



DEPARTMENT OF THE NAVY  
BUREAU OF MEDICINE AND SURGERY  
2300 E STREET NW  
WASHINGTON DC 20372-5300

Canc frp: Oct 2000  
IN REPLY REFER TO  
BUMEDNOTE 6410  
BUMED-23  
14 Oct 1999

BUMED NOTICE 6410

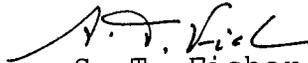
From: Chief, Bureau of Medicine and Surgery  
To: Holders of the Manual of the Medical Department

Subj: MANMED ARTICLE 15-65 REVISION, AVIATION DUTY

Ref: (a) Manual of the Medical Department (NAVMED P-117)

Encl: (1) Revised Article 15-65

1. Purpose. To update aviation physical standards.
2. Action. To update reference (a), remove pages 37 through 50 and replace with enclosure (1). Pages 37 and 50 are not revised pages, but have been included to ensure page by page continuity.
3. Cancellation Contingency. Retain until incorporated into reference (a).

  
S. T. Fisher  
Deputy

Available at:  
<http://navymedicine.med.navy.mil/instructions/external/external.htm>

(3) Post traumatic or post surgical arthralgia or ankylosis of the hip, knee, or ankle.

(4) Recurrent dislocation of the shoulder.

(5) Persons with metallic orthopedic devices such as pins, nails, or plates should be carefully evaluated. Pain upon exposure to cold often occurs.

(h) **Skin and Cellular Tissues.** Any chronic dermatosis which would be exacerbated by the extreme cold and dryness of Antarctica, wearing of woolen garments, or requiring complicated treatment.

(i) **Neurological Disorders.** Any seizure disorder.

(j) **Psychiatric**

(1) History or manifestations of psychosis, permanent brain syndromes, significant neuroses or psychophysiological disorders, and personality disorders.

(2) Subjects without formal psychiatric diagnosis who have experienced chronically or intermittently conflictual relationships, intolerance for environmental stress, a pattern of marginal performance, injudicious consumption of alcohol or other intoxicant substances, abhorrent sexual maturation, or similar identifiable potentials for psychosocial maladaptation.

(3) Recovering alcoholics requiring continued professional support. A minimum of 1 year of sobriety is required.

(k) **Dental**

(1) Nonrestored teeth or periodontal disease.

(2) Symptomatic or potentially symptomatic third molars, until extracted and healing is completed.

(3) Dental classifications other than class 1.

(l) **Systemic diseases and miscellaneous conditions**

(1) Allergic manifestations which require allergy immunotherapy (AIT). This may be waived if the AIT can be discontinued while in the Antarctic. This interruption in desensitization therapy must be voluntary on the part of the individual and only upon the advice of the individual's allergist.

(2) Any disability significantly limiting physical activity.

(3) Any illness or condition requiring chronic maintenance medication, which would be exacerbated if the medication were unavailable.

(4) Any malignant neoplasia not considered to have been cured. This includes malignancies currently in remission.

(m) **Body fat.** Clinical obesity. The examining physician will determine if the candidate is obese according to height, weight, and body build and general physical condition. Military candidates will be subject to current directives applicable to their branch of service.

(3) **Special studies.** In addition to the special studies required in article 15-9, the below listed studies will be performed.

(a) All winterover personnel will have a psychiatric evaluation conducted at designated medical facilities. Examinees will be notified individually of the date and location of this evaluation. The psychological test forms and the results of the psychological assessment, psychiatric examination, and combined evaluation will be forwarded directly to Force Medical Officer, Commander, U. S. Naval Support Force, Antarctica, FPO San Francisco 96601.

(1) Antarctic Assignment Questionnaire, NAVMED 6520/8, will be completed, dated, and signed by each winter-over candidate and must be reviewed by a psychiatrist or clinical psychologist as part of their evaluation.

(2) Psychiatric Evaluation Form, NAVMED 6520/9 and Psychological Evaluation Form, NAVMED 6520/10 will be completed by the psychiatrist and clinical psychologist separately, immediately following the interview of the candidate.

(3) Combined Evaluation Form, NAVMED 6520/11 will be completed jointly by the psychiatrist and clinical psychologist.

(4) The completed forms will become a permanent part of the candidates assessment and evaluation record maintained by Medical Department, Naval Support Force, Antarctica, Port Hueneme, CA.

(b) All winterover personnel will have a chest x-ray.

(c) All personnel will have a Type II dental examination (including bite wing x-rays) and a periodontal examination. Winterover personnel will also have a full set of mouth x-rays or a panorex performed.

(4) **Annual evaluation.** An annual evaluation will be completed while assigned to the Antarctica program. The following are minimum requirements for an annual evaluation, but may be expanded as required, based on the interval medical history, health risk assessment, and whatever physical findings are noted.

(a) Review of ENT status (history of current or recent problems), including audiometric examination if not performed during the preceding 12 months.

(b) Cardiovascular status (history of current or recent problem), EKG tracing.

(c) Pulse and blood pressure (sitting).

(d) Height/weight/percent body fat.

(e) Summary of medical care received in previous 12 months.

(f) Summary of current or recent treatment required.

(g) Statement of qualification for assignment to Antarctica.

(h) The results of the evaluation should be entered on the Chronological Record of Medical Care (SF-600).

(5) **Periodicity**

(a) Medical examinations, recorded on SF-88 and SF-93 will be completed at the periodicity of article 15-11 except

for winter-over military, DoD civilian, and civilian contract personnel who will be examined prior to deployment.

(b) Personnel who return to the Antarctic Program after an absence of 2 or more years, regardless of cause, will be examined as an initial candidate.

**(6) Special Reporting Requirements**

(a) **Military and civilian DoD candidates.** A complete examination will be conducted by the member's current command after being ordered to Naval Support Force Antarctica or Antarctic Development Squadron SIX. Forward the completed examination, SF-88 and SF-93, along with any indicated consultations, to the Commander, U.S. Naval Support Force, Antarctica, FPO San Francisco 96601 or Antarctic Development Squadron SIX, FPO San Francisco 96601 for approval prior to actual transfer.

(b) **Civilian contract candidates.** A complete examination will be performed by a private physician. Results will be forwarded to the above address via the NSF contractor, for final approval prior to deployment. Winter-over candidates will be scheduled for the psychiatric examination upon approval of the medical and dental examinations. To ensure all requirements are met initially, civilian contract personnel are encouraged to correspond with the force medical officer prior to completing their examination.

**(7) Additional Information**

(a) For personnel requiring vision correction, two pairs of standard spectacles are required, plus one pair of corrected sunglasses. All personnel must have sunglasses for wear when working outside in the Antarctic. Members may, at their option, but not at Navy expense, wear contact lenses, if appropriately fitted and evaluated for remote duty, but must also have a pair of spectacles.

(b) The examiner must note all medication on the SF-93. Personnel will be required to bring a sufficient supply of chronic medication to complete the expected period of deployment.

(c) Also note, on the SF-93, any previous Arctic, Antarctic, or isolated duty the individual has had.

(8) **Waivers.** All waiver requests will be submitted, per section V of this chapter, via the chain of command, to Commander, U.S. Naval Support Force, Antarctica for disposition.

## 15-65

### Aviation Duty

**1. General**

a. **Purpose.** Aviation physical standards are developed to ensure only the most qualified personnel are accepted into naval aviation. Certain disease states and physical conditions are incompatible with the dual principles of sustaining safety of flight and maintaining the health of the individual. Aviation physical standards are established and maintained on this basis. Further elaboration of these standards and waiver procedures are contained in the Aeromedical Reference and Waiver Guide (see paragraph 1e of this article). The U.S. Naval Flight Surgeon's Manual also provides additional information.

b. **Personnel Affected.** All personnel assigned to duty in a flying status, and all applicants for such duty, must conform to the physical standards in this article. Certain nonflying aviation related occupations, such as air traffic controllers (ATC) and flight deck personnel are also covered by this article. Each aviation occupation is associated with specific performance requirements, hazards, and safety concerns. Aviation occupations are grouped on these bases, and physical standards are organized to reflect occupational grouping. Personnel affected are categorized for purposes of physical standards as follows:

(1) **Designated Aviation Personnel.** These personnel are divided into three classes:

(a) **Class 1.** Aviation personnel engaged in the actual control of aircraft, including naval aviators and student naval aviators (SNA). In this class are also included student naval flight surgeons, student naval aerospace physiologists, and student naval aerospace experimental psychologists. 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 I.** Aviators qualified for unlimited or unrestricted flight duties.

