



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

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Chief Medical Officer

A. ACCIDENT: ERA16LA028; Pascagoula, MS

On October 26, 2015, about 1237 central daylight time, an experimental, amateur-built Lancair Super ES, N817PR, operated by a private individual, was presumed destroyed after it impacted the Mississippi Sound, in the vicinity of Pascagoula, Mississippi. The commercial pilot and two passengers were presumed fatally injured. The airplane departed from Gulfport-Biloxi International Airport (GPT), Gulfport, Mississippi, about 1220. Visual meteorological conditions prevailed at the departure airport. No flight plan had been filed for the personal flight that was conducted under the provisions of 14 Code of Federal Regulations Part 91.

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 pilot for any medical conditions, the use of any medications/illicit drugs, and the presence of any toxins.

2. Methods

The FAA medical case review, personal medical records, and the investigator's reports were reviewed. No toxicology results or autopsy report were available as the pilot's body was not recovered. However, the pilot's flight bag was recovered from his hangar and the medications it contained were reviewed.

FAA Medical Case Review

According to the FAA files, the 68 year old male pilot reported 4,441 total flight hours as of his last aviation medical exam, dated 9/26/2014. At that time he was 71 inches tall and weighed 185 pounds. He had previously

(2003) reported the use of atorvastatin (a cholesterol lowering medication also called Lipitor¹) and had reported orthopedic surgery for his knees but had not reported any chronic medical problems or any medication use to the FAA in recent years. At his last exam, he was issued a third class medical certificate without limitations.

Flight Bag Contents: Prescription Pill Bottles

The pilot's flight bag contained the following prescription bottles containing pills whose imprints were consistent with the labeling:

- Aspirin 325 mg
- Miralax
- Naproxen 500 mg tablets
- Prednisone 5 mg tablets
- Nexium 24hr
- Losartan Potassium 25 mg tablets
- Metoprolol Succ ER 25 mg
- Ranexa EX, 500 mg tablets
- Isosorbide MN ER 30 mg tablets
- Atorvastatin 10 mg tablets
- Donepezil HCL 10 mg tablets
- Carbamazepine 200 mg tablets
- Lamotrigine 200 mg tablets
- Cyclobenzaprine 10 mg tablets
- Tizanidine HCL 4 mg tablets
- Clonazepam 0.5 mg tablets

Aspirin is an anti-inflammatory analgesic that also has anti-platelet properties and can help prevent heart attacks. Miralax is used to treat constipation.² Naproxen is an anti-inflammatory analgesic available over the counter and by prescription with the names Aleve and Naprosyn, respectively.³ Prednisone is an oral steroid used to treat inflammatory conditions.⁴ Nexium (generic name esomeprazole) is used to treat heartburn and is available over the counter as well as by prescription.⁵

¹ National Institutes of Health. US National Library of Medicine. DailyMed. Atorvastatin.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=6ccdb6f3-22c7-5b48-46bc-ce4a4c65eb4d>
Accessed 6/29/2017.

² National Institutes of Health. US National Library of Medicine. DailyMed. Miralax.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=d69ce3d4-7ca4-4fe3-b49e-6655e48d6963>
Accessed 6/15/2017.

³ National Institutes of Health. US National Library of Medicine. DailyMed. Naproxen.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=8e150c00-8e5b-40b4-a964-cb70442c2752>
Accessed 6/15/2017.

⁴ National Institutes of Health. US National Library of Medicine. DailyMed. Prednisone.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=e9d6774e-45f6-419f-b388-8dfb4dd34944>
Accessed 6/15/2017.

⁵ National Institutes of Health. US National Library of Medicine. DailyMed. Nexium 24hr.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=61f67858-ba2f-449b-8b30-c15cdaf49222>
Accessed 6/15/2017.

Losartan and metoprolol are blood pressure medications.^{6,7} Ranexa, a trade name for ranolazine, is used to treat chronic angina (chest pain from coronary artery disease).⁸ Isosorbide is a form of nitroglycerine and is used to treat angina.⁹ Atorvastatin, also called Lipitor, is used to treat high cholesterol. Donepezil, also called Aricept, is indicated for the treatment of dementia caused by Alzheimer's disease.¹⁰ Carbamazepine and lamotrigine are anti-seizure medications that are also used to treat mood disorders; carbamazepine is considered potentially impairing while lamotrigine is not.^{11,12} Cyclobenzaprine, also called Flexeril, is a sedative used as a muscle relaxant. Tizanidine, also called Zanaflex, is a short acting muscle relaxant intended to treat spasticity. It is sedating and can cause patients to hallucinate.¹³ Clonazepam is a sedating benzodiazepine used to treat anxiety.¹⁴

Personal Medical Records

Records of the pilot's medical and psychiatric care were obtained from physicians who had written the identified prescriptions.

Cardiologist A

Records from a single visit to a cardiologist dated September 16, 2014 note the pilot was complaining of worsening indigestion and intestinal bleeding for which he was seeing a gastroenterologist. His past medical history was noted to include rheumatoid arthritis, coronary artery disease

⁶ National Institutes of Health. US National Library of Medicine. DailyMed. Losartan. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=3cdcf8cc-4964-4c53-e054-00144ff88e88> Accessed 6/15/2017.

⁷ National Institutes of Health. US National Library of Medicine. DailyMed. Metoprolol. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=2d948600-35d8-4490-983b-918bdce488c8> Accessed 6/15/2017.

