



Medical Advances Enable FAA to Grant More Discretionary Medical Certificates to Pilots

The U.S. Federal Aviation Administration updates standards for discretionary medical certification that recognize improvements in medical diagnoses and treatments. This enables some professional pilots who develop an otherwise disqualifying health condition to resume their careers. Nevertheless, assessment of a pilot's attitude and compliance with health-care recommendations significantly affects the FAA's decision to grant discretionary issuances.

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The U.S. Federal Aviation Administration (FAA) does not have a legal obligation to provide discretionary issuances (commonly called “waivers”) of airman medical certificates — either an authorization for special issuance of a medical certificate (special issuance)¹ or a statement of demonstrated ability (SODA).² FAA grants such exemptions from normal health standards to individual pilots, however, through discretionary-issuance processes for first-class, second-class and third-class medical certificates³ under authority of the Federal Air Surgeon, based upon the requirements of U.S. Federal Aviation Regulations (FARs) Part 67. The applicable regulations specify the duration of each type of discretionary issuance, and that conditions may be imposed — such as medical assessments, limitations or flight tests — beyond normal requirements.^{4,5}

Medical advances have increased the opportunity for many applicants to obtain or regain FAA medical certification, as



demonstrated by annual data compiled by the FAA Civil Aeromedical Institute (CAMI) on discretionary issuances.⁶ These data have reflected significant changes in medical standards over time, such as the recognition of alcoholism (page 7) and insulin-dependent diabetes mellitus⁷ (page 3) as conditions that, for some pilots, can be treated effectively enough to meet FAA's safety requirements.

Current FARs provide pilots with a strong incentive to adopt a healthy, prevention-oriented lifestyle and to obtain periodic physical assessments by a health-care professional. If a change in health status occurs, the pilot's goal should be to identify and correct problems as early as possible. If a diagnosis leads to medical disqualification, the next step is to learn as much as possible about the condition (page 3) and to take an active role in restoring health.

Most civil aviation authorities of the world, for various reasons, have not developed medical-certification policies and practices

that account for individual differences among pilots seeking exemptions from medical standards. In the United States, the safety of providing discretionary issuances long has been demonstrated to the satisfaction of the FAA.

U.S. historical and cultural factors — such as highly valuing personal productivity (sometimes called the “work ethic”) — have shaped both public policy and the perspective of aviation medical examiners (AMEs) designated by the FAA. These physicians place aviation safety first, but recognize that for professional pilots, denial of medical certification could involve health consequences such as work-deprived depression.

Another cultural expectation is that the privilege of flying should be granted almost as a right to those who meet the requirements for a pilot certificate; that is, medical standards should not be arbitrary and should have a scientific foundation. Thus, if the FAA seeks to impose any restriction, the FAA must justify the restriction through public processes for adopting and changing regulations. In medical certification, the FAA also recognizes distinctions between the privileges of an airline transport captain with a first-class medical certificate and a private pilot with a third-class medical certificate.⁸

Success Stories Contradict Pilot-certification Myths

In 1997, a pilot employed by a major U.S. airline experienced chest discomfort and visited an emergency room. The diagnosis of acute myocardial infarction (heart attack, usually resulting from sudden restriction or interruption of normal blood flow to the heart) was made and treatment with a blood-clot-dissolving medication was begun, followed by daily use of aspirin to minimize platelet aggregation (blood-clot formation).

The pilot made lifestyle changes, including adoption of American Heart Association–recommended dietary and exercise practices. The pilot also discontinued tobacco use. Within a year, the pilot was reassessed by exercise stress testing and advanced cardiovascular-imaging techniques. Because the history of myocardial infarction precluded medical certification under FARs Part 67.111(a)(1), the pilot applied for a special issuance under FARs Part 67.401 on the basis that a full recovery had been achieved and that the pilot was capable of performing flight duties safely.⁹

Cardiovascular consultants for the FAA supported the pilot’s appeal, and the FAA concurred that the pilot could be medically certified with a first-class airman medical certificate through

the special-issuance process. Nevertheless, the FAA imposed conditions in granting the special issuance. The FAA required annual stress tests and annual medical follow-up reports by the pilot’s treating physicians. Special-issuance conditions for this pilot also specified that a recurrence of symptoms would require immediate invalidation of the medical certificate. The prognosis for this pilot was excellent: the physicians involved in this case believe that the pilot very likely will achieve a full professional flying career.

