

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



WPR24FA123

MEDICAL

Specialist's Factual Report

March 16, 2026

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. MEDICAL SPECIALIST.....	3
C. DETAILS OF THE INVESTIGATION	3
1.0 PURPOSE	3
2.0 METHODS.....	3
D. FACTUAL INFORMATION.....	3
1.0 FAA MEDICAL CERTIFICATION RECORDS.....	3
2.0 PERSONAL MEDICAL RECORDS.....	4
3.0 AUTOPSY	5
4.0 TOXICOLOGY.....	6
4.1 Autopsy Toxicology.....	6
4.2 NMS Labs Toxicology.....	6
4.3 FAA Toxicology.....	7
4.4 Descriptions of Detected Substances	7
E. SUMMARY OF MEDICAL FACTS.....	8

A. ACCIDENT

Location: Derner, California
Date: April 9, 2024

B. MEDICAL SPECIALIST

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

C. DETAILS OF THE INVESTIGATION

1.0 Purpose

This investigation was performed to evaluate the pilot for potentially impairing or incapacitating medical conditions and substances.

2.0 Methods

The Federal Aviation Administration (FAA) medical case review and the pilot's FAA medical certification file were reviewed, as were the pilot's autopsy report (including NMS Labs toxicology report), record of death, and FAA Forensic Sciences Laboratory toxicology report. Pre-event personal medical records from the 3 years before the accident were requested from the pilot's primary care provider and a cardiology practice to which the pilot had been referred for a cardiac stress test; these records were reviewed. Selected National Transportation Safety Board (NTSB) investigator reports, scene photographs, and relevant regulation and medical literature were also reviewed, and the pilot's autopsy was discussed with the Medical Examiner who performed the autopsy.

D. FACTUAL INFORMATION

1.0 FAA Medical Certification Records

According to FAA records, the 69-year-old male pilot's last FAA aviation medical examination was February 9, 2024. At that time, he was 70 inches tall and weighed 249 pounds. He reported 6000 hours of total civilian flight time. He reported no medication use. He reported medical history including mild asthma and kidney removal in 2006 for kidney cancer. He also reported a history of medical certificate denial in 2006 related to a driving-under-the-influence (DUI) offense. His examination did not identify concerning findings, and he was issued a second-class medical

certificate limited by a requirement to use corrective lenses to meet vision standards at all required distances.

FAA records documented that the pilot had undergone right kidney removal for cancer that had been confined to the kidney. The pilot also had multiple past alcohol-related DUI offenses. The most recent documented offense had been in 2006 and had resulted in a July 2006 FAA medical certificate denial. In April 2007, after providing requested information to the FAA, the pilot had been granted an Authorization for Special Issuance of second-class medical certification with a history of kidney cancer and alcohol-related issues. In June 2011, he had received a Letter of Eligibility for second-class medical certification, releasing him from the requirements of his Authorization for Special Issuance.

2.0 Personal Medical Records

According to reviewed medical records from the pilot's primary care provider, in addition to the history of kidney removal for cancer, the pilot's medical history included chronic obstructive pulmonary disease (COPD) with components of both bronchitis and emphysema, in the setting of an 80-pack-year smoking history. The pilot also had a history of metabolic syndrome, with obesity, high blood pressure, and high cholesterol.

Two primary care visits were documented in reviewed records. The first was in October 2023. This was his initial visit to the practice, although the provider knew him from a previous clinic. At the visit, the pilot reported increasing shortness of breath for the past year and nighttime shortness of breath. His documented medications were fluticasone-salmeterol (an inhaled prescription combination of a medication to reduce airway inflammation and a medicine to relax airways; the pilot was noted to be using this for his COPD), levalbuterol (a prescription rescue inhaler that can be used as needed to relax airways; the pilot was noted to be using this occasionally for his COPD), and lisinopril (a prescription medication that the pilot was using to treat high blood pressure). The primary care provider noted that the pilot was followed by a lung specialist for his COPD, that the pilot's nighttime shortness of breath was likely related to his truncal obesity, and that his history of shortness of breath with exertion was (in combination with his examination) concerning for possible coronary artery disease. The provider documented that the pilot had no prior history of heart attack or stroke. The provider ordered further testing including laboratory studies to evaluate fatigue and cardiovascular risk. The provider also ordered coronary artery calcium scoring and referred the pilot to cardiology for a cardiac exercise stress test.

