



NTSB National Transportation Safety Board

Office of Marine Safety

Pilot Medical Issues

Mitchell A. Garber
MD, MPH, MSME

USCG Form 719K

- Required by USCG for mariner credentialing (every 5 years)
- Submitted annually to USCG by pilots

Form 719K

Instructions

If you are applying for:

- ORIGINAL LICENSE AND/OR QUALIFIED RATING DOCUMENT** (i.e., *First Rating* of Able Seaman, Qualified Member of the Engine Department, and Tankerman) – Submit this report, completed by your physician.
- RENEWAL OF LICENSE AND/OR QUALIFIED RATING DOCUMENT** – You may:
 - Submit this report, completed by your physician; **or**
 - Submit a certification by a physician in accordance with Title 46, CFR, 10.209(d) or 12.02-27(d).
- RAISE-IN-GRADE (LICENSES)** – You may:
 - Submit this report, completed by your physician; **or**
 - Submit a certification by a physician in accordance with Title 46, CFR, 10.207(e).

Instructions for Licensed Physician / Physician Assistant / Nurse Practitioner

The U. S. Coast Guard requires a physical examination / certification be completed to ensure that all holders of Licenses and Merchant Mariner Documents are physically fit and free of debilitating illness and injury. 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.

Below is a partial list of physical demands for performing the duties of a merchant mariner in most segments of the maritime industry:

- Working in cramped spaces on rolling vessels.
 - Maintaining balance on a moving deck.
 - Rapidly donning an exposure suit.
 - Stepping over doorstills of 24 inches in height.
 - Opening and closing watertight doors that may weigh up to 56 pounds.
 - Pulling heavy objects, up to 50 lbs. in weight, distances of up to 400 feet.
 - Climbing steep stairs or vertical ladders without assistance.
 - Participating in firefighting and lifesaving efforts, including wearing a self-contained breathing apparatus (SCBA), and lifting/controlling fully charged fire hoses.
- Detailed guidelines on potentially disqualifying medical conditions are contained in Navigation and Vessel Inspection Circular (NVIC) 02-98. Physicians should be familiar with the guidelines contained within this document. NVIC 02-98 may be obtained from www.uscg.mil/hq/gc-nv/index or by calling the nearest USCG Regional Examination Center.
 - Examples of physical impairment or medical conditions that could lead to disqualification include impaired vision, color vision or hearing; poorly controlled diabetes; multiple or recent myocardial infarctions; psychiatric disorders; and convulsive disorders. In short, any condition that poses an inordinate risk of sudden incapacitation or debilitating complication, and any condition requiring medication that impairs judgment or reaction time are potentially disqualifying and will require a detailed evaluation.
 - Engineer Officer, Radio Officer, Offshore Installation Manager, Barge Supervisor, Ballast Control Operator, QMED and Tankerman applicants need only to have the ability to distinguish the colors **red, green, blue** and **yellow**. The physician should indicate in Section IV the method used to determine the applicant's ability to distinguish these colors.
 - This applicant should present photo identification before the physical examination/certification.

Previous Editions Obsolete

Privacy Act Statement

As required by Title 5 United States Code (U.S.C.) 552a(e)(3), the following information is provided when supplying personal information to the U. S. Coast Guard.

- Authority for solicitation of the information: 46 U.S.C. 2104(a), 7101(c)-(e), 7306(a)(4), 7313(c)(3), 7317(a), 8703(b), 9102(a)(5).
- Principal purposes for which information is used:
 - To determine if an applicant is physically capable of performing shipboard duties.
 - To ensure that a duly licensed Physician/Physician Assistant/Nurse Practitioner conducts the applicant's physical examination/certification and to verify the information as needed.
- The routine uses which may be made of this information:
 - This form becomes a part of the applicant's file as documentary evidence that regulatory physical requirements have been satisfied and the applicant is physically competent to hold a merchant mariner license or document.
 - The information becomes part of the total license or document file and is subject to review by federal agency casualty investigators.
 - This information may be used by the U. S. Coast Guard and an Administrative Law Judge in determining causation of marine casualties and appropriate suspension and revocation action.
- Disclosure of this information is voluntary, but failure to provide this information will result in non-issuance of a license and/or merchant mariner's document.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The Coast Guard estimates that the average burden for completing this form is 10 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestion for reducing the burden to the: Commanding Officer, U.S. Coast Guard National Maritime Center, 4200 Wilson Boulevard, Suite 630, Arlington, VA 22203-1804 or Office of Management & Budget, Paperwork Reduction Project (1625-0040), Washington, DC 20503.

NTSB



Form 719K

Department of Homeland Security U.S. Coast Guard CG-719K (Rev 03/04)	Merchant Mariner Physical Examination Report Page 3	OMB 1625-0040 Expires 07/31/2009																									
Section I – Applicant Information Name (Last, First, Middle) of Applicant _____ Date of Birth (Month, Day, Year) _____ Social Security Number _____																											
Section II - Physical Information Eye Color _____ Hair Color _____ Weight _____ lbs Height _____ ft _____ in Blood Pressure _____ / _____ Systolic / Diastolic Pulse Resting <input type="checkbox"/> Regular <input type="checkbox"/> Irregular																											
Section III - Vision (if you have corrected vision, BOTH uncorrected & corrected MUST be shown) <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">UNCORRECTED</td> <td style="width:33%;">CORRECTABLE TO</td> <td style="width:33%;">FIELD OF VISION</td> </tr> <tr> <td>Right 20 / _____</td> <td>Right 20 / _____</td> <td><input type="checkbox"/> Normal</td> </tr> <tr> <td>Left 20 / _____</td> <td>Left 20 / _____</td> <td><input type="checkbox"/> Abnormal</td> </tr> </table> The applicant must have 100 degrees horizontal field of vision			UNCORRECTED	CORRECTABLE TO	FIELD OF VISION	Right 20 / _____	Right 20 / _____	<input type="checkbox"/> Normal	Left 20 / _____	Left 20 / _____	<input type="checkbox"/> Abnormal																
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Section IV – Color Vision <input type="checkbox"/> PASS <input type="checkbox"/> FAIL Deck Officers/Ratings (masters, mates, pilots, operators, able-seaman) must be tested using one of the following tests. For all other licenses/ratings, see page 1, note 3. <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; vertical-align: top;"> Pseudoisochromatic Plates <input type="checkbox"/> Divercine - 2nd Edition <input type="checkbox"/> AOC <input type="checkbox"/> AOC Revised Edition <input type="checkbox"/> AOC - HRR <input type="checkbox"/> Ishihara 16, 24, 38 Plate Edition </td> <td style="width:50%; vertical-align: top;"> <input type="checkbox"/> Eldridge - Green Perception Lantern <input type="checkbox"/> Farnsworth Lantern (FALANT) <input type="checkbox"/> Keystone Orthoscope <input type="checkbox"/> Keystone Telebinocular <input type="checkbox"/> SAMCTT - School of Aviation Medicine <input type="checkbox"/> Titmus Optical Vision Test <input type="checkbox"/> Williams Lantern </td> </tr> </table>			Pseudoisochromatic Plates <input type="checkbox"/> Divercine - 2nd Edition <input type="checkbox"/> AOC <input type="checkbox"/> AOC Revised Edition <input type="checkbox"/> AOC - HRR <input type="checkbox"/> Ishihara 16, 24, 38 Plate Edition	<input type="checkbox"/> Eldridge - Green Perception Lantern <input type="checkbox"/> Farnsworth Lantern (FALANT) <input type="checkbox"/> Keystone Orthoscope <input type="checkbox"/> Keystone Telebinocular <input type="checkbox"/> SAMCTT - School of Aviation Medicine <input type="checkbox"/> Titmus Optical Vision Test <input type="checkbox"/> Williams Lantern																							
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Section V - Hearing <input type="checkbox"/> NORMAL <input type="checkbox"/> IMPAIRED (If impaired, complete Audiometer and Functional Speech Discrimination Test) <table style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:15%;">Audiometer (Threshold Value)</td> <td style="width:15%;">500 Hz</td> <td style="width:15%;">1000 Hz</td> <td style="width:15%;">2000 Hz</td> <td style="width:15%;">3000 Hz</td> </tr> <tr> <td>Right Ear (Unaided)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Left Ear (Unaided)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Right Ear (Aided)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Left Ear (Aided)</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> Functional Speech Discrimination Test at 55 dB Right Ear (Unaided) _____ % Left Ear (Unaided) _____ % Right Ear (Aided) _____ % Left Ear (Aided) _____ %			Audiometer (Threshold Value)	500 Hz	1000 Hz	2000 Hz	3000 Hz	Right Ear (Unaided)					Left Ear (Unaided)					Right Ear (Aided)					Left Ear (Aided)				
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Signature of Physician/Physician Assistant/Nurse Practitioner _____ Date _____ I certify that all information provided by me is complete and true to the best of my knowledge.																																																																																																																															
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Medical History (on 719K)

- Most recent: 1/19/07
- Multiple questionable conditions/medications
- History of:
 - Pancreatitis 1998
 - 10 kidney stones (none in 10 yrs)
 - Alcohol abuse (current AA attendance)
 - Depression
 - “Occasional” headaches

Medical History (on 719K) – cont'd

- History of:
 - Chronic esophagitis
 - Sleep apnea
 - “Occasional” abdominal pain
 - Glaucoma
 - “Occasional” medication “for sleep”
- No other medications noted
- No additional review; “competent”

Medical History (in USCG records)

- DUI offenses – 1971, 1998
- 30-day recovery program 3/99
- 9 months of AA attendance
- USCG e-mail 11/99: “waiver is granted”
- License 1/00: no indications

Medical History (on 719K) – cont'd

- Following the allision:
 - USCG medical review (of previous submissions)
 - “not physically competent to maintain the license”

Medical History (clinical records)

- Obtained to evaluate role of medical conditions/medications
- Noted conditions listed on 719K, including inpatient alcoholism treatment
- Regular prescriptions of performance degrading/addictive medications
- Primary care physician – limited notations

Medical History (clinical records)

- Tolerance/withdrawal
- June 2005:
 - Difficulty achieving anesthesia
 - Adequate doses of anti-anxiety and pain medications
- August 2005:
 - Discontinued lorazepam
 - Withdrawal symptoms
- Likely regular use

Medication Effects

- Performance degradation – tracking, divided attention, information processing, reaction time, etc.
- Medication combination likely worse
- Dependence – withdrawal if discontinued
- Performance degradation not observable
- Performance worse with more complex tasks

Medical History (clinical records)

- Medications used as prescribed
- No evaluation for substance dependence in 8 years
 - Alcohol dependence increases likelihood of prescription dependence
 - Multiple potentially addictive prescriptions

Toxicology

- USCG testing – negative
- Illegal substances
- Pilot's medications not detectable

Summary

- Performance degraded by medications
- Primary physician inappropriately prescribed medications
- Physician performing physical incorrectly assessed “competent”
- Medical info incomplete, but sufficient to require additional evaluation