The following experiences of pilots who have had a cancer diagnosis also challenge the common belief that serious medical conditions automatically end the careers of professional pilots:

- A female airline pilot received treatment for cancer of the thyroid gland, and was able to resume flying after therapy;
- Several professional pilots who had a diagnosis of prostatic cancer responded well to treatment with surgery and chemotherapy, and later received special issuances; and,
- Certain types of skin cancer — such as squamous cell carcinoma — can be serious for pilots whose skin has been damaged by sunlight, but the condition typically does not preclude medical certification at a specified interval after successful treatment.

Cancer treatments such as surgery, chemotherapy and radiation therapy typically involve medical disqualification for the pilot during treatment and for a period following treatment, but many pilots regain their medical certification.

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(cancer specialists) and AMEs want to ensure that blood elements return to near-normal before recommending that the FAA grant a special issuance.

For example, a pilot with lymphoma (cancer of the lymphatic system) may need to take intravenous cytotoxic treatment (chemotherapy), which typically causes weakness. The pilot would not be able to fly while taking the treatment, which may last for one month. After the period of treatment and an additional waiting period — assuming that the pilot has recovered well and everything normalizes — the FAA may give medical authorization for the pilot to resume flying.

After treatment of melanoma (another type of skin cancer), for example, the FAA might require six months of follow-up care to determine that cancer has not metastasized (spread to other parts of the body) and to check that cancer has not affected

the brain. Typically, professional pilots who have had a cancer diagnosis and receive a special issuance must have special follow-up medical assessments on a periodic basis.

Requirements in addition to normal FAA medical assessments primarily involve periodic testing and self-care. After treatment for lymphoma, a pilot typically would need periodic blood tests, for example, to determine that fitness to fly has not been affected. Periodic exercise electrocardiograms might be specified for a pilot following a myocardial infarction. A pilot being treated with a diuretic medication (to reduce water retention) for hypertension (high blood pressure) might need periodic blood tests to enable a physician to check for satisfactory potassium levels.

For all pilots, however, such cases indicate a more general FAA policy of recognizing medical advances, and the pilot's initiative and willingness to do what is required to "take charge" of a disqualifying condition. Continuing scientific developments and their application in clinical practice are benefiting many pilots who incur medical conditions that could jeopardize their medical certification.

Standards Emerge from Continuing Research

A little more than two decades ago, hypertension was a major factor in denying medical certification, especially if the pilot was the beneficiary of the emerging treatment of hypertension using medication. Currently, progress in clinical treatment and personal behavior modification enables management of hypertension without medication for many pilots — based on less alcohol, less salt, healthy weight and more exercise — changing the FAA's view of hypertension in airman medical certification. Pilots should discuss all options for treatment of hypertension with their physicians, and learn how the use of certain medications might affect medical certification.

The following advances also have helped maintain the medical certification of pilots with one or more medical conditions:

- Imaging techniques that provide meaningful diagnostic information, such as magnetic resonance imaging, color Doppler blood-flow measurements, and other late-generation echographic techniques (using ultrasound waves to form images);
- Vascular-flow treatments such as angioplastic methods with advanced stents (surgical insertion of devices to

increase or maintain blood flow in an artery), laser surgeries, organ-replacement transplant methods and the use of implanted prosthetics (devices that provide functions of a part of the body); and,

- Continuing understanding of addiction dynamics has led to effective treatments and enabled pilots who have taken control of addiction in their lives — that is, avoiding the use of "uppers" and "downers" — to be returned to flight status. A partial list of substances of addiction (some use the term "dependency") includes alcohol, opiates, barbiturates and amphetamines.

Data Show Pilots Overcome Wide Variety of Conditions

AMEs and the FAA make medical-certification decisions on a case-by-case basis. Discretionary issuances to some pilots with a specific diagnosis do not indicate that FAA will grant a special issuance to any pilot with that diagnosis. Nevertheless, awareness of such discretionary issuances should encourage pilots to learn about the diagnosis, their individual situation and the standards for a special issuance or SODA.

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Table 1 (page 4) shows data for discretionary issuances to pilots who have been diagnosed with medical conditions involving metabolism (processing of food into a source of energy) and the endocrine system (glands that secrete hormones into the bloodstream). Especially significant has been the FAA's recent recognition of advances in the treatment of insulin-treated diabetes mellitus (ITDM). Thus, FAA has medically certified 210 applicants with ITDM for the third-class medical certificate as of January 1999. Pilots also have received medical certification after

diagnosis of the following conditions — some medically serious — that have been brought under sufficient control by pilots and their physicians:

- Disturbed carbohydrate metabolism (conditions in which certain types of sugars are not processed normally by the body);
- Noninsulin-dependent diabetes mellitus (type II) that can be controlled by diet;
- Noninsulin-dependent diabetes (type II) that can be controlled by oral medication;
- Diabetes insipidus (a condition in which insufficient levels of antidiuretic hormone produced by the hypothalamus gland result in excessive thirst due to

