

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Addendum to Medical Factual Report

October 3, 2023

A. CRASH INFORMATION

NTSB ID: WPR22FA197
Location: Oceanside, California
Date: October 3, 2023
Time: About 13:47 local time

B. MEDICAL SPECIALIST (ADDENDUM)

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

C. DETAILS OF ADDENDUM

1.0 Description

This addendum supplements the Medical Factual Report dated April 5, 2023, (in the docket for this investigation) with additional information from the right-seated pilot's post-accident medical records.

2.0 Factual Addendum

The right-seated pilot's post-accident medical records documented that a hospital ethanol test on a blood specimen collected at 14:46 on the crash date was negative. A hospital urine drug screen was documented as being positive for cannabis.¹ According to the hospital records, the pilot acknowledged sometimes smoking a cannabis joint after dinner.

¹ Reviewed records did not contain the laboratory report of the urine drug test, but the positive cannabis result was documented in provider notes. A hospital urine drug screen tests for a limited number of drugs without secondary testing to confirm positive results.

Cannabis (marijuana or hashish) may be smoked or ingested recreationally by users seeking mind-altering effects. Psychoactive effects of cannabis vary depending on the user, dose, and route of administration, and may impair motor coordination, reaction time, decision making, problem solving, and vigilance.^{2,3} Cannabis is a Schedule 1 controlled substance under federal law, but is legal for medicinal and adult recreational use under California state law.^{4,5} The FAA considers cannabis unsuitable for flying, regardless of state cannabis laws.^{6,7,8}

Acute impairing effects of cannabis typically last at least 1-2 hours after use, with return to baseline within about 3-7 hours, although some residual effects may persist longer, and the duration of acute effects may be increased at higher cannabis doses or when cannabis is used orally.^{2,9} Urine drug testing may remain positive for cannabis for days or weeks after last cannabis use, well past the time of acute impairment. As such, a positive cannabis result on a urine drug test does not necessarily indicate that a person is impaired.²

Submitted by:

Turan Kayagil, MD, FACEP
Medical Officer

² Couper FJ, Logan BK. Drugs and Human Performance Fact Sheets. National Highway Traffic Safety Administration. DOT HS 809 725. April 2014 (Revised). <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/809725-drugshumanperformfs.pdf>. Accessed October 3, 2023.

³ Compton RP. Marijuana-Impaired Driving: A Report to Congress. National Highway Traffic Safety Administration. DOT HS 812 440. July 2017. <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf>. Accessed October 3, 2023.

⁴ United States Drug Enforcement Administration. Marijuana. Drug Fact Sheets. <https://www.dea.gov/factsheets/marijuana>. Updated March 30, 2023. Accessed October 3, 2023.

⁵ State of California. California's cannabis laws. Department of Cannabis Control. <https://cannabis.ca.gov/cannabis-laws/laws-and-regulations>. Accessed October 3, 2023.

⁶ Federal Aviation Administration. Guide for aviation medical examiners: pharmaceuticals (therapeutic medications) do not issue - do not fly. Federal Aviation Administration website. https://www.faa.gov/ame_guide/pharm/dni_dnf. Updated July 10, 2023. Accessed October 3, 2023.

⁷ Federal Aviation Administration. Aeromedical factors. In: *Pilot's Handbook of Aeronautical Knowledge*. FAA-H-8083-25C. Oklahoma City: United States Department of Transportation, Federal Aviation Administration, Airman Testing Standards Branch, AFS-630; 2023. https://www.faa.gov/sites/faa.gov/files/19_phak_ch17.pdf. Accessed October 3, 2023.

⁸ Federal Aviation Administration. Controlled substances and CBD products. Guide for Aviation Medical Examiners. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/media/Controlled_Substances_and_CBD_Products.pdf. Updated May 25, 2022. Accessed October 3, 2023.

⁹ McCartney D, Arkell TR, Irwin C, McGregor IS. Determining the magnitude and duration of acute Δ^9 -tetrahydrocannabinol (Δ^9 -THC)-induced driving and cognitive impairment: a systematic and meta-analytic review. *Neurosci Biobehav Rev*. 2021;126:175-193. doi:10.1016/j.neubiorev.2021.01.003.