The pilot's next (and most recent) visit to his primary care provider was a follow-up visit in December 2023. At that visit, the pilot reported continued shortness of breath and occasional anxiety. He had completed his coronary artery calcium scoring, which indicated elevated cardiovascular disease risk and was interpreted as

placing him between the 50th and 75th percentile for a 69-year-old male. The primary care provider noted that the pilot had not yet completed ordered laboratory studies or cardiology follow-up and still needed to do so. Regarding the pilot's anxiety, the provider documented that the pilot believed it to be situational, used lorazepam (a prescription benzodiazepine medication) to good effect, and did not wish to start a daily medication. Lorazepam was documented as a home medication in the visit note, but only as a one time-dose to be used prior to a procedure (the procedure was not specified in reviewed records, but the plan of care included future magnetic resonance imaging for cancer surveillance, in coordination with the pilot's urologist). The pilot's home medication list otherwise contained the same medications as at his October 2023 visit.

Laboratory studies collected from the pilot the day after the December 2023 visit were reviewed. Fasting glucose and hemoglobin A1c values were consistent with prediabetes (elevated blood sugar that does not meet criteria for diabetes, but that indicates increased risk of developing diabetes and related cardiovascular complications). Apolipoprotein B was slightly high (moderate cardiovascular event risk category). Other conducted laboratory studies were generally unremarkable.

Records indicate that, as of the date of the pilot's last primary care visit, no cardiology provider was available at the referral location to perform cardiac exercise stress testing. This issue apparently was resolved, as the pilot underwent the exercise stress test on April 5, 2024. The pilot did not experience chest pain while exercising on the treadmill, and the test was ended due to fatigue. The test did not include cardiac imaging. The interpreting cardiologist concluded that the test showed non-ischemic electrocardiographic changes at an achieved heart rate of 93% of peak predicted heart rate, with an exaggerated blood pressure response, frequent premature atrial and ventricular contractions, and below-average functional capacity. The accident occurred 4 days after the stress test and no additional follow up of the test result was documented. Records from the cardiology practice did not include documentation of any cardiology visits apart from the exercise stress testing.

3.0 Autopsy

The Washoe County Regional Medical Examiner's Office performed the pilot's autopsy. According to the autopsy report and record of death, the pilot's cause of death was hypertensive and atherosclerotic cardiovascular disease, and his manner of death was natural. Morbid obesity and pulmonary emphysema were listed as significant conditions contributing to death.

The pilot's weight at autopsy was 279 pounds and his length was 69 inches. His heart was described as enlarged, and weighed 520 grams (normal heart weight is roughly 330-580 grams for a male of body weight 279 pounds). His left cardiac ventricle wall thickness was 1.7 cm (normal is roughly 0.9-1.6 cm), and his cardiac

interventricular septum thickness was 2 cm (normal is roughly 1-1.8 cm).¹ There was no dilation of the cardiac chambers. Coronary artery circulation was right-dominant. Coronary artery disease was present; it was described as slight, with focally calcific plaque causing up to 40% narrowing of the left anterior descending coronary artery, up to 30% narrowing of the right coronary artery, up to 20% narrowing of the left main coronary artery, and up to 10% narrowing of the left circumflex coronary artery. No recent coronary artery clot was identified, and no old heart muscle scarring was visible. Marked calcific aortic atherosclerosis was present, as was slight cerebral atherosclerosis. Pulmonary emphysema, fatty liver, and surgical absence of the right kidney and adrenal gland were noted. Microscopic examination of heart muscle showed moderate perivascular fibrosis, minimal interstitial fibrosis, and atherosclerotic disease of small arterioles, as well as enlarged heart muscle cells.

