

# Difficult Diagnosis



**Physicians can't always identify a pilot's depression or other mental problems during an aeromedical exam.**

BY LINDA WERFELMAN

**M**ental health problems, often difficult to diagnose during aeromedical exams, have rarely factored in airline accidents and incidents (see “Related Accidents,” p. 30).

Official accident reports attribute a handful of crashes to a pilot's deliberate action, citing a “psychosomatic disorder,” a suicide attempt or some unexplained motive. In some cases, those conclusions were challenged.

Most recently, the lawyer representing a JetBlue captain told a federal court that his client would plead that he was insane during a March 27 flight in which he allegedly turned off the radios, told his first officer on the Las Vegas-bound Airbus A320 that “we need to take a leap of faith” and “we're not going to Vegas,” and began yelling about Jesus and terrorists.<sup>1,2</sup>

## Related Accidents

Official reports have cited the pilot’s mental condition in very few accidents. Among them are the following:

- A Japan Air Lines McDonnell Douglas DC-9 crashed into Tokyo Bay, 510 m (1,673 ft) short of the Runway 33R threshold at Tokyo International Airport, on Feb. 9, 1982. In the final seconds of the flight, as the airplane descended through 164 ft, the captain shut off the autopilot, pushed the control wheel forward and tried to reduce power to the engines. The first officer tried unsuccessfully to regain control of the airplane. Twenty-four people in the airplane were killed in the crash, and the airplane was destroyed. The captain had returned to duty in November 1981, after a year off because of a “psychosomatic disorder.”<sup>1</sup>
- A Royal Air Maroc ATR 42 crashed in the Atlas Mountains of Morocco about 10 minutes after takeoff from Agadir on Aug. 21, 1994. All 44 people in the airplane were killed, and the airplane was destroyed. Investigators said that the pilot disconnected the autopilot and put the airplane into a steep dive. The Moroccan Pilots’ Union challenged the findings.<sup>2</sup>
- An EgyptAir Boeing 767 crashed into the Atlantic Ocean about 30 minutes after takeoff from John F. Kennedy International Airport in New York on Oct. 31, 1999, killing all 217 passengers and crew. The U.S. National Transportation Safety Board (NTSB) said the relief first officer, alone in the cockpit, had disconnected the autopilot, moved the throttle levers to idle, pushed the elevator control forward and shut down the engines. The captain returned to the cockpit and tried unsuccessfully to recover the airplane. The NTSB said the probable cause of the accident was “the relief first officer’s flight control inputs,” which could not be explained. The Egyptian Civil Aviation Authority disputed the NTSB’s conclusion, which it said was “not supported by any evidence of intent or motive that would explain the first officer’s alleged conduct.”<sup>3</sup>

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### Notes

1. Aviation Safety Network. Accident Description. <aviation-safety.net/database/record.php?id=19820209-0>.
2. Aviation Safety Network. Accident Description. <aviation-safety.net/database/record.php?id=19940821-1>.
3. NTSB. *Aircraft Accident Brief NTSB/AAB-02/01: EgyptAir Flight 990, Boeing 767-366ER, SUGAP; 60 Miles South of Nantucket, Massachusetts; October 31, 1999.*

The U.S. Federal Bureau of Investigation (FBI) said that after the captain left the cockpit for the lavatory, the first officer asked an off-duty JetBlue pilot to come to the cockpit to assist with the remainder of the flight, locked the captain out and declared an emergency.

Ultimately, passengers and flight attendants restrained the captain while the first officer landed the A320 in Amarillo, Texas, the FBI said. The captain was taken to a facility for medical evaluation and charged in a federal criminal complaint with interfering with a flight crew.

### ‘Incredibly Difficult’

Aeromedical specialists say it is easy for a pilot’s mental problems to go unnoticed during routine flight physicals.

“This is incredibly difficult to diagnose,” said Dr. Quay Snyder, the president/CEO of Aviation Medicine Advisory Service and its parent company, Virtual Flight Surgeons.

