



MEDICAL FACTUAL SUMMARY

According to the FAA medical case review, the 52-year-old male pilot held a second class medical certificate without limitations. His most recent FAA medical certification examination was on 3/12/20 and at that time he reported he had accrued 11,000 total flight hours. He was 73 inches tall and weighed 223 pounds. He reported taking no medications and no medical conditions. No significant medical concerns or issues were identified.

According to the Fresno County Sheriff-Coroner's Office, Fresno, California autopsy report, the cause of the pilot's death was multiple skeletal and visceral injuries due to blunt impact and the manner of death was accident. The medical examiner did not identify any significant natural disease.

Toxicology testing performed by the Fresno County Sheriff-Coroner's Office detected ethanol at 0.11 grams per deciliter (gm/dL) in the pilot's peripheral blood and at 0.068 gm/dL in gastric contents; toxicology testing was negative for tested-for drugs of abuse in blood and gastric contents. The FAA Forensic Sciences Laboratory toxicology testing detected ethanol at 0.082 gm/dL in cavity blood and 0.082 grams per hectogram (gm/hg) in muscle tissue^[2] but did not detect ethanol in brain tissue. N-propanol was detected in the pilot's cavity blood and muscle tissue and methanol was detected in his cavity blood. Tissue samples were reported as exhibiting putrefaction. The antidepressant citalopram was detected in the pilot's blood at 5,857 nanograms per milliliter (ng/mL) and in his liver tissue; its active metabolite n-desmethylocitalopram was detected at 602 ng/mL in blood and in liver tissue. The anti-anxiety medication buspirone was detected in the pilot's blood at 1.1 ng/mL and in his liver tissue.

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 water content and blood supply of the tissue. A small amount of ethanol can be produced after death by microbial activity, usually in conjunction with other alcohols.^[3]

Citalopram is a prescription antidepressant medication marketed under the trade name Celexa. *N-desmethylocitalopram* is the active metabolite of citalopram. Both carry the warning that their

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

^[3] 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.

use may impair mental or physical ability for performing hazardous tasks. The elimination half-life of citalopram is 25 to 35 hours and the therapeutic range is between 50 and 110 ng/mL.^[4] The FAA will consider a special issuance of a medical certificate for depression after 6 months of treatment if the applicant is clinically stable and using only one approved treatment medication. Citalopram, a selective serotonin reuptake inhibitor (SSRI), is one of the four FAA approved antidepressant medications.^[5]

Buspirone, commonly marketed as Buspar, is a medication used to treat anxiety. Buspirone is also prescribed as an augmentation agent to reduce the sexual side effects of SSRI medications. While buspirone side effects may include dizziness, it has few of the typical anti-anxiety medication side effects such as sedation and physical impairment. The therapeutic range is between 1 and 6 ng/mL; the elimination half-life is between 2 and 4 hours.^{[6],[7]}

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^[4] FAA. Updated 1/16/19. Forensic Toxicology's WebDrugs. Citalopram. <https://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=208> Desmethylcitalopram (N-). <https://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=178>

^[5] FAA. Last modified 7/23/18. Guide for Aviation Medical Examiners, Item 47. Psychiatric Conditions - Use of Antidepressant Medications. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/app_process/exam_tech/item_47/amd/antidepressants/

^[6] FAA. Updated 1/16/19. Forensic Toxicology's WebDrugs. Buspirone. <https://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=21>

^[7] Wilson, TK and J Tripp. Updated 9/13/20. [Buspirone - StatPearls - NCBI Bookshelf \(nih.gov\)](#)