

Change 150
Manual of the Medical Department
U.S. Navy
NAVMED P-117

8 Jun 2015

To: Holders of the Manual of the Medical Department

1. **This Change**

a. Updates article 15-63 by deleting “Unmanned Aerial Vehicle (UAV) operators” from article 15-63, paragraph (c); adding the definition of Class IV Aviation Personnel as paragraph (d); and renumbering the subsequent subparagraphs of the article as appropriate.

b. Updates and renumbers previous article 15-96 to 15-99. Redirects the inquirer of unmanned aircraft systems aircrew standards to the MANMED extension document: The U.S. Navy Aeromedical Reference and Waiver Guide, Chapter 1, Aviation Physical Standards, for a full description of all applicant aeromedical requirements. Renumbers some of the articles because of the change from Class III to Class IV that required placing that article behind the Class III set.

c. Updates the Contents page of Section IV to show the article changes.

2. **Background.** The development and utilization of U.S. Naval unmanned aircraft systems (UAS) has recently undergone explosive growth. With that comes an improved sense of physiologic requirements most desirable for the selection and retention of qualified and competent UAS operators. Removal from the inhospitable exposures of aerial flight (extremes of altitude, pressure, temperature, etc.) leaves only a few physiologic parameters that may still demand aeromedical standards above the general duty Sailor. In response to the needs of the Fleet and Fleet Marine Force, our experts in aviation medicine have appropriately modified previous outdated U.S. Naval UAS aeromedical accession standards in the Manual of the Medical Department.

3. **Action**

a. Remove pages 15-47 through 15-51 and pages 15-70 through 15-72 and replace with like-numbered pages.

b. Record this Change 150 in the Record of Page Changes.



M. L. NATHAN
Chief, Bureau of
Medicine and Surgery

Section IV

SPECIAL DUTY EXAMINATIONS AND STANDARDS

Article	Page
15-62 Purpose of Aeromedical Examinations	15-50
15-63 Classes of Aviation Personnel	15-50
15-64 Authorized Examiners	15-51
15-65 Applicant, Student, and Designated Standards	15-51
15-66 Physically Qualified (PO) and Not Physically Qualified (NPO)	15-51
15-67 Aeronautical Adaptability (AA)	15-52
15-68 The Field Naval Aviator Evaluation Board, Field Naval Flight Officer Evaluation Board, and Flight Performance Board	15-52
15-69 The Aeromedical Reference and Waiver Guide	15-53
15-70 Examination Frequency and Period of Validity	15-53
15-71 Complete Aeromedical Examination (Long Form)	15-53
15-72 Abbreviated Aeromedical Examination (Short Form)	15-54
15-73 Check-In Examinations	15-54
15-74 Post-Grounding Examinations	15-55
15-75 Post-Hospitalization Examinations	15-55
15-76 Post-Mishap Examinations	15-55
15-77 Forms and Health Record Administration	15-56

Article	Page
15-78 Submission of Examinations for Endorsement	15-56
15-79 Disposition of Personnel Found NPQ	15-58
15-80 Local Board of Flight Surgeons (LBFS)	15-58
15-81 Special Board of Flight Surgeons	15-59
15-82 Senior Board of Flight Surgeons (SBFS)	15-60
15-83 Standards for Aviation Personnel	15-60
15-84 Disqualifying Conditions for all Aviation Duty	15-60
15-85 Class I: Personnel Standards	15-64
15-86 Student Naval Aviator (SNA) Applicants	15-65
15-87 Class II Personnel: Designated Naval Flight Officer (NFO) Standards	15-66
15-88 Class II Personnel: Applicant Naval Flight Officer (NFO) Standards	15-66
15-89 Class II Personnel: Designated Naval Flight Surgeon, Naval Aerospace Physiologist, Naval Aerospace Experimental Psychologist, and Naval Aerospace Optometrist Standards	15-67
15-90 Class II Personnel: Applicant Naval Flight Surgeon, Naval Aerospace Physiologist, Naval Aerospace Experimental Psychologist, and Naval Aerospace Optometrist Standards	15-67
15-91 Class II Personnel: Designated and Applicant Naval Aircrew (Fixed Wing) Standards	15-68
15-92 Class II Personnel: Designated and Applicant Naval Aircrew (Rotary Wing) Standards	15-68
15-93 Class II Personnel: Designated and Applicant Aerospace Physiology Technician Standards	15-68
15-94 Class III Personnel: Non-Disqualifying Conditions	15-69

Article		Page
15-95	Class III Personnel: ATCs-Military and Department of the Navy Civilians, and Designate, Applicant Standards	15-69
15-96	Class III Personnel: Critical Flight Deck Personnel Standards (Director, Spotter, Checker, Non-Pilot Landing Safety Officer and Helicopter Control Officer, and Any Other Personnel Specified by the Unit Commanding Officer)	15-70
15-97	Class III Personnel: Non-Critical Flight Deck Personnel Standards	15-70
15-98	Class III Personnel: Personnel Who Maintain Aviator Night Vision Standards	15-71
15-99	Class IV Personnel: Applicant Active Duty and DON/DoD-GS Unmanned Aircraft Systems (UAS) Operator Standards [Air Vehicle Operators (AVO), Sensor Operators (SO), Mission Payload Operators (MPO), and Unmanned Aircraft Systems Commanders (UAC)]	15-71
15-100	Selected Passengers, Project Specialists, and Other Personnel	15-71
15-101	Naval Aviation and Water Survival Training Instructors (NAWSTI) and Rescue Swimmer School Training Programs Standards	15-71
15-102	Diving Duty Examinations and Standards	15-73
15-103	Nuclear Field Duty	15-78
15-104	Occupational Exposure to Ionizing Radiation	15-81
15-105	Naval Special Warfare and Special Operations (NSW/SO)	15-83
15-106	Submarine Duty	15-90
15-107	Explosives Handler and Explosives Motor Vehicle Operator Examinations and Standards	15-94
15-108	Landing Craft Air Cushion (LCAC) Medical Examinations	15-96
15-109	Landing Craft Air Cushion (LCAC) Medical Standards	15-98
15-110	Firefighting Instructor Personnel Examinations and Standards	15-104

15-62**Purpose of Aeromedical
Examinations**

(1) Aviation medical examinations are conducted to determine whether or not an individual is both physically qualified and aeronautically adapted to engage in duties involving flight.

(2) Aviation physical standards and medical examination requirements are developed to ensure the most qualified personnel are accepted and retained by naval aviation. Further elaboration of standards, medical examination requirements, and waiver procedures are contained in the Aeromedical Reference and Waiver Guide (ARWG); (see <http://www.med.navy.mil/sites/nmotc/nami/arwg/Pages/AeromedicalReferenceandWaiverGuide.aspx>).

15-63**Classes of
Aviation Personnel**

(1) Applicants, students, and designated aviation personnel assigned to duty in a flying class and certain non-flying aviation related personnel defined below must conform to physical standards in this article. Those personnel are divided into four classes.

(a) **Class I.** Naval aviators and student naval aviators (SNA). For designated naval aviators, Class I is further subdivided into three Medical Service Groups based on the physical requirements for purposes of specific flight duty assignment:

(1) **Medical Service Group 1.** Aviators qualified for unlimited or unrestricted flight duties.

(2) **Medical Service Group 2.** Aviators restricted from shipboard aircrew duties (include V/STOL) except helicopter.

(3) **Medical Service Group 3.** Aviators restricted to operating aircraft equipped with dual controls and accompanied on all flights by a pilot or copilot of Medical Service Group 1 or 2, qualified in the model of aircraft operated. A separate request is required to act as pilot-in-command of multi-piloted aircraft.

(b) **Class II.** Aviation personnel other than designated naval aviators or student naval aviators including naval flight officers (NFO), technical observers, naval flight surgeons (NFS), aerospace physiologists (AP), aerospace experimental psychologists (AEP), naval aerospace optometrists, naval aircrew (NAC) members, and other persons ordered to duty involving flying.

(c) **Class III.** Members in aviation-related duty not requiring them to personally be airborne including Air Traffic Controllers (ATCs), flight deck, and flight line personnel.

(d) **Class IV.** Unmanned Aircraft Systems (UAS) Operators. Active duty and DON/DoD-GS members in aviation-related duty not required to personally be airborne including: Air vehicle operators (AVO), sensor operators (SO), mission payload operators (MPO), and unmanned aircraft commanders (UAC).

(e) **All United States Uniformed Military Exchange Aviation Personnel.** As agreed to by the Memorandum of Understanding between the Services, the Navy will generally accept the physical standards of the military service by which the member has been found qualified.

(f) **Aviation Designated Foreign Nationals.** The North Atlantic Treaty Organization and the Air Standardization Coordinating Committee have agreed that the following items remain the responsibility of the parent nation (nation of whose armed forces the individual is a member):

(1) Standards for primary selection.

(2) Permanent medical disqualification.

(3) Determination of temporary flying disabilities exceeding 30 days.

(4) Periodic examinations will be conducted according to host nation procedures.

(5) If a new medical condition arises, the military flight surgeon providing routine care will determine fitness to fly based on the host nation's aviation medicine regulations and procedures. Temporary flying disabilities likely to exceed 30 days and conditions likely to lead to permanent aeromedical disqualification should be referred to the parent nation.

(6) More detailed information is located in the ARWG.

(g) Certain nondesignated personnel, including civilians, may also be assigned to participate in duties involving flight. Such personnel include selected passengers, project specialists, and technical observers. The specific requirements are addressed in the ARWG and OPNAVINST 3710.7 series (Naval Air Training and Operating Procedures Standardization (NATOPS) General Flight and Operating Instructions) and shall be used to evaluate these personnel.

(2) Designation or redesignation as a student (SNA, SNFO, SNFS, etc.) shall not occur prior to certification of physical qualification (physically qualified (PQ) or not physically qualified (NPQ)/waiver recommended (WR)) favorable BUMED endorsement of a naval aviation applicant physical examination), and favorable endorsement of anthropometric qualification by cognizant line authority.

15-64

Authorized Examiners

(1) The aviation medical examination shall be performed by a medical officer who is authorized by the Chief, Bureau of Medicine and Surgery or by the proper authority of the Army or Air Force who has current clinical privileges to conduct such examinations.

15-66

Physically Qualified (PQ) and Not Physically Qualified (NPQ)

(1) *Physically Qualified (PQ)*. Describes aviation personnel who meet the physical and psychiatric standards required by their medical classification to perform assigned aviation duties.

(2) *Not Physically Qualified (NPQ)*. Describes aviation personnel who do not meet the physical or psychiatric standards required by their medical classification to perform assigned aviation duties. Aircrew who are NPQ may request a waiver of aeromedical standards. A waiver must be granted by NAVPERSCOM or HQ/USMC prior to a disqualified member assuming flight duties. See disposition of personnel found NPQ, article 15-79 below.

15-65

Applicant, Student, and Designated Standards

(1) Physical standards for SNA become Class I standards at the time of designation (winging) or redesignation as SNA; prior to that point in time SNA applicant physical standards shall apply. Physical standards for student naval flight officer (SNFO) become designated NFO standards at the time of designation (winging) or redesignation as a SNFO; prior to that point in time NFO applicant physical standards shall apply. Physical standards for applicants to other Class II and III communities transition from applicant to “designated” upon completion of the aviation training pipeline/completion of the required syllabus as per NATOPS, NAVPERSCOM, or Headquarters, U.S. Marine Corps (HQ/USMC) guidance.

(4) *Slit Lamp Examination.* Required for applicants only.

(5) *Intraocular Pressure.* Must meet aviation standards.

(6) *Color Vision.* Must meet Class I standards.

(b) *Hearing.* Applicants must meet SNA Applicant standards. Designated must meet Class I standards.

(c) *Reading Aloud Test.* The “Banana Oil” test is required for all applicants and other aviation personnel as clinically indicated.

“You wished to know about my grandfather. Well, he is nearly 93 years old; he dresses himself in an ancient black frock-coat, usually minus several buttons; yet he still thinks as swiftly as ever. A long, flowing beard clings to his chin, giving those who observe him a pronounced feeling of the utmost respect. When he speaks, his voice is just a bit cracked and quivers a trifle. Twice each day he plays skillfully and with zest upon our small organ. Except in winter when the ooze of snow or ice is present, he slowly takes a short walk in the open air each day. We have often urged him to walk more and smoke less, but he always answers “Banana Oil.” Grandfather likes to be modern in his language.”

(d) *Pregnancy.* Pregnant ATCs are to be considered PQ, barring medical complications, until such time as the medical officer, the member or the command determines the member can no longer perform as an ATC.

(e) *Department of the Navy Civilian ATCs.*

(1) There are no specific height, weight, or body fat requirements.

(2) When a civilian who has been ill in excess of 30 days returns to work, a formal flight surgeon’s evaluation shall be performed prior to returning to ATC duties. NAVMED 6410/2 shall be used to communicate clearance for ATC duties to the commanding officer.

(3) Waiver procedures are listed in the Aeromedical Reference and Waiver Guide.

15-96

Class III Personnel: Critical Flight Deck Personnel Standards (Director, Spotter, Checker, Non-Pilot Landing Safety Officer and Helicopter Control Officer and Any Other Personnel Specified by the Commanding Officer)

(1) Frequency of screening is annual. Waivers of physical standards are determined locally by the senior medical department representative and commanding officer. No BUMED or NAVPERSCOM submission or endorsement is required. Must meet the standards in Chapter 15, Section III (Physical Standards), except as follows:

(a) *Vision*

(1) *Visual Acuity, Distant and Near.* No limits uncorrected. Must correct to 20/20. If the AFVT or Goodlite letters are used, a score of 7/10 on the 20/20 line constitutes meeting visual acuity requirements.