“Most pilots will minimize any problems that they have,” added Snyder, also the aeromedical adviser to the Air Line Pilots Association, International. “And very few medical examiners have the savvy to diagnose a problem like this.”

Dr. Anthony Evans, chief of the International Civil Aviation Organization (ICAO) Aviation Medicine Section, said that “the diagnosis of a mental illness depends on a variety of aspects. ... It is harder to diagnose depression than schizophrenia, for example, because in the latter, the speech/behavior may be bizarre, the individual having lost touch with reality in one way or another. For more common mental illnesses, such as depression, it can be difficult to diagnose if the individual chooses to withhold information that would lead to the diagnosis. This might be the case if the pilot knows the regulatory authority does not permit the use of antidepressants.”

In the United States and many other countries, pilots are asked during aeromedical exams if they have a history of mental disorders. An affirmative answer “requires investigation through supplemental history taking,” the U.S. Federal Aviation Administration (FAA) says in its *Guide for Aviation Medical Examiners*.<sup>3</sup>

### ‘Appropriate Questions’

Evans said that a designated medical examiner is more likely to make an accurate diagnosis of a mental problem if “he provides an atmosphere of concern, he asks appropriate questions and

the regulatory authority is known to treat such individuals in a supportive way.”

The ICAO *Manual of Civil Aviation Medicine* includes several series of suggested questions intended to serve as a “starting point” in talking with pilots about depression, anxiety/panic attacks and other conditions.<sup>4</sup>

For example, the manual suggests that pilots be asked, orally or in writing, if during the preceding three months, they have “often been bothered by feeling down, depressed or hopeless, ... by having little interest or pleasure in doing things” or by having difficulty sleeping. Pilots also should be asked if they have experienced “a marked elevation in your mood” that persisted for a week or more, the manual says.

The questions are intended primarily for pilots under age 40 who are seeking Class 1 medical certificates, which typically are required of airline pilots. The manual suggests that regulatory authorities consider allowing medical examiners to incorporate such questions into discussions with pilots about mental health — part of a recommended effort to devote more attention to the prevention and early recognition of physical and mental health problems. At the same time, the manual suggests that, for pilots younger than 40, medical examiners could omit some of the more routine examination items.

Evans said that the recommendation was incorporated into the manual because “we tend to require an almost identical medical examination throughout a pilot’s career, whereas the risk of particular illnesses varies greatly, depending on age. ... Performing a physical examination every year in the under-40 age group is not likely to be very productive. The time would be better spent talking to the pilot to address some of the ‘soft’ issues of aviation medicine, like mental and behavioral problems.”

## New Rules

In recent years, civil aviation authorities in some countries have modified their previous bans on the use of antidepressants to allow some pilots to fly while taking specific medications.

The FAA adopted such a policy in 2010, when it began considering, on a case-by-case basis, the special issuance of medical certificates to pilots with mild to moderate depression, provided those pilots had been treated for at least 12 months with one of four specific medications in a class of antidepressants known as selective serotonin reuptake inhibitors (SSRIs).<sup>5</sup>

When the FAA announced the new policy, Dr. Fred Tilton, the federal air surgeon, said that FAA officials were well aware that “there are pilots who are depressed and flying without proper treatment. We are also aware that there are pilots who have been using these medications and falsifying their medical applications.” The policy changes were intended, he said, to encourage those in the first group to seek treatment and those in the second group “to come forward without fear of civil enforcement action.”<sup>6</sup>

Two years later, FAA data show that 92 applicants for medical certificates (including 20 who sought first-class certificates) had received special issuances associated with their antidepressant use. Fourteen applicants (including two who sought first-class certificates) were denied, and 25 cases (including eight first-class cases) were pending.

Snyder, whose offices deal with pilot inquiries involving all types of medical issues, said that in 2011, 18 percent of the 12,000 total inquiries dealt with mental health issues, including depression, one of the most common mental disorders.

He estimated that the percentage of pilots with depression is probably about the same as the percentage of the general public affected by the ailment.

“Everyone’s susceptible to this disease,” he said, noting that the number of inquiries “always spikes when there are [airline] bankruptcies and furloughs, and when corporate flight departments close or downsize.”