**Table 1
Discretionary Medical Certification:
Metabolic and Endocrine Disorders**

Condition	Certification		
	First-class	Second-class	Third-class
Disturbed Carbohydrate Metabolism	108	223	424
Thyroid — Hyper	248	302	614
Thyroid — Hypo	954	1,354	3,377
Type I Diabetes, Insulin-dependent	0*	0*	210
Type II Diabetes, Diet-controlled	223	493	1,374
Type II Diabetes, Oral-medication-controlled	186	403	1,546
Diabetes Insipidus	9	10	11
Cushing's Syndrome, Addison's Disease	162	155	351
Hodgkin's Disease	92	87	224
Lymphoma, Leukemia, Dyscrasia	350	336	854

*Note: Special issuances are permissible only for third-class airman medical certificates when applicants have a diagnosis of Type I diabetes.

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

excessive production of very dilute urine, or in which the kidneys do not respond normally to normal levels of this hormone); and,

- Cushing's syndrome (a group of conditions that usually result from overproduction of corticosteroid hormones by the pituitary gland or adrenal glands) and Addison's disease (a group of conditions that result from insufficient production of corticosteroid hormones by the adrenal glands).

Table 1 also shows pilots who have histories of Hodgkin's disease (one type of lymphoma), other lymphomas, or leukemias (cancers of the blood).

The table also shows data for pilots who have received medical certification after a diagnosis of hyperthyroidism or hypothyroidism (conditions in which the thyroid gland produces too much thyroid hormone or insufficient thyroid hormone, respectively).

Table 2 shows FAA's discretionary issuances for pilots who have had a diagnosis of hypertension, and indicates pilots who maintain effective control of their blood pressure using medication.

Until a few years ago, an applicant for a first-class medical certificate, who was 50 years of age or older and developed hypertension, could become certified if reclining blood pressures could be maintained at or below 170 millimeters (mm) of mercury systolic and 100 mm of mercury diastolic — commonly expressed as "170 over 100" — in the absence of cardiac disease or kidney disease. The medical community recognized that blood pressures maintained at these levels would shorten a person's life span. Nevertheless, the consensus of FAA medical authorities was that blood-pressure medications available at that time would adversely affect flight safety because of certain side effects — such as drowsiness and hypotension (low blood pressure) — which varied for each medication. The same conservative blood-pressure limits were applied as standards in assessing applicants for second-class medical certificates and third-class medical certificates.

The U.S. Food and Drug Administration has approved numerous blood-pressure-lowering medications. Most of these medications have been approved for flight crewmembers by

**Table 2
Discretionary Medical Certification:
Cardiovascular Conditions**

Condition	Certification		
	First-class	Second-class	Third-class
Myocardial Infarction	250	259	2,557
Angioplasty	270	242	2,062
Coronary Bypass	209	249	2,772
Angioplasty Stent	102	91	593
Implanted Cardiac Pacemaker	7	21	137
Mitral Valve Prolapse (Barlow's Syndrome) and Systolic Click	646	655	1,573
Mechanical Heart Valve	6	24	137
Tissue Heart Valve	8	12	72
Hypertension with Medication	3,880	7,145	24,106

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

the FAA. The maintenance of lower blood pressures through continual advances in medications has led to less heart disease and fewer strokes in the U.S. population, and enables many pilots to remain medically certified.

Data in Table 2 also show that technological advances in cardiovascular diagnostic tools used in health care for the U.S. population, which has a wide variety of cardiovascular conditions, also have made the assessment of pilots in the United States more precise and objective. Medical studies and aeromedical experience have shown that many pilots who have responded well to treatment for cardiovascular conditions can be medically certified with no adverse impact on aviation safety.

For example, FAA medical authorities believe that mitral-valve prolapse (a genetic condition in which a heart-valve leaflet bulges, producing certain mitral-valve murmurs and “clicks” audible with a stethoscope) — a condition misunderstood for many years — has been shown to be, in an overwhelming number of cases, of no significance for purposes of FAA medical certification.

FAA has granted special issuances for pilots who have benefited from surgical advances that routinely improve heart function by replacing diseased or malformed heart valves with mechanical heart valves or tissue heart valves. Thus, a well functioning heart-valve prosthesis (a device that provides essential functions of a part of the body) increasingly is recognized as a factor for which case-by-case medical-certification decisions can be made. Similarly, continuing technological advances in cardiac pacemakers also enable some pilots with these devices to obtain FAA medical certification.

