



Regulations Allow Pilots With Depression To Fly After Successful Treatment

Pilots are prohibited from flying while undergoing treatment for the disorder, but one study is being conducted to determine whether some can fly safely while taking antidepressants.

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FSF Editorial Staff

Civil aviation regulations worldwide prohibit pilots with depression — and pilots taking medication for depression — from flying (see “Symptoms of Depression,” page 2). Nevertheless, many countries allow pilots to regain their medical certificates after they successfully complete their treatment. In addition, one study is under way to determine whether some pilots can fly safely while undergoing treatment with medication for the disorder.

About 340 million people worldwide have depression, a disorder classified by the United Nations World Health Organization (WHO) as a leading cause of disability.¹

WHO defines depression as “a common mental disorder [with symptoms that include] depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration.”

Depression includes a variety of conditions. The term refers to more than a feeling of sadness that typically persists no longer



than a few days. Medically diagnosed depression is characterized by “sadness and anxiety ... of a much greater degree, causing an alteration of job [performance] and social performance,” said Russell B. Rayman, M.D., executive director of the Aerospace Medical Association.²

The International Civil Aviation Organization (ICAO) classifies depression as a “mental abnormality” and says that, to receive a medical certificate, a pilot should have no medical history or clinical diagnosis of such an abnormality.³

Claus Curdt-Christiansen, M.D., chief of ICAO’s aviation medicine section, said that no civil aviation regulatory authority in any of ICAO’s contracting states would “allow a person with a significant amount of depression” to be issued a medical certificate or to fly an aircraft while being treated with medication for depression.⁴

“The medication itself might make [flying] dangerous,” he said, referring to possible side effects such as drowsiness,

high blood pressure or low blood pressure, confusion, arrhythmia (an irregular heartbeat) and central nervous system dysfunction.

Depression is the second-most common form of psychiatric disorder. (The most common is anxiety.)⁵ Typically, depression begins during an individual's twenties, thirties or forties with episodes that continue for six months to nine months, although in some cases, the episodes last two years or longer. Similar episodes may recur several times during an individual's lifetime.

The causes of depression are not known, although some medical specialists believe that a chemical imbalance in the brain may be involved. Factors that may contribute to the likelihood that an individual will experience depression include heredity, the side effects of some medications and emotionally disturbing events, especially events that involve a personal loss. Depression also may result from physical diseases such as thyroid disease, which can alter hormone levels and lead to depression, and from medications such as those used to treat high blood pressure. Depression is twice as common in women as in men, perhaps because of fluctuating hormone levels before menstruation, after childbirth and when contraceptives are used.

The symptoms of depression typically develop gradually, generally beginning with sadness, irritability or anxiety. The individual may appear withdrawn, become restless, lose interest in activities he or she once enjoyed, and experience changes in typical eating habits and sleeping habits. Other symptoms include indecisiveness; a lack of energy; feelings of hopelessness, helplessness, guilt and worthlessness; and thoughts of death and suicide.

Rayman said, "Of those patients who have had depression, 15 percent will eventually die by their own hand; also, 45 [percent] to 70 percent of those who commit suicide have had depression."⁶

Nevertheless, suicide and attempted suicide are infrequent among pilots, as is the use of an aircraft as the instrument of suicide.⁷

In rare instances, suicide has been reported as a factor in air carrier accidents. Such findings generally are controversial. In one instance, reported by the U.S. Federal Aviation Administration (FAA), an Air Botswana pilot — angry that he had been grounded by airline management because of health problems — took an ATR-42 passenger airplane without authorization on Oct. 11, 1999, and flew the airplane into two other ATR-42s, which were parked on the apron at Sir Seretse Kahama International Airport in Gaborone, Botswana. The pilot was the only person killed.⁸

U.S. National Transportation Safety Board accident reports from 1990 through 2000 include about one dozen accidents

Symptoms of Depression

The following typically are considered symptoms of depression:

- A persistent feeling of sadness, irritability or anxiety that develops gradually over a period of days or weeks;
- Loss of interest or loss of pleasure in activities that once were enjoyable;
- Changes in sleeping habits (either difficulty sleeping or oversleeping);
- Changes in eating habits and weight (either loss of appetite and weight loss or increased appetite and weight gain);
- Fatigue or loss of energy;
- Restlessness;
- Minor physical complaints that do not respond to treatment (such as headaches, backaches, dizziness or pain);
- Indecisiveness, forgetfulness and difficulty concentrating;
- Feelings of guilt, hopelessness, helplessness or worthlessness; and,
- Thoughts of death or suicide.

Depression differs from sadness. The U.S. National Institute of Mental Health says, "In contrast to the normal emotional experiences of sadness, loss or passing mood states, depression is extreme and persistent and can interfere significantly with an individual's ability to function."

The U.S. National Mental Health Association says that an individual should be examined by a physician or mental health professional if he or she experiences five or more of the symptoms listed above for longer than two weeks or if the symptoms are so severe that they interfere with daily routines.♦

Source: Berkow, Robert, ed. 1997. *The Merck Manual of Medical Information—Home Edition*. Whitehouse Station, New Jersey, U.S.: Merck Research Laboratories, 402–407; U.S. National Institute of Mental Health; and U.S. National Mental Health Association.

