

# National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA22FA004

## **MEDICAL**

Specialist's Factual Report

November 15, 2022

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## **A. ACCIDENT**

Location: Thomson, Georgia  
Date: October 5, 2021

## **B. MEDICAL SPECIALIST**

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## **C. DETAILS OF THE INVESTIGATION**

### **1.0 Purpose**

This investigation was performed to evaluate both pilots for medical conditions, the use of substances, and the presence of toxins.

### **2.0 Methods**

The Federal Aviation Administration (FAA) medical case review and the autopsy and toxicology reports for both pilots were reviewed. Selected National Transportation Safety Board (NTSB) investigator reports and relevant regulation and medical literature were also reviewed.

## **D. FACTUAL INFORMATION**

### **1.0 Captain**

#### **1.1 FAA Medical Case Review**

According to the FAA medical case review, the 73-year-old male captain had his last aviation medical examination on January 5, 2021. At that time, he reported 11,575 total civilian flight hours. He was 74 inches tall and weighed 215 pounds. He reported no medication use or active medical conditions. No significant issues were identified, and he was issued a first-class medical certificate limited by a requirement to wear corrective lenses and possess glasses for near/intermediate vision.<sup>1</sup>

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<sup>1</sup> By [FAA regulation](#), as of the accident date, the captain's medical certificate had expired for operations requiring first-class medical certification, but had not expired for operations requiring second-class medical certification (including the accident flight).

## **1.2 Autopsy**

The Georgia Bureau of Investigation, Division of Forensic Sciences performed the captain's autopsy. According to the autopsy report, the captain's cause of death was generalized blunt force trauma, and his manner of death was accident. His heart was enlarged, weighing 600 grams (the upper limit of normal is roughly 510 grams for a male of the captain's body weight).<sup>2</sup> There was moderate-to-severe atherosclerotic disease of his coronary arteries. Visual examination of his heart was otherwise unremarkable for natural disease. There was focally severe atherosclerosis of his aorta. Examination of his brain was limited due to the severity of injury. The autopsy did not identify any other significant natural disease.

## **1.3 Toxicology**

The FAA Forensic Sciences laboratory performed toxicological testing of postmortem specimens from the captain. No tested-for substances were detected.<sup>3</sup>

## **2.0 First Officer**

### **2.1 FAA Medical Case Review**

According to the FAA medical case review, the 63-year-old male first officer had his last aviation medical examination on March 10, 2021. At that time, he reported 11,500 total civilian flight hours. He was 69 inches tall and weighed 188 pounds. He reported a history of high blood pressure and diabetes. He reported using the prescription blood pressure medications hydrochlorothiazide, olmesartan, and losartan, as well as the prescription oral diabetes medication metformin. None of those medications is generally considered impairing. No significant issues were identified, and the Aviation Medical Examiner (AME) issued the first officer a second-class medical certificate, as an AME-Assisted Special Issuance.<sup>4</sup> This certificate was limited by a requirement to wear corrective lenses for near and distant vision and was not valid for any class after March 31, 2022.

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<sup>2</sup> 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.]

<sup>3</sup> The FAA Forensic Sciences laboratory has the capability to test for well over 1300 substances including toxins, prescription and over-the-counter medications, and illicit drugs. Some of these substances are listed at <https://jag.cami.jccbi.gov/toxicology>.

<sup>4</sup> AME-Assisted Special Issuance is a process by which an AME may re-issue a medical certificate under the provisions of an applicant's FAA Authorization for Special Issuance if the applicant provides specific required medical information from treating physician(s) as set forth in the Authorization letter. AMEs may not issue initial Authorizations, and AME-Assisted Special Issuance determinations are subject to review by the FAA. Additional information about the AME-Assisted Special Issuance process is available on the [FAA AME Guide website](#).

According to the medical case review, in May 2021 the FAA sent the first officer a Special Issuance letter for continued authorization for second-class medical certification for diabetes, chronic kidney disease, and high blood pressure.

## **2.2 Autopsy**

The Georgia Bureau of Investigation, Division of Forensic Sciences performed the first officer's autopsy. According to the autopsy report, his cause of death was generalized blunt force trauma, and his manner of death was accident. He had severe atherosclerotic disease of his coronary arteries. Visual examination of his heart was otherwise unremarkable for natural disease. He had focally severe atherosclerosis of his aorta. The autopsy did not identify any other significant natural disease.