Other countries have allowed the use of antidepressants by pilots far longer than has the United States. For example, in Australia,

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supervised use of antidepressants by pilots and air traffic controllers has been permitted since 1987, and a study published in 2007 found “no evidence of adverse safety outcomes,” as long as “specific criteria” were met.<sup>7</sup>

The “specific criteria” included removing the pilot or controller from duty while the antidepressant was being introduced to ensure that the medication would not cause side effects that might interfere with work.

Transport Canada (TC), which conducted a lengthy study of a small number of pilots who took specific antidepressants, now says in its *Handbook for Civil Aviation Medical Examiners* that aviation personnel taking SSRIs will be considered on a case-by-case basis for medical certification.

The handbook cautions that scrutiny will be most intense for those applying for Category 1 medical certificates — required for airline transport pilots and some other commercial pilots in Canada — because they “will be in a position where the safety of the fare-paying public is front and center, and expectations about the pilot’s medical competency and stability are high. While not a pure medical factor, the potential for future interruptions in the pilot’s career path and disruptions to his future employer cannot be dismissed entirely. Training costs are high, and potential problems that can be predicted cannot be ignored, both for [the] person and the system.”<sup>8</sup>

ICAO retains its recommendation that an applicant who has been treated with antidepressants should be denied medical certification “unless the medical assessor, having access to the details of the case concerned, considers the applicant’s condition as unlikely to interfere with the safe exercise of the applicant’s license and rating privileges.”

However, the manual also recommends conditions to be met before granting medical certification to an applicant taking an approved SSRI. The applicant must be “stable on an established and appropriate dose of medication for at least four weeks,” must undergo regular clinical reviews and “demonstrate symptoms of depression being well controlled,” the manual

says. In addition, the applicant should show no irritability or anger, have a normal sleep pattern and have resolved “any significant precipitating factors of the depression.”

In an appendix to the ICAO *Manual of Civil Aviation Medicine*, an article by Evans and other leaders in aviation medicine says that, in dealing with depression, “a more effective safety strategy [would be] both to accept the use of certain selected antidepressants and to structure the routine aeromedical examination to better identify those who may benefit from psychiatric intervention than it would be to try and continue to exclude all pilots with depressive disorders and to institute additional measures to try and increase their detection.”<sup>9</sup>

**Notes**

1. FBI. *JetBlue Pilot Charged With Interference With a Flight Crew*. March 28, 2012.
2. Makris, Ioanna. *JetBlue Pilot Who Had Midair Meltdown to Plead Insanity—Filing*. Reuters. April 18, 2012.
3. FAA. *Guide for Aviation Medical Examiners*. <faa.gov/about/office\_org/headquarters\_offices/avs/offices/aam/ame/guide>.
4. ICAO. Doc 8984, *Manual of Civil Aviation Medicine — Third Edition*, Part 1, Chapter 2. Montreal. 2012.
5. The medications are fluoxetine (Prozac), sertraline (Zoloft), citalopram (Celexa) and escitalopram (Lexapro).
6. Tilton, Fred. “Understanding the New Antidepressant Policy.” *Federal Air Surgeon’s Medical Bulletin* Volume 48 (No. 2) 2010.
7. Ross, James; Griffiths, Kathleen; Dear, Keith; Emonson, David; Lambeth, Len. “Antidepressant Use and Safety in Civil Aviation: A Case-Control Study of 10 Years of Australian Data.” *Aviation, Space, and Environmental Medicine* Volume 78 (August 2007): 749–755.
8. TC. TP 13312, *Handbook for Civil Aviation Medical Examiners*. “Psychiatry (SSRIs).”
9. Evans, Anthony D.; Watson, Dougal B.; Evans, Sally A.; Hastings, John; Singh, Jarnail; Thibeault, Claude. “Safety Management as a Foundation for Evidence-Based Aeromedical Standards and Reporting of Medical Events.” *Aviation, Space, and Environmental Medicine* Volume 80 (June 2009): 511–515.