

2. Medical Standards Programs of U.S. DOT Modal Administrations

Three DOT modal administrations have longstanding medical standards programs. These agencies are the FAA, the FMCSA and the U.S. Coast Guard (USCG), now a part of the Department of Homeland Security. While the FRA has had railroad safety oversight responsibilities for many years, the only medical standards that it administers are those for vision and hearing, and relative to the other agencies, these were instituted relatively recently. The following subsections describe the medical standards programs of each DOT modal administration. Table 4 highlights the features of each of the programs.

The Federal Transit Administration (FTA) has no regulatory functions and as such does not have any medical standards program. However, the FTA recently sponsored a study to document approaches to management of the use of prescription and over-the-counter medication by transit operators.⁶ The National Highway Traffic Safety Administration (NHTSA) does not oversee operator certification, but their mandate includes driver safety. NHTSA has sponsored two important studies related to drugs and human performance.⁷

2.1 Federal Railroad Administration

FRA regulations set vision and hearing standards for engineers and remote control operators. The railroads are responsible for ensuring that the engineer meets the medical standards. In addition, a separate standard covers the use of prescription and over-the-counter medications.

Who is Covered

The hearing, vision and color vision requirements apply to only engineers and remote control operators. The standard relating to the use of prescription and over-the-counter medications affects those employees who may perform service subject to the Hours of Service Law.

Frequency of Examination

Engineers and remote control operators are required by federal standards to undergo the vision, hearing and color vision evaluation every 3 years. This interval is consistent with that for engineer re-certification.

Development of the Standards/Guidelines

The initial vision and hearing standards were based on existing U.S. DOT standards for other modes of transportation. The FRA Rules for visual acuity, 49 C.F.R. § 240.121 and 49 C.F.R. § 240.207, became effective in 1991. The vision standards require the engineer to have 20/40 vision in each eye with or without corrective lenses and a binocular visual acuity of at least 20/40. They must have a field of vision of at least 70° in the horizontal meridian in each eye. The engineers must also have the ability to recognize and distinguish between the colors of

⁶ Sarles, R. (2003). *Prescription and Over-the-Counter Medications Tool Kit* (Report No. DOT-VNTSC-FTA-03-03). Washington, DC: U.S. Department of Transportation.

⁷ Couper, F & Logan, B. (2004). *Drugs and Human Performance Fact Sheets*. (Report No. DOT HS 809 725). Washington, DC: U.S. Department of Transportation; and Moskowitz, H. & Wilkinson, C. (2004). *Antihistamines and Driving-Related Behavior: a review of the evidence for impairment*. (Report No. DOT HS 809 714). Washington, DC: U.S. Department of Transportation.

railroad signals as demonstrated by successfully completing one of several tests specified in Appendix F of the regulation.

The hearing requirement is that the engineer cannot have an average hearing loss in the better ear greater than 40 decibels at 500Hz, 1,000 Hz, and 2,000 Hz with or without use of a hearing aid.

The rules in 49 C.F.R. § 219.101 to 219.103 prohibit use of controlled substances or alcohol. Employees are permitted to use a controlled substance if it is prescribed or authorized by a medical practitioner if;

- (1) The treating medical practitioner or a physician designated by the railroad has made a good faith judgment, with notice of the employee's assigned duties and on the basis of the available medical history, that use of the substance by the employee at the prescribed or authorized dosage level is consistent with the safe performance of the employee's duties;
- (2) The substance is used at the dosage prescribed or authorized; and
- (3) In the event the employee is being treated by more than one medical practitioner, at least one treating medical practitioner has been informed of all medications authorized or prescribed and has determined that use of the medications is consistent with the safe performance of the employee's duties (and the employee has observed any restrictions imposed with respect to use of the medications in combination).

A 1998 FRA Safety Advisory, Safe Use of Prescription and Over-the-Counter Drugs, 63 Fed. Reg. 71334 (1998) recommended that the railroads use the same guidelines when considering the use of prescription or over-the-counter medication as would be used when reviewing controlled substances.

Since the establishment of the Railroad Safety Advisory Committee (RSAC) in 1996, this group has developed recommendations on selected safety issues and if approved by the RSAC workgroup and the full RSAC, these recommendations are presented to the FRA. The FRA is not required to accept these recommendations. An RSAC subgroup, consisting of railroad medical officers, was involved in revisions to the color vision standard, which became final in 2000. Recent safety advisories have included those on the use of prescription and over-the-counter medication and evaluation of engineers to determine if they meet the vision requirement.

Legal Challenges

There have been no legal challenges to the regulations.

Examiners

The medical examiner is selected by the railroad and may be a physician or physician assistant (PA not included in definition 49 C.F.R. § 240.7 but is in 49 C.F.R. § 240.207). There is no required training or certification. Medical examiners are to be provided with a copy of the standard and the appendices.

Table 4. Summary of medical standards programs of U.S. DOT modal administrations

		FAA				
	FRA	Airmen	Air Traffic Control Specialists	FMCSA	Coast Guard – Mariners	Coast Guard – Military
Covered positions	Locomotive engineers Remote control operators	Class 1,2,3 pilots Non-FAA air traffic controllers (covered by Class 3 pilot regulations)	FAA employed Air Traffic Control Specialists	Commercial drivers operating commercial motor vehicles as defined by 49 CFR 390.5	Licensed (officers, masters and mates) Qualified (sailors) Unqualified (no mariner skills)	Aviators All other positions
Development of standards	FRA through RSAC process	FAA	FAA – Based on Office of Personnel Management medical standards GS-2152	FMCSA	Coast Guard with review from National Maritime Center	U.S. Armed Forces and U.S. Coast Guard
Frequency of exams	Every 3 yr	Class 1 – 6 mo Class 2 – 1 yr Class 3 – 3 yr to age 39, 2 yr ages 40+	Control center and tower ATCS – 2 yr to age 39, 1 yr ages 40+ Flight service – 3 yr to age 39, 2 yr ages 40+	Every 2 yr, unless examiner decides on closer follow-up Every year if operating under waiver/exemption	Licensed and Qualified – 5 yr Those piloting vessels of 1,600 gross tons or over – 1 yr	Aviators - every 2 yr to age 49, then yearly Other positions - every 5 yr

FAA

	FRA	Airmen	Air Traffic Control Specialists	FMCSA	Coast Guard – Mariners	Coast Guard – Military
Examiners	Physician (employed or contracted)	FAA designated examiners (AMEs) - all physicians	Regional Flight Surgeon designates selected AMEs	State-licensed health care providers, including: medical osteopathy, and chiropractic doctors, also PA's and advanced PN's	State-licensed health care providers	Accession exam: Civilian physicians, preferably with military experience Retention exam: Physicians in CG and civilian physicians with knowledge of military duties; also NP or PA with physician oversight Only military flight surgeons or AME's conduct aviator exam
Examiners credentialed?	No	Yes – trained and certified	Yes	No	No	Yes
Program Review		Evaluate for accident involvement of airmen on Special Issuance. Also efficiency and timeliness in handling requests for reconsideration or Special Issuance	Evaluated for timeliness and accident involvement for individuals on Special Consideration	Evaluated through motor carrier audits, safety reviews and roadside checks.	Monitor overall process, feedback from field. Medical staff monitors medical developments	Keep abreast of medical developments
Waiver/exemption	Railroad's medical officer in consultation with Supervisor of Locomotive Engineers	Special Issuance (valid for specific period) Statement of Demonstrated Ability (SODA) (Non-progressive disqualifying condition)	Medical qualification by Special Consideration (waiver)	Waiver when vision does not meet criteria or if driver is using Insulin to control diabetes. SPE if does not meet limb requirement	Can be placed in limited duty	Temporary and permanent waivers for non-aviators

FAA

Air Traffic Control Specialists

FRA

Airmen

FMCSA

Coast Guard – Mariners

Coast Guard – Military

Dispute resolution

Locomotive Engineer Review Board. Administrator has final authority within FRA, but could go to Courts of Appeals and finally Supreme Court.