## **2.3 Toxicology**

### **2.3.1 FAA Toxicology Results**

The FAA Forensic Sciences laboratory performed toxicological testing of postmortem specimens from the first officer.<sup>3</sup> Losartan, rosuvastatin, and acetaminophen were detected in cardiac blood and urine. The glucose levels in vitreous and urine were measured to be 13 mg/dL and 5 mg/dL, respectively.<sup>5</sup>

### **2.3.2 Descriptions of Detected Substances**

Losartan (sometimes marketed as Cozaar) is a prescription medication used to control high blood pressure.<sup>6</sup> Rosuvastatin (sometimes marketed as Crestor) is a prescription medication used to control cholesterol and lower cardiovascular risk.<sup>7</sup> Acetaminophen (sometimes marketed as Tylenol) is a pain- and fever-reducing medication widely available over the counter, both alone and as an ingredient in a variety of combination products.<sup>8</sup> Losartan, rosuvastatin, and acetaminophen generally are not considered impairing.

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<sup>5</sup> According to [its website](#), the FAA Forensic Sciences Laboratory considers glucose (sugar) levels in vitreous and urine to be abnormal if above 125 mg/dL and 100 mg/dL, respectively. The choice of these values is discussed in FAA Aerospace Medicine Technical Report [DOT/FAA/AM-00/22](#).

<sup>6</sup> National Institutes of Health National Library of Medicine. Cozaar. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=9949448f-c3b9-44ee-94ed-c1aca8c90f39>. Updated June 1, 2022. Accessed November 8, 2022.

<sup>7</sup> National Institutes of Health National Library of Medicine. Crestor. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=325a5d0e-9a72-4015-9fcd-1655fb504cee>. Updated May 9, 2022. Accessed November 8, 2022.

<sup>8</sup> National Institutes of Health National Library of Medicine. Tylenol Extra Strength. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bb6533e5-e6a9-488c-b8ab-a6a06e87ede9>. Updated May 25, 2022. Accessed November 8, 2022.

## **E. SUMMARY OF MEDICAL FACTS**

### **1.0 Captain**

The 73-year-old male captain had his last aviation medical examination on January 5, 2021. At that time, he reported no medication use or active medical conditions. He was issued a first-class medical certificate limited by a requirement to wear corrective lenses and possess glasses for near/intermediate vision.

According to the captain's autopsy report, his cause of death was generalized blunt force trauma, and his manner of death was accident. His heart was enlarged, weighing 600 grams. There was moderate-to-severe atherosclerotic disease of his coronary arteries. There was focally severe atherosclerosis of his aorta. Examination of his brain was limited due to the severity of injury. The autopsy did not identify any other significant natural disease.

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens from the captain. No tested-for substances were detected.

### **2.0 First Officer**

The 63-year-old male first officer had his last aviation medical examination on March 10, 2021. At that time, he reported a history of high blood pressure and diabetes. He reported using the prescription blood pressure medications hydrochlorothiazide, olmesartan, and losartan, as well as the prescription oral diabetes medication metformin. None of those medications is generally considered impairing. The Aviation Medical Examiner (AME) issued the first officer a second-class medical certificate as an AME-Assisted Special Issuance. The certificate was limited by a requirement to wear corrective lenses for near and distant vision and was not valid for any class after March 31, 2022. In May 2021, the FAA sent the first officer a Special Issuance letter for continued authorization for second-class medical certification for diabetes, chronic kidney disease, and high blood pressure.

According to the first officer's autopsy report, his cause of death was generalized blunt force trauma, and his manner of death was accident. He had severe atherosclerotic disease of his coronary arteries and focally severe atherosclerosis of his aorta. The autopsy did not identify any other significant natural disease.

The FAA Forensic Sciences Laboratory performed toxicological testing of postmortem specimens from the first officer. Losartan, rosuvastatin, and acetaminophen were detected in cardiac blood and urine. These medications generally are not considered impairing. The glucose levels in vitreous and urine were measured to be 13 mg/dL and 5 mg/dL, respectively.

Submitted by:

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