— all involving U.S. general aviation aircraft — in which the probable cause of the accident was the pilot's suicide or attempted suicide.⁹

Depression can take other forms, including dysthymia, a chronic but less severe form of depression. Dysthymia is diagnosed when an individual's depressed mood continues for at least two years and is accompanied by at least two other symptoms of depression.¹⁰

Another form of depression is seasonal affective disorder (SAD), which occurs during winter because of fewer hours of daylight. SAD may occur because the body's production of the sleep-related hormone melatonin is increased during darkness.¹¹ The U.S. National Mental Health Association said that, although research has not proved the benefits, many people with SAD appear to benefit from therapy involving exposure to bright light.

Depression is one element of bipolar disorder, also known as manic depression, in which periods of depression alternate with periods of mania (excessive physical activity and emotional elation). The disorder results in extreme shifts in an individual's mood, energy and ability to function. Bipolar disorder typically begins early in adulthood but may begin during childhood or adolescence, and, as the disorder progresses, episodes of depression, mania or a mixture of the two typically recur with increasing frequency.

When untreated, an episode of depression may last six months or longer. Afterward, an individual resumes normal functioning. People who experience one episode of depression typically experience others, usually four episodes or five episodes during their lives.¹²

Treatment of depression typically involves medication or psychotherapy, or both. Several types of antidepressants are available: selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants and monoamine oxidase inhibitors (MAOIs).

SSRIs are a relatively new type of antidepressant that generally causes fewer side effects than the other types of medications. The SSRIs include fluoxetine (brand name Prozac), paroxetine (brand name Paxil) and sertraline (brand name Zoloft). SSRIs are considered especially effective in treating dysthymia and other disorders that often exist along with depression, such as obsessive-compulsive disorder, social phobias and bulimia (an eating disorder characterized by over-eating and self-induced vomiting). Side effects of SSRIs — which are most common during the first days or weeks of use — include decreased appetite, nausea, diarrhea, nervousness, insomnia, headaches and sexual dysfunction.

Tricyclic antidepressants may cause sedation, decreased blood pressure, increased heart rate, dry mouth, blurred vision, constipation, difficulty urinating, confusion, and a worsening of glaucoma. These medications include amitriptyline (brand name Elavil), desipramine (brand name Norpramin), imipramine (brand name Tofranil) and nortriptyline (brand name Pamelor).

MAOIs are prescribed in rare cases, typically for people whose conditions have not been improved by the use of other types of medication. MAOIs include phenelzine (brand name Nardil) and tranylcypromine (brand name Parnate). People taking MAOIs must adhere to diets that exclude tyramine, found in

some beers, red wine, over-ripe foods, salami, fava beans, yeast extract and soy sauce. They also must avoid phenylpropanolamine and dextromethorphan, which are ingredients in many over-the-counter cold remedies and cough medicines, because they can cause the body to release adrenaline, which can lead to a dramatic increase in blood pressure. People taking MAOIs may be provided an antidote, with instructions to take it immediately if they experience a severe headache and then to go to a hospital emergency room.

Psychostimulants, such as methylphenidate, also are prescribed for depression, but their use is rare and typically is limited to people whose conditions have not been improved by the use of other antidepressants and to elderly convalescent patients.

Some forms of psychotherapy — either alone or in combination with medication — are used to treat depression. Cognitive-behavioral therapy (designed to change patterns of negative thinking) may help change an individual's feelings of hopelessness; interpersonal therapy (designed to improve interpersonal skills, communication skills and an individual's self-image) may focus on how to cope with grief, interpersonal relationships and major lifestyle changes.

Other, less frequently used, treatments include electroconvulsive therapy, which generally is reserved for people with severe depression, especially when the individual has threatened to commit suicide or is psychotic. Treatment involves placing electrodes on the head and applying an electric current to cause a seizure in the brain. Medical specialists are unsure why the seizure relieves depression.¹³

Another treatment sometimes used, especially in Europe, involves use of extracts of the herb St. John's wort (*Hypericum perforatum*). Clinical studies conducted in Europe said that St. John's wort might be useful in treating mild cases of depression and might have fewer side effects than standard antidepressants. The U.S. National Institute of Mental Health, which has begun another study to assess the herb's effectiveness, has warned of "adverse interactions" between St. John's wort and two drugs used to treat organ-transplant patients and people with the virus that causes acquired immune deficiency syndrome (AIDS).¹⁴

Depression is among the most treatable of mental disorders, and the success rate for treatment (typically treatment that includes both psychotherapy and medication) is an estimated 80 percent to 90 percent.¹⁵

Nevertheless, civil aviation authorities do not permit pilots to fly while antidepressant medication is being administered and for a period after use of the medication is stopped.

Transport Canada (TC), for example, says that there is concern about "both the side effects of, and the underlying indication for using ... potent medications [that are prescribed to treat depression]."¹⁶

“Clearly, if a pilot is depressed, he should not be flying,” TC says. “The difficulty lies in the fact that these medications are often prescribed for less serious reasons ... and it must be determined if there is an illness that could be a threat to flight safety.”