Federal Air Surgeon has final authority within FAA, but could go to NTSB, Court of Appeals and finally Supreme Court

Request for resolution of conflict by the FMCSA can be requested. Very few done as process allows for third party impartial review

National Maritime Center has final decision

Commander, Coast Guard Personnel Command makes final determination

Information for examiners

Medical standards in 49 C.F.R. § 240. 121 and 49 C.F.R. § 240.207 (Appendix F)

Medical standards for initial employment and retention

Medical examiners are expected to be familiar with 49 C.F.R. § 391.43. Limited guidance on medical examination report form. Also conference reports and advisory panel reports.

Guidelines in NVIC 02-98

DOD medical standards for accession and aviators. CG standards for retention of non-aviators.

Resource requirements

4500 AMEs
9 Regional Flight Surgeons and Federal Air Surgeon
40 non-physician legal examiners in CAMI with a staff of 130 who support 6 physicians and the Manager of Aeromedical Certification

400-500 AMEs handle 10,000 exams annually

Staff of seven full-time equivalents and a contractor
Current proposal in Congress for 3-4 physicians based in Washington, DC

One MD at the NMC handles 1200 to 1400 waivers annually.

Two physicians handle all waiver applications
2200 waiver requests per year for accession and 450 for retention (most waivers are aviators)

Application Review and Waiver Process

If an employee does not meet the vision and hearing requirements, s/he is eligible for a single retest without providing information and an additional test if s/he can provide information that the situation has changed. If s/he still does not meet the criteria, the medical examiner in consultation with the designated supervisor of locomotive engineers (DSLE) can determine that the engineer is able to safely perform as an engineer. Specific limitations may be indicated by the medical examiner. If there is still a determination that the engineer is not able to meet criteria for engineer certification, s/he may petition the Locomotive Engineer Review Board (LERB) to review the decision. The Board is composed of at least three employees of the FRA selected by the Administrator.

The LERB would look at whether:

- 1) the railroad followed proper procedures for denying certification or recertification set forth in 49 C.F.R. § 240.219;
- 2) the person did, in fact, not meet the criteria set forth in 49 C.F.R. § 240.121;
- 3) the proper procedures were followed for making the determination on vision and hearing acuity set forth in 49 C.F.R. § 240.207; and
- 4) the proper medical tests and failure criteria were administered as set forth in Appendix F to 49 C.F.R. § 240.

The LERB would not question a medical opinion that has a reasonable basis. FRA also provides review beyond the LERB upon request. An FRA hearing officer is available if a new case (*de novo*) is requested. The FRA Administrator, upon request, will review the hearing officer's decision before aggrieved parties file a suit in Federal Court.

Resource Requirements

The FRA implemented the vision and hearing regulations without the need for additional staff. FRA safety inspectors review engineer certification records of the carriers, which include results of vision and hearing testing, as part of the routine safety audits. Similarly, these regulations have not affected the size of the LERB. Since its inception in 1992, the LERB has not received any hearing acuity cases and has received six vision acuity cases. The LERB has received approximately 1000 cases since its inception in 1992. Approximately 14 percent of all LERB cases (141) have ultimately been reviewed by the FRA Administrator. Only 1 case has been appealed to a Federal Court of Appeals.

References

Qualification and Certification of Locomotive Engineers, 49 C.F.R. § 240 (1998).

2.2 Federal Motor Carrier Safety Administration

The Federal Motor Carrier Safety Administration's Physical Qualification Division is responsible for the medical certification of commercial drivers operating in interstate commerce as defined by 49 C.F.R. § 390.5. Only commercial drivers operating a commercial motor vehicle as defined by 49 C.F.R. § 390.5 are governed by the FMCSA. Many states use the criteria in

49 C.F.R. § 391 for their intrastate commercial drivers but the states have jurisdiction over all intrastate drivers.

Who is Covered

Commercial drivers who operate vehicles meeting the following definition of a commercial motor vehicle (CMV) must comply with the medical qualification requirements. The definition of a CMV for purposes of the medical programs is the following:

“A self-propelled or towed vehicle used on the highways in interstate commerce to transport passengers or property, if the vehicle--

(A) has a gross vehicle weight rating or gross vehicle weight of at least 10,001 pounds, whichever is greater;

(B) is designed or used to transport 9 to 15 passengers (including the driver) for direct compensation operated beyond a 75 air-mile radius (86.3 statute miles or 138.9 kilometers) from the driver's normal work-reporting location,

(C) is designed or used to transport more than 15 passengers, including the driver, and is not used to transport passengers for compensation; or

(D) is used in transporting material found by the Secretary of Transportation to be hazardous under section 5103 of this title and transported in a quantity requiring placarding under regulations prescribed by the Secretary under section 5103.”

Frequency of Examination

Drivers are required to be medically qualified at least every 2 years. Drivers who are operating under a waiver/exemption must be examined annually. The medical examiner may determine that the medical qualification should be valid for less than 2 years if the driver has a medical condition which would not disqualify but would require closer follow up. Guidelines issued by the FMCSA suggest that drivers with certain medical conditions such as hypertension, and cardiovascular disease or on an anticoagulant should be examined more frequently. “Any driver whose ability to perform his/her normal duties has been impaired by a physical or mental injury or disease” must undergo a medical certification examination. Motor carriers are responsible for ensuring that only drivers who are medically qualified are operating commercial vehicles.

Development of the Standards/Guidelines

The authority governing medical criteria for commercial drivers and requiring medical certification was initially granted to the Interstate Commerce Commission (ICC). The first medical standards for commercial drivers were published in 1939 with more detailed standards published in a 1970 Final Rule. These were developed by medical advisors and went through the federal rulemaking process. A medical certificate was first required in 1954. Guidelines have been developed through consensus by medical advisors.

Recently operators of certain vehicles designed to transport 9-15 passengers including the driver have been required to meet the medical criteria. Only those drivers traveling more than 75 air-miles from work reporting location for direct compensation were required to meet criteria. A process to initially grant waivers and now exemptions for insulin taking diabetic drivers and drivers who did not meet the vision requirement was implemented.

Guidelines are also periodically updated through expert consensus. One set of guidelines, the medical advisory criteria, is now included on the examination form to assist the examiner. Another type of guideline available is Regulatory Guidance. This was most recently published in the *Federal Register* in April 1997 and has been periodically updated on the FMCSA web site. These are responses to questions that have been submitted to the FMCSA.⁸ Another resource available to the medical examiner is recommendations from panels or conferences sponsored by the FMCSA. An example is the recently released *Cardiovascular Advisory Panel Guidelines for the Medical Examination of Commercial Motor Vehicle Driver*. There are also conference reports on the commercial driver with pulmonary/respiratory disease, neurologic disease, psychiatric disease, vision and hearing.⁹

According to FMCSA regulations:

“(b) A person is physically qualified to drive a commercial motor vehicle if that person --

(b)(1) Has no loss of a foot, a leg, a hand, or an arm, or has been granted a skill performance evaluation certificate pursuant to § 391.49;

(b)(2) Has no impairment of:

(b)(2)(i) A hand or finger which interferes with prehension or power grasping; or

(b)(2)(ii) An arm, foot, or leg which interferes with the ability to perform normal tasks associated with operating a commercial motor vehicle; or any other significant limb defect or limitation which interferes with the ability to perform normal tasks associated with operating a commercial motor vehicle; or has been granted a skill performance evaluation certificate pursuant to § 391.49 .

(b)(3) Has no established medical history or clinical diagnosis of diabetes mellitus currently requiring insulin for control;

(b)(4) Has no current clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, thrombosis, or any other cardiovascular disease of a variety known to be accompanied by syncope, dyspnea, collapse, or congestive cardiac failure.