Table 2 also shows special issuances for pilots who have a history of the following cardiovascular conditions or related treatments for coronary disease:

- Myocardial infarction;
- Angioplasty (surgical removal of obstruction in a diseased coronary artery) and angioplasty plus stenting; and,
- Coronary-artery bypass surgery (surgically grafting blood vessels so that blood may flow around obstructions in arteries of the heart);

Table 3 shows discretionary issuances relating to various conditions that affect vision. Visual correction with external lenses or implanted lenses generally presents no problem to an applicant for medical certification. Applicants who have color-vision insensitivities may be certified depending upon the nature of their flight duties. There may be a limitation on some types of flying, depending on the individual circumstances.

**Table 3
Discretionary Medical Certification:
Vision**

Condition	Certification		
	First-class	Second-class	Third-class
Aphakia	169	424	1,410
Glaucoma	295	604	1,767
Artificial Lens	436	1,146	3,203
Monocular	215	608	2,364
Fails Color Signal Test	38	164	651
Passed Farnsworth Lantern Test or similar test	289	130	163

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

Monocular pilots (who have acceptable vision in one eye only) are routinely certified, often on the basis of a medical flight test. Applicants who have had a diagnosis of glaucoma also have achieved medical certification when the treatment has been satisfactory and there have been no adverse side effects that would affect safety. Under certain circumstances, FAA may require a practical demonstration of flight performance in an aircraft or a flight simulator as part of a vision-related special issuance. (Such a demonstration also may be required for other conditions discussed in this article.)

Table 4 shows FAA’s discretionary issuances as of January 1999 to pilots who have various medical conditions of the external, middle, and inner ear. For example, the symptoms of Ménière’s disease — vertigo, ringing in an ear, and deafness

**Table 4
Discretionary Medical Certification:
Hearing/Ear Pathology**

Condition	Certification		
	First-class	Second-class	Third-class
Deafness (not elsewhere classified)	744	1,434	2,032
Ménière’s Disease	25	23	86
Vertigo and Related Ear Pathology	676	584	1,177

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

in the ear having the ringing — require self-grounding by pilots (voluntary disqualification from flight duties) under FARs Part 61.53.¹⁰ The data show special issuances to pilots who have had this diagnosis after successful treatment. This condition is considered to result from inflammation or excess fluid in the inner ear. Consultation with an ear, nose and throat specialist is indicated. The condition may spontaneously resolve fully on its own, or it may, following recovery from the acute stage, leave residual symptoms of ringing in the ear and some hearing loss. Depending on the recovery — especially with respect to the vertigo symptoms — medical certification may be authorized.

Table 4 (page 5) also shows special issuances for pilots who have a diagnosis of hearing conditions that would not meet FAA standards for a medical certificate without correction. From the FAA's standpoint, hearing aids are now considered similar to spectacles: the medical certificate may have a limitation that requires the hearing aid to be worn during flight where two-way radio communications are required.

Table 5 shows data related to gastrointestinal and genitourinary conditions. Pilots have received medical certification after diagnosis of kidney stones, history of kidney-stone surgery, history of kidney transplantation, and diagnosis of certain conditions of the male genital system.

Table 5 also shows numbers of pilots who have had a diagnosis of colitis (inflammation of the large intestine), regional ileitis (inflammation of the small intestines), amoebic dysentery (infection of the large intestine caused by a parasitic organism),

bowel surgery and liver transplantation. Current kidney-transplant and liver-transplant techniques provide excellent results that enable medical certification after a recovery period. Current techniques to remove kidney stones — and to treat kidney stones that still may be present — help the FAA to individualize medical certification. The significance of prostate cancer and other genital-urinary cancers in these data is that medical certification is possible, given a positive outcome and follow-up care appropriate for a pilot.

Table 6 shows data including the central nervous system conditions of epilepsy, convulsive reactions and narcolepsy. Epilepsy and convulsive reactions involve seizures, a wide range of body responses to an abnormal electrical discharge in the brain. The significance of the data is that these conditions do not preclude medical certification automatically. FAA has determined that for these pilots — on an individual-applicant basis — successful treatment resulted in health status that would not adversely affect aviation safety.

Nevertheless, certain “electrical storm” occurrences in the brain — involving excessive excitability of the central nervous system — can lead to loss of neuromuscular function and loss of consciousness, thus precluding FAA medical certification. For a specific pilot, the FAA must determine that adequate time has elapsed since the last episode of one of these conditions and that there is a low probability that symptoms or signs of the condition will reoccur. Given those determinations for the individual pilot, medical certification may be possible.

Narcolepsy is a condition in which a person experiences sudden onset of sleep, in some cases while driving or flying. The FAA has, on a case-by-case basis, medically certified certain pilots who have a history of narcolepsy. Physicians must determine that the condition has resolved to the extent that the individual has narcolepsy under control in relation to operating machinery, specifically aircraft.

Table 6 shows data for stroke (sometimes called “brain attack” to emphasize the importance of immediate treatment), a condition that may be hemorrhagic (involving rupture of a blood vessel) or thrombotic (involving blockage of a blood vessel by a blood clot). Medical certification of a pilot after recovery from a diagnosis of stroke also depends on many unique individual factors. Immediate treatment may lead to either full recovery of function or, in some cases, losses of function judged to be insufficient to preclude medical certification.

Table 6 also shows data regarding special issuances for multiple sclerosis (a condition caused by damage to the sheath that normally surrounds nerve fibers in the central nervous system) and Parkinson's disease (a degenerative disorder originating in the loss of certain brain cells), two other examples of conditions for which medical advances have produced

**Table 5
Discretionary Medical Certification:
Gastrointestinal and
Genitourinary Conditions**

Condition	Certification		
	First-class	Second-class	Third-class
Colitis, Regional Ileitis, Amoebic Dysentery, Bowel Surgery	570	690	1,809
Liver Transplant	2	6	17
Kidney Transplant	10	32	86
Kidney Stones	4,201	5,707	12,726
Male Genital System, Prostatic Cancer, Testicular Cancer	3,162	4,289	9,380

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

Table 6
Discretionary Medical Certification:
Neuropsychiatric Conditions

Condition	Certification		
	First-class	Second-class	Third-class
Stroke	195	250	741
Epilepsy, Grand, Petit, Convulsive Reaction	46	48	154
Narcolepsy	2	3	14
Multiple Sclerosis, Chronic Brain Syndrome, Degenerative Nerve Disease	32	34	81
Parkinson's Disease	16	20	65
Migraine	488	821	2,424
Neuroses, Anxiety, Hypochondria, Phobic Conditions	1,361	1,835	5,456
Schizophrenia	7	12	28
Major Affective Disorder, Depression Plus Mania	11	10	29
Alcoholism — Not Special Issuance	129	143	355
Alcoholism — Special Issuance	786	135	81

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

increasingly effective therapies and rehabilitation that enable certification on a case-by-case basis.

Various nervous-system diseases of unknown cause currently are experiencing remarkable recoveries for periods of months or years. Accordingly, the FAA might be able to issue medical certificates to some pilots who have experienced ill-defined central nervous system conditions. Pilots should obtain the latest information from a primary-care physician or neurologist, and discuss this with an AME.

Table 6 also shows that FAA has granted special issuances to pilots who have responded well to treatment following a diagnosis of migraine, various neuroses, various anxieties, hypochondria or phobic conditions. The data also indicate FAA's recognition that medications and psychotherapy enable some pilots who have had a diagnosis of the major affective disorders, depression and depression plus mania, to complete

treatments that have outcomes compatible with safe aircraft operation.

Some pilots who have had a diagnosis of schizophrenia also have received special issuances. FAA's psychiatric criteria specify, in part, that a patient's delusional system must be self-contained and remote (compartmentalized) from a connectivity with behaviors necessary for safe flight.

Many of the conditions in Table 6 are considered higher-order conditions of the central nervous system, which generally evolve as entities related to thought processes. An exception is migraine that is derived primarily from vascular reactions in and around the brain, but which can be triggered by emotions.

The question that the FAA — working with the AME and the pilot — addresses regarding each of these conditions is whether or not the individual pilot, who has any of these diagnoses, has stabilized. "Stabilized" in this context means capable of responsible decision making in relation to flight operations, with thought processes configured to assure the FAA, as the regulator of all areas that affect aviation safety. Use of certain medications that benefit pilots who have had any of these diagnoses might preclude FAA medical certification. Understanding of the brain and knowledge of the effects of brain medications continually advances. Side effects of drowsiness or other unwanted symptoms also cause concern.

Table 6 also shows data for pilots who have had a medical history of alcoholism. Airman medical certification of a pilot with this diagnosis may require a special issuance by the FAA, but the FAA also may make discretionary decisions to issue a medical certificate without requiring a special issuance, depending on individual factors.

For pilots, these data represent one of the most remarkable developments in aeromedical certification in the United States during the past 25 years: Recovering alcoholics can be returned to flight status depending on their changed behavior, including personal recognition of alcoholism and a commitment to lifelong sobriety. The issue has had many medical and regulatory aspects, and the Air Line Pilots Association, International (ALPA), the U.S. National Institutes of Health and U.S. airlines had a significant role in advocating review of the former FAA medical-certification standards.