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

3. **Medical Service Group III.** Aviators restricted to operating aircraft equipped with dual controls and accompanied on all flights by a pilot or copilot of Medical Service Group I or II, qualified in the model of aircraft operated. A separate waiver is required to act as pilot in command of multipiloted aircraft.

(b) **Class 2.** Aviation personnel not engaged in actual control of aircraft, including naval flight officers, technical observers, naval flight surgeons, aerospace physiologists, aerospace experimental psychologists, naval aircrew members, and other persons ordered to duty involving flying.

(c) **Class 3.** Members in aviation related duty not in aerial flight including ATCs, unmanned aerial vehicle (UAV) operators, flight deck, and flight line personnel.

(2) **Applicants for any of the above listed aviation duties.**

(3) **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.

(4) **Aviation designated foreign nationals.** The North Atlantic Treaty Organization and the Air Standardization Coordinating Committee have agreed the following items remain the responsibility of the parent nation (nation of whose armed forces the individual is a member):

(a) Standards for primary selection.

(b) Permanent medical disqualification.

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

(d) Periodic examinations will be conducted according to host nation procedures. More detailed information is located in the Aeromedical Reference and Waiver Guide.

(5) **Certain non-designated 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 Aeromedical Reference and Waiver Guide and OPNAVINST 3710.7 (Naval Air Training and Operating Procedures Standardization (NATOPS) General Flight and Operating Instructions) and shall be used to evaluate these personnel.

c. **Authorized Examiners.** The aviation medical examination shall be performed by an aviation designated medical officer who is authorized by the Navy Personnel Command (NAVPERSCOM), or by proper authority of the Army or Air Force to conduct such examinations. Aviation designated medical officers include flight surgeons (FS), aviation medical examiners (AME), and aviation medical officers (AMO).

d. **Purpose of Examination.** An aviation medical examination is conducted to determine whether or not an individual is both physically qualified and aeronautically adapted to engage in duties involving flight.

(1) **Physically Qualified (PQ) vs. Not Physically Qualified (NPQ).**

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

(b) **Not Physically Qualified (NPQ).** Describes aviation personnel who do not meet the physical and psychiatric standards required by their medical classification to perform assigned aviation duties. Aircrew who are NPQ may request and must be issued a waiver of standards in order to fly.

(2) **Aeronautically Adaptable (AA) vs. Not Aeronautically Adaptable (NAA).**

(a) AA is determined by a naval flight surgeon each time an evaluation of overall qualification for duty involving flight is performed. AA has its greatest utility in the selection of aviation applicants (officer and enlisted).

1. Aviation officer applicants must demonstrate reasonable perceptual, cognitive, and psychomotor skills on the Aviation Selection Test Battery (ASTB).

2. Applicants are generally considered AA on the basis of having the potential to adapt to the rigors of aviation by possessing the temperament, flexibility, and adaptive defense mechanisms to allow for full attention to flight (compartmentalization) and successful completion of training. Before selection, applicants are to be interviewed by the flight surgeon for evidence of early interest in aviation, motivation to fly, and practical appreciation of flight beyond childhood fantasy. Evidence of successful coping skills, good interpersonal relationships, extracurricular activities, demonstrated leadership qualities, stability of academic and work performance, and absence of impulsivity should also be thoroughly elicited. Applicants or students are considered NAA if diagnosed as having a personality disorder or prominent maladaptive personality traits affecting flight safety, mission completion, or crew coordination. When an individual is found to be PQ, but his aeronautical adaptability is regarded as "unfavorable," the SF-88 block 77 shall be recorded as "physically qualified, but not aeronautically adaptable."

(b) Designated aviation personnel are generally considered AA on the basis of demonstrated performance, ability to tolerate the stress and demands of operational training and deployment, and long-term use of highly adaptive defense mechanisms (compartmentalization). Designated aviation personnel are considered NAA if diagnosed as having a personality disorder or prominent maladaptive personality traits affecting flight safety, crew coordination, or mission execution.

1. When evaluation of designated aviation personnel suggests that an individual is no longer AA refer member to, or consult with, the Naval Operational Medicine Institute (NAVOPMEDINST).

2. A final determination of NAA for a designated officer may only be made by evaluation or review by NAVOPMEDINST psychiatry.

(3) **The Field Naval Aviator Evaluation Board, Field Naval Flight Officer Evaluation Board, and Field Flight Performance Board.** The boards above are the normal mechanisms for handling administrative difficulties encountered with aviator performance, motivation, attitude, technical skills, flight safety, and mission execution. The above difficulties are not within the scope of AA. A prerequisite for ordering a board evaluation of an aviator is aeromedical clearance to perform assigned aviation duties (PQ and AA).

e. **The Aeromedical Reference and Waiver Guide.** This guide, prepared by NAVOPMEDINST, serves as an adjunct to this article and provides elaboration on specific aviation standards, examination techniques and methods, and policies concerning waivers for disqualifying conditions. This guide may be accessed and downloaded at the NAVOPMEDINST website (<http://www.nomi.navy.mil/>) or electronic copies are available from the Naval Operational Medicine Institute, Attn: NAVOPMEDINST Code 42, 220 Hovey Road, Pensacola, FL 32508.

2. **Required Examinations.** As described in OPNAVINST 3710.7 Chapter 8, all aviation personnel involved in flight duties are required to be evaluated annually within the interval from the first day of the month preceding their birth month until the last day of their birth month. The aviation medical examination is conducted to determine whether or not an individual is both physically qualified and AA to engage in duties involving flight. The extent of the examination is determined by the type of duty to be performed, age, designation status, and disqualifying conditions. Aviation personnel must be certified PQ for continued aviation duties by the issuance of an Aeromedical Clearance Notice (NAVMED 6410/2). Submission to NAVOPMEDINST Code 42 is only required as listed below in paragraph 3a.

a. **Complete Aeromedical Examination (Long Form).**

(1) A complete physical exam includes medical history recorded on the SF-93 or NAVMED 6120/2, as appropriate, and physical examination recorded on the SF-88. Applicants must also submit SF-507, Continuation of SF-93, and anthropometric data. This examination must be typed or prepared via Micro 88 or the Tri-Service Medical Evaluation Program (Tri-MEP) (see below).

(2) The following aviation personnel are required to receive complete examinations:

(a) Applicants for all aviation programs (officer and enlisted).

(b) All aviation personnel at ages 20, 25, 30, 35, 40, 45, 50, and annually thereafter.

(c) Any personnel requesting new waiver of physical standards.

(d) Annually during the first 3 years of aftercare as outlined in BUMEDINST 5300.8 series.

(e) Personnel returning to flight status after medical grounding for a period greater than 60 days.

(f) Personnel specifically directed by proper authority.

(g) Personnel found qualified after previously being reported to the Bureau of Medicine and Surgery (BUMED) as NPQ or NAA.

(h) Personnel examined by a flight surgeon or Board of Flight Surgeons and referred to BUMED for review.

(i) Personnel found fit for full duty by medical board following a period of limited duty.

b. **Abbreviated Aeromedical Examination.** The results of this examination shall be entered on SF-600.

(1) **The aeromedical examination.** This examination is used for aviation personnel who do not require a complete physical as listed above.

(a) For interval submission of waiver continuance as outlined in the Aeromedical Reference and Waiver Guide.

(b) After completion of initial waiver submission requirements as outlined in BUMEDINST 5300.8 series.

(2) **The abbreviated aeromedical evaluation.** The following are minimum requirements for an abbreviated aeromedical evaluation, but may be expanded as required based on the interval medical history, health risk assessment, and physical findings.

(a) History requiring documentation:

1. Review of ear, nose, and throat status (history of current or recent problems).

2. Cardiovascular status (history of current or recent problems).

3. Summary of medical care, treatment, and medications used in the previous 12 months.

(b) Laboratory and specific testing required:

1. Distant and near visual acuity tested on the Armed Forces Vision Tester (AFVT) with and without corrective lenses.

2. Audiometric exam, if not performed during the preceding 12 months.

3. Pulse and blood pressure (sitting).

4. Height and weight. Body fat, only if not within weight-for-height standards.

(c) Verification of annual dental exam.

(d) Verification of annual medical readiness requirements.

(e) Verification of annual HIV testing.

(f) Required flight surgeon disposition comments:

1. The results of the evaluation should be entered on the SF-600.

2. Statement of qualification for assigned flight duties (PQ vs. NPQ).

3. Disposition entry on Special Duty Medical Abstract, NAVMED 6150/2.

NOTE: If a disqualifying defect is discovered during this evaluation, a complete aviation physical shall be performed and submitted for BUMED endorsement, along with waiver request if desired.

### c. Check-In Examination

(1) Aviation personnel reporting to a new command shall present to the aviation clinic for a fitness to fly examination. For students who have commenced training, a check-in examination is not required for transferring to another phase of training when medical care will continue to be given at the same medical treatment facility. The extent of this examination is determined by the flight surgeon, but should include a personal introduction to their flight surgeon, a complete review of the medical record for past medical problems, currency of physical examination, medical waivers for flight, and immunization and medical readiness currency.

(2) Documentation shall include:

(a) The results of the evaluation, entered on the SF-600, with statement of qualification for assigned flight duties (PQ, NPQ, or waiver status).

(b) Updating the Adult Preventive and Chronic Care Flowsheet (DD 2766).

(c) Disposition entry on the NAVMED 6150/2, Special Duty Medical Abstract.

(d) Aeromedical Clearance Notice (NAVMED 6410/2) or Grounding Notice (NAVMED 6410/1), as applicable.

d. **Post-Grounding Examination.** Following any period of medical grounding, aviation personnel must be evaluated by a flight surgeon and issued a clearance notice prior to returning to aviation duties. The only exception to this is self limited grounding notices issued by a dental officer under special circumstances as discussed in paragraph 3b(1) below.

e. **Post-Hospitalization Examination.** Following return to duty after admission to the sick list or hospital (including medical boards), aviation personnel shall be evaluated by a flight surgeon prior to resuming flight duties. The extent of the evaluation shall be determined by the flight surgeon, but if a disqualifying condition is discovered, a complete BUMED submission physical examination shall be performed. The reason for the hospitalization and the result of the evaluation shall be recorded on the Special Duty Medical Abstract

(NAVMED 6150/2). If found qualified, an Aeromedical Clearance Notice (NAVMED 6410/2) shall be issued.

f. **Post-Mishap Examination.** Appendix N of OPNAVINST 3750.6 series details medical enclosures and physical exam requirements for mishap investigations. There is no requirement for BUMED submission, unless a disqualifying defect is discovered or the aviator experiences grounding greater than 60 days for a medical reason as a result of the mishap.

### 3. Forms and Health Record Administration

a. **Aeromedical Clearance Notice (NAVMED 6410/2).** This form is the means to communicate recommendations for fitness to fly to the aviation unit's commanding officer. It is issued (with copies to the member and the unit safety or the Naval Air Training and Operating Procedures Standardization (NATOPS) officer) after successful completion of an aviation physical, or after return to flight status following a temporary grounding. A corresponding health record entry shall be made on the NAVMED 6120/2, Special Duty Medical Abstract. It shall contain a statement regarding contact lens use for those personnel authorized for their use by the flight surgeon. Flight surgeons (FS), aviation medical officers (AMO), and aviation medical examiners (AME) are the only personnel normally authorized to issue an Aeromedical Clearance Notice. In remote locations, where the services of the above medical officers are not available, any specifically designated medical department representative may issue an Aeromedical Clearance Notice in consultation with an aviation qualified medical officer.

b. **Aeromedical Grounding Notice (NAVMED 6410/1).** This form is the means to communicate recommendations for fitness to fly to the aviation unit's commanding officer. All aviation personnel admitted to the sick list, hospitalized, or determined to have a medical problem that could impair duties involving flight performance shall be issued an Aeromedical Grounding Notice. All medical department personnel (corpsmen, Nurse Corps officers, etc.) are authorized to issue an Aeromedical Grounding Notice. An entry shall also be made in member's health record on the Special Duty Medical Abstract (NAVMED 6150/2). This Aeromedical Grounding Notice shall remain in effect until the member has been examined by a flight surgeon and issued an Aeromedical Clearance Notice.

(1) Dental officers are authorized to issue a self limited Aeromedical Grounding Notice when a member on flight status receives a local anesthetic only.

(2) Administration of routine immunizations, which require temporary grounding, does not require issuance of an Aeromedical Grounding Notice.

c. **Special Duty Medical Abstract (NAVMED 6150/2).** All changes in status of the aviator shall be immediately entered into the Special Duty Medical Abstract (NAVMED 6150/2).

d. **Filing of Physical Examinations.** Completed physical examinations shall be filed in sequence with other periodic examinations and a copy kept on file by the facility performing the examination for 3 years.

4. **Submission of Examinations for BUMED-236 (NAVOPMEDINST Code 42) Endorsement.** In general, any physical examination for submission to BUMED must be a complete physical examination on the Long Form as described above. The only exception is annotated in paragraph 4a(3) through (4) below.

a. **Required Exams.** The following physical examinations shall be submitted for review and endorsement to: Naval Operational Medicine Institute, Attn: NAVOPMEDINST Code 42, 220 Hovey Road, Pensacola, FL 32508:

(1) Applicants for all aviation programs (officer and enlisted).

(2) Any member requesting new waiver of physical standards.

(3) Periodic waiver continuation examinations may be submitted on the SF-88 (Long Form) or Abbreviated Aeromedical Examination (Short Form) except for:

(a) Alcohol waiver continuation examinations during the first 3 years of aftercare must be submitted on the SF-88 and SF-93 (Long Form).

(4) When a temporary medical grounding period is anticipated to exceed 60 days, this examination need not be a complete physical examination as listed above, but should detail the injury or illness on a SF-88. Blocks 1-17 and 73-77 must be completed at a minimum and include all pertinent clinical information.

(5) Following a medical grounding in excess of 60 days, a complete physical examination is required. Submission should include treatment course, the specialist's and flight surgeon's recommendations for return to flight status, medical board report (as applicable), and a Local Board of Flight Surgeons report (as applicable). If waiver is required, submit request following applicable instructions.

(6) If the member's flight surgeon recommends any permanent change in Service Group or flying status.

(7) Those which are specifically directed by proper authority.

(8) Personnel who were previously disqualified and so reported to BUMED are subsequently found to be qualified.

(9) After the examination of aviation personnel of any classification, the flight surgeon or the Board of Flight Surgeons consider a review of the findings by BUMED advisable.

(10) Aviation personnel who have been found fit for full duty by medical board following a period of limited duty.

(11) PQ physical examinations at the ages of 20, 25, 30, 35, 40, 45, 50, and annually thereafter.

b. **Administrative.** BUMED submission physical examinations should be sent within 30 days of completion.

(1) **Submission packages must include the following items:**

(a) The original typed SF-88 signed by the flight surgeon.

(b) The original handwritten SF-93 or NAVMED 6120/2. The examining flight surgeon must comment on all positive responses and indicate if the condition is considered disqualifying or not considered disqualifying. The following shall be added to SF-93 or NAVMED 6120/2: "Have you ever been diagnosed with or received any level of treatment for alcohol abuse or dependence?"

(c) For all aviation applicants, an SF-507, Continuation of SF-93, Aeromedical Applicant Questionnaire, shall be completed and signed by the applicant.

(d) 12-lead electrocardiogram tracing for all aviation applicants.

(2) **Electronic Submission (Micro 88 or Tri-MEP).** In addition to the mailed original physical examinations, all medical examination facilities with Micro 88 or Tri-MEP capability are required to submit to NAVOPMEDINST Code 42 in electronic format using Micro 88 or Tri-MEP. This submission will usually be via modem or internet; facilities unable to use modem or internet transmission will submit floppy diskettes with archived physical exams. In all cases, the actual printed and signed forms, along with all accompanying documents, must be submitted to NAVOPMEDINST Code 42.

#### 5. **Disposition of Personnel Found NPQ**

a. **General.** When aircrew do not meet aviation standards and are found NPQ, they may request waiver of physical standards from NAVPERSCOM following OPNAVINST 3710.7 and the Aeromedical Reference and Waiver Guide. In all cases, NAVOPMEDINST Code 42 must be a via addressee. In general, applicants are held to a stricter standard than designates and are less likely to be recommended for a waiver. In those instances where a waiver is required, members shall not begin instructional flight until the waiver has been granted by NAVPERSCOM, the Commandant of the Marine Corps (CMC), or appropriate waiver granting authority. Sufficient information about the medical condition or defect must be provided to permit reviewing officials to make an informed assessment of the request itself and place the request in the context of the duties of the Service member.

**b. Personnel Authorized to Initiate the Requests for Waivers of Physical Standards**

(1) The Service member initiates the waiver request in most circumstances.

(2) The commanding officer of the member may initiate a waiver request.

(3) The examining or responsible medical officer may initiate a waiver request.

(4) In certain cases the initiative to request or recommend a waiver will be taken by BUMED; the Commanding Officer, Naval Reserve Center; CMC; or NAVPERSCOM. In no case will this initiative be taken without informing the member's local command.

(5) All waiver requests shall be either initiated or endorsed by the member's commanding officer.

**c. Format and Routing of Waiver Requests.** Refer to the Aeromedical Reference and Waiver Guide for addressing, routing, and waiver format.

**d. Boards of Flight Surgeons**

**(1) Local Board of Flight Surgeons (LBFS)**

(a) This Board provides an expedient way to return a grounded aviator to flight status pending official BUMED endorsement and granting of the waiver by NAVPERSCOM or CMC. The LBFS may also serve as a medical endorsement for waiver request. Additionally, this Board may be conducted when a substantive question exists about an aviator's suitability for continued flight status.

(b) The LBFS may be convened by the member's commanding officer, on the recommendation of the member's flight surgeon or by higher authority.

(c) The LBFS will consist of at least three medical officers, two of whom shall be flight surgeons.

(d) The LBFS Board's findings shall be recorded in chronological narrative format to include the aviator's current duty status, total flight hours and duties, recent flight hours in current aircraft type, injury or illness necessitating grounding, hospital course with medical treatment used, followup reports, and specialists' and LBFS recommendation. Pertinent consultation reports and documentation shall be included as enclosures to the report. Once a decision has been reached by the LBFS Board, the patient should be informed of Board's recommendations. Although not required by regulation, it is often advisable to give the patient a signed copy of the final report of the Board. Local Boards shall submit their reports within 10 working days to NAVOPMEDINST Code 42 via the patient's commanding officer.

(e) If a LBFS recommends that a waiver of physical standards is appropriate, based on its judgment and criteria specified in the Aeromedical Reference and Waiver Guide, the senior member of the board may issue an Aeromedical Clearance Notice pending final disposition of the case by NAVOPMEDINST

Code 42 and NAVPERSCOM, or CMC. The Aeromedical Clearance Notice shall expire 90 days from the date of LBFS report.

NOTE: LBFS shall not issue a Clearance Notice if member currently holds a grounding letter issued by NAVPERSCOM or CMC stating that a waiver has not been granted.

**(2) Special Board of Flight Surgeons (SBFS)**

(a) This Board consists of designated naval flight surgeons in the Pensacola area who have applied for designation as a board member and have been approved by the Commanding Officer, NAVOPMEDINST who serves as the senior member.

(b) The SBFS evaluates medical cases, which, due to their complexity or uniqueness, warrant a comprehensive aeromedical evaluation. Regardless of the presenting complaint, the patient is evaluated by all clinical departments at NAVOPMEDINST.

(c) The board is convened by the Commanding Officer, NAVOPMEDINST. The initial request to convene is normally made by the member or his commanding officer, but may be made by the Commanding Officer, NAVOPMEDINST or higher authority.

(d) Following the evaluation and presentation to the SBFS, the aviator's problem is discussed. A recommendation is formulated (with minority reports, if indicated) for forwarding to BUMED (MED-02). Although normally forwarded to NAVPERSCOM or to CMC for implementation without change, BUMED has the prerogative to modify or reverse the recommendation.

**(3) Senior Board of Flight Surgeons**

(a) The Senior Board of Flight Surgeons at BUMED serves as an appeal board to review aeromedical dispositions as requested by NAVPERSCOM, the Chief of Naval Operations (CNO), or CMC.

(b) The Board shall consist of a minimum of five members, three of whom shall be flight surgeons, and one of whom shall be a senior line officer as assigned by CNO (N-88). The presiding officer will be the Assistant Chief for Operational Medicine and Fleet Support (MED-02) assisted by the Director, Aerospace Medicine Division (MED-23).

(c) The medical recommendations of this Board shall be final and shall be forwarded to NAVPERSCOM or CMC within 5 working days of the completion of the Board. Individuals whose cases are under review shall be offered the opportunity to appear before this Board.

**6. Standards for Aviation Personnel**

NOTE: In general, applicants for aviation programs are held to stricter physical standards than trained and designated personnel and will be less likely to be recommended for waivers. Refer to the Aeromedical Reference and Waiver Guide for specific information.

**a. Disqualifying Conditions for all Aviation Duty.** Personnel must meet the physical standards for general military service in the Navy as a prerequisite before consideration for any aviation duty. In addition to the disqualifying defects listed in MANMED Chapter 15, Section III (Physical Standards), the following shall be considered disqualifying for all aviation duty:

NOTE: Standards for Class 3 personnel are somewhat less stringent than for Class 1 and 2; exceptions to disqualifying conditions for Class 3 Personnel are listed in paragraph 7c.

**(1) Anthropometry**

**(a) Height.** Applicants for all flight programs must meet the general height standards for entrance into naval service.

**(b) Weight and Body Fat**

**1.** Navy applicants, students, and designated personnel in all aviation programs must meet the standards set forth in OPNAVINST 6110.1 series.

**2.** United States Marine Corps applicants and designated personnel must meet the standards in MCO 6100.10 series.

**3.** Additionally, aviation personnel are subject to a maximum weight of 235 pounds and a minimum weight of 100 pounds for safety reasons.

**(c) Anthropometric Standards.** All aviation applicants (except Class 3 Personnel) and all designated individuals flying ejection seat aircraft will be measured and compared to the following standards:

**TABLE 1**

<b>Anthropometric Standards:</b>	<b>Minimum</b>	<b>Maximum</b>
Sitting Height	32.0 in	41.0 in
Buttock Knee Length	21.9 in	28.0 in
Buttock Leg Length	36.0 in	50.0 in
Functional Reach	28.0 in	None

NOTE: Anthropometric requirements are currently being re-evaluated.

**(2) Blood Pressure and Pulse Rate**

**(a) Blood Pressure.** Shall be determined after examinee has been supine at least 5 minutes and then after examinee has been standing motionless for 3 minutes. If a member becomes symptomatic during transition from supine to standing, it shall be considered disqualifying.

- 1.** Systolic greater than 139 mm Hg.
- 2.** Diastolic greater than 89 mm Hg.
- 3.** Orthostatic or symptomatic hypotension.

**(b) Pulse Rate.** Shall be determined in conjunction with blood pressure. If the resting pulse is less than 45 or over 100, an electrocardiogram shall be obtained. A pulse rate of less than 45 or greater than 100 in the absence of a significant cardiac history and medical or electrocardiographic findings shall not in itself be considered disqualifying.

**(3) Ear, Nose, and Throat.** In addition to those conditions listed in Articles 15-35 through 15-39, the following conditions are disqualifying:

**(a)** Any acute otorhinolaryngologic disease or disorder.

**(b)** A history of allergic rhinitis (seasonal or perennial) after the age of 12, unless the following conditions are met:

**1.** Symptoms, if recurrent, are adequately controlled by topical steroid nasal spray, cromolyn nasal spray, or both.

**2.** Waters' view x-ray of the maxillary sinuses shows no evidence of chronic sinusitis or other disqualifying condition.

**3.** Nasal examination (using speculum and illumination) shows no evidence of mucosal edema causing nasal obstruction, nor nasal polyps of any size.

**4.** Allergy immunotherapy has not been used within the past 12 months.

**5.** Normal eustachian tube function is present.

**(c)** Eustachian tube dysfunction with the inability to equalize middle ear pressure.

**(d)** Chronic serous otitis media.

**(e)** Cholesteatoma or history thereof.

**(f)** History of traumatic or surgical opening of the middle ear; or history of PE tubes after age 12.

**(g)** Presence of traumatic or surgical opening of the inner ear.

**(h)** Auditory ossicular surgery.

**(i)** Any current nasal or pharyngeal obstruction except for asymptomatic septal deviation.

**(j)** Chronic sinusitis, sinus dysfunction or disease, or surgical ablation of the frontal sinus.

**(k)** History of endoscopic sinus surgery.

**(l)** Nasal polyps or a history thereof.

**(m)** Recurrent sinus barotrauma.

**(n)** Recurrent attacks of vertigo.

**(o)** Meniere's disease or history thereof.

**(p)** Acoustic neuroma or history thereof.

**(q)** Radical mastoidectomy.

**(r)** Recurrent calculi of any salivary gland.

**(s)** Speech impediment, which impairs communication, required for aviation duty. See paragraph 7c(3)(b) for "Reading Aloud" testing procedures.

**(4) Eyes**

(a) All aviation personnel shall fly with distant visual acuity corrected to 20/20 or better.

1. If uncorrected distant visual acuity is worse than 20/100, personnel are required to carry an extra pair of spectacles.

2. If uncorrected near visual acuity is worse than 20/40, personnel must have correction available.

3. Contact Lenses. As of 4 December 1996, contact lenses are authorized for aviation personnel.

a. The member's commanding officer may approve contact lenses as "mission essential equipment" if operational requirements dictate the wearing of devices that preclude the wearing of spectacles. In such cases, fitting and routine care will be provided by Navy optometrists, ophthalmologists, and flight surgeons. Funding will be provided by the local medical treatment facility.

b. The use of contact lenses in the conduct of aviation duties is prohibited until specifically authorized by a flight surgeon and noted on the Aeromedical Clearance Notice. It is the responsibility of the member to inform their flight surgeon once contact lens wear has been prescribed.

c. Members may elect to purchase contact lenses at their own expense for wear not defined as mission essential. This includes cases, solutions, and other supplies.

d. During aviation duties, it is the responsibility of contact lens wearers to carry clear spectacles in a readily accessible protective case which corrects vision to all applicable standards.

e. The wearing of contact lenses to produce a significant change in corneal curvature (orthokeratology) or alter color vision is prohibited for all aviation personnel.

(b) In addition to those conditions listed in Article 15-40, the following conditions are disqualifying:

1. Chorioretinitis or history thereof.

2. Inflammation of the uveal tract; acute, chronic, recurrent or history thereof, except healed reactive uveitis.

3. Pterygium which encroaches on the cornea more than 1 mm, except in SNA applicants where no pterygium is allowed.

4. Optic neuritis or history thereof.

5. Herpetic corneal ulcer or keratitis or history of recurrent episodes.

6. Severe lacrimal deficiency (dry eye).

7. Elevated intraocular pressure as evidenced by a reading of greater than 22 mm Hg, by applanation tonometry. A difference of 5 mm Hg or greater between eyes is also disqualifying.

8. Intraocular lens implants.

9. History of eye muscle surgery in personnel whose physical standards require stereopsis. Other aviation personnel with such history require a normal ocular motility evaluation before being found qualified.

10. Defective color vision as evidenced by failure of FALANT or pseudo isochromatic plates (PIP) except for aviation physiology technicians.

11. Aura of visual migraine or other transient obscuration of vision.

12. Eye surgery or any manipulation to correct poor vision such as radial keratotomy, photorefractive keratectomy, LASIK, intracorneal ring implants, orthokeratology (Ortho-K), or eye rubbing to reshape the cornea.

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Note: Due to the Navy's progress with photorefractive keratectomy, see Aeromedical Reference and Waiver Guide for specific waiver applicability.

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**(5) Lungs and Chest Wall.** In addition to those conditions listed in Article 15-41, the following conditions are disqualifying:

(a) Congenital and acquired defects of the lungs, spine, chest wall, or mediastinum that may restrict pulmonary function, cause air trapping, or affect the ventilation perfusion balance.

(b) Chronic pulmonary disease of any type.

(c) Surgical resection of lung parenchyma.

(d) Pneumothorax or history thereof.

**(6) Heart and Vascular.** In addition to those conditions listed in Articles 15-43 and 15-44, the following conditions are disqualifying:

(a) Any mitral valve prolapse (MVP), including "echo only" MVP not meeting Navy criteria for diagnosis of MVP syndrome (click, murmur, and prolapse in two echo views).

(b) Bicuspid aortic valve.

(c) History or EKG evidence of:

1. Ventricular tachycardia defined as three consecutive ventricular beats at a rate greater than 99 beats per minute.

2. Wolff-Parkinson-White syndrome or other pre-excitation syndrome predisposing to paroxysmal arrhythmias.

**(7) Abdominal Organs and Gastrointestinal System.** In addition to those conditions listed in Article 15-45, the following conditions are disqualifying:

(a) Cholecystectomy.

(b) Gastrointestinal hemorrhage or history thereof.

(c) Gastroesophageal reflux disease.

**(8) Endocrine and Metabolic Disorders.** In addition to those conditions listed in Article 15-46, the following condition is disqualifying:

(a) Hypoglycemia or documented history thereof.

(9) **Genitalia and Urinary System.** In addition to those conditions listed in Articles 15-47 and 15-48, the following conditions are disqualifying:

(a) Urinary tract stone formation or history thereof.

(b) Hematuria or history thereof.

(10) **Extremities.** In addition to those conditions listed in Article 15-49, the following conditions are disqualifying:

(a) Internal derangement or surgical repair of the knee including anterior cruciate ligament, posterior cruciate ligament, lateral collateral ligaments, or menisci.

(b) Absence or loss of any portion of any digit of either hand.

(11) **Spine.** In addition to those conditions listed in Article 15-50, the following conditions are disqualifying:

(a) Chronic or recurrent spine (cervical, thoracic, or lumbosacral) pain likely to be accelerated or aggravated by performance of military aviation duty.

(b) Scoliosis greater than 20 degrees.

(c) Kyphosis greater than 40 degrees.

(d) Any fracture or dislocation of cervical vertebrae or history thereof; fracture of lumbar or thoracic vertebrae with 25 percent or greater loss of vertebral height or history thereof.

(e) Cervical fusion, congenital or surgical.

(12) **Neurologic Disorders.** In addition to those conditions listed in Article 15-53, the following conditions are disqualifying:

(a) History of unexplained syncope.

(b) History of seizure, except a single febrile convulsion, before 5 years of age.

(c) History of headaches or facial pain if frequently recurrent, disabling, requiring prescription medication, or associated with transient neurologic impairments.

(d) History of skull penetration, to include traumatic, diagnostic, or therapeutic craniotomy, or any penetration of the dura mater or brain substance.

(e) Any defect in bony substance of the skull interfering with the proper wearing of military aviation headgear or resulting in exposed dura or moveable plates.

(f) Encephalitis within the last 3 years.

(g) History of metabolic or toxic disturbances of the central nervous system.

(h) History of arterial gas embolism. Decompression sickness Type II or I, if not fully resolved. Comprehensive neurologic evaluation is required to document full resolution.

(i) Injury of one or more peripheral nerves, unless not expected to interfere with normal function or flying safety.

(j) History of closed head injury associated with traumatic brain injury or any of the following:

1. CSF leak

2. Intracranial bleeding.

3. Skull fracture (linear or depressed).

4. Initial Glasgow Coma Scale of less than 15.

5. Time of loss of consciousness and/or post-traumatic amnesia greater than 5 minutes.

6. Post-traumatic syndrome (headaches, dizziness, memory and concentration difficulties, sleep disturbance, behavior or personality changes).

(13) **Psychiatric.** In addition to those conditions listed in Article 15-54, the following conditions are disqualifying:

(a) History of Axis I diagnosis meeting current Diagnostic and Statistical Manual (DSM) criteria.