⁸ National Institutes of Health. US National Library of Medicine. DailyMed. Ranexa. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=8d442b8c-97a8-40a9-8603-f9cd0542cedc> Accessed 6/15/2017.

⁹ National Institutes of Health. US National Library of Medicine. DailyMed. Isosorbide. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=f49c1f6c-9466-4940-8fae-9e78b28c1942> Accessed 6/15/2017.

¹⁰ National Institutes of Health. US National Library of Medicine. DailyMed. Donepezil. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=11ac01f4-d26e-47b2-9660-d514ab097fdb> Accessed 6/15/2017.

¹¹ National Institutes of Health. US National Library of Medicine. DailyMed. Carbamazepine. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c13bc0b8-7900-4ef4-98ed-e1315a08d95d> Accessed 6/15/2017.

¹² National Institutes of Health. US National Library of Medicine. DailyMed. Lamotrigine. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=0b0f0209-edbd-46f3-9bed-762cbea0d737> Accessed 6/15/2017.

¹³ National Institutes of Health. US National Library of Medicine. DailyMed. Tizanidine. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=42097235-fa5f-4052-a558-763116afd58d> Accessed 6/15/2017.

¹⁴ National Institutes of Health. US National Library of Medicine. DailyMed. Clonazepam. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=ebc11109-e7bf-452d-b675-4b3236d54164> Accessed 6/15/2017.

with a history of a stent placement in a long segment of the left anterior descending coronary artery in November 2013, and high cholesterol

Cardiologist B

Records from a second cardiologist dated January 20, 2015 documented the pilot had rheumatoid arthritis, hypertension, high cholesterol, and coronary artery disease with recurrent chest pain. He had been stented in November 2013 and re-presented with exercise related chest pain. A repeat catheterization in December 2013 identified a 60% stenosis in the area of the ostia of the left anterior descending coronary artery and more mild disease in the circumflex and right coronary arteries for which medical management was planned. Since the pilot continued to complain of exercise related chest pain, a nuclear medicine myocardial perfusion stress test was performed on the visit date which did not identify any ischemia.

Rheumatologist

Records from the treating rheumatologist from September 2012 through October 2015 were obtained and reviewed. The pilot was treated for rheumatoid arthritis with a variety of medications over this period. His previous surgical history included bilateral rotator cuff surgery and bilateral total knee replacements. At the time of his last visit, September 28, 2015, the pilot's medications included those listed above as well as leflunomide, an immune modulator intended for the treatment of rheumatoid arthritis and also marketed with the name Arava.¹⁵ The rheumatologist also gave the pilot a prescription for alprazolam, a sedating benzodiazepine commonly marketed with the name Xanax.¹⁶

Neuropsychiatrist

Specific laws in Louisiana limit access to original psychiatric records. According to letters from the pilot's neuropsychiatrist, the pilot had been treated since 2003 for "mood disorder not otherwise specified." He had been placed on donepezil in 2007 not for Alzheimer's but because, "There is substantial research to support the use of this drug to promote and enhance focus in individuals that need supplemental assistance. In order to avoid use of psychotropic medications this particular medication was chosen for the needed effect."

In letter dated February 27, 2017, the treating clinician noted "med check" appointments every 6 months starting in 2012. Medications at that time

¹⁵ National Institutes of Health. US National Library of Medicine. DailyMed. Lefunomide. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c288d1d3-3fbe-4c34-a28a-923d515809b3> Accessed 6/15/2017.

¹⁶ National Institutes of Health. US National Library of Medicine. DailyMed. Xanax <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=388e249d-b9b6-44c3-9f8f-880eced0239f> Accessed 6/15/2017.

were carbamazepine 200 mg twice a day for mood, clonazepam 0.5mg three times a day for stress, cyclobenzaprine 10 mg four times a day for shoulder and knee pain, lamotrigine 200 mg twice a day for mood, and donepezil 10 mg once a day for clarity. Diagnoses noted in the letter were Axis I (psychiatric diagnoses): mood disorder not otherwise specified; Axis IV (contributing psychosocial issues): Moderate psychosocial stress to include family and business issues; Axis V: Global Assessment of Functioning: 70 (out of 100).¹⁷ The pilot's psychiatric medications were described as "stable" over the preceding 5 years.

D. SUMMARY OF MEDICAL FINDINGS

The 68 year old male pilot had reported no chronic medical conditions and no recent medications to the FAA as of his last medical exam, dated 9/26/2014. Review of personal medical records revealed a long history of rheumatoid arthritis, hypertension, high cholesterol, and a mood disorder. More recently, he had a diagnosis of severe coronary artery disease made in 2013 and required stents to reopen the left anterior descending coronary artery. He had a narrowing of the opening to that vessel that was not amenable to stenting and had persistent angina. In addition, he had heartburn and bleeding in his gastrointestinal tract diagnosed in January 2015. At the time of the accident, his prescribed medications that are not generally considered impairing included miralax, naproxen, prednisone, ranexa, esomeprazole, losartan, metoprolol, isosorbide, atorvastatin, donepezil, lamotrigine, and leflunomide. Those that are potentially impairing were: carbamazepine, cyclobenzaprine, tizanidine, clonazepam, and alprazolam.

¹⁷ According to DSM-IV-TR, p. 34, a GAF score of 70 equates to "Some mild symptoms (e.g. depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships."