

SECTION 2.0

DIVING PERSONNEL MEDICAL AND TRAINING REQUIREMENTS



Association of Diving Contractors International, Inc.



2.0 DIVING PERSONNEL MEDICAL AND TRAINING REQUIREMENTS

2.1 GENERAL

Each person engaged in diving and underwater operations shall possess the necessary qualifications for the job assignment. Designation of skill levels in these standards incorporates three primary elements:

- Technical training
- Field experience
- Demonstrated proficiency

Persons assigned to specific diving and underwater activities shall possess the following:

1. Knowledge and skills gained through a combination of formal training and/or experience in the following:
 - Diving procedures and techniques.
 - Emergency procedures.
 - Physiology and physics as they relate to diving.
 - Diving equipment.
 - First aid and CPR.
2. Familiarity with procedures and proficiency in the use of tools, equipment, devices and systems associated with the assigned tasks.
3. For persons engaged as divers or otherwise exposed to hyperbaric conditions, physical qualifications for such activities must be met as outlined in **Section 2.3 Diver Medical Requirements**. Such physical qualifications must be documented on an ADCI **medical history and physical examination form**, or an equivalent form.
4. For persons who operate decompression chambers, knowledge and experience with chamber operations.

A person lacking the required experience and proficiency outlined above may be assigned a task, under the direction of an experienced and qualified individual, in order to obtain the experience and level of proficiency required.

Personnel trained and certified by recreational agencies such as, but not limited to, the National Association of Underwater Instructors (NAUI), the Professional Association of Diving Instructors (PADI), the Young Men's Christian Association (YMCA) or other such organizations are not sufficiently well-trained to participate in or conduct commercial diving activities without additional formal training from an accredited source.

For contractors operating in the United States, OSHA considers an employer to be in compliance with the diver training requirements of the Code of Federal Regulations for any employed diver with a valid ADCI Commercial Diver Certification Card for the appropriate training level.

2.2 COMMERCIAL DIVING TRAINING REQUIREMENTS

2.2.1 ENTRY-LEVEL QUALIFICATIONS

All personnel entering the profession of commercial diving shall be a high school graduate or equivalent. The entry-level minimum skill designation on the diving crew is a tender/diver. The entry-level tender/diver satisfies the minimum entry-level qualifications of diving proficiency, technical proficiency and experience by successfully completing a formal course of study.

A formal course of study for a tender/diver shall be completed at any accredited school, military school or equivalent whose curriculum, at a minimum, conforms to ANSI/ACDE-01-2009.² This standard can be found in the reference section.

The ADCI recognizes some formal training certificates issued from within other nations. Certificates of that nature will be evaluated together with presented documentation such as dive logs/supervisor logs, etc., to determine whether the individual is eligible in all respects for issuance of an ADCI commercial diver card.

The ADCI does not perform as an educational organization and as such does not endorse, certify or accredit any school participating in the training of personnel. Member schools are expected to obtain and preserve appropriate accreditation from agencies under whose jurisdiction their educational requirements must be maintained.

2.2.2 MINIMUM REQUIRED EXPERIENCE AND PROFICIENCY

1. Advancement beyond the designation of tender/diver requires completion of actual participation in commercial diving operations and demonstrated proficiency during working dives.



2. Field experience is defined as those days spent (offshore, inland lakes, harbors, rivers, etc.) participating as a crew member in diving operations at the level of competency determined by prior training and demonstrated proficiency.
3. Diving proficiency establishes the required minimum number of open-water working dives required to obtain various designations. All dives must be performed during a 24-month period immediately prior to issuance of the designation. Work must be performed during each dive with proper supervision. All dives must have a minimum of 20 minutes bottom time. A number of shorter-duration dives may be combined to equal one dive of the required 20-minute bottom time.
4. **Advancement** to higher designations requires completion of training and experience for all lower designations.

Minimum Qualifications:

- **Entry-Level Tender/Diver**
Commercial diver training of at least 625 documented hours of formal instruction in subjects set forth in the ANSI Standard.²
- **Advanced Certifications**
As defined in Matrix in Section 3.
- **Others**
Technical proficiency as appropriate to the specific diving mode as detailed under the ADCI certification card program requirements or appropriate section for these standards.

2.3 DIVER MEDICAL REQUIREMENTS

It is recommended that candidates attending formal commercial diver training programs and schools follow the ADCI medical and examination guidelines outlined in this section.

2.3.1 GENERAL

For persons engaged as divers, or otherwise subjected to hyperbaric conditions, the following ADCI medical examinations (or equivalent) are required:

1. An initial medical examination by a physician qualified to perform commercial diver medical examination following the ADCI recommended guidelines.
2. Periodic examinations are recommended on an annual basis.
3. A re-examination after a diving-related injury or illness as needed to determine fitness to return to diving duty.

For the purposes of these medical requirements all examinations are to be performed only by licensed physicians qualified to perform commercial diver medical examinations. Non-physicians are not recognized by the ADCI as being qualified to perform commercial diver medical examinations

2.3.2 PHYSICAL EXAMINATION

1. For persons engaged as divers or otherwise subjected to hyperbaric conditions, the initial exam and periodic medical re-examination will be recorded using the ADC diving medical examination form and will include the following:
 - Work history.
 - The tests required in Section 2, Table 1 as appropriate.
 - Any tests deemed necessary to establish the presence of any of the disqualifying conditions listed in this section.
 - Any additional tests the physician deems necessary.
2. All persons engaged as divers or otherwise subjected to hyperbaric conditions are required to get an annual exam. More frequent or extensive examination(s), including a complete medical re-examination, should be required if there have been any incidents (illness, accidents, etc.) during the course of that year that may have caused a change in the individual's medical condition. The diver is required to notify the diving medical examiner of any changes in his/her medical condition including any change in medications.

2.3.3 RE-EXAMINATION AFTER INJURY OR ILLNESS

1. Any person engaged as a diver, or otherwise exposed to hyperbaric conditions, will have a medical examination following a known diving-related injury or illness that requires hospitalization or known decompression sickness with audio-vestibular, central nervous system dysfunction or arterial gas embolism. Divers experiencing type I decompress sickness that is treated and symptoms resolve with a single treatment table do not need to be seen by a diving medical examiner prior to return to diving.



2. Any person engaged as a diver, or otherwise exposed to hyperbaric conditions, will have a medical evaluation following any non-diving injury or illness that requires any prescription medication, any surgical procedure or any hospitalization.
3. The person should not be permitted to return to work as a diver, or otherwise be subjected to hyperbaric conditions, until he or she is released by a physician recognized by the ADCI to do so.
4. The examining physician should determine the scope of the examination in light of the nature of the injury or illness.