(b)(5) Has no established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with his/her ability to control and drive a commercial motor vehicle safely;

(b)(6) Has no current clinical diagnosis of high blood pressure likely to interfere with his/her ability to operate a commercial motor vehicle safely;

(b)(7) Has no established medical history or clinical diagnosis of rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular disease which interferes with his/her ability to control and operate a commercial motor vehicle safely;

(b)(8) Has no established medical history or clinical diagnosis of epilepsy or any other condition which is likely to cause loss of consciousness or any loss of ability to control a commercial motor vehicle;

⁸Available through <http://www.fmcsa.dot.gov/rulesregs/fmcsr/fmcsrguide.htm>, accessed 2/27/04.

⁹Medical reports available through <http://www.fmcsa.dot.gov/rulesregs/medreports.htm>, accessed 2/27/04

- (b)(9) Has no mental, nervous, organic, or functional disease or psychiatric disorder likely to interfere with his/her ability to drive a commercial motor vehicle safely;
- (b)(10) Has distant visual acuity of at least 20/40 (Snellen) in each eye without corrective lenses or visual acuity separately corrected to 20/40 (Snellen) or better with corrective lenses, distant binocular acuity of at least 20/40 (Snellen) in both eyes with or without corrective lenses, field of vision of at least 70° in the horizontal Meridian in each eye, and the ability to recognize the colors of traffic signals and devices showing standard red, green, and amber;
- (b)(11) First perceives a forced whispered voice in the better ear at not less than 5 feet with or without the use of a hearing aid or, if tested by use of an audiometric device, does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1,000 Hz, and 2,000 Hz with or without a hearing aid when the audiometric device is calibrated to American National Standard (formerly ASA Standard) Z24.5 -- 1951.
- (b)(12)(i) Does not use a controlled substance identified in 21 C.F.R. § 1308.11 *Schedule I*, an amphetamine, a narcotic, or any other habit-forming drug.
- (b)(12)(ii) *Exception.* A driver may use such a substance or drug, if the substance or drug is prescribed by a licensed medical practitioner who:
- (A) Is familiar with the driver's medical history and assigned duties; and
 - (B) Has advised the driver that the prescribed substance or drug will not adversely affect the driver's ability to safely operate a commercial motor vehicle; and
- (b)(13) Has no current clinical diagnosis of alcoholism.”

The Medical Examination Reporting Form includes Advisory Criteria issued by the FMCSA to guide the examiner.

Legal Challenges

There have been several legal challenges against the U.S. DOT, FHWA (Federal Highway Administration) and later FMCSA on the medical criteria and on the issuance of waivers and exemptions. These cases include *Rauenhorst v. U.S. DOT, FHWA*, 95 F.3d 715 (1996), *Buck v. U.S. DOT*, 56 F.3d 1406 (1995), *Parker v. U.S. DOT*, 207 F.3d 359 (2000), *Anderson v. U.S. DOT, FHWA*, 213 F.3d 422 (2000) and *Moore v. U.S. DOT* 3 Fed.Appx. 508 (2001).

The FHWA instituted a vision waiver program in 1992. (See Appendix B for complete description of vision waiver program.) This program ended in 1994 with *Advocates for Highway and Auto Safety v. Federal Highway Administration*. In *Advocates v. FHWA*, the Eight Circuit Court ruled that the waiver program would not ensure public safety and was therefore invalid. The case of *Rauenhorst v. U.S. DOT* involved a driver who did not meet the vision standards and did not apply for the initial vision waiver program before the program ended in 1994. Mr. Rauenhorst's case was decided in his favor and he was permitted to apply for a waiver. This decision eventually led to the current vision exemption program.

Buck v. U.S. DOT involved a hearing impaired driver who requested a waiver. The courts decided in favor of the FHWA as there was the evidence suggesting that hearing impaired drivers were at a greater crash risk.

In the Parker case, both vision and a limb defect were issues. Mr. Parker was denied a vision exemption as he would need variance from more than one of the standards. Courts decided that the agency would need to assess the eligibility for each variance from the medical standards independently.

Anderson v. U.S. DOT and Moore v. U.S. DOT involved drivers who did not have the 3 years safe driving record the agency was requiring for consideration of a vision exemption. The courts determined that the 3 year requirement was reasonable.

Legal Basis for Medical Fitness

The authority to require medical certification of commercial drivers was originally granted to the ICC in the Motor Carrier Act of 1935. The authority was transferred to the DOT in 1966, and in October 1999, to the Office of Motor Carriers, a new office created in the DOT. The Motor Carrier Safety Improvement Act of 1999, Public Law 106-159, 113 Stat. 1748 transferred the functions to the FMCSA.

Examiners

Prior to 1993, only MDs or DOs were able to perform the commercial driver medical examination. A 1993 rulemaking permitted licensed health care providers, licensed by their state to perform such examination, to determine the medical qualification of the commercial driver. This includes, but is not limited to, doctors of medicine, doctors of osteopathy, physician assistants, advanced practice nurses, and doctors of chiropractic.

There is currently no formal training, certification or registration of examiners although the FMCSA is asking Congress for direction and funding to create a training and certification program. The FMCSA proposes to require all examiners to be registered.

In accordance with 49 C.F.R. § 391.43, medical examiners are expected to:

- (c)(1) “Be knowledgeable of the specific physical and mental demands associated with operating a commercial motor vehicle and the requirements of this subpart, including the medical advisory criteria prepared by the FHWA as guidelines to aid the medical examiner in making the qualification determination; and
- (c)(2) Be proficient in the use of and use the medical protocols necessary to adequately perform the medical examination required by this section.”

The final determination is made by the medical examiner. A driver who does not meet the medical standards for vision or diabetes may be eligible for an exemption and can apply through the Regional Administrator, FMCSA. Drivers who will be eligible have had at least 3 years of experience driving with that medical condition and with a safe driving record.

Drivers who have a loss or impairment of a limb or part of a limb may be able to be qualified through issuance of a Skill Performance Evaluation (SPE). The driver may apply for the SPE Certificate unilaterally or jointly with a motor carrier. The application must include details on the impairment for which the SPE certificate is requested, the type of vehicle that will be used, cargo to be transported, and driver experience and provide documentation that the driver is otherwise medically qualified. A medical evaluation summary completed by either a board qualified or board certified physiatrist or orthopedic surgeon must be submitted. Prior to the certificate being issued, the driver must also satisfactorily complete a road test.

When a difference of opinion can be demonstrated between examiners, a request for resolution of conflict by the FMCSA can be requested. The driver must submit documentation from his provider and that of the motor carrier as well as that of a specialist agreed upon by both parties. Very few are done as the process does allow for a third party impartial review, agreed upon by both carrier and driver. Only when driver and carrier are unable to agree on an impartial examiner does the process occur. Very few are filed per year and none have been overturned. The FMCSA will contract with a specialist, if needed, who will request additional information.

The FMCSA does not review the performance of the medical examination by the examiner nor is there is any mandated review process for the examinations. Some employers work with a third party administrator for scheduling, coordinating and review of the examinations or part of this process.

An examination is not required prior to beginning work for a new employer if the driver has a current valid certificate. Some carriers, however, prior to putting a driver to work will require a new medical examination and certification, by an examiner they choose. There is nothing in the regulations that specifies whether the driver or the motor carrier selects the examiner. A driver is not required to have a new examination prior to returning to work from illness or injury, unless the driver's "*ability to perform his/her normal duties has been impaired by a physical or mental injury or disease.*"¹⁰ Current regulations hold the driver and motor carrier responsible for ensuring that only medically qualified drivers are performing service. The FMCSA does perform motor carrier compliance reviews to determine that the appropriate form was used, information obtained, etc.