(2) *Field of Vision.* Must have full field of vision.

(3) *Depth Perception.* Must meet Class I standards.

(4) *Color Vision.* Must meet Class I standards.

15-97

Class III Personnel: Non-Critical Flight Deck Personnel Standards

(1) This paragraph includes all personnel not defined as critical. Frequency of screening is annual. Must meet the standards in Chapter 15, Section III (Physical Standards) except as follows:

(a) *Visual Acuity, Distant and Near.* No limits uncorrected. Must correct to 20/40 or better in one eye, 20/30 or better in the other.

Note. Because of the safety concerns inherent in performing duties in the vicinity of turning aircraft, flight line workers should meet the same standards as their flight deck counterparts.

15-98**Class III Personnel:
Personnel Who
Maintain Aviator
Night Vision Standards**

(1) Personnel, specifically those aircrew survival equipmentmen (USN PR or USMC MOS 6060) and aviation electrician's mates (USN AE or USMC MOS 64xx), assigned to duty involving maintenance of night vision systems, or selected for training in such maintenance, shall be examined annually to determine visual standards qualifications. Record results in the member's health record. Waivers are not considered. Standards are as follows:

(a) **Distant Visual Acuity.** Must correct to 20/20 or better in each eye and correction must be worn. If the AFVT or Goodlite letters are used, a score of 7/10 on the 20/20 line constitutes meeting visual acuity requirements.

(b) **Near Visual Acuity.** Must correct to 20/20.

(c) **Depth Perception.** Not required.

(d) **Color Vision.** Must meet Class I standards.

(e) **Oculomotor Balance.** No obvious heterotropia or symptomatic heterophoria (NOHOSH).

15-99**Class IV Personnel:
Applicant Active Duty and
DON/DoD-GS Unmanned Aircraft
Systems (UAS) Operator Standards
[Air Vehicle Operators (AVO),
Sensor Operators (SO), Mission
Payload Operators (MPO),
and Unmanned Aircraft
Systems Commanders UAC]**

Note: Civilian contract operators must abide by their individual contracts.

(1) Please see the U.S. Navy Aeromedical Reference and Waiver Guide, Chapter 1, Aviation Physical Standards, for all details.

15-100**Selected Passengers,
Project Specialists,
and Other Personnel**

(1) Refer to OPNAVINST 3710.7 series. When ordered to duty involving flying for which special requirements have not been prescribed, personnel shall, prior to engaging in such duties, be examined to determine their physical qualification for aerial flights, an entry made in their Health Record, and a NAVMED 6410/2 issued if qualified. The examination shall relate primarily to the circulatory system, musculoskeletal system, equilibrium, neuropsychiatric stability, and patency of the Eustachian tubes, with such additional consideration as the individual's specific flying duties may indicate. The examiner shall attempt to determine not only the individual's physical qualification to fly a particular aircraft or mission, but also the physical qualification to undergo all required physical and physiological training associated with flight duty. No individual shall be found fit to fly unless fit to undergo the training required in OPNAVINST 3710.7 series, for the aircraft or mission.

(a) Vision

(1) Visual Acuity, Distant and Near. No limits uncorrected. Must correct to 20/50 or better in one eye.

15-101**Naval Aviation and
Survival Training
Instructors (NAWSTI) and
Rescue Swimmer School
Training Programs Standards**

(1) Applicants, designated and instructor rescue swimmers must meet the general standards outlined in Chapter 15, Section III. In addition, the following standards apply:

(a) Visual Acuity, Distant and Near

(1) Applicant Surface Rescue Swimmer. No worse than 20/100 uncorrected in either eye. Must correct to 20/20 each eye.

(2) Designated Surface Rescue Swimmer. No worse than 20/200 uncorrected in either eye. Must correct to 20/20 each eye.

(3) Naval Aviation Water Survival Training Program Instructor. No limits uncorrected. Must correct to 20/20 in the better eye, no less than 20/40 in the worse eye.

(4) All categories. If the AFVT or Good-lite letters are used, a score of 7/10 on the 20/20 line constitutes meeting visual acuity requirements.

(b) Psychiatric. Because of the rigors of the high risk training and duties they will be performing, the psychological fitness of applicants must be carefully appraised by the examining physician. The objective is to elicit evidence of tendencies which militate against assignment to these critical duties. Among these are below average intelligence, lack of motivation, unhealthy motivation, history of personal ineffectiveness, difficulties in interpersonal relations, a history of irrational behavior or irresponsibility, lack of adaptability, or documented personality disorders.

----CONTINUED ON NEXT PAGE---