2.3.4 TABLE 1 - MEDICAL TESTS FOR DIVING

| Test | Initial | Annual | Comments |
|---------------------------------|---------|--------|---|
| History & Physical | X | X | Include predisposition to unconsciousness, vomiting, cardiac arrest, impairment of oxygen transport, serious blood loss or anything that, in the opinion of the examining physician, will interfere with effective underwater work. |
| Chest X-ray | X | X | PA and lateral (Projection: 14" x 17" minimum) every three years unless medical conditions dictate otherwise. |
| Bone and Joint X-ray Survey | X | | Optional and as medically indicated. |
| EKG: Standard (12 Leads) | X | | Optional initially to establish baseline; annually after age 35; and as medically indicated. |
| EKG: Stress Test | | | Required as medically indicated if the Framingham Risk Score indicates risk of >10%. |
| Spirometry | X | X | Required including FVC, FEV1 and FEF25-75. Tests should be compared with NHANESIII reference values for determining percent of predicted |
| Audiogram | X | X | Threshold audiogram by pure tone audiometry; bone conduction audiogram as medically indicated. |
| EEG | | | Required only as medically indicated. |
| Visual Acuity | X | X | Required initially and annually. |
| Color Blindness | X | | Required. |
| Complete Blood Count | X | X | |
| Routine Urinalysis | X | X | |
| Pregnancy Test | X | X | Recommended prior to saturation diving. |
| Sickle Cell Screen | X | | Optional. |
| TB screening | X | X | Optional. |
| Comprehensive Metabolic Profile | X | X | Optional, including cholesterol and triglycerides required for divers over 40. |
| Lipid Panel | X | X | Required annually after the age of 35 |
| Framingham Risk Score | X | X | Required annually after the age of 35 |

2.3.5 PHYSICIAN'S WRITTEN REPORT

A written report outlining a person's medical condition and fitness to engage in commercial diving or other hyperbaric activities should be provided by the examining physician at any time a physical examination is required herein. The written **physical examination form** should be accompanied with a completed copy of the standard **ADCI medical history form**.

The examining physician should be qualified by experience or training to conduct the commercial diver physical examination.

2.3.6 DISQUALIFYING CONDITIONS

A person having any of the following conditions, as determined by a physician's examination, shall be disqualified from engaging in diving or other hyperbaric activities.

- History of seizure disorder other than early childhood febrile conditions.
- Cystic, bullous or cavitory disease of the lungs, significant obstructive or restrictive lung disease and/or spontaneous pneumothorax.
- Chronic inability to equalize sinus and middle ear pressure.
- Significant central or peripheral nervous system disease or impairment.
- Chronic alcoholism, drug abuse or dependence or history of psychosis.
- Hemoglobinopathies associated with comorbidities.
- Any person engaged as a diver, or otherwise exposed to hyperbaric conditions, will have a medical evaluation following any non-diving injury or illness that requires any prescription medication, any surgical procedure or any hospitalization.
- Untreated or persistent/metastatic or other significant malignancies including those that require chemotherapy and/or radiation therapy unless five years after treatment with no evidence of recurrence.
- Hearing impairment in the better ear should be at least 40 dB average in the 500, 1000, and 2000 Hz frequencies.
- Justa-articular osteonecrosis is disqualifying.



- Chronic conditions requiring continuous control by medication that increases risks in diving.
- Pregnancy.

2.3.7 WITHDRAWAL FROM HYPERBARIC CONDITIONS FOR DIVERS

It shall be determined on the basis of the physician’s examination whether a person’s health will be materially impaired by continued exposure to hyperbaric conditions. The physician should indicate, in the written report, any limitations or restrictions that would apply to the person’s work activities.

2.3.8 MEDICAL RECORD KEEPING

1. An accurate medical record for each person subject to the medical specifications of this section should be established and maintained. The record should include those physical examinations specified herein, including the **ADCI medical history/physical examination forms** and the physician’s written report.
2. The medical record shall be maintained for a minimum of five years from the date of the last hyperbaric exposure unless otherwise prescribed by law.

2.3.9 VENOMOUS FISH STINGS

| <i>VENOMOUS FISH STINGS</i> | |
|--|--|
| PATIENT CRITERIA: | Stings from venomous fish include lionfish, scorpionfish and stonefish. Stings that occur in waters with poor visibility and known to have venomous fish should be regarded as potential fish envenomation and treated according to this protocol. While there has been no cases reported in the medical literature of anaphylaxis secondary to lionfish there is a possibility that this may occur after repeated exposures. Anaphylaxis protocols should be followed for symptoms consistent with anaphylaxis. Mild to severe pain may be reported at the site of the puncture wound. Venomous fish toxins are of the neuromuscular type and can cause a variety of other systemic symptoms including headache, nausea, vomiting, abdominal pain or cramping, delirium, seizures, limb paralysis, hyper or hypotension, respiratory distress, dysrhythmia, myocardial ischemia, congestive heart failure, pulmonary edema, tremors, muscle weakness and syncope. Pain that worsens hours or days after initial improvement with hot water treatment may indicate secondary infection. Although painful, local treatment with hot water generally relieves pain in most cases. |
| REQUIRED ASSESSMENT: | <ul style="list-style-type: none"> • Focused History & Physical to include vital signs. • Examination of the skin for puncture wounds and/or vesicles. • Auscultation of Lung sounds for wheezing or stridor. • Document location, distribution of skin lesions and obtain full history of event and any similar past events. • Measure areas of redness or swelling and record for future reference. • Strength testing and sensory testing. |
| INTERVENTION: | <ul style="list-style-type: none"> • Currently there is only antivenin for stonefish and it is available only in the Indo Pacific region. If in a region where antivenin is available and the injury is thought to be secondary to stonefish or scorpionfish, consider transport to a facility where it may be administered. • The venom found in these fish is heat labile and generally responds to hot water treatment. If on an extremity that can be immersed, heat water to a temperature of 113 degrees Fahrenheit (45 degrees Celcius), ideally measured with a thermometer, and immerse the extremity in the water for 15 minutes at a time. Otherwise put towels soaked in hot water and apply to the areas affected. • Treatment with hot water may be repeated. • If fish spines are suspected to be present in the tissues, call the medical consultant for further instruction. • Cleanse the wound with povidone iodine (betadine) and dress with mupirocin or triple antibiotic ointment if mupirocin is unavailable. • Treatment of mild to moderate pain: Ibuprofen 400mg PO q.i.d. or Acetaminophen 1000 mg PO q.i.d. • Update diphtheria/tetanus as needed. |
| ALS: | <p>Contact Medical Consultant prior to administering Antibiotics or Narcotics</p> <ul style="list-style-type: none"> • Pain unresponsive to non-steroidal anti-inflammatory agents: May escalate Ibuprofen to 800 mg PO t.i.d. with unresolving symptoms. If no change in symptoms after administering Ibuprofen, narcotic analgesics may be considered. |
| CLINICAL CONSIDERATIONS: | <p>Contact Medical Consultant prior to administering Antibiotics or Narcotics</p> <ul style="list-style-type: none"> • Secondary infection: Consider antibiotic treatment with Doxycycline 100 mg bid, Ciprofloxacin 500 mg bid or Trimethoprim/Sulfa 160/800 mg bid for 10 days. • Anaphylaxis: Treat according to standard anaphylaxis protocols using epinephrine (Epipen) and repeat if necessary. |
| CONSULTATION & REFERRAL CRITERIA: | <ul style="list-style-type: none"> • Transport will be required for those patients who present with severe symptoms, fever or for those that have pain not responsive to oral medication. • Transport will be required for those patients that have signs of necrosis. • Transport may be required for those patients with retained fish spines. • Transport will be required for areas where antivenin is available for the treatment of systemic symptoms due to stonefish or scorpionfish. |



2.4 MEDICAL GUIDELINES AND RECOMMENDATIONS

2.4.1 INTRODUCTION

The following recommendations are set forth by the ADCI and are intended to be used with the ADCI medical history/physical examination forms. They deal with specific aspects of the subject's physical fitness to dive by item number. These standards are offered with what we believe, in most cases, to be the minimum requirements. The use of these standards is intended to be tempered with the good judgment of the examining physician. Where there is doubt about the medical fitness of the subject, the examining physician should seek the further opinion and recommendations of an appropriate specialist in that field. Particular attention must be paid to past medical and diving history. In general, a high standard of physical and mental health is required for diving. Consequently, in addition to excluding major disqualifying medical conditions, examining physicians should identify and give careful consideration to minor, chronic, recurring or temporary mental or physical illnesses that may distract the diver and cause him or her to ignore factors concerned with his or her own safety or others' safety.