Application Review and Waiver Process

The process covering drivers requesting exemptions is covered in 49 C.F.R. § 381. Currently the only medical conditions where an exemption is granted are when the driver's vision does not meet the criteria or if the driver is using Insulin to control diabetes. Appendix B provides a detailed description, including legal challenges, of FMCSA's handling of exemptions for vision and diabetes. Drivers must have at least a 3 year safe driving record operating commercial vehicles with the condition to be considered. Once the application is complete, the FMCSA publishes in the *Federal Register* information on which drivers it plans to issue the exemption and those it plans to deny. A public comment period follows prior to issuance of the exemptions.

The FMCSA has received approximately 3900 applications for vision exemptions since 1997. Of those more than 1200 were granted and approximately 1450 were rejected. There are about 55 new applications per month with approximately 399 incomplete applications in continuous review per month.

To date the FMCSA has not approved any requests for diabetes exemptions. There have been 56 denials.

Program Evaluation

The program is currently evaluated through motor carrier audits, safety reviews, and roadside checks. It is currently difficult to audit performance of medical examiners, however if a national registry is implemented then a partial review of the program will be possible.

¹⁰ Persons who must be medically examined and certified. 49 C.F.R. § 391.45(c). (2003).

Relationship to Job Requirements

The medical standards are intended to ensure public safety on the nation's highways. Drivers who may not be able to operate their vehicle safely due to medical conditions would ideally be identified by the examination process. Drivers are qualified for any operations that a commercial driver might perform. The examiner is unable to limit a driver's duties. The only restriction that can be placed by the examiners is a requirement for corrective lenses, a hearing aid or a SPE certificate. Drivers who have been granted exemptions from the vision or diabetes standards can also be qualified but their duties are not restricted. Examiners may certify the driver for less than 2 years if they feel that the medical condition would not disqualify at the time of examination but would require closer follow up.

Resource Requirements

Currently the department has seven full-time equivalents and a contractor. An ideal program would include an oversight mechanism, a national registry, training and certification of examiners and a standing medical review board. The medical review board would contribute to examiner training, interpreting research to develop regulations, and making recommendations to change standards. There is currently a proposal in Congress for three or four physicians based in Washington, DC.

Advice to the FRA

It was recommended that direction is obtained from Congress and sufficient funding is ensured for appropriate staffing and resources.

References

Medical Advisory Criteria for Evaluation, 49 C.F.R. § 391.41 (2004).

Additional regulations found in other subparts of 391.

2.3 Federal Aviation Administration

The FAA has two separate medical standards programs, one for airmen (pilots) and one for air traffic control specialists.

2.3.1 Airmen

Federal Aviation Administration, Office of Aerospace Medicine, is responsible for the issuance of airman medical certificates. Approximately 450,000 applications for airman medical certificates are received and processed each year. The vast majority of this work is performed through the Aerospace Medical Certification Division (AMCD) which is located at the Civil Aeromedical Institute (CAMI) in Oklahoma City. Considerable support is provided by nine Regional Flight Surgeons, with one Regional Flight Surgeon who manages international and military aviation medical examiners (AMEs). The Federal Air Surgeon provides overall guidance and reviews selected cases.

Who is Covered

All commercial and private pilots must hold licenses issued by the FAA. Medical certification is a part of the licensing process. There are three categories of airman medical certificates that can be issued:

- 1) *Class 1* medical certificates are required for commercial pilots or airline transport pilots (ATP). These have the most stringent medical requirements. The Class 1 certificate is valid through the end of the examination month and 6 months for ATP duties, 1 year for other commercial activities and 2 or 3 years for private pilot duties.
- 2) *Class 2* medical certificates are for commercial, non-airline duties such as crop dusters, charter pilots and corporate pilots. A Class 2 certificate is valid through the end of the examination month plus 1 year for commercial activities and 2 or 3 years for private pilot use.
- 3) *Class 3* medical certificates are for private pilot activities only. These have the least restrictive medical requirements and are valid through the end of the examination month plus 3 years for those under age 40 and 2 years for those over age 40.

The majority of airmen hold Class 3 licenses.

Frequency of Examination

Frequency of examination is as described above. If an airman requires a waiver, the duration of the medical certificate may be limited but the duration of the airman certification remains unchanged. The airman may also be required to undergo a reexamination if, in the opinion of the Federal Air Surgeon or authorized representative within the FAA, there is a reasonable basis to question the airman's ability to meet the medical standards. Interim medical examination may be required in some cases of Special Issuance.

It is the airman's responsibility to not fly if s/he should develop any of the disqualifying medical conditions or receive a known disqualifying treatment or therapy. The airman may consult with the AME or flight surgeon in making that determination.

Development of the Standards/Guidelines

Medical certification of U.S. airmen officially began with the Air Commerce Act of 1926, mandating that all pilots be medically qualified to fly. The current medical standards have been in effect since passage of the FAA Act of 1959. The specific medical standards were created with medical guidance and became regulation through the Rulemaking Process. Current medical knowledge is used to update the criteria for Special Issuance. The medical standards are contained in 14 C.F.R. § 67 and require that in order for an airman medical certificate to be issued a pilot must have no established history or clinical diagnosis of any of the following:

1. Diabetes mellitus requiring hypoglycemic medication;
2. Angina pectoris;
3. Coronary heart disease that has been treated or, if untreated, that has been symptomatic or clinically significant;
4. Myocardial infarction;
5. Cardiac valve replacement;
6. Permanent cardiac pacemaker;
7. Heart replacement;

8. Psychosis;
9. Bipolar disorder;
10. Personality disorder that is severe enough to have repeatedly manifested itself by overt acts;
11. Substance dependence;
12. Substance abuse;
13. Epilepsy;
14. Disturbance of consciousness without satisfactory explanation of cause; and
15. Transient loss of control of nervous system function(s) without satisfactory explanation of cause.

In addition the airman must meet the criteria shown in Table 5.

Legal Challenges

In the 1980s the FAA changed the medical standard regarding coronary artery disease so that anyone being treated for this could be disqualified under the standard. That tightening of the prior standards was appealed to the Federal Court of Appeals but the FAA prevailed and the stricter standard remains in place.

There are numerous legal cases but most revolve around revocation of the medical certificate for positive alcohol and drug testing. The appeals go through the Federal Air Surgeon, Administrative Law Judge of the National Transportation Safety Board, the five member NTSB appellate board, Court of Appeals and finally to the Supreme Court.

One case to date has reached the NTSB appellate board. The primary issue in this case was whether the commercial pilot, who had documented hypertrophic cardiomyopathy, a relatively common genetic heart disease, and an important cause of impaired consciousness and disability at any age, should be allowed to fly. Both the FAA and the Administrative Law Judge ruled that the individual should not be allowed to fly but the NTSB reversed this decision.

Legal Basis for Medical Fitness

The medical standards are contained in 14 C.F.R. § 67.

Examiners

Airmen are examined by FAA designated Aviation Medical Examiners who are all physicians. AMEs are selected and designated by the Regional Flight Surgeons. There is mandatory multi-day training with retraining required every 3 years. Training is provided at CAMI but every other retraining can be completed from a remote location. The AME designation is renewed annually and subject to satisfactory performance and completion of the ongoing training requirements.

The number of AMEs is based on the location and number of airmen in the particular area. There are currently about 4500 – 5000 AMEs in the U.S. with approximately an additional 400 internationally, and 400 in the military.