Hugh O’Neill, M.D., TC director of civil aviation medicine, said that in Canada, as in most other countries, “[If] you have an episode [of depression and], you’re treated, [then] you’re grounded.”¹⁷

The pilot typically is considered unfit for at least six months after discontinuing medication. Then, if the pilot’s psychiatrist submits a “satisfactory follow-up report,” the pilot may be issued a medical certificate. For episodes of depression that are considered less serious, a pilot may be permitted to resume flying sooner than six months after stopping medication.

Nevertheless, O’Neill said that, for the past eight years, TC has conducted a “very limited study” involving three airline pilots and three general aviation pilots to assess their performance while taking either of two types of SSRIs — fluoxetine or sertraline.

The decision to begin the study followed a review of other studies of depression that showed that the recurrence rate was 50 percent for an individual who had experienced one episode of depression — and as high as 90 percent for an individual who had experienced three episodes.

“How do you try to prevent a recurrence? With SSRIs, we seem to have a tool,” O’Neill said.

He cited a 1988 study that showed a recurrence rate of 20 percent for individuals being treated with fluoxetine and 57 percent for those taking a placebo, and a later study that showed a recurrence rate of 10 percent for individuals being treated with sertraline. (Of all SSRIs, only fluoxetine and sertraline met the criteria for the TC study: Among other factors, those two medications are not associated with drowsiness or dizziness, O’Neill said.)

The six pilots participating in the study (all of whom had fully recovered from episodes of depression when the study began) have experienced no difficulties and no side effects from their medication, O’Neill said. All have limitations on their pilot certificates that require them to fly “with or as co-pilot,” and all undergo examinations by a psychiatrist every three months.

O’Neill said that Canadian officials are “proceeding very, very cautiously” with the study and have resisted suggestions that more pilots be included among those who are permitted to take antidepressants.

“We’re looking for some consensus of opinion throughout the world,” he said. “What we’re looking for is further discussion, for other countries [to conduct their own studies].”

In New Zealand, Martyn Gosling, communications coordinator for the Civil Aviation Authority, said that authorities “are looking into the issue and taking expert advice,” but there is no study in progress.¹⁸

New Zealand Civil Aviation Rules Part 67 says that applicants for medical certificates “shall have no established medical history or clinical diagnosis of ... mental abnormality or psychoneurosis of a significant degree.”

The Australian Civil Aviation Safety Authority (CASA) *Designated Aviation Medical Examiner’s Handbook* directs medical examiners to discuss with the CASA Aviation Medicine Section any applicant for medical certification who has a history of depression.¹⁹

“Full psychiatric assessment is required,” the handbook says.

The Joint Aviation Authorities (JAA) *Manual of Civil Aviation Medicine* says that an applicant for a medical certificate should have “no established medical history or clinical diagnosis of any psychiatric disease or disability, condition or disorder, acute or chronic, congenital or acquired, which is likely to interfere with the safe exercise of the privileges of the applicable license.”²⁰

Depression is included in that category, and the manual says, “Adults who develop ... [a] depressive reaction in one stressful situation are very likely to do so again when exposed to a similar stress.”

JAA says that antidepressants are among the medications considered incompatible with flying and that “the underlying condition for which these medications have been prescribed will almost certainly mean that a pilot’s mental state is not compatible with the flying task.”²¹

Simon Janvrin, M.D., chief medical officer of the U.K. Civil Aviation Authority, said that JAA requires pilots to stop taking “all psychotropic medication ... for at least three months” before they seek to return to flying and that any U.K. study resembling the one under way in Canada is unlikely “in the near future.”²²

Nevertheless, Janvrin said, “We are currently discussing a national private pilots license, which will be based on driving medical standards, and this will certainly allow some pilots into the air who are taking antidepressants. So we do not feel they are completely incompatible with flying.”

FAA policy is not to certify individuals who use “mood-altering medication,” including antidepressants.

“The reasoning is twofold: The underlying condition that requires the medication and the potential adverse side effects from the medication itself,” said Glenn R. Stoutt Jr., M.D., in the *Federal Air Surgeon’s Medical Bulletin*.²³

Nevertheless, Stoutt said, “FAA is willing to return virtually all clinically depressed pilots back to flying after successful treatment.”

Quay C. Snyder, M.D., associate medical adviser for the Air Line Pilots Association, International, said that a pilot who has taken medication to treat depression must have stopped taking the medication and have experienced no relapses for at least one month to three months before applying to FAA for a new medical certificate.²⁴

Snyder said that some pilots are reluctant to take medication for depression because they do not want to lose medical certification.

“But many pilots don’t realize that using medication in the early stages of a significant psychiatric condition may actually decrease the length of time they are grounded,” Snyder said. “Postponing treatment until the condition has seriously deteriorated may require a more prolonged course of treatment with reduced chances of cure.”

Although depression is among the most common mental disorders, it also is one of the most treatable, and, after pilots have undergone treatment for the disorder, civil aviation regulations in many countries allow them to return to flight.♦

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