It is recommended that the medical examination be performed by a physician that has completed formal training or has experience in the medical assessment of fitness for commercial diving. Examinations shall not be performed by non-physicians.

The spectrum of commercial diving includes industrial tasks performed from just below the surface to deep saturation diving. Job descriptions and therefore job-limiting disabilities may vary widely. These standards, in general, apply to all divers. Some consideration must be given to the subject's medical history, work history, age, etc. Within commercial diving it may be that a diver is fit to perform some jobs but not others.

There is no minimum or maximum age limit, providing all the medical standards can be met. The ADCI does not issue commercial diver certification cards to persons younger than 18 years of age. Serious consideration must be given to the need for all divers to have adequate reserves of pulmonary and cardiovascular fitness for use in an emergency. The lack of these reserves may possibly lead to the termination of a professional diving career. The examining physician should exercise the appropriate professional judgment to determine whether in particular circumstances additional testing may be warranted. Disqualification for an inability to meet any of these standards must be determined on a case-by-case basis.

Upon application by a company or individual, and with concurrence by the examining physician, particular medical circumstances may justify that a temporary variance be granted. Examining physicians must be familiar with the essential job functions (job description) for each commercial diving physical examination. The examining physician is encouraged to make any recommendations for reasonable accommodations necessary for a person to meet these standards.

The numbered items within these standards refer to boxes on the ADCI medical history/physical examination form. These forms are available for download on the ADCI website.

If any further clarification of this recommended standard is desired, please contact the ADCI.



2.4.2 ADCI PHYSICAL EXAMINATION STANDARDS

Patient history is recorded on pages 2-15 through 2-16 of the form set. Pages 2-17 and 2-18 are used to record specific findings during the conduct of the examination.

The following headings refer to and explain the numbered boxes on the ADCI physical examination form on pages 2-17 and 2-18. A sample copy of these forms is enclosed in this standard. Use of these forms ensures quality and consistency throughout the commercial diving industry. These forms may be obtained from the ADCI website.

| | | |
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| 1 | Name | Record. |
| 2 | Social Security Number or Passport Number | Record. |
| 3 | Height | No set limits. |
| 4 | Weight | The weight limits listed in the maximum allowable weight chart (2.4.9) should apply. If a diver exceeds these limits and the cognizant physician feels the increase is due to muscular build and physical fitness, a variance may be appropriate. A variance may be appropriate for divers who do not meet the weight limits but are at 23% body fat or less as measured by impedance or hydrostatic fat testing. Furthermore, individuals who fall within these weight limits but who present an excess of fatty tissue should be disqualified. |
| 5 | Body Fat | Optional. According to US Navy, 23% for males, 34% for females. |
| 6 | Body Mass Index (BMI) | Optional. Calculation for BMI = $\frac{\text{weight in pounds} \times 703}{\text{height in inches}^2}$ The maximum BMI allowable according to the U.S. Navy height and weight table is 28. |
| 7 | Temperature | The diver should be free of any infection/disease that would cause an abnormal temperature. |
| 8 | Blood Pressure | The resting blood pressure should not exceed 140/90 mm Hg. In cases of apparent hypertension, repeated daily blood pressure determinations should be made before a final decision is made. The blood pressure should be controlled without target organ damage. Beta blockers are not acceptable. Low-dose diuretics are acceptable. Medications required to control blood pressure should be noted on the physical exam form. |
| 9 | Pulse/Rhythm | Persistent tachycardia, arrhythmia except of the sinus type, or other significant disturbance of the heart or vascular system should be evaluated and may be disqualifying. |
| 10 | General Appearance/Hygiene | Should be good. |
| 11 | Distant Vision | Vision must be tested with and without correction when applicable. Should have vision corrected to 20/40, in both eyes. Monocular vision is not necessarily disqualifying for commercial diving. Divers who have had vision corrective surgery should be restricted from diving until cleared by a qualified diving physician and ophthalmologist. |
| 12 | Near Vision | Correctable to 20/40. |
| 13 | Color Vision | Record. Color blindness does not disqualify for diving, but diver must have color vision specific for duties. |
| 14 | Field of Vision | Should be normal, with any discrepancies documented. A minimum of 85 degrees field of vision is required. |
| 15 | Contact Lenses | Record if used. Appropriate lenses for diving may be used (gas permeable/fenestrated hard lens). Vision must be recorded with and without contact lenses. |
| 16 | Head, Face and Scalp | Some causes for rejection may include: <ul style="list-style-type: none"> a) Deformities of the skull in the nature of depressions, exostosis, etc., of a degree that would prevent the individual from wearing required equipment. b) Deformities of the skull of any degree associated with evidence of disease of the brain, spinal cord or peripheral nerves. c) Loss or congenital absence of the bony substance of the skull. |



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| 17 | Neck | <p>Conditions affecting the neck must not impair the diver to cause insufficient range of motion.</p> <p>The causes for rejection may include:</p> <ul style="list-style-type: none"> a) Cervical ribs if symptomatic. b) Congenital cysts of bronchial cleft origin or those developing from the remnants of the thyroglossal duct, with or without fistulous tracts. c) Fistula, chronic draining, of any type. d) Spastic contraction of the muscles of the neck of a persistent and chronic nature. e) Neural impingement. |
| 18 | Eyes | Active pathology or previous eye surgery may be cause for restriction or rejection. Divers who have had vision corrective surgery should be restricted from diving until cleared by a qualified diving physician and ophthalmologist. History of cataract surgery with intraocular lens implant is not disqualifying. |
| 19 | Fundus | Optional. No pathology. |
| 20 | Through # 24 | <p>The following conditions are disqualifying:</p> <ul style="list-style-type: none"> a) Acute disease including vestibular disease. b) Chronic serious otitis. c) Active otitis media. d) Current perforation of the tympanic membrane. e) PE tubes in place. f) Any significant nasal or pharyngeal respiratory obstruction. g) Chronic sinusitis if not readily controlled. h) Speech impediments due to organic defects. i) Inability to equalize pressure due to any cause. j) Recurrent or persistent vertigo. k) Recent piercings are disqualifying until healed. <p>If Eustachian tube dysfunction is suspected, then referral or testing should be done. Adequately repaired or healed round window ruptures that have no significant residual deficits may be approved for diving.</p> |
| 25 | Mouth and Throat | <ul style="list-style-type: none"> a) Candidate should have a high degree of dental fitness; any abnormalities of dentition or malformation of the mandible likely to impair the diver's ability to securely and easily retain any standard equipment mouthpiece should disqualify. b) Removable dentures should not be worn while diving. c) Severe dental caries is disqualifying until repaired. |
| 26 | Chest (include breasts) | Note any chest deformities, breast abnormalities or masses. |
| 27 | Lungs | Pulmonary: Congenital and acquired defects that may restrict pulmonary function, cause air entrapment, or affect the ventilation-perfusion or balance shall be disqualifying for both initial training and continuation. Obstructive or restrictive pulmonary functions require further evaluation. Pulmonary disease requiring medication use may be disqualifying. History of recurrent or spontaneous pneumothorax is disqualifying. |
| 28 | Heart (thrust, size, rhythm, sounds) | Any evidence of heart disease or arrhythmias other than sinus arrhythmias must be fully investigated. For evaluation purposes, Bruce protocol functional stress testing through stage III must be to at least 10 METS without evidence of ischemia. Pacemakers and implantable cardiac defibrillators are disqualifying. PFO repairs are not disqualifying. Routine PFO testing is not recommended. Coumadin or any anticoagulants, antiplatelet medications and aspirin (except low dose aspirin) are considered disqualifying. Ejection fractions must be at least 40% if measured. |
| 29 | Pulse | Record. Peripheral pulses should be regular, full and symmetric and less than 100. |



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| 30 | Vascular System (varicosities, etc.) | Cardiovascular system: The cardiovascular system shall be without significant abnormality in all respects as determined by physical examination and tests as may be indicated. Evidence of symptomatic arteriosclerosis, severe varicose veins and marked symptomatic hemorrhoids may be disqualifying. |
| 31 | Abdomen and Viscera | <ul style="list-style-type: none"> a) Active peptic ulceration should be disqualifying until treated and healing has been documented. History of gastrointestinal bleeding may be disqualifying from diving and is disqualifying from saturation diving. b) Any other chronic gastrointestinal disease (e.g., ulcerative colitis, cholelithiasis) may be cause for rejection. c) Crohn's disease may be disqualifying. d) Hepatitis may be disqualifying. e) Colostomies should be disqualified for saturation diving. |
| 32 | Hernia (all types) | All inguinal or femoral hernias are disqualifying until repaired. Ventral hernias more than one cm must be repaired prior to diving. |
| 33 | Endocrine System | Diabetics controlled only with diet and exercise and with Hgb A1C < 7.0 are acceptable. History of thyroid disease adequately controlled with medication is acceptable to dive. Any other endocrine disorders requiring medication may be disqualifying. |
| 34 | G-U System (genital-urinary) | <ul style="list-style-type: none"> a) Gonococcal disease, syphilis, chlamydia and genital herpes will disqualify until adequately treated. b) Evidence or history of nephrolithiasis must be fully investigated and treated and may be disqualifying. c) Any renal insufficiency or chronic renal disease may be disqualifying. d) History of kidney stones may be disqualifying for surface and saturation diving. Divers with a history of kidney stones should have periodic evaluation by a urologist to determine the presence of stones. e) Evidence or history of urinary dysfunction or retention must be fully investigated and treated. |
| 35 | Upper Extremities (strength, ROM) | Any impairment of musculoskeletal function should be carefully assessed against the general requirements that would interfere with the individual's performance as a diver. Amputations may be disqualifying. Orthopedic internal fixation hardware is not disqualifying if the fracture site is healed. |
| 36 | Lower Extremities, Except Feet | Any impairment of musculoskeletal function should be carefully assessed against the general requirements that would interfere with the individual's performance as a diver. Amputations may be disqualifying. Orthopedic internal fixation hardware is not disqualifying if the fracture site is healed. |
| 37 | Feet | Any impairment of musculoskeletal function should be carefully assessed against the general requirements that would interfere with the individual's performance as a diver. |
| 38 | Spine | Any impairment of musculoskeletal function should be carefully assessed against the general requirements that would interfere with the individual's performance as a diver. Neural impingement or nerve root displacement is considered disqualifying even if asymptomatic. |
| 39 | Skin and Lymphatic System | Active, acute or chronic disease of the skin or lymphatic system may be disqualifying. Tattoos must be fully healed prior to diving. |
| 40 | Anus and Rectum | Any conditions that interfere with normal function (e.g., stricture, prolapse, severe hemorrhoids) may be disqualifying. |
| 41 | Sphincter Tone | Note and record. |
| | Neurological Exam (42-49) | A full examination of the central and peripheral nervous system should show normal function, but localized minor abnormalities, such as patches of anesthesia, are allowable provided generalized nervous system disease can be excluded. Any history of seizure (apart from childhood febrile convulsions, oxygen toxicity or withdrawal seizures) is disqualifying. Intracranial surgery, loss of consciousness of more than 30 to 45 minutes, and severe head injury involving more than momentary unconsciousness or concussion, may be disqualifying. If the severity of head injury is in doubt, special consultation and studies should be considered. All neurodegenerative conditions are disqualifying. |



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| 42 | Cranial Nerves | Examine, evaluate and record. |
| 43 | Reflexes | Should be symmetrical and free from pathology. Document any abnormalities. Pathological reflexes should be evaluated. Asymmetrical reflexes should be documented. |
| 44 | Cerebellar Function | Test and record. |
| 45 | Strength and Tone of Muscles | Examine and record. Note any atrophy or loss of tone. |
| 46 | Proprioception/ Stereognosis | Examine and record. |
| 47 | Nystagmus | Do and record. Congenital nystagmus is not necessarily disqualifying. End point lateral gaze nystagmus is considered normal. |
| 48 | Sensations and Vibration | Test and record. Vibration should be tested using a 128 Hz tuning fork. Two point discrimination should be tested at the thumb (C6), middle finger (C7) and the little finger (C8) and should be discernable at 5 mm. |
| 49 | Romberg | Do and record. May perform romberg for up to two minutes. |
| 50 | Miscellaneous Remarks and Dermatome Diagram | Record findings and comments. |
| 51 | Urinalysis | Includes color pH, specific gravity, glucose, albumin and micro, and all results should be within normal limits. |
| 52 | Blood Tests | Hematology: Any significant anemia or history of hemolytic disease must be evaluated; when due to a variant hemoglobin state, it shall be disqualifying. |
| 53 | Spirometry | All divers must have periodic spirometry to establish Forced Expiratory Volume at one (1) second (FEV1), Forced Vital Capacity (FVC)), and FEF 25-75 recording best of three measurements using American Thoracic Society standards. FEV1 and FVC should both be 75% or over using NHANES reference values. If either or both are below 75%, then the diver should be referred for functional stress testing under Bruce protocol to at least 10 METS. |
| 54 | X-ray/Imaging | <ul style="list-style-type: none"> a) 14 x 17 chest: PA and lateral every three years. No pathology within normal limits. b) Lumbar/sacral spine (optional on new hire). c) Long bones (optional): Any lesions, especially juxta-articular, should be evaluated to determine patient's fitness to dive. d) MRI (optional): Neural impingement or nerve root displacement on MRI examinations are disqualifying. |
| 55 | Electrocardiogram | ECG examinations: Resting standard 12 lead ECG are optional on new hire examinations and required annually after the age of 35. Exercise stress tests should be considered and may be indicated after the age of 40. |
| 56 | Audiogram Pure Tone | A hearing loss in either ear of 40 dB in the range of 500, 1000 and 2000 Hz may be an indication for referral of the candidate to a specialist for further opinion, unless the examining doctor is convinced that such a hearing loss is unlikely to be significantly increased by continued diving activities. Doubts about function of labyrinths require specialized examination. Monaural hearing is not disqualifying. Hearing ability must be adequate to perform job duties. |
| 57 | Comprehensive Metabolic Panel | Optional. |
| 58 | Hemoglobin A1C | Required for any history of diabetes. |
| 59 | Lipid Panel | Required for Framingham Risk Calculation. Must be done on divers 35 years and older. |
| 60 | Drug Screen | Recommended. |



2.4.3 ADCI MEDICAL HISTORY AND EXAMINATION FORMS



Association of Diving Contractors International
MEDICAL HISTORY FORM

| | | | | | | | |
|--|------------|-------------|------------------|----------|------------------|-------------------------------------|----------------------|
| Employer | | | Job Title | | | Date | |
| 1. Last Name | First Name | Middle Name | 2. Email Address | | 3. Date of Birth | 4. Gender | 5. Last 4 No. of SSN |
| 6. Address (Number, Street) | | | 7. City | 8. State | 9. Zip Code | 10. Area Code - Phone Number () | |
| 11. Emergency Contact Person - Relationship - Address - Telephone Number | | | | | | 12. Cell Phone Number () | |

13. MEDICAL HISTORY: Have you ever had or been treated for (positive answers must be explained below):

| | | | | | | | | |
|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|------------------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Convulsions or Seizures | <input type="checkbox"/> | <input type="checkbox"/> | Cardiac Angiogram or ECHO | <input type="checkbox"/> | <input type="checkbox"/> | Shoulder Injury |
| <input type="checkbox"/> | <input type="checkbox"/> | Epilepsy | <input type="checkbox"/> | <input type="checkbox"/> | PFO Repair | <input type="checkbox"/> | <input type="checkbox"/> | Elbow Injury |
| <input type="checkbox"/> | <input type="checkbox"/> | Concussion or Head Injury | <input type="checkbox"/> | <input type="checkbox"/> | High Blood Pressure | <input type="checkbox"/> | <input type="checkbox"/> | Arm/wrist/hand Injury |
| <input type="checkbox"/> | <input type="checkbox"/> | Disabling Headaches | <input type="checkbox"/> | <input type="checkbox"/> | Asthma or Wheezing | <input type="checkbox"/> | <input type="checkbox"/> | Hip/Leg/Ankle Injury |
| <input type="checkbox"/> | <input type="checkbox"/> | Loss of Balance/Dizziness | <input type="checkbox"/> | <input type="checkbox"/> | Coughing up Blood | <input type="checkbox"/> | <input type="checkbox"/> | Knee Injury or "Trick Knee" |
| <input type="checkbox"/> | <input type="checkbox"/> | Severe Motion Sickness | <input type="checkbox"/> | <input type="checkbox"/> | Tuberculosis | <input type="checkbox"/> | <input type="checkbox"/> | Foot Trouble or Injuries |
| <input type="checkbox"/> | <input type="checkbox"/> | Unconsciousness | <input type="checkbox"/> | <input type="checkbox"/> | Shortness of Breath | <input type="checkbox"/> | <input type="checkbox"/> | Dislocations |
| <input type="checkbox"/> | <input type="checkbox"/> | Fainting Spells | <input type="checkbox"/> | <input type="checkbox"/> | Chronic Cough | <input type="checkbox"/> | <input type="checkbox"/> | Swollen Joints |
| <input type="checkbox"/> | <input type="checkbox"/> | Wear Contacts/Glasses | <input type="checkbox"/> | <input type="checkbox"/> | Pneumothorax | <input type="checkbox"/> | <input type="checkbox"/> | Broken Bones or Fractures |
| <input type="checkbox"/> | <input type="checkbox"/> | Color Vision Defect | <input type="checkbox"/> | <input type="checkbox"/> | Lung Disease or Surgery | <input type="checkbox"/> | <input type="checkbox"/> | Varicose Veins |
| <input type="checkbox"/> | <input type="checkbox"/> | Eye Disease or Injury | <input type="checkbox"/> | <input type="checkbox"/> | Gallbladder Disease or Stones | <input type="checkbox"/> | <input type="checkbox"/> | Muscle Disease or Weakness |
| <input type="checkbox"/> | <input type="checkbox"/> | Eye Surgery | <input type="checkbox"/> | <input type="checkbox"/> | Stomach Trouble or Ulcers | <input type="checkbox"/> | <input type="checkbox"/> | Numbness or Paralysis |
| <input type="checkbox"/> | <input type="checkbox"/> | Hearing Loss | <input type="checkbox"/> | <input type="checkbox"/> | Stomach Bleeding | <input type="checkbox"/> | <input type="checkbox"/> | Sleep Disorders |
| <input type="checkbox"/> | <input type="checkbox"/> | Ear Disease or Injury | <input type="checkbox"/> | <input type="checkbox"/> | Frequent Indigestion | <input type="checkbox"/> | <input type="checkbox"/> | Diabetes |
| <input type="checkbox"/> | <input type="checkbox"/> | Ear Surgery | <input type="checkbox"/> | <input type="checkbox"/> | Jaundice | <input type="checkbox"/> | <input type="checkbox"/> | Goiter or Thyroid Disease |
| <input type="checkbox"/> | <input type="checkbox"/> | Perforated Eardrum | <input type="checkbox"/> | <input type="checkbox"/> | Liver Disease or Hepatitis | <input type="checkbox"/> | <input type="checkbox"/> | Blood Disease |
| <input type="checkbox"/> | <input type="checkbox"/> | Difficulty Clearing | <input type="checkbox"/> | <input type="checkbox"/> | Rectal Bleeding/Blood in Stools | <input type="checkbox"/> | <input type="checkbox"/> | Anemia: Sickle Cell or Other |
| <input type="checkbox"/> | <input type="checkbox"/> | Nose Bleed | <input type="checkbox"/> | <input type="checkbox"/> | Hemorrhoids (Piles) | <input type="checkbox"/> | <input type="checkbox"/> | Skin Rash or Disease |
| <input type="checkbox"/> | <input type="checkbox"/> | Airway Obstruction | <input type="checkbox"/> | <input type="checkbox"/> | Gas Pains | <input type="checkbox"/> | <input type="checkbox"/> | Staph Infections |
| <input type="checkbox"/> | <input type="checkbox"/> | Hay Fever or Allergies | <input type="checkbox"/> | <input type="checkbox"/> | Crohn's Disease/Ulcerative Colitis | <input type="checkbox"/> | <input type="checkbox"/> | Tumor or Cancer |
| <input type="checkbox"/> | <input type="checkbox"/> | Chest Pain | <input type="checkbox"/> | <input type="checkbox"/> | Rupture or Hernia | <input type="checkbox"/> | <input type="checkbox"/> | Claustrophobia |
| <input type="checkbox"/> | <input type="checkbox"/> | Heart Murmur | <input type="checkbox"/> | <input type="checkbox"/> | Kidney Disease | <input type="checkbox"/> | <input type="checkbox"/> | Mental Illness/Depression/Anxiety |
| <input type="checkbox"/> | <input type="checkbox"/> | Rheumatic Fever | <input type="checkbox"/> | <input type="checkbox"/> | Kidney Stones | <input type="checkbox"/> | <input type="checkbox"/> | Nervous Breakdown |
| <input type="checkbox"/> | <input type="checkbox"/> | Heart Attack | <input type="checkbox"/> | <input type="checkbox"/> | Protein, Sugar or Blood in Urine | <input type="checkbox"/> | <input type="checkbox"/> | Any Sexually Transmitted Disease |
| <input type="checkbox"/> | <input type="checkbox"/> | Abnormal Heart Rhythm | <input type="checkbox"/> | <input type="checkbox"/> | Joint Pain/Arthritis | <input type="checkbox"/> | <input type="checkbox"/> | Contagious Disease |
| <input type="checkbox"/> | <input type="checkbox"/> | Heart Disease | <input type="checkbox"/> | <input type="checkbox"/> | Back Strain or Injury | <input type="checkbox"/> | <input type="checkbox"/> | Prior Military Service |
| <input type="checkbox"/> | <input type="checkbox"/> | Cardiac Stent or Angioplasty | <input type="checkbox"/> | <input type="checkbox"/> | Spine Problems | <input type="checkbox"/> | <input type="checkbox"/> | Other Illness or Injury or Any Other Medical Condition |
| <input type="checkbox"/> | <input type="checkbox"/> | For Females ONLY | <input type="checkbox"/> | <input type="checkbox"/> | Herniated Disc or Sciatica | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | Irregular Menses | <input type="checkbox"/> | <input type="checkbox"/> | Painful Menses | | | |
| | | | <input type="checkbox"/> | <input type="checkbox"/> | Pregnancy | Last Menstrual Period | | |

PLEASE EXPLAIN THE DETAILS OF EACH ITEM CHECKED YES

14. LIST ALL SURGERIES

YEAR

15. LIST ALL HOSPITALIZATIONS

YEAR

16. LIST ALL INJURIES

YEAR

17. LIST ALL MEDICATIONS, PRESCRIPTION OR OVER THE COUNTER

18. ANSWER THE FOLLOWING QUESTIONS:

| Every Item Checked Yes Must Be Fully Explained Below | YES | NO | YES | NO |
|--|-----|----|--|----|
| Do you have any physical defects or any partial disabilities? | | | | |
| Have you ever been rejected or rated for insurance, employment, license, or armed forces for health reasons? | | | Have you ever resigned, been terminated, or changed jobs for medical reasons? | |
| Have you ever had illnesses, injuries, or lost time accidents from any work that you have done? | | | Have you ever been dismissed from employment because of excess use of drugs or alcohol? | |
| Have you been advised to have a surgical operation or medical treatment that has not been done? | | | Do you have any allergies or reactions to food, chemicals, drugs, insect stings, or marine life? | |
| | | | Are you presently under the care of a physician? Give physician's name and address on the next page. | |

COMMENTS:



19. My Personal Physician is: Name _____
 Address _____
 City, State _____
 Phone Number _____

20. DIVING HISTORY How long have you been commercial diving? _____

| Surface Air Diving History | | Saturation Diving History | |
|---------------------------------------|--|---|-------------------------------|
| Maximum Depth Surface Air _____ | | Heliox Yes <input type="checkbox"/> No <input type="checkbox"/> | Maximum Depth _____ |
| Maximum Depth Surface Mixed Gas _____ | | Trimix Yes <input type="checkbox"/> No <input type="checkbox"/> | Maximum Duration (Days) _____ |
| Longest Bottom Time Air _____ | | Nitrox Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Longest Bottom Time Mixed Gas _____ | | | |

21. DIVING EXPERIENCE (Number of years experience):
 Air _____ Name of Diving School _____
 Mixed Gases _____
 Saturation _____

22. INDICATE THE NUMBER OF DECOMPRESSION INCIDENTS
 If None put 0 (Zero) List any residuals
 Bends, pain only _____
 Bends, neurological _____
 Chokes _____
 Inner ear _____

23. IN DIVING HAVE YOU HAD A HISTORY OF: (Provide details of dates and severity)

| | Yes | No | Details | | Yes | No | Details |
|--------------------------|--------------------------|--------------------------|---------|-----------------------|--------------------------|--------------------------|---------|
| Gas Embolism | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Lung Squeeze | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Oxygen Toxicity | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Near Drowning | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| CO ₂ Toxicity | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Asphyxiation | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| CO Toxicity | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Vertigo (Dizziness) | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Ear/Sinus Squeeze | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Pneumothorax | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Ear Drum Rupture | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Nitrogen Narcosis | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Deafness | <input type="checkbox"/> | <input type="checkbox"/> | _____ | Loss of Consciousness | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

24. Have you been involved in a diving accident (decompression sickness or others) since your last physical examination? Yes No

25. Date of last physical examination: _____ Name of Physician who performed your last exam _____
 For what company or organization were you last examined? _____ Address of Physician _____
 _____ City, State _____

26. Have you ever had any of the following? If so, give approximate date:

| Yes | No | Give Date | Yes | No | Give Date |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Chest X-Ray _____ | <input type="checkbox"/> | <input type="checkbox"/> | Pulmonary Function Studies _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Longbone Series _____ | <input type="checkbox"/> | <input type="checkbox"/> | Audiogram _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Back (Spine) X-Ray _____ | <input type="checkbox"/> | <input type="checkbox"/> | EKG _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | MRI _____ | <input type="checkbox"/> | <input type="checkbox"/> | Exercise (Stress) EKG _____ |

27. Physician Remarks: _____

I CERTIFY THAT I HAVE REVIEWED THE FOREGOING INFORMATION SUPPLIED BY ME AND THAT IT IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT LEAVING OUT OR MISREPRESENTING FACTS CALLED FOR ABOVE MAY BE CAUSE FOR REFUSAL OF EMPLOYMENT OR SEPARATION FROM THE COMPANY. I AUTHORIZE ANY OF THE DOCTORS, HOSPITALS, OR CLINICS MENTIONED ABOVE TO FURNISH THE COMPANY MEDICAL EXAMINER WITH A COMPLETE TRANSCRIPT OF MY MEDICAL RECORD FOR PURPOSES OF PROCESSING MY PHYSICAL EXAM.

Date _____ Signature _____



**Association of Diving Contractors International
PHYSICAL EXAMINATION FORM**

| | | | |
|---|--------------------|---|--------------------------------|
| Employer | Date | Date of Birth | Age |
| 1. Last Name | | First Name | Middle Name |
| 2. Last 4 No. of SSN or PASSPORT No. | | | |
| 3. Height (inches) | 4. Weight (pounds) | 5. Body Fat (%) (Optional) | 6. BMI (Optional) |
| 7. Temperature | 8. Blood Pressure | 9. Pulse/Rhythm | 10. General Appearance/Hygiene |
| 11. Build | | | |
| 12. Distant Vision: R. 20/ _____ Corr. to 20/ _____ L. 20/ _____ Corr. to 20/ _____ | | 13. Near Vision: Jaeger R. 20/ _____ Near Vision Corrected L. 20/ _____ | |
| 14. Color Vision (Test Performed and Results) | | | |
| 15. Field of Vision (Degrees) R _____ ° L _____ ° | | 16. Contact Lenses <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| NORMAL | ABNORMAL | Check each item in appropriate column (enter NE for Not Evaluated) | |
| | | REMARKS | |
| | | 17. Head, Face, Scalp | |
| | | 18. Neck | |
| | | 19. Eyes | |
| | | 20. Ears – General (internal and external canal) | |
| | | 21. Eustachian Tube Function | |
| | | 22. Tympanic Membrane | |
| | | 23. Nose (Septal Alignment) | |
| | | 24. Sinuses | |
| | | 25. Mouth and Throat | |
| | | 26. Chest | |
| | | 27. Lungs | |
| | | 28. Heart (Thrust, Size, Rhythm, Sounds) | |
| | | 29. Pulses (Equality, etc.) | |
| | | 30. Vascular System (Varicosities, etc.) | |
| | | 31. Abdomen and Viscera | |
| | | 32. Hernia (All Types) | |
| | | 33. Endocrine System | |
| | | 34. G-U System | |
| | | 35. Upper Extremities (Strength, ROM) | |
| | | 36. Lower Extremities (Except Feet) | |
| | | 37. Feet | |
| | | 38. Spine | |
| | | 39. Skin, Lymphatics | |
| | | 40. Anus and Rectum | |
| | | 41. Sphincter Tone | |