Table 5. Medical standards for airmen

	First Class (ATP)	Second Class (commercial)	Third Class (private)															
Distant vision	20/20 or better in each eye separately, with or without correction		20/40 or better in each eye separately, with or without correction.															
Near vision	20/40 or better in each eye separately (Snellen equivalent), with or without correction, as measure at 16 in.																	
Intermediate vision	20/40 or better in each eye separately (Snellen equivalent), with or without correction at age 50 and over, as measure at 32 in.		No requirement.															
Color vision	Ability to perceive those colors necessary for safe performance of airman duties.																	
Hearing	Demonstrate hearing of an average conversational voice in a quiet room, using both ears at six feet, with the back turned to the examiner, or pass one of the audiometric tests below.																	
Audiology	<p>Audiometric speech discrimination test-score at least 70% reception in one ear. Pure tone audiometric test-unaided, with thresholds no worse than:</p> <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td>500Hz</td> <td>1,000Hz</td> <td>2,000Hz</td> <td>3,000Hz</td> </tr> <tr> <td>Better ear</td> <td>35db</td> <td>30db</td> <td>30db</td> <td>40db</td> </tr> <tr> <td>Worse ear</td> <td>35db</td> <td>50db</td> <td>50db</td> <td>60db</td> </tr> </table>				500Hz	1,000Hz	2,000Hz	3,000Hz	Better ear	35db	30db	30db	40db	Worse ear	35db	50db	50db	60db
	500Hz	1,000Hz	2,000Hz	3,000Hz														
Better ear	35db	30db	30db	40db														
Worse ear	35db	50db	50db	60db														
Ear, nose, and throat	No ear disease or condition manifested by, or that may reasonably be expected to be manifested by, vertigo or disturbance of speech or equilibrium.																	
Pulse	Not disqualifying per se. Used to determine cardiac system status and responsiveness.																	
Blood pressure	No specified values stated in the standards. Hypertension covered under general medical standard and in the <i>Guide for Aviation Medical Examiners</i> .																	
Electro-cardiogram (ECG)	At age 35 and annually after age 40.	Not required if cardiovascular examination is normal.																
Mental	No diagnosis of psychosis or bipolar or severe personality disorders.																	
Substance dependence and substance abuse	A diagnosis or medical history of "substance dependence" is disqualifying unless there is established clinical evidence, satisfactory to the Federal Air Surgeon, of recovery, including sustained total abstinence from the substance(s) for not less than the preceding two years. A history of "substance abuse" within the preceding two years is disqualifying. "Substance" includes alcohol and other drugs (i.e., PCP, sedatives and hypnotics, anxiolytics, marijuana, cocaine, opioids, amphetamines, hallucinogens, and other psychoactive drugs or chemicals).																	

Information for the AME can be found in the *Guide to Aviation Medical Examiners* and Medical Guidelines Letters which are issued by the Federal Air Surgeon. Additional information can be found in the *Federal Air Surgeon's Medical Bulletin* which is published quarterly. The Bulletin is prepared by the FAA's Civil Aerospace Medical Institute, with policy guidance and support from the Office of Aerospace Medicine.

Application Review and Waiver Process

The AME may issue the medical certification. S/He may deny the certificate if the airman has one of the 15 mandatory disqualifying conditions. In most cases, the AME will not deny but defer to the FAA. The information is transferred to the AMCD at CAMI. All denials and deferrals are reviewed. The airman may work directly through AMCD or the Regional Flight Surgeon during the review. If the AMCD denies the certificate, the airman can request reconsideration and the application is then reviewed in Washington, DC by the Federal Air Surgeon. The Federal Air Surgeon has the final authority for all medical certification decisions made within the FAA.

The next appeal is to the Administrative Law Judge of the National Transportation Safety Board and then either the FAA or the airman can appeal to the full Board. (See Figure 4.) The NSTB considers only those cases where the airman does not have one of the 15 disqualifying conditions. They can only consider whether or not the individual has ever had or been diagnosed with one of those conditions. The NTSB does not consider whether an airman would be eligible for a Special Issuance but only whether an individual should be issued an unrestricted license. If the NTSB denies the appeal, the airman can then appeal to the Federal Court of Appeals or eventually the Supreme Court. In 2002 the NTSB considered 73 applications for review. Only one of these went to a hearing and was later appealed to the full Board. The others were withdrawn or dismissed.

If the airman is found to not meet the criteria, s/he may apply for an Authorization for Special Issuance of a Medical Certificate (Special Issuance) that is valid for a specified period. It may be granted to a person who does not meet the medical standards but is able to show s/he would be able to perform the duties of that class of medical certificate applied for without endangering public safety. (Special Issuance is covered in 14 C.F.R. § 67.401.) An example of this might be an airman who has a cardiac condition which is currently stable as demonstrated through an appropriate waiting period and specified objective testing.

The Federal Air Surgeon or his designee can also grant a Statement of Demonstrated Ability (SODA) to a person whose disqualifying condition is static and non-progressive and has previously been found capable by means of a special medical test, of performing airman duties without endangering public safety. A SODA does not expire. Additional information on special issuance for airman with diabetes, cardiovascular disease or hypertension can be found at <http://www.cami.jccbi.gov/AAM-300/medcon.html>.

If an airman is certified and upon review the FAA determines that the medical certification was issued in error, the FAA has 60 days to revoke that certification.

There are approximately 2000 requests for review or appeal per year at CAMI and approximately 250 per year in Washington. Less than 1 percent of all airman applicants are denied medical certification.

Program Evaluation

The FAA evaluates its program in terms of the accident rate of airmen operating under Special Issuance. To date, very few airmen who are operating under Special Issuance have been involved in accidents. A review of special issuance airmen in 1996 revealed that an airman without a special issuance was 60 percent more likely to have an accident than one with. The

program is also evaluated with respect to efficiency and timeliness of reviews of requests for reconsideration or Special Issuance.

Relationship to Job Requirements

Medical requirements are based on safety need.

Resource Requirements

In addition to the 4500 AMEs, nine Regional Flight Surgeons and the Federal Air Surgeon, there are approximately 40 non-physician legal examiners in CAMI with staff of 130 who support six physicians and the Manager of Aeromedical Certification, also a physician. The Regional Flight Surgeons generally have two examiners in their offices. To be more efficient, the Aerospace Medical Certification Division calculated that they would need at least 32 additional examiners.

Advice to the FRA

Recommendations from those interviewed at the FAA included ensuring that sufficient resources are available, and having examiners that understand the specific tasks of the various positions and are properly trained. The FRA must also plan how incumbent employees who do not meet the new medical standards would be addressed.

References

FAA Medical Standards and Certification, 14 C.F.R. § 67 (1996).

Federal Aviation Administration. (n.d.). *Federal Air Surgeon's Medical Bulletin*. Retrieved January 21, 2003 from <http://www.cami.jccbi.gov/AAM-400A/FASMB.HTML>.

Federal Aviation Administration. (n.d.). *Guide to Aviation Medical Examiners*. Retrieved January 21, 2003 from http://www1.faa.gov/avr/aam/Game/Version_2/03amemanual/home/home.htm.

Federal Air Surgeon. (n.d.). *Medical Guidelines Letters*. Retrieved January 21, 2003 from <http://interweb.faa.gov/avr/aam/mgl/>.

Salazar, G & Silberman, W. (2003). Medical Certification of Civilian Aviation Personnel in the United States. In Dehart, R. & Davis, J., (Eds.), *Fundamentals of Aerospace Medicine* (pp. 309-322). Hagerstown, MD: Lippincott Williams & Wilkins.

