



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

April 4, 2018

Mary Pat McKay, MD, MPH
Chief Medical Officer

A. ACCIDENT: WPR17LA126; Redcrest, CA

On May 4, 2017, about 0945 Pacific daylight time, an unregistered experimental amateur-built Hy-Tek Hurricane, collided with terrain during the final approach to landing on a river bed near Redcrest, California. The noncertificated pilot sustained fatal injuries; the airplane sustained substantial damage. The pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The local personal flight departed about 0925; visual meteorological conditions prevailed, and no flight plan had been filed. The accident was not reported to the National Transportation Safety Board until June 15, 2017.

B. GROUP IDENTIFICATION

No group was formed for the medical evaluation in this accident.

C. DETAILS OF INVESTIGATION

1. Purpose

This investigation was performed to evaluate the 61 year old male pilot for medical conditions, the use of medications/illicit drugs, and the presence of toxins.

2. Methods

The autopsy report, toxicology findings, and the investigator's reports were reviewed. The pilot did not have a pilot certificate or aviation medical certificate so no FAA records were available.

Autopsy

According to the autopsy performed at the request of the Office of the Coroner, Eureka, CA, the cause of death was drowning and the manner of death was accident. No significant natural disease was identified.

Toxicology

Toxicology performed at the request of the Office of the Coroner, Eureka, CA identified ethanol at 0.08 gm/100 gm of tissue as well as methamphetamine at 0.70 mg/kg and its primary active metabolite, amphetamine at < 0.10 mg/kg in muscle tissue. As the death was not reported to the NTSB or FAA for several weeks, no specimens were collected for testing by the FAA.

Ethanol is the intoxicant commonly found in beer, wine, and liquor. It acts as a central nervous system depressant. After ingestion, at low doses, it impairs judgment, psychomotor functioning, and vigilance; at higher doses it can cause coma and death. The effects of ethanol on aviators are generally well understood; it significantly impairs pilots' performance, even at very low levels.¹ Federal Aviation Regulations, Section 91.17 (a) prohibits any person from acting or attempting to act as a crewmember of a civil aircraft while having 0.040 gm/dl or more ethanol in the blood.² Because ingested alcohol is distributed throughout the body, levels from different post mortem tissues are usually similar. Ethanol may also be produced in body tissues by microbial activity after death.³

Methamphetamine is a Schedule II controlled substance and is used medically to treat ADHD, ADD and narcolepsy. Oral doses used to medically treat these illnesses typically produce blood levels in the range of 0.02-0.05 ug/ml. Those misusing the drug may reach levels of 2.0 ug/ml or higher. Symptoms of recreational methamphetamine use follow a typical pattern. In the early phase users experience euphoria, excitation, exhilaration, rapid flight of ideas, increased libido, rapid speech, motor restlessness, hallucinations, delusions, psychosis, insomnia, reduced fatigue or drowsiness, increased alertness, a heightened sense of well-being, stereotypes behavior, feelings of increased physical strength, and poor impulse control. In addition, the heart rate, blood pressure, and respiratory rate increase and users may have palpitations, dry mouth, abdominal cramps, twitching, dilated pupils, faster reaction times, and increased strength. As the initial effects wear off, users commonly experience dysphoria, restlessness, agitation, and nervousness; they may experience paranoia, violence, aggression, a lack of coordination, delusions, psychosis, and drug craving. Blood levels cannot be used to distinguish among phases of methamphetamine use.⁴

¹ Cook, C.C., Alcohol and aviation. Addiction (Abingdon, England), 1997. 92(5): 539-555.

² US Government Printing Office .eCFR- Code of Federal Regulations. 91.17. <http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=14:2.0.1.3.10.1.4.9>. Accessed 6/16/2016.

³ Federal Aviation Administration. Forensic Toxicology Drug Information. Ethanol. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=60> Accessed 12/02/2016.

⁴ NHTSA Drugs and Human Performance Fact Sheets. Methamphetamine. https://www.wsp.wa.gov/breathtest/docs/webdms/DRE_Forms/Publications/drug/Human_Performance_Drug_Fact_Sheets-NHTSA.pdf Accessed 4/4/2018.

D. SUMMARY OF MEDICAL FINDINGS

The 61 year old male pilot was uncertified and flying an uncertified experimental trike aircraft he had built himself.

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