NEUROLOGICAL EXAMINATION

42. CRANIAL NERVES

| | | NORMAL | ABNORMAL | NE |
|-----|------------|--------|----------|----|
| I | Olfactory | | | |
| II | Optic | | | |
| III | Oculomotor | | | |
| IV | Trochlear | | | |
| V | Trigeminal | | | |
| VI | Abducens | | | |

| | | NORMAL | ABNORMAL | NE |
|------|------------------|--------|----------|----|
| VII | Facial | | | |
| VIII | Auditory | | | |
| IX | Glossopharyngeal | | | |
| X | Vagus | | | |
| XI | Spinal Accessory | | | |
| XII | Hypoglossal | | | |

43. REFLEXES

| | | DEEP TENDON | | | | PATHOLOGICAL | | | | SUPERFICIAL | | | | | | | | |
|---------------|--|-------------|---|-------|---|--------------|---|-------|---|-------------|---|---------|--------|---------|--------|---------|--------|----|
| | | Left | | Right | | Left | | Right | | | | | | | | | | |
| | | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 2 | 3 | 4 | Present | Absent | Present | Absent | Present | Absent | NE |
| Triceps | | | | | | | | | | | | | | | | | | |
| Biceps | | | | | | | | | | | | | | | | | | |
| Patella | | | | | | | | | | | | | | | | | | |
| Achilles | | | | | | | | | | | | | | | | | | |
| Babinski | | | | | | | | | | | | | | | | | | |
| Hoffman | | | | | | | | | | | | | | | | | | |
| Ankle Clonus | | | | | | | | | | | | | | | | | | |
| Upper Abdomen | | | | | | | | | | | | | | | | | | |
| Lower Abdomen | | | | | | | | | | | | | | | | | | |
| Cremasteric | | | | | | | | | | | | | | | | | | |

44. CEREBELLAR FUNCTION

| | 0 | 1 | 2 | 3 | 4 |
|-------------------------------|---|---|---|---|---|
| Ataxia | | | | | |
| Tremor (intention) | | | | | |
| Finger to Nose | | | | | |
| Heel to Shin (Sliding) | | | | | |
| Rapidly Alternating Movements | | | | | |

45. MUSCLE

| | 1 | 2 | 3 | 4 | 5 |
|-----------------------|---|---|---|---|---|
| Right Upper Extremity | | | | | |
| Left Upper Extremity | | | | | |
| Right Lower Extremity | | | | | |
| Left Lower Extremity | | | | | |

TONE

| | Normal | Abnormal |
|--|--------|----------|
| | | |
| | | |
| | | |
| | | |

46. PROPIOCEPTION

| | Left | | Right | |
|----------------------|--------|----------|--------|----------|
| | Normal | Abnormal | Normal | Abnormal |
| Joint Position Sense | | | | |
| Stereognosis | | | | |
| Vibratory Sensation | | | | |

47. NYSTAGMUS

| | Present | Absent |
|------------------------|---------|--------|
| End Point Lateral Gaze | | |
| Pathological | | |

48. SENSATION

| | Normal | Abnormal |
|------|--------|----------|
| Hot | | |
| Cold | | |

| | Normal | Abnormal |
|-------|--------|----------|
| Sharp | | |
| Soft | | |

| Two Point Discrimination | |
|--------------------------|--|
| Normal | |
| Abnormal | |

49. ROMBERG

| | Absent | Present |
|--|--------|---------|
| | | |



2.4.4 NEUROPSYCHIATRIC

The nature of diving duties requires a careful appraisal of the individual's emotional and temperamental fitness. Personality disorders, bipolar disorders, psychosis, instability and anti-social traits shall be disqualifying. Any psychiatric condition requiring medication may be disqualifying. Temporary situational depression may be approved on low-dose antidepressants that do not affect seizure thresholds or have any side effects of CNS depression. Any past or present evidence of psychiatric illness shall be cause for rejection unless the examining doctor can be confident that it is of a minor nature and unlikely to recur.

Particular attention should be paid to any past or present evidence of alcohol or drug abuse. The diver may not be taking steroids or any illicit substances. Any abnormalities should be noted in block No. 52 of the physical examination form.

Past or current symptoms of neurological disorder or organic disease of the nervous system shall be disqualifying. No individual with a history of any form of epilepsy, or head injury with sequelae, or personality disorder shall be accepted. Neurotic trends, emotional adjustment, shall be disqualifying. Stammering or other speech impediment that might become manifest under excitement is disqualifying. Intelligence must be at least normal. Any abnormalities should be noted in block No. 52 of the physical examination form.

2.4.5 MEDICATION

The following medications are disqualifying:

1. Amphetamines (including lisdexamfetamine dimesylate) and designer drugs (substituted methylenediosphenethylamines including MDMA, MMDA, FLEA, EDMA, EFLEA, MDOH, EBDB, MDEA, 5-methyl-MDA and others)
2. Marijuana and synthetic forms of marijuana
3. Phencyclidine (PCP)
4. Cocaine
5. Opioids, naturally occurring and synthetics
6. Phosphodiesterase inhibitors such as erectile dysfunction medications
7. Immunosuppressants not recommended in saturation diving
8. Tramadol
9. All antidepressants except low dose sertraline used for mild situational depression
10. All antipsychotic medications
11. Muscle relaxants
12. All forms of insulin
13. Oral hypoglycemic medication
14. Anticoagulants or platelet inhibitors
15. Benzodiazepines
16. Barbiturates
17. Anxiolytic and/or hypnotic medications
18. Nicotine patches – must be removed while diving
19. Varenicline
20. Bupropion
21. Beta blockers

2.4.6 DISCLAIMER

Because of the lack of medical literature concerning commercial diving, these guidelines were developed as a consensus among diving physicians and are intended for only that purpose. The diving medical examiner may use discretion in deviating from these guidelines on an individual basis given the circumstances.



2.4.7 BMI TABLES

| BMI Table | | | | | | | | | | |
|--------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Height (inches) | BMI | | | | | | | | | |
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | Body Weight (pounds) | | | | | | | | | |
| 58 | 91 | 96 | 100 | 105 | 110 | 115 | 119 | 124 | 129 | 134 |
| 59 | 94 | 99 | 104 | 109 | 114 | 119 | 124 | 128 | 133 | 138 |
| 60 | 97 | 102 | 107 | 112 | 118 | 123 | 128 | 133 | 138 | 143 |
| 61 | 100 | 106 | 111 | 116 | 122 | 127 | 132 | 137 | 143 | 148 |
| 62 | 104 | 109 | 115 | 120 | 126 | 131 | 136 | 142 | 147 | 153 |
| 63 | 107 | 113 | 118 | 124 | 130 | 135 | 141 | 146 | 152 | 158 |
| 64 | 110 | 116 | 122 | 128 | 134 | 140 | 145 | 151 | 157 | 163 |
| 65 | 114 | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 | 168 |
| 66 | 118 | 124 | 130 | 136 | 142 | 148 | 155 | 161 | 167 | 173 |
| 67 | 121 | 127 | 134 | 140 | 146 | 153 | 159 | 166 | 172 | 178 |
| 68 | 125 | 131 | 138 | 144 | 151 | 158 | 164 | 171 | 177 | 184 |
| 69 | 128 | 135 | 142 | 149 | 155 | 162 | 169 | 176 | 182 | 189 |
| 70 | 132 | 139 | 146 | 153 | 160 | 167 | 174 | 181 | 188 | 195 |
| 71 | 136 | 143 | 150 | 157 | 165 | 172 | 179 | 186 | 193 | 200 |
| 72 | 140 | 147 | 154 | 162 | 169 | 177 | 184 | 191 | 199 | 206 |
| 73 | 144 | 151 | 159 | 166 | 174 | 182 | 189 | 197 | 204 | 212 |
| 74 | 148 | 155 | 163 | 171 | 179 | 186 | 194 | 202 | 210 | 218 |
| 75 | 152 | 160 | 168 | 176 | 184 | 192 | 200 | 208 | 216 | 224 |
| 76 | 156 | 164 | 172 | 180 | 189 | 197 | 205 | 213 | 221 | 230 |