Medical certification has become possible because recent medical studies show that some individuals who had developed a dependency on alcohol for daily activities, or had engaged in periodic binges of drinking (excessive alcohol consumption), could enter a state of continued sobriety after competent rehabilitation and after demonstrating personal desire to abstain from consuming alcohol.

The FAA also recognized that recovering alcoholics who understand alcoholism on a personal level frequently can serve

**Table 7
Discretionary Medical Certification:
Limb Deformities and Amputations**

Condition	Certification		
	First-class	Second-class	Third-class
Deformity of Finger	65	132	296
Deformity of Hand and Wrist	74	116	236
Deformity of Arm Above Elbow	28	59	168
Deformity of Arm Below Elbow	15	35	84
Deformity of Lower Extremities:			
Toe	23	23	52
Ankle	63	120	198
Leg Above Knee	34	71	183
Leg Below Knee	68	135	347

Source: U.S. Federal Aviation Administration Civil Aeromedical Institute. The table shows the number of U.S. pilots active Jan. 1, 1999, who were granted discretionary issuance for specific pathologies.

as interveners who effectively identify and assist other pilots who may be moving toward dependency on alcohol (“closet alcoholics”). This enables pilots to continue working in their profession after a positive response to treatment for alcoholism, and provides an incentive to those having problems with alcohol. Aviation safety and pilot health are improved because of these advances in the medical treatment and the perception of alcoholism.

Table 7 shows that pilots have received special issuances despite skeletal deformities and amputations (lost limb elements). The data show specific missing limbs and limb-component conditions for which FAA has granted discretionary issuances. Such conditions are not medically disqualifying automatically. The FAA may require the pilot to pass a medical flight check or practical flight demonstration to determine whether the individual applicant’s status constitutes an adverse safety factor.

In some cases, the medical flight check is the determining factor that leads the FAA to grant medical certification to a person who otherwise meets the medical standards. When the deformity involves a missing limb, the special issuance might require the use of a prosthesis. For some applicants who have missing limbs, the practical flight demonstration must be conducted in a specific aircraft that has equipment or modifications acceptable to FAA, and the special issuance will show the relevant limitations for the pilot following medical certification. The applicant may be certified to operate a specific aircraft with certain cockpit arrangements.

Medical Disqualification May Not Be Permanent for Compliant Pilots

The CAMI data indicate that FAA recognizes medical advances that can be applied in individual cases so that a pilot who develops a disqualifying condition — depending upon individual circumstances — can become medically certified again.

Among key considerations for AMEs, as they determine whether to return a medically disqualified pilot to flight status, is the pilot’s attitude — depending upon the type of disqualification. The appropriate attitude is not an expression of intent to comply with required behavioral changes and medical care, but a demonstration of such changes and medical compliance that will minimize risk factors associated with the condition that could affect safety.

For example, a pilot who smokes tobacco and is receiving medical care for heart disease will be expected to stop smoking because smoking is a primary cause of various heart diseases. Similarly, a pilot who has motor vehicle–related offenses associated with alcohol and/or an accident record associated with alcohol will be expected to discontinue consuming alcohol. An alcoholism-rehabilitation program also may be a requirement for such a pilot.

An obese pilot who develops heart disease or type II diabetes (diet-controlled), for example, will be expected to achieve a healthier weight and to adopt a lifestyle of proper exercise and appropriate nutritional practices. Thus, maintenance of an FAA medical certificate will be related in a highly significant way to the individual pilot’s personal habits, attitude, lifestyle and health-related choices.

Staff physicians or consultants determine how a health-related matter — for example, a pilot returning to work after a medical leave and interruption of flight duties — would affect training and pilot qualification. Operational issues of pilot qualification in air carrier operations normally are decided by the operator. The operator would want the pilot who has a special issuance or SODA for a major limb abnormality, for example, to demonstrate that flight controls of a specific aircraft can be operated satisfactorily. Special flight checks also may be conducted in a flight simulator or during flight in the type of aircraft to be flown. A separate demonstration might be conducted in each new type of airplane that the pilot would operate.

Obtaining a special issuance or SODA may involve medical costs that are not covered by some types of medical insurance. Often medical insurance does not cover medical assessments and tests required for occupational licenses. Thus, a pilot should be aware of such out-of-pocket costs. If a pilot experiences a myocardial infarction, for example, medical insurance typically covers emergency care, diagnosis and treatment. After successful treatment, the FAA would determine that the pilot is medically ready to resume flying.

The special issuance in such a case may require periodic exercise electrocardiograms. Some of these tests might be covered by medical insurance when ordered to determine the pilot's health status by a primary care physician as part of follow-up care. Otherwise, the pilot might have to pay for all or part of the costs of some tests.