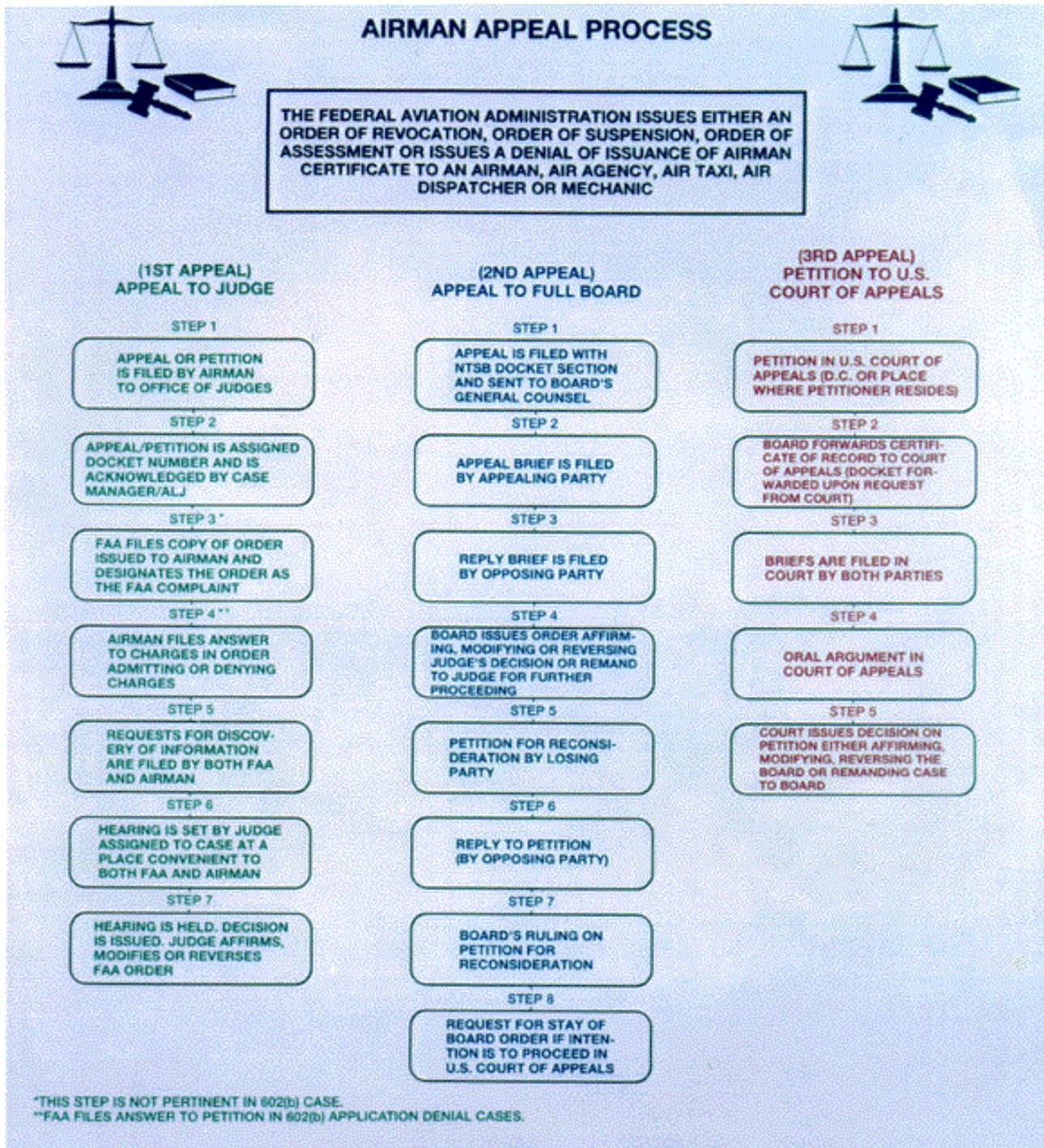


Figure 4. Airman appeal process

2.3.2 Air Traffic Control Specialists

Most civilian air traffic controllers in the U.S. are directly employed by the FAA. Their title is “air traffic control specialist” (ATCS). There are approximately 20,000 ATCSs. Medical standards for ATCS are contained in FAA Order 3930.3a, *Air Traffic Control Specialists Health Program*. The FAA issued this order in 1980 and a revision is in progress. The objectives of the ATCS Health Program are to ensure the safety of the National Airspace System and support the health of the ATCS. The ATCS Health Program is managed primarily by the nine Regional Flight Surgeons. The Occupational Health Division and the Medical Specialty Division provide support. The Federal Air Surgeon provides policy guidance and review.

Who is Covered

In addition to the ATCSs who are employed by the FAA, there are two other groups of air traffic controllers in the U.S. Air traffic controllers who are civilian contract employees at smaller or private airports will fall under the medical standards for Class 2 airman. They are generally employed by municipalities or other organizations. There are also air traffic controllers employed by the military or on active duty military. These individuals are covered by DoD medical standards. The program described below applies only to ATCSs who are FAA employees.

Frequency of Examination

There are three types of ATCS jobs:

- 1) En route control center.
- 2) Terminal, which includes airport towers and approach radar.
- 3) Flight service station – give pilot briefings, weather observations, notice to airman (NOTAMS), en route flight briefing, assist on search and research, assist pilots who are having problems.

Each type of job has a different schedule for re-examination. Center and tower ATCS must be medically qualified every year if over age 40 and every 2 years if under age 40. For flight service station, medical qualification is required every three years under age 40 and every 2 years if over age 40.

Development of the Standards/Guidelines

The medical standards in FAA Order 3930.3a, *Air Traffic Control Specialists Health Program* were derived from the Office of Personnel Management medical standards GS-2152, in 1980. The Federal Air Surgeon has consultant panels and support physicians and issues or withdraws guidance letters as appropriate.

Medical standards for initial employment and retention for ATCS differ. While there are many similarities, the criteria for retention are slightly less restrictive. The medical standards for retention also define different criteria for the different work sites: terminal, center or flight service station.

An ATCS may be qualified by meeting standards, or by Special Consideration (waiver). They may also be restricted, incapacitated or permanently disqualified. The permanent disqualification rate is very low, less than 1 percent annually. ATCSs can be limited in their medical qualification, for example to only one type of facility.

ATCSs are required to report any health condition that occurs between examinations to facility management or the Regional Flight Surgeon. The Regional Flight Surgeon may review the medical information or direct the ATCS to have a medical examination performed. FAA regulations prohibit an ATCS from working if s/he is using specified medications.

Legal Challenges

There are a number of challenges that can be filed by an ATCS who is denied medical certification. They may file complaints with the Equal Employment Opportunity Commission (EEOC) or the Merit System Protection Board. They may also file a complaint directly in Federal District Court. ATCSs may write letters to their congressional representative, file union grievances or make requests under the Freedom of Information Act. The FAA expends considerable resources to resolve these challenges.

Examiners

The Regional Flight Surgeon designates selected aviation medical examiners to examine ATCSs. (See description of AMEs in Airman section.) As is the case with pilots, the AME may issue the medical certification. However, the Regional Flight Surgeons reserve the authority to make ATCS medical status determination. An ATCS who disagrees with a Regional Flight Surgeon decision may request review by the Federal Air Surgeon.

Application Review and Waiver Process

An ATCS who does not meet medical standards may be granted medical qualification by Special Consideration if s/he can safely perform the essential functions of the job. An individual with a cardiovascular condition which is currently stable, as demonstrated through specified objective testing, may be eligible to be qualified by Special Consideration. The FAA Office of Aviation Medicine in coordination with air traffic management issues the waiver.

ATCS may request review through their Regional Flight Surgeon. They may also request review by the Federal Air Surgeon. The Federal Air Surgeon has final authority to make a medical determination within the FAA. The Federal Air Surgeon will also reconsider cases when new information is submitted.

Program Evaluation

The program is evaluated in terms of timeliness of reviews and whether individuals who are on Special Consideration are involved in accidents. The program could improve if more resources were available. Some goals would be improved customer service with improved timeliness of reviews and communications in clearer language.

Relationship to Job Requirements

The medical standards are designed to relate to job performance. Most standards are consensus based. Factors used in determining whether special consideration should be issued include if an individual is to become impaired due to their medical conditions, the predictability of the impairment, time of onset of impairment, external observability of impairment, and an individual's self-awareness of impairment.

Resource Requirements

A significant amount of medical and staff resources are required to support the ATCS Health Program. This is done primarily by the nine Regional Flight Surgeon offices, several Deputy

Regional Flight Surgeons and Center Flight Surgeons, the Occupational Health Division and the Medical Specialties Division. There are between 400 and 500 AMEs who perform 10,000 ATCS examinations annually.