Traumatic injuries included fractures of the left sixth, seventh, and eighth ribs at the sternal border. No seatbelt mark was specifically described and there was no evidence of emergency resuscitation or medical therapy.² No other bony fractures were identified, including on full body radiographs. No traumatic injuries to internal organs were noted. No head traumatic injury was identified. The cervical spine was stable on internal palpation, and the anterior paravertebral musculature and prevertebral fascia were without hemorrhage. The spinal cord was not examined. Minimal soil and debris was present in the upper airways, and the sphenoid sinuses contained mud and fluid. Lung weights were not high for the pilot's body weight, and the lung tissue was well-aerated and slightly congested, exuding no fluid.

4.0 Toxicology

4.1 Autopsy Toxicology

According to the autopsy report, a rapid urine drug screen was conducted at the time of autopsy and was negative for screened-for common drugs of abuse.

4.2 NMS Labs Toxicology

At the request of the Medical Examiner's Office, NMS Labs performed toxicological testing of postmortem peripheral blood from the pilot. Caffeine was

¹ Kitzman DW, Scholz DG, Hagen PT, Ilstrup DM, Edwards WD. Age-related changes in normal human hearts during the first 10 decades of life. Part II (maturity): a quantitative anatomic study of 765 specimens from subjects 20 to 99 years old. *Mayo Clin Proc.* 1988;63(2):137-146. doi:10.1016/s0025-6196(12)64946-5.

² According to the NTSB IIC, the NTSB IIC on scene did not document any witness statements indicating resuscitative efforts involving chest compressions, and the pilot's body was recovered from shallow water, where performing chest compressions likely would have been difficult. Also notably, absence of a seatbelt mark at autopsy generally does not exclude the possibility that a restraint may have been in use at the time of a crash. [Chase J, Donaldson L, Duflo J, Gorrie C. Safety restraint injuries in fatal motor vehicle collisions. *Forensic Sci Med Pathol.* 2007;3(4):258-63. doi:10.1007/s12024-007-0040-3.]

presumptively detected (a screening test was positive but testing to confirm the positive result was not conducted).

4.3 FAA Toxicology

The FAA Forensic Sciences Laboratory also performed toxicological testing of postmortem specimens from the pilot.³ Desmethylsildenafil, albuterol, and lisinopril were detected in urine and were not detected in peripheral blood. Acetaminophen and salicylic acid were detected in peripheral blood and urine. Glucose was not detected in vitreous fluid or urine (normal result).

4.4 Descriptions of Detected Substances

Desmethylsildenafil is a metabolite of sildenafil. Sildenafil (which was not detected in this case) is a prescription medication commonly used to treat erectile dysfunction, as a sexual enhancement aid, or in the treatment of certain other conditions, including pulmonary hypertension. Sildenafil is not typically impairing, although the FAA states that pilots should wait 8 hours after using it before flying, to monitor for side effects.⁴

Albuterol is a prescription medication commonly used as needed to relax tight lungs and improve wheezing and cough in conditions such as asthma and COPD. The pilot's documented home medication levalbuterol is a form of albuterol. Albuterol is not typically impairing. According to the FAA medical case review for this accident, pilot use of albuterol as needed up to twice weekly is acceptable, but pilot medical certification on albuterol depends on the underlying condition.

Lisinopril is a prescription medication commonly used to treat high blood pressure, and was documented as one of the pilot's home medications in reviewed personal medical records. Acetaminophen is a pain- and fever-reducing medication widely available over the counter, including in cold and flu products. Salicylic acid is the primary active metabolite of aspirin, a widely available over-the-counter medication that can be used to control pain and fever and to reduce cardiovascular risk. Salicylic acid also is a metabolite of some other drugs and is used as a topical skin exfoliant in a variety of retail products. Caffeine is a central nervous system stimulant that commonly is ingested in coffee, tea, soft drinks, and chocolate. Caffeine also is an ingredient in certain anti-drowsiness medications and headache

³ The FAA Forensic Sciences Laboratory has the capability to test for around a thousand substances including toxins, prescription and over-the-counter medications, and illicit drugs.