1. Adjustment disorders are disqualifying only during the active phase.

2. Substance-related disorders. Aviation specific guidelines regarding alcohol abuse and alcohol dependence are outlined in BUMEDINST 5300.8 series.

(b) History of Axis II personality disorder diagnoses meeting current DSM criteria. Personality disorders or prominent maladaptive personality traits result in a determination of NAA.

(14) **Systemic Diseases and Miscellaneous Conditions.** In addition to those conditions listed in Article 15-58, the following conditions are disqualifying:

(a) Sarcoidosis or history thereof.

(b) Disseminated lyme disease or lyme disease associated with persistent abnormalities that are substantiated by appropriate serology.

(c) Hematocrit. Aviation specific normal values: Males, 42.0-52.0; females, 37.0-47.0.

1. Values outside normal ranges (average of three separate blood draws) require hematology or internal medicine consultation. If no pathology is detected, the following values are not considered disqualifying: Males, 38.0-41.9 and 52.1-54.0; females, 35.0-36.9 and 47.1-49.0.

2. Any anemia associated with pathology is disqualifying.

(15) **Obstetrics and Gynecology.** In addition to those conditions listed in Article 15-47, the following conditions are disqualifying for Class I and Class II personnel:

(a) Third trimester of pregnancy.

(b) Refer to OPNAVINST 3710.7 for Class I and Class II personnel during the first and second trimester.

**7. Standards for Specific Categories of Aviation Personnel**

**a. Class 1 Personnel**

(1) **Service Group I.** In addition to the standards in Chapter 15, Section III (Physical Standards) and the general aviation standards, Service Group I aviators must meet the following standards:

**(a) Vision**

**1. Distant Visual Acuity.** 20/70 or better each eye uncorrected, corrected to 20/20 or better each eye. The first time distant visual acuity of less than 20/20 is noted a manifest refraction (not cycloplegic) shall be performed recording the correction required for the aviator to see 20/20 in each eye (all letters correct on the 20/20 line). A dilated fundus exam is required if visual acuity cannot be corrected to 20/20.

**2. Refractive Limits.** Refractions will be recorded using minus cylinder notation. The sum of sphere and cylinder found by manifest refraction may not exceed -1.50 or +4.00 diopters in any meridian. The total cylinder may not exceed 1.50 diopters. Anisometropia may not exceed 3.50 diopters.

**3. Near Visual Acuity.** Must correct to 20/20 in each eye using either the AFVT or standard 16 Snellen or Sloan notation nearpoint card. Bifocals are approved.

**4. Depth Perception.** Must pass Verhoeff 8/8 first trial or 16/16 on combination of second and third trial or the AFVT (plates A-D). The following tests are acceptable alternatives:

- a. VTA-DP (tests A-D).
- b. Titmus 2 (numbers 1-7).

**5. Field of Vision.** Must be full.

**6. Oculomotor Balance**

- a. No esophoria more than 10.0 diopters.
- b. No exophoria more than 6.0 diopters.
- c. No hyperphoria more than 1.50

diopters.

d. Tropia or Diplopia in any direction of gaze is disqualifying.

**7. Color Vision.** Must PIP, 12/14 (with Macbeth lamp) or FALANT, 9/9 or 16/18.

**8. Fundoscopy.** No pathology present.

**9. Intraocular Pressure.** Must be less than or equal to 22 mm Hg. A difference of 5 mm Hg or greater between eyes requires an ophthalmology consult, but if no pathology noted, is not considered disqualifying.

**(b) Hearing (ANSI 1969)**

TABLE 2

Frequency (Hz)	Better Ear (dB)	Worse Ear (dB)
500	35	35
1000	30	50
2000	30	50

(c) **Chest X-Ray.** At accession and as clinically indicated.

(d) **EKG.** At accession and at ages 25, 30, 35, 40, 45, 50, and annually thereafter.

(e) **Hemocult.** Required annually age 50 and older or if personal or family history dictates.

(f) **Dental.** Must have no defect which would react adversely to changes in barometric pressure (Type I or II dental examination required).

(g) **Self Balance Test.** Must pass.

(h) **SF-93 or NAVMED 6120/2, as appropriate.** The following statement shall be added to the SF-93 or NAVMED 6120/2: "Have you ever been diagnosed or had any level of treatment for alcohol abuse or dependence?"

(2) **Service Group II.** Must meet same standards as Service Group I with the following modifications:

(a) **Distant Visual Acuity.** Must be uncorrected 20/100 or better, each eye corrected to 20/20 or better.

(b) **Refractive Limits.** None.

(3) **Service Group III.** Must meet the same standards as Service Group I with the following modifications:

(a) **Distant Visual Acuity.** Must be uncorrected 20/200 or better each eye corrected to 20/20 each eye.

(b) **Refractive Limits.** None.

(4) **Student Naval Aviator (SNA).** SNAs who have started training must meet Service Group I standards.

(5) **SNA Applicants.** All applicants for pilot training must meet Service Group I standards except as follows:

**(a) Vision**

**1. Visual Acuity, Distant and Near.** Uncorrected visual acuity must not be less than 20/30 each eye, correctable to 20/20 each eye (Goodlite eye chart).

**2. Vision Testing Procedures.** The Aerospace Ophthalmology Division, Clinical Department under NAVOPMEDINST shall use the following procedures as the standard for entry into naval aviation duty. The examinee is placed 20 feet from the Goodlite eye chart. The nontested eye is covered and examinee is directed not to squint. If the applicant persists in squinting after being instructed not to, terminate test and disqualify examinee. Visual acuity should be recorded as 20/20-0 if no letters are missed. If letters are missed, then the number of letters missed shall be recorded in place of zero. This procedure is repeated with the other eye. If letters are missed with either eye, that eye may be retested one time using a different line of letters on the Goodlite eye chart. This aeromedical vision testing standard is more exacting than other vision testing procedures. Applicants who pass

visual testing at facilities using other procedures will be disqualified if they fail to meet standards when tested under NAVOPMEDINST procedures.

**3. Refractive Limits.** If uncorrected distant visual acuity is less than 20/20 either eye, a manifest refraction must be recorded for the correction required to attain 20/20. If the candidate's distant visual acuity is 20/20, a manifest refraction is not required. Total myopia may not be greater than -1.00 diopter in any meridian, total hyperopia no greater than +3.00 diopters in any meridian, or astigmatism no greater than -0.75 diopters. The astigmatic correction shall be reported in minus cylinder format.

**4. Cycloplegic Refraction.** This is required for all candidates to determine the degree of spherical ametropia. The refraction should be performed to maximum plus correction to obtain best visual acuity. Due to the effect of lens aberrations with pupil dilation, visual acuity or astigmatic correction, which might disqualify the candidate, should be disregarded if the candidate meets the standards for visual acuity and astigmatism with manifest refraction.

**5. Near Point of Convergence.** 100 mm or less.

**6. Slit Lamp Examination.** Required.

**7. Dilated Fundus Examination.** This exam is required.

**(b) Hearing (ANSI 1969)**

TABLE 3

Frequency (Hz)	Decibel (dB)
500	25
1000	25
2000	25
3000	45
4000	55

**(c) Reading Aloud Test.** Required if speech impediment exists or history of speech therapy or facial fracture. See paragraph 7c(3)(b)2 for wording of test.

**(d) SF-93.** The SF-507, Continuation of SF-93, shall be completed and signed by the applicant.

**(6) Student Naval Flight Surgeons, Student Naval Aviation Physiologists, Student Naval Aviation Experimental Psychologists.** All applicants must meet Service Group I standards for solo flight except as follows:

**(a) Vision**

**1. Visual Acuity, Distant and Near.** No limit uncorrected. Must correct to 20/20 each eye.

**2. Refraction.** No limits.

**(b) Applicants Who Do Not Meet Service Group I Standards.** These applicants may not solo and must meet requirements for Class 2 personnel (paragraph 7b(3)).

**b. Class 2 Personnel**

**(1) Designated Naval Flight Officer (NFO).**

Must meet Service Group I standards except as follows:

**(a) Vision**

**1. Visual Acuity, Distant and Near.**

No limit uncorrected. Must correct to 20/20 each eye.