Advice to the FRA

The FAA advises the FRA to make certain that there are sufficient resources and that medical providers involved are aware of the specific task performed and the relationship with medical concerns.

References

FAA Order 3930.3a, *Air Traffic Control Specialists Health Program*. Retrieved January 10, 2004 from <http://isddc.dot.gov/OLPFiles/FAA/005258.pdf> and <http://isddc.dot.gov/OLPFiles/FAA/005685.pdf> 10.

2.4 U.S. Coast Guard

The U.S. Coast Guard, now a part of the Department of Homeland Security, is responsible for the medical certification of mariners. This section describes the mariner program as well as the Coast Guard's procedures for medical certification of full-time Coast Guard military personnel.

2.4.1 Mariners

The Coast Guard's National Maritime Center is responsible for managing the licensing of mariners. There are 17 Regional Examination Centers that review applications before sending them to the National Maritime Center for final approval. Part of the licensing process includes medical certification.

Who is Covered

There are three categories of mariner rating: licensed, qualified ratings and unqualified or entry level ratings. Licensed includes officers, masters and mates. This category has the strictest set of licensing requirements. Sailors are in the qualified category and have requirements that are similar to those for a licensed position. The entry level rating is for an individual with no mariner skills.

Frequency of Examination

Applicants for the licensed and qualified ratings must have a physical examination but those for the entry level rating must demonstrate the ability to perform physical tasks required onboard a ship. The physical examination report is a part of the initial license application process as well as the renewal process every 5 years. In addition, any individual who pilots a vessel of 1,600 gross tons or over must have an annual physical examination but the report of this examination need not be forwarded to the Coast Guard. However, upon request, such a pilot must provide the Coast Guard with a copy of the report of his or her most recent physical examination.

Development of the Standards/Guidelines

The Coast Guard has always had some type of medical requirement for licensed mariners. Initially, specific standards covered only visual acuity and color vision, which are prescribed by federal regulation (46 C.F.R. § 10, 12, and 13). Other requirements were only generally stated. In 1989, the Coast Guard issued the first set of guidelines on what the physical examination

should address. Based on issues that arose over time, changes were made. Changes to these guidelines reflect review by the National Maritime Center's in-house medical staff as well as public review by outside organizations. Unions, vessel owners, vessel operators, mariners and occupational medicine physicians have all been involved in review of the guidelines.

The Coast Guard's Navigation and Vessel Inspection Circular (NVIC) No. 02-98 provides the current "Physical Evaluation Guidelines for Merchant Mariner's Documents and Licenses." These are *guidelines*, not standards, to provide general direction to the examiner in assessing the applicant's ability to perform the shipboard job for which s/he is seeking a license. The *Merchant Marine Physical Examination Report* requests that "Physicians completing the examination should ensure that mariners:

- Are of sound health.
- Have no physical limitations that would hinder or prevent performance of duties.
- Are physically and mentally able to stay alert for 4 to 6-hour shifts.
- Are free from any medical conditions that pose a risk of sudden incapacitation, which would affect operating, or working on vessels."

Legal Challenges

The Chief, Licensing and Evaluation Branch, is not aware of any legal challenges to either the guidelines or the overall Coast Guard process for medical examinations. Similarly, he is not aware of any collective bargaining or other labor issues related to the medical aspects of the mariner licensing program.

Legal Basis for Medical Fitness

The International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) requires the establishment of medical fitness standards for seafarers. The medical requirements for mariners are contained in 46 C.F.R. § 10, 12, and 13. The provisions of NVIC 02-98 provide detailed information about these standards.

Examiners

For many years Public Health Service (PHS) physicians performed the physical examination. Approximately 20 years ago, the laws were revised and as a result the scope of services performed by the PHS was reduced. Under these new laws, the PHS would no longer conduct physical examinations. As a result, USCG regulations were revised to allow the physical examinations to be performed by doctors, physician's assistants, or licensed practical nurses licensed by any state. There is no formal training or certification for the examiners. Either the applicant or his/her employer is responsible for the cost of the examination.

Application Review and Waiver Process

The Regional Employment Centers (REC) review the application and supporting documents, which include the physical examination report, and make a preliminary determination using the information in the NVIC as to whether or not the requested mariner's credential should be granted. If the REC feels that the applicant is capable of doing the job but the physical examination indicates a medical problem, then the application will be sent to the National Maritime Center for review by the Medical Review Board. The Medical Review Board then examines the report of physical examination and any other pertinent information the applicant

provides. The Board will recommend approval, disapproval, or request additional information. If approval is recommended, there may be a limitation placed on the applicant's credential to allow the applicant to serve in a position where the medical or physical condition will not have significant affect on his or her ability to perform the required duties. The Board's recommendation is returned to the Officer in Charge, Marine Inspection (OCMI)¹¹, the official who makes the final determination to issue or deny issuance of the credential. The REC is the organizational arm that works for the OCMI.

If more information is necessary, the applicant is given the opportunity to provide it. After receiving the additional information, if the REC still denies the application, the applicant may appeal that decision. The first level of appeal is the office where the decision was made. If it is not resolved to the applicant's satisfaction, he or she may appeal to the USCG District Commander, then the National Maritime Center.

The National Maritime Center handles 50,000 to 60,000 applications a year. This includes both new applications and renewals. Of these, 1200 to 1400 require a request for a waiver or conditional approval. Approximately 10 percent of the requests for medical waivers are denied.

Program Evaluation

The Chief, Licensing and Evaluation Branch, National Maritime Center, evaluates the overall process for licensing in terms of how smoothly it runs and the feedback that he receives from the field people in the RECs. He relies on the medical staff and information received from the RECs to make recommendations with regard to the need for changes in the medical guidelines.

Relationship to Job Requirements

The guidelines in NVIC 02-98 relate to the job requirements of a mariner. The standards for visual acuity and color vision are directly related to the requirement that the mariner be able to recognize navigation aids. The "agility, strength and flexibility" standards that all applicants must meet also relate directly to the job. Beyond these two sets of standards, specific job requirements are addressed in the waiver process. For example, if an individual has a physical handicap, including those covered by ADA, but is able to perform selected tasks, the credential granted under the waiver process could specify the type of job that the individual can hold.

Resource Requirements

Approximately 1 percent of the resources required to run the mariner licensing program are devoted to the medical examination process. One MD at the National Maritime Center handles the waivers, which total 1200 to 1400 annually. Occasionally there is need for consultation from a specialist physician.

Advice to the FRA

The Chief, Licensing and Evaluation Branch, National Maritime Center, suggests that the FRA identify the demands of each job and then determine the medical or physical conditions that would prevent an applicant from doing the job.

¹¹ Officer in Charge, Marine Inspection is the person charged by the Coast Guard with the responsibility of enforcing within a specified area the laws and regulations regarding the operation and inspection of vessels, the issuance of credentials to mariners, and the investigation of marine casualties.

References

Navigation and Vessel Inspection Circular (NVIC) 02-98. Retrieved December 10, 2003 from www.uscg.mil/hq/g-m/index.

2.4.2 Coast Guard Military Personnel

The U.S. Coast Guard, formerly a part of the U.S. DOT, is now a part of the Department of Homeland Security. The Coast Guard is considered a part of the Armed Forces of the U.S. and as such its members must be “physically fit and emotionally adaptable to military life.” There are two sets of medical standards that apply to Coast Guard personnel, one for accession to the service and one for retention in the service.

Accession Physicals

The Coast Guard uses the Military Entrance Processing Stations (MEP) for initial screening of all candidates for positions in the U.S. Coast Guard. The same medical standards (DoD Directive 6130.4) apply for all branches of military service, including the Coast Guard.