⁴ Federal Aviation Administration. Pharmaceuticals (therapeutic medications) erectile dysfunction and benign prostatic hyperplasia medications. Guide for Aviation Medical Examiners. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/pharm/ed/. Updated August 25, 2017. Accessed March 12, 2026.

medications. Lisinopril, acetaminophen, salicylic acid/aspirin, and caffeine are not generally considered impairing.

E. SUMMARY OF MEDICAL FACTS

The 69-year-old male pilot's last FAA aviation medical examination was February 9, 2024. At that time, he reported no medication use. He reported medical history including mild asthma and kidney removal in 2006 for kidney cancer. He also reported a history of medical certificate denial in 2006 related to a driving-under-the-influence offense. He had a prior Letter of Eligibility related to his history of kidney cancer and alcohol-related issues. He was issued a second-class medical certificate limited by a requirement to use corrective lenses to meet vision standards at all required distance.

According to reviewed medical records from the pilot's primary care provider, in addition to the history of kidney removal for cancer, the pilot's medical history included chronic obstructive pulmonary disease (COPD) with components of both bronchitis and emphysema, in the setting of an 80-pack-year smoking history. The pilot also had a history of metabolic syndrome, with obesity, high blood pressure, and high cholesterol.

Two primary care visits were documented in reviewed records. The first was in October 2023. At the visit, the pilot reported increasing shortness of breath for the past year and nighttime shortness of breath. His documented medications included lisinopril and a form of albuterol, plus other COPD medication. The primary care provider ordered additional testing and referred the pilot to cardiology for a cardiac exercise stress test. The pilot's next (and most recent) visit to his primary care provider was a follow-up visit in December 2023. At that visit, the pilot reported continued shortness of breath and occasional anxiety. He had not yet completed ordered laboratory studies or cardiology follow-up. Laboratory studies collected from the pilot the next day included results consistent with prediabetes.

Records showed that, after some initial scheduling challenges, the pilot underwent an exercise stress test on April 5, 2024. The pilot did not experience chest pain while exercising on the treadmill. The interpreting cardiologist concluded that the test showed non-ischemic electrocardiographic changes, with an exaggerated blood pressure response, frequent premature atrial and ventricular contractions, and below-average functional capacity. The accident occurred 4 days after the stress test and no additional cardiac follow up of the test result was documented.

The Washoe County Regional Medical Examiner's Office performed the pilot's autopsy. According to the autopsy report and record of death, the pilot's cause of death was hypertensive and atherosclerotic cardiovascular disease, and his manner of death was natural. Morbid obesity and pulmonary emphysema were listed as

significant conditions contributing to death. The pilot's heart was described as enlarged and had a thickened left ventricle. Slight coronary artery disease was present in multiple coronary arteries, with maximum narrowing of 40%. No recent coronary artery clot was identified, and no old heart muscle scarring was visible. Microscopic examination of heart muscle tissue showed signs of microvascular disease and enlarged cells. Marked aortic atherosclerosis, slight cerebral atherosclerosis, pulmonary emphysema, fatty liver, and surgical absence of the right kidney and adrenal gland were noted. The left sixth, seventh, and eighth ribs were fractured at the sternal border. No other bony fractures or traumatic internal organ injuries were identified. Minimal soil and debris was present in the upper airways, and the sphenoid sinuses contained mud and fluid. The lungs were well-aerated and slightly congested, exuding no fluid.

Postmortem toxicological testing by the FAA Forensic Sciences Laboratory detected acetaminophen and salicylic acid in peripheral blood and urine. Desmethylsildenafil, albuterol, and lisinopril were detected in urine and were not detected in peripheral blood.

Submitted by:

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