**2. Refraction.** No limits.

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

**4. Depth Perception.** Not required.

**(2) Student Naval Flight Officer (SNFO) and Applicants.**

SNFOs who have begun training must meet designated NFO standards. Applicants must meet Service Group I standards, except as follows:

**(a) Vision**

**1. Visual Acuity, Distant and Near.**

No limit uncorrected. Must correct to 20/20 each eye.

**2. Refractive Limits.** Manifest refraction must not exceed +/-5.50 diopters in any meridian (sum of sphere and cylinder) with astigmatism no greater than -3.00 diopters. Refraction must be recorded in minus cylinder format. Must have no more than 3.50 diopters of anisometropia.

**3. Oculomotor Balance.** NOHOSH.

**4. Depth Perception.** Not Required.

**5. Slit Lamp Examination.** Required.

**(b) Hearing.** Same as SNA.

**(c) Reading Aloud Test.** Required if speech impediment exists or history of speech therapy or facial fracture. See paragraph 7c(3)(b)2 for wording of test.

**(d) The SF-507, Continuation of SF-93, Aeromedical Applicant Questionnaire.** This form shall be completed and signed by the applicant.

**(3) Naval Flight Surgeon, Naval Aerospace Physiologist, and Naval Aerospace Experimental Psychologist, Designate and Applicants.** The above who do not meet standards for solo flight training must meet Service Group I standards, except as follows:

**(a) Vision**

**1. Visual Acuity, Distant and Near.**

No limit uncorrected. Must correct to 20/20 each eye.

**2. Refraction.** No limits.

**3. Oculomotor Balance.** NOHOSH.

**4. Depth Perception.** Not required.

**5. Slit Lamp Exam.** Required for all applicants.

**6. Color Vision.** Applicants must meet Service Group I standards for solo flight during training. Applicants not meeting Service Group I standards will be found PQ except for solo flight. Testing is not required for designates.

**(b) Hearing.** Designates must meet Service Group I standards. Applicants must meet SNA standards.

(4) **Naval Aircrew (Fixed Wing), Designate and Applicant.** Must meet Service Group I standards except as follows:

(a) **Vision**

1. Visual Acuity, Distant and Near.

No limit uncorrected. Must correct to 20/20 each eye.

2. Refraction. No limits.

3. Oculomotor Balance. NOHOSH.

4. Depth Perception. Not required.

(b) **Hearing.** Designates must meet Service Group I standards. Applicants must meet SNA standards.

(c) **Anthropometric Standards.** All applicants shall have measurements recorded. If flying in ejection seat aircraft, must meet aviation anthropometric standards.

(5) **Naval Aircrew (Rotary Wing), Designate and Applicant (USN/USMC).** Must meet Service Group I standards, except as follows:

(a) **Vision**

1. Visual Acuity, Distant and Near.

Must be uncorrected 20/100 or better, each eye corrected to 20/20.

2. Refraction. No limits.

3. Oculomotor Balance. NOHOSH.

4. Depth Perception. Verhoeff or AFVT (or VTA-DP or Titmus 2) A-D.

(b) **Hearing.** Designates must meet Service Group I standards. Applicants must meet SNA standards.

(6) **Selected Passengers, Project Specialists, and Other Personnel.** Refer to OPNAVINST 3710.7, Chapter 8 for definitions. 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. Specifically, visual acuity, distant and near must correct to 20/50 or better in one eye. No limits uncorrected.

(7) **Parachute Jumper (Basic), Designate and Applicant.** Medical examination may be performed by any privileged provider. Must meet standards in Chapter 15, Section III (Physical Standards) and the following additional standards:

(a) **Vision.** Distant visual acuity.

1. Navy. No limit uncorrected. Must correct to 20/20 each eye. If 20/40 or worse, correction must be worn at all times while jumping.

2. Marine Corps. No limit uncorrected. Corrected to at least 20/20 in one eye and 20/100 in the other.

(b) **Personnel who are parachute jumpers and also members of Special Forces (SEALs/Recon) must also meet standards in article 15-66.** In this case, the examination may be completed by the examiners and at the frequency listed in article 15-66.

(8) **Naval Test Parachutist/High Altitude Low Opening (HALO)/Military Free Fall (MFF), Designate and Applicant.** Must meet same standards as naval aircrewman, except as follows:

(a) **Distant Visual Acuity.** If less than 20/20 each eye, correction must be worn while jumping.

(b) **Personnel who are in HALO or MFF program and also members of Special Forces (SEALs/Recon) must also meet standards in article 15-66.** In this case, the examination may be conducted by the examiners and at the frequency listed in article 15-66.

(9) **Aerospace Physiology Technician, Designate and Applicant.** Must meet Service Group I standards except as follows:

(a) **Vision**

1. Visual Acuity, Distant and Near. No limit uncorrected. Must correct to 20/20 each eye.

2. Refraction. No limits.

3. Depth Perception. Not required.

4. Color Vision. Not required.

(b) **Hearing.** Designates must meet Service Group I standards. Applicants must meet SNA standards.

(c) **Age.** Applicants must be less than 32 years of age.

(d) **Sinus X-rays.** Applicants must submit sinus films to NAVOPMEDINST Code 42 with initial physical examination.

c. **Class 3 Personnel**

(1) Class 3 personnel are those in aviation related fields not involving aerial flight, such as ATCs and unmanned aerial vehicle operators. These personnel are not subjected to hypoxia or rapid changes in atmospheric pressure and therefore do not have the same health and safety considerations for many medical conditions.

(2) Class 3 personnel must meet standards for aviation personnel in paragraph 6, but within those limitations, the following conditions are not considered disqualifying:

(a) Hematocrit below 40 percent in males or 37 percent in females, if asymptomatic.

(b) Seasonal allergic rhinitis unless requiring regular use of antihistamines or medications causing drowsiness.

(c) Nasal or paranasal polyps.

(d) Chronic sinus disease, unless symptomatic and requiring frequent treatment.

(e) Lack of Valsalva or inability to equalize middle ear pressure.

(f) Congenital or acquired chest wall deformities, unless expected to interfere with general duties.

(g) Mild chronic obstructive pulmonary disease.

(h) Pneumothorax once resolved.

(i) Surgical resection of lung parenchyma if normal function remains.

(j) Paroxysmal supraventricular dysrhythmias, after normal cardiology evaluation, unless symptomatic.

(k) Cholecystectomy, once resolved.

(l) Hyperuricemia.

(m) Renal stone once passed or in stable position.

(n) Internal derangements of the knee unless restricted from general duty.

(o) Recurrently dislocating shoulder.

(p) Scoliosis, unless symptomatic or progressive. Must meet general standards.

(q) Kyphosis, unless symptomatic or progressive. Must meet general standards.

(r) Fracture or dislocation of cervical spine.

(s) Cervical fusion.

(t) Thoracolumbar fractures.

(u) History of craniotomy.

(v) History of decompression sickness.

(w) Anthropometric standards do not apply.

(x) No limits on resting pulse if asymptomatic.

(3) **ATCs-Military and Department of the Navy Civilians, Designate and Applicant.** Military must meet the standards in Chapter 15, Section III (Physical Standards); civilians must meet general requirements for Civil Service employment. Both groups have the following additional requirements:

(a) **Vision**

1. Visual Acuity, Distant and Near. No limit uncorrected. Must correct to 20/20 or better in each eye.

2. Phorias. NOHOSH.

3. Depth Perception. Not required.

4. Slit Lamp Examination. Required for applicants only.

5. Intraocular Pressure. Must meet aviation standards.

6. Color Vision. Must pass PIP 12/14 (with Macbeth lamp) or FALANT.

(b) **Hearing.** Applicants must meet SNA standards. Designates must meet Service Group I standards.

1. Reading Aloud Test. The "Banana Oil" test is required for all applicants and other aviation personnel as clinically indicated.

2. Text. 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.

(c) **Special.** 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.

(d) **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.

(4) **Unmanned Aerial Vehicle Operators (Internal Pilot, External Pilot, Payload Operator).** Officers who maintain their aviation designators (pilot or NFO) must continue to meet the appropriate standards of their designation. USMC non-aviation designated officers or Navy officers no longer qualified for their previous aviation designator shall meet same standards as external operators. All unmanned aerial vehicle operators must meet same standards as ATCs, except:

(a) **Vision**

1. Visual Acuity, Distant and Near. No limit uncorrected. Must correct to 20/20 or better each eye.

**2. Phorias.** Must meet Service Group I standards.

**3. Depth Perception.** Verhoeff or AFVT (plates A-D). VTA-DP (test A-D) or Titmus 2 (numbers 1-7). Those who fail will be restricted to payload operator or internal pilot only.

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

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

**6. Color Vision.** Must pass PIP 12/14 (with Macbeth lamp) or FALANT.

(b) **Hearing.** Applicants must meet SNA standards. Designates must meet Service Group I standards.

(5) **Flight Deck Personnel, Critical (director, spotter, checker, and any other personnel specified by the unit commanding officer).** 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.

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

**3. Depth Perception.** Verhoeff or AFVT (or VTA-DP or Titmus 2) A-B required.

**4. Color Vision.** Must meet Service Group I standards.

(6) **Flight Deck Personnel, Non-critical.** 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.

(7) **Special Flight Deck Personnel (Non-pilot Landing Safety Officer and Helicopter Control Officer only).** Same as critical flight deck personnel.

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.

(8) **Naval Aviation Water Survival Training Instructors (NAWSTI).** Aviation designation is not required for assignment to NAWSTI duty. Personnel must meet applicable swimming standards outlined elsewhere. Individual NAWSTI personnel may require an aeromedical examination only if concurrently applying to or designated for aviation duty.

## 8. Forms

a. SF-88 (Rev. 3-89), Report of Medical Examination, NSN 7540-00-634-4038 is available on the Health and Human Services Program Support Center website at <http://forms.psc.gov/sforms.htm>.

b. SF-93 (6-96), Report of Medical History, NSN 7540-00-181-8638 is available at: <http://web1.whs.osd.mil/icdhome/SFEFORMS.HTM>.

c. SF-507 (12-91), Report on \_\_\_\_ or Continuation of SF-\_\_\_\_. Copies are available from the Naval Operational Medicine Institute, Attn: NAVOPMEDINST Code 42, 220 Hovey Road, Pensacola, FL 32508.

d. SF-600 (6-97), Chronological Record of Medical Care is available at: <http://www.gsa.gov/forms/zero.htm> and is authorized for local reproduction.

e. NAVMED 6410/1 (5-90), Aeromedical Grounding Notice, S/N 0105-LF-010-1600; NAVMED 6410/2 (5-90), Aeromedical Clearance Notice, S/N 0105-LF-010-1700; NAVMED 6120/2 (11-79), Officer Physical Examination Questionnaire, S/N 0105-LF-208-3071; and NAVMED 6150/2 (4-70), Special Duty Medical Abstract, S/N 0105-LF-209-5021 are available at: <http://navymedicine.med.navy.mil/instructions/external/external.htm>.

f. DD 2766 (3-98), Adult Preventive and Chronic Care Flowsheet, SN 0102-LF-105-4900 is available from the Navy Supply System or on the BUMED website at: <http://navymedicine.med.navy.mil/instructions/external/external.htm>.

# 15-66

## Diving Duty

**1. Purpose.** All personnel, except patients, exposed to the hyperbaric environment, including but not limited to those engaged in hyperbaric chamber duty (clinical, research, and recompression), hyperbaric coffers or caissons, sonar dome work (when a hyperbaric environment), hull containment testing (compartment workers), diving, combat swimming (SEALS), USMC combat swimmers, and all candidates for such duty, must conform to the appropriate physical standards in this article.

Note: Compartment workers who are submariners and have a current medical examination filed in the health record will be considered qualified for hull containment testing. When possible, DMEs should be performed by a medical officer, preferably a privileged undersea medical officer. DMEs, which are not personally performed by a qualified undersea medical officer, DMO, or HMO, must be reviewed and approved by: (1) a UMO, DMO, or HMO; (2) a FS, AMO, or graduate of the various hyperbaric medical officer courses taught at Naval Diving and Salvage

Training Center to whom BUMED-21 has granted written authority to review and approve DMEs; or (3) BUMED 21.

(2) **Additional Standards.** Some of the items listed in section III may be duplicated here for emphasis. In addition to the standards listed in section III, the following will be cause for rejection or disqualification:

(a) **General.** Any disease or condition that causes chronic or recurrent disability, increases the hazards of isolation, or has the potential of being exacerbated by the hyperbaric environment.

(b) **Ear, Nose, and Throat**

- (1) Any history of inner ear pathology.
- (2) Any history of inner or middle ear surgery.
- (3) Inability to equalize pressure as required by

Navy diving profiles.

(4) **Hearing**

- (a) As for initial acceptance for candidates.
- (b) Qualified divers must demonstrate ability to communicate and perform duty.

(c) Divers who use underwater devices that exceed the noise level standards established in OPNAVINST 5100.23 series will receive an audiogram quarterly.

(c) **Eyes**

- (1) Night vision impairment.
- (2) Vision that does not correct to 20/20.
- (3) For Navy combat swimmers (SEALs) the uncorrected visual acuity will not be worse than 20/40 in the better eye and 20/70 in the worse eye. For other Navy divers the uncorrected visual acuity will not be worse than 20/100 in the better eye and 20/200 in the worse eye. Sonar dome workers, research saturation divers not qualified as Navy divers, naval architects, compartment workers, hyperbaric coffer and caisson workers, undersea medical officers, and civil engineering corps personnel may have any degree correctable to 20/20 and may have night vision impairment. Other military services may establish their own vision standard for the purpose of complying with U.S. Navy requirements for diving training.

(4) Waivers are not required for the use of optically corrected masks or underwater glasses. Waivers, however, are required for the use of contact lenses.

(5) Defective color vision for Navy combat swimmers (tested by the Farnsworth Lantern) or explosive ordnance disposal personnel.

(6) Radial keratotomy, laser, or other forms of corneal surgery.

(d) **Pulmonary**

(1) Congenital and acquired defects which may restrict pulmonary function, cause air-trapping, or affect the ventilation-perfusion balance.

(2) Chronic or restrictive pulmonary disease of any type.

(3) Pneumothorax. Waiver may be granted for traumatic pneumothorax. Spontaneous pneumothorax is absolutely disqualifying.

(4) Reactive airway disease or asthma, after age 12 (waiver request is not appropriate).

(5) Chronic obstructive pulmonary disease.

(e) **Skin and Cellular Tissues.** Acute or chronic diseases that are exacerbated by the hyperbaric environment.

(f) **Dental**

(1) All divers should normally be class I or II before assuming diving duty. Divers who are class III for acute conditions should be temporarily disqualified from diving duty until the acute condition is corrected. Divers who are class III because of a chronic condition (e.g., periodontal disease) must be receiving ongoing dental care for the condition if they are to be considered qualified for diving duty.

(2) Acute infectious diseases of the soft tissues of the oral cavity, until treatment is completed.

(3) Any defect of the oral cavity or associated structures which interfere with effective use of self contained underwater breathing apparatus (SCUBA).

(g) **Blood and Blood Forming Tissues.** Any significant anemia or hemolytic disease.

(h) **Neurologic**

(1) Organic brain disease seizure disorders of any sort.

(2) Head injury with sequelae.

(3) Unexplained or recurrent syncope.

(4) Decompression sickness or air embolism with persistent neurologic deficit.

(i) **Psychiatric**

(1) Personality disorders, neurosis, immaturity, instability, asocial traits, or psychosis.

(2) Stammering or stuttering.

(3) Alcoholism except those who have successfully completed a recognized rehabilitation and after care program. Any relapse is cause for disqualification.

(j) **Musculoskeletal**

(1) Intervertebral disc disease with neurological deficit.

(2) Chronic arthritis.

(3) Dysbaric osteonecrosis.

(k) **Height, Weight, and Body Build.** Greater than 22 percent body fat for males and 30 percent for females as determined by anthropometric measurement per OPNAVINST 6110 series.

(l) **Age.** All military divers 45 years of age or older require a waiver to continue diving. Usually such waivers will be limited to senior supervisory capacity. BUMED defines senior supervisory diving capacity as monitoring of work performed by other divers. Navy civilian divers may continue active diving beyond age 45 provided their medical examination is conducted by a UMO or DMO and meets all other require-