AMEs can help pilots understand FAA's requirements for obtaining or regaining a medical certificate, if possible, given the diagnosis of a specific medical condition. The following resources may be helpful:

- About 1,700 AMEs among 5,000 AMEs are authorized to issue FAA first-class medical certificates. The remainder are authorized to issue second-class medical certificates and third-class medical certificates. Although AMEs normally do not perform the procedures, they will refer pilots to appropriate specialists and assist in determining how diagnosis and treatment of a condition will affect medical certification. All AMEs receive updated training on medical standards by the FAA periodically, but AMEs vary in their experience applying these standards and might consult with other physicians in advising a pilot;
- AMEs have ready access to applicable standards and to FAA aeromedical specialists at CAMI in Oklahoma City, Oklahoma, U.S. who will discuss the case of a specific pilot. The AME's role is to assemble data on the pilot. Typically an applicant requesting a special issuance or SODA will bring additional medical records to the AME, who will review them and include the relevant records in documents sent to the FAA for consideration. Applicants who already have received a SODA might be required to present related documentation so the FAA can determine that the SODA is appropriate based on the pilot's current health status, the type of flying involved and related factors;
- If a pilot is employed by an airline or corporate flight operation that has a medical department, physicians in that department often provide helpful medical advice;
- Civilian pilots who also are military members may consult military medical personnel — such as a flight surgeon in the U.S. Air Force — for advice and medical records;
- If a pilot employed by an airline is represented by a union, physician specialists for the union (staff or consultants) can advise the pilot. ALPA, for example, has several full-time consultant aeromedical physicians; and,
- If not a member of a professional pilot organization or union, a pilot might obtain medical advice from physicians recommended by aeromedical advisory groups affiliated with organizations such as the Aircraft Owners and Pilots Association.

In summary, FAA has systematically developed pilot medical standards that account for medical advances. More important, FAA's policies, standards and certification practices recognize that individual differences in pilots' medical status should be considered. Available evidence shows that this approach has had a positive effect on U.S. aviation safety regarding all three classes of FAA airman medical certificates.

As important as access to advanced medical care has been, the growing population of senior-age U.S. pilots (older than age 50, for example) who are medically certified by FAA is evidence of the positive attitudes and healthier lifestyles adopted by many of these pilots. Such attitudes and lifestyles show respect for their genetic endowments and for aviation safety, demonstrating that age is not a medical condition. The oldest medically certified pilot in the world as of November 1998 — age 99 — was certified by the FAA. The CAMI data from January 1999 also show three first-class medical certificates, eight second-class medical certificates and 36 third-class medical certificates held by pilots who are 90 years of age or older.♦

Notes and References

1. Authorizations (also called "special issuances") are described in U.S. Federal Aviation Regulations (FARs) Part 67.401 (a) "Special Issuance of Medical Certificates," which states, "At the discretion of the Federal Air Surgeon, an Authorization for Special Issuance of a Medical Certificate (Authorization), valid for a specified period, may be granted to a person who does not meet the provisions of subparts B, C, or D of [FARs Part 67] if the person shows to the satisfaction of the Federal Air Surgeon that the duties authorized by the class of medical certificate applied for can be performed without endangering public safety during the period in which the Authorization would be in force. The Federal Air Surgeon may authorize a special medical flight test, practical test, or medical evaluation for this purpose. A medical certificate of the appropriate class may be issued to a person who does not meet the provisions of subparts B, C, or D of this part if that person possesses a valid Authorization and is otherwise eligible. An airman medical certificate issued in accordance with this section shall expire no later than the end of the validity period or upon the withdrawal of the Authorization upon which it is based. At the end of its specified validity period, for grant of a new Authorization, the person must again show to the satisfaction of the Federal Air Surgeon that the duties authorized by the class of medical certificate applied for can be performed without endangering public safety during the period in which the Authorization would be in force."
2. FARs Part 67.401 (b) states, "At the discretion of the Federal Air Surgeon, a Statement of Demonstrated Ability (SODA) may be granted, instead of an Authorization, to

a person whose disqualifying condition is static or nonprogressive and who has been found capable of performing airman duties without endangering public safety. A SODA does not expire and authorizes a designated AME to issue a medical certificate of a specified class if the examiner finds that the condition described on its face has not adversely changed.”