Frequency of Examination

The Coast Guard requires retention physicals every 2 years for aviators until age 50 when an annual physical is required. Other positions require a physical examination every 5 years. Retention physicals for aviators use the same DoD standards that are used for recruitment. However, there is a separate set of standards for retention physicals that apply to other positions. (See Chap. 3, Medical Manual, COMDTINST M6000.1B)

Development of Standards/Guidelines

About 4 years ago the various branches of the Armed Forces, including the Coast Guard, adopted a common set of medical standards. These standards are used for the Coast Guard accession physicals. With regard to retention physicals, the Coast Guard has its own set of standards and medical guidelines. The Coast Guard tends not to make changes to its medical standards but does revise its guidelines for waivers as new medical information becomes available. For example, until recently depression was a disqualifying condition for retention. Because many types of depression can be controlled with drugs, the Coast Guard now evaluates each case individually rather than categorically disqualifying anyone with depression.

Examiners

MEPs employ civilian physicians, preferably with some prior military experience, to conduct the physical examination. Physicians in the Coast Guard, any branch of the military and some civilian physicians may perform retention physicals. Civilian physicians who perform these examinations must have some working knowledge of military duties. An NP or PA (with oversight from a physician) may also conduct the examination. However, the Coast Guard permits only military flight surgeons or aviation medical examiners (AMEs) who are retired military flight surgeons to perform physicals for aviators.

Waiver Process

The Commander, Coast Guard Personnel Command, oversees the waiver process and makes the final determination as to whether or not a waiver is granted. There are two types of waivers: temporary and permanent. A temporary waiver may be authorized when the condition is not

stable and may change over time. This type of waiver is usually issued for a specific time period and requires medical re-evaluation for an extension. In contrast, a permanent waiver may be authorized when the condition is stable and it has been demonstrated that the condition does not impair the individual's ability to perform his or her duties.

Accession – The MEPS sends the results of the accession physical examination back to the Coast Guard recruiter who submits them to support the candidate's entrance into the Coast Guard. Depending upon the position that the individual is likely to fill, the Recruiting Command may issue a waiver for a candidate who fails to meet some aspect of the medical standards.

Retention – For positions other than aviators, if the individual fails to meet the medical standards for retention, his or her Commanding Officer may request a review of the case from the Coast Guard Personnel Command. The Personnel Command may issue a waiver if the individual can perform the duties of his/her current position. The waiver process for aviators requires review by a Personnel Command Flight Surgeon and, in complicated cases, an evaluation by a Board consisting of at least three flight surgeons and two pilots. The Board reviews the case and makes a recommendation to the Personnel Command.

The Coast Guard handles 2200 waiver requests per year for accession and 450 for retention. Physicians review the waiver requests and recommend the appropriate action. Most requests for waivers involve aviators.

Program Evaluation

The Coast Guard does not have a formal process for evaluating its medical screening program. However, the Division of Operational Medicine keeps abreast of medical developments in the diagnosis and treatment of diseases and seeks to incorporate the latest medical knowledge and practice into the application of the existing standards.

Relationship to Job Requirements

Because Coast Guard personnel can potentially be deployed anywhere in the world on active duty, the Coast Guard adheres to military medical standards for entry into the Coast Guard. The DoD Medical standards are designed to assure that candidates are:

- “Free of contagious diseases that would likely endanger the health of other personnel.
- Free of medical conditions or physical defects that would require excessive time lost from duty for necessary treatment or hospitalization or would likely result in separation from the Army for medical unfitness.
- Medically capable of satisfactorily completing required training.
- Medically adaptable to the military environment without the necessity of geographical area limitations.
- Medically capable of performing duties without aggravation of existing physical defects or medical conditions.” (DoD Directive 6130.3)

Since some medical conditions develop with age or as a result of military activity, the Coast Guard evaluates each retention circumstance individually. Depending upon the individual's duties, a waiver may be issued.

Resource Requirements

Two physicians handle all waiver applications.

Advice to the FRA

The Chief of the Coast Guard's Medical Readiness Branch recommends that a program of medical standards for railroad workers include guidelines to the physician as to appropriate medical examination techniques and lab testing standards. The guidelines should also include the accepted method for making a diagnosis. Guidelines help to assure some consistency in a medical screening program.

References

DoD Directive 6130.4, "Criteria and Procedure Requirements for Physical Standards for Appointment, Enlistment, or Induction in the Armed Forces," December 14, 2000.

Coast Guard Aviation Medicine Manual, COMDTINST M6410.3, May 28, 2003.

Medical Manual, Chap. 3, COMDTINST M6000.1B.

2.5 Comparison of FRA with other Agencies

The current FRA medical standards cover only vision and hearing and, as such, are much less extensive than those of the other DOT modal administrations. Table 6 summarizes the conditions that are covered by each set of modal standards. (The USCG medical standards are more rigorous than the others due to the military readiness requirement. For this reason they are not included in this table.) The FAA's standards for airmen and the USCG's standards for mariners are the most comprehensive. FMCSA's motor carrier standards and the FAA's standards for ATCSs are similar to those for airmen and mariners with the exception of hematological conditions, allergies and infectious disease.

There are a number of differences between the FRA and the other agencies in terms of the way in which the agency administers its medical standards program. The FAA program is the most centralized. The FAA certifies the examiners, reviews the examination results and grants variances from regulations and guidelines. In contrast, the FMCSA and the USCG mariner programs do not certify the examiners and do not review the quality of the examination or its results unless there is a waiver request. The FRA never reviews examination results. The FAA and the USCG each have designated individuals with authority to issue waivers. The USCG uses a similar process for both the mariner program and the military program. At the FAA, Regional Flight Surgeons and the Federal Air Surgeon are involved in this process. In the case of pilots, the individual may take his/her case to the NTSB and eventually the U.S. courts. For FMCSA, approval of a waiver request involves a *Federal Register* announcement with a public comment period. With regard to railroads, the individual railroad's medical officer in consultation with the Supervisor of Locomotive Engineers may determine that, in spite of failing to pass the hearing or vision examination, an individual's job is such that s/he can still work safely. FRA's Locomotive Engineer Certification Board will review disputes regarding the examination procedure but not medical findings.

Table 6. Medical conditions addressed by modal standards

Condition	FRA	FMCSA	FAA Airmen	FAA ATCS	USCG non-military
Vision	✓	✓	✓	ATCSHP	✓
Hearing	✓	✓	✓	ATCSHP	NVIC
Musculoskeletal		✓	AME Guide	ATCSHP	NVIC
Diabetes		✓	✓	ATCSHP	NVIC
Other Endocrine			AME Guide		NVIC
Cardiac		✓	✓	ATCSHP	NVIC
Gastrointestinal			AME Guide		NVIC
Respiratory		✓	AME Guide		NVIC
Sleep Disorders		AC	AME Guide		NVIC
Hypertension		✓	AME Guide	ATCSHP	NVIC
Seizures		✓	✓	ATCSHP	NVIC
Other Neurologic		✓	AME Guide	ATCSHP	NVIC
Psychiatric		✓	✓	ATCSHP	NVIC
Renal			AME Guide		NVIC
Medication Use	✓	✓	✓	ATCSHP	NVIC
Hematological			AME Guide		NVIC
Allergies			AME Guide		NVIC
Infectious Disease			AME Guide		NVIC

Key

✓	included in CFR
AME Guide	<i>Guide to Aviation Medical Examiners</i>
ATCSHP	<i>Air Traffic Control Specialist Health Program</i>
NVIC	<i>Vessel and Navigation Information Circular 02-98</i>
AC	<i>FMCSA Advisory Criteria</i>

Characteristics of the individual modal programs have additional differences. Physicians are responsible for FRA and FAA examinations but the Coast Guard mariner program and FMCSA permit any health care provider who is permitted to perform independent examinations by their state license, to perform the medical examination. Each agency provides some level of guidance to its examiners. The FRA’s guidelines are a part of the regulation. The FAA, FMCSA and USCG publish separate guideline documents for the examiners. The FMCSA examination report form also contains limited guidance for the examiner.

