinking beer, wine, or liquor. It acts as a central nervous system depressant; it impairs judgment, psychomotor functioning, and vigilance. Ethanol is water soluble, and after absorption it quickly and uniformly distributes throughout the body's tissues and fluids. The distribution pattern parallels

^[2] Grams per hectogram in tissue samples are directly comparable to grams per deciliter in liquid samples.

^[3] FAA. Updated 1/16/19. Forensic Toxicology's WebDrugs.

Acetaminophen. <https://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=2>

water content and blood supply of the tissue. Ethanol can be produced after death by microbial activity; sometimes in conjunction with other alcohols, such as propanol. Extensive trauma increases the spread of bacteria and raises the risk of ethanol production after death.^[4]

^[4] Kugelberg, FC and AW Jones. 2007. Interpreting results of ethanol analysis in postmortem specimens: a review of the literature. *Forensic Science International* 165(1):10-29.