3. In the United States, an FAA first-class airman medical certificate is required to exercise the privileges of an airline transport certificate, and an FAA second-class airman medical certificate is required to exercise the privileges of a commercial pilot certificate. An FAA third-class airman medical certificate is required to exercise the privileges of a private pilot certificate or a recreational pilot certificate. In order to solo, a student pilot must have at least a third-class medical certificate.
4. FARs Part 67.401 (c) said, “In granting an Authorization or SODA, the Federal Air Surgeon may consider the person’s operational experience and any medical facts that may affect the ability of the person to perform airman duties including (1) The combined effect on the person of failure to meet more than one requirement of this part; and, (2) The prognosis derived from professional consideration of all available information regarding the person.”
5. FARs Part 67.401 (d), (f) and (g) said, “(d) In granting an Authorization or SODA under this section, the Federal Air Surgeon specifies the class of medical certificate authorized to be issued and may do any or all of the following: (1) Limit the duration of an Authorization; (2) Condition the granting of a new Authorization on the results of subsequent medical tests, examinations, or evaluations; (3) State on the Authorization or SODA, and any medical certificate based upon it, any operational limitation needed for safety; or (4) Condition the continued effect of an Authorization or SODA, and any second-[class] or third-class medical certificate based upon it, on compliance with a statement of functional limitations issued to the person in coordination with the Director of Flight Standards or the Director’s designee. ... (f) An Authorization or SODA granted under the provisions of this section to a person who does not meet the applicable provisions of subparts B, C, or D of this part may be withdrawn, at the discretion of the Federal Air Surgeon, at any time if: (1) There is adverse change in the holder’s medical condition; (2) The holder fails to comply with a statement of functional limitations or operational limitations issued as a condition of certification under this section; (3) Public safety would be endangered by the holder’s exercise of airman privileges; (4) The holder fails to provide medical information reasonably needed by the Federal Air Surgeon for certification under this section; or (5) The holder makes or causes to be made a statement or entry that is the basis for withdrawal of an Authorization or SODA under [FARs Part] 67.403 (g) A person who has

been granted an Authorization or SODA under this section based on a special medical flight or practical test need not take the test again during later physical examinations unless the Federal Air Surgeon determines or has reason to believe that the physical deficiency has or may have degraded to a degree to require another special medical flight test or practical test.”

6. This article has omitted a few conditions tracked by the FAA Civil Aeromedical Institute for which few applicants have obtained discretionary issuances. Comparing the number of special issuances to the total numbers of certificated pilots over the years is not considered meaningful because of changes in FAA policies and standards, inherent statistical problems of variation in small numbers, imprecise data about factors such as changes in health among pilots who received discretionary issuances, and other factors. The FAA has not specifically published data regarding pilots who received medical certification following diagnoses of conditions of the female genital system. Male pilots and female pilots are included in all other data in this article.
7. Diabetes mellitus is a disorder in which the body has impaired insulin function. Insulin is a hormone that regulates the metabolism of glucose (blood sugar), the body’s main energy source. Under current FARs, a pilot who has insulin-treated diabetes mellitus can be considered for special issuance of a third-class airman medical certificate, subject to conditions defined in an FAA protocol that specifies periodic medical assessments and required actions to prevent an abnormal blood-glucose concentration while operating an aircraft.
8. FARs Part 67.401 (e) said, “In determining whether an Authorization or SODA should be granted to an applicant for a third-class medical certificate, the Federal Air Surgeon considers the freedom of an airman, exercising the privileges of a private pilot certificate, to accept reasonable risks to his or her person and property that are not acceptable in the exercise of commercial or airline transport pilot privileges, and, at the same time, considers the need to protect the safety of persons and property in other aircraft and on the ground.”
9. FARs Part 67.111(a)(1) said, “Cardiovascular standards for a first-class airman medical certificate are: (a) No established medical history or clinical diagnosis of any of the following: (1) Myocardial infarction; ...”
10. FARs Part 61.53 said, “Prohibition on operations during medical deficiency. (a) Operations that require a medical certificate. Except as provided for in paragraph (b) of this section, a person who holds a current medical certificate issued under part 67 of this chapter shall not act as pilot in command, or in any other capacity as a required pilot flight crewmember, while that person: (1) knows or has

reason to know of any medical condition that would make the person unable to meet the requirements for the medical certificate necessary for the pilot operation; or (2) is taking medication or receiving other treatment for a medical condition that results in the person being unable to meet the requirements for the medical certificate necessary for the pilot operation. (b) Operations that do not require a medical certificate. For operations provided for in [FARs Part] 61.23(b) of this part, a person shall not act as pilot in command, or in any other capacity as a required pilot flight crewmember, while that person knows or has reason to know of any medical condition that would make the person unable to operate the aircraft in a safe manner.”

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Mohler received the 1998 Cecil A. Brownlow Publication Award for journalism that enhances aviation-safety awareness.

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HUMAN FACTORS & AVIATION MEDICINE

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