| BMI Table | | | | | | | | | | |
|-------------------------|-------------------------|------|------|------|------|------|------|------|-------|-------|
| Height (Centimeters) | BMI | | | | | | | | | |
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | Body Weight (kilograms) | | | | | | | | | |
| 147.3 | 41.3 | 43.5 | 45.4 | 47.6 | 49.9 | 52.2 | 54.0 | 56.2 | 58.5 | 60.8 |
| 149.9 | 42.6 | 44.9 | 47.2 | 49.4 | 51.7 | 54.0 | 56.2 | 58.1 | 60.3 | 62.6 |
| 152.4 | 44.0 | 46.3 | 48.5 | 50.8 | 53.5 | 55.8 | 58.1 | 60.3 | 62.6 | 64.9 |
| 154.9 | 45.4 | 48.1 | 50.3 | 52.6 | 55.3 | 57.6 | 59.9 | 62.1 | 64.9 | 67.1 |
| 157.5 | 47.2 | 49.4 | 52.2 | 54.4 | 57.2 | 59.4 | 61.7 | 64.4 | 66.7 | 69.4 |
| 160.0 | 48.5 | 51.3 | 53.5 | 56.2 | 59.0 | 61.2 | 64.0 | 66.2 | 68.9 | 71.7 |
| 162.6 | 49.9 | 52.6 | 55.3 | 58.1 | 60.8 | 63.5 | 65.8 | 68.5 | 71.2 | 73.9 |
| 165.1 | 51.7 | 54.4 | 57.2 | 59.9 | 62.6 | 65.3 | 68.0 | 70.8 | 73.5 | 76.2 |
| 167.6 | 53.5 | 56.2 | 59.0 | 61.7 | 64.4 | 67.1 | 70.3 | 73.0 | 75.7 | 78.5 |
| 170.2 | 54.9 | 57.6 | 60.8 | 63.5 | 66.2 | 69.4 | 72.1 | 75.3 | 78.0 | 80.7 |
| 172.7 | 56.7 | 59.4 | 62.6 | 65.3 | 68.5 | 71.7 | 74.4 | 77.6 | 80.3 | 83.5 |
| 175.3 | 58.1 | 61.2 | 64.4 | 67.6 | 70.3 | 73.5 | 76.7 | 79.8 | 82.6 | 85.7 |
| 177.8 | 59.9 | 63.0 | 66.2 | 69.4 | 72.6 | 75.7 | 78.9 | 82.1 | 85.3 | 88.5 |
| 180.3 | 61.7 | 64.9 | 68.0 | 71.2 | 74.8 | 78.0 | 81.2 | 84.4 | 87.5 | 90.7 |
| 182.9 | 63.5 | 66.7 | 69.9 | 73.5 | 76.7 | 80.3 | 83.5 | 86.6 | 90.3 | 93.4 |
| 185.4 | 65.3 | 68.5 | 72.1 | 75.3 | 78.9 | 82.6 | 85.7 | 89.4 | 92.5 | 96.2 |
| 188.0 | 67.1 | 70.3 | 73.9 | 77.6 | 81.2 | 84.4 | 88.0 | 91.6 | 95.3 | 98.9 |
| 190.5 | 68.9 | 72.6 | 76.2 | 79.8 | 83.5 | 87.1 | 90.7 | 94.3 | 98.0 | 101.6 |
| 193.0 | 70.8 | 74.4 | 78.0 | 81.6 | 85.7 | 89.4 | 93.0 | 96.6 | 100.2 | 104.3 |



2.4.8 BODY FAT TABLE AND BODY FAT PERCENTAGES COMPARISON TABLE

| Body Fat Percentages Comparison Table | | |
|---------------------------------------|----------|-----------|
| Fat Level | Men (%) | Women (%) |
| Very Low | 7-10 | 14-17 |
| Low | 10-13 | 17-20 |
| Average | 13-17 | 20-27 |
| High | 17-25 | 27-31 |
| Very High | above 25 | above 31 |

2.4.9 MAXIMUM ALLOWABLE WEIGHT CHART

| Maximum Allowable Weight Chart | | |
|--------------------------------|-----------------|--------------------------|
| Males Weight in Pounds | Height (inches) | Females Weight in Pounds |
| 170 | 60 | 170 |
| 176 | 61 | 174 |
| 182 | 62 | 179 |
| 188 | 63 | 182 |
| 194 | 64 | 187 |
| 200 | 65 | 192 |
| 206 | 66 | 196 |
| 212 | 67 | 200 |
| 218 | 68 | 204 |
| 225 | 69 | 209 |
| 230 | 70 | 212 |
| 235 | 71 | 217 |
| 241 | 72 | 222 |
| 247 | 73 | 225 |
| 253 | 74 | 230 |
| 259 | 75 | 234 |
| 265 | 76 | 239 |
| 271 | 77 | 243 |
| 277 | 78 | 248 |
| 283 | 79 | 252 |
| 289 | 80 | 255 |



2.4.10 RETURN TO DUTY AFTER DIVING RELATED INCIDENTS

| ADCI Recommendations on Return to Diving | |
|---|--------------------------|
| Diving Related Incident | Time to return to diving |
| Simple pain only with complete resolution after single treatment table | 24 to 72 hours |
| Pain only needing more than one treatment table for complete resolution | 7 days |
| Altered sensation in limbs resolvable by one treatment table | 7 days |
| Motor or other neurological deficit resolvable by one treatment table | 28 days |
| Neurological injury needing several treatment tables to resolve | 4 to 6 months |
| Pulmonary barotrauma resolved | 3 months |
| Pneumothorax resolved (other than spontaneous) | 3 months |
| Vestibular decompression sickness | 4 to 6 months |
| Round window rupture | 6 months after repair |
| Central nervous system oxygen toxicity (after complete evaluation) | 7 days |
| Perforated tympanic membrane | 6 weeks after healed |
| Other ENT barotrauma | Determined by examiner |

All cases except simple pain only decompression sickness resolved by a single treatment table must be cleared by medical examination from a qualified diving medical examiner before return to diving.

Persistent neurological deficits following diving related incidents are generally disqualifying.

2.4.11 FRAMINGHAM CARDIAC RISK CALCULATOR

The ADC recognizes that cardiac events are second only to drowning as a cause of death while diving. Rather than using an age based criteria for further cardiac screening, the Physicians Diving Advisory Committee is now recommending a risk based approach using the Framingham data. The cardiac risk calculators for men and women are provided below. If the cardiac risk is calculated to be 10% or greater then further testing such as an exercise stress test is recommended.

Cardiac Risk Calculator - MEN

| Total Cholesterol | Age 20-39 | Age 40-49 | Age 50-59 | Age 60-69 | Age 70-79 |
|-------------------|-----------|-----------|-----------|-----------|-----------|
| <160 | 0 | 0 | 0 | 0 | 0 |
| 160-199 | 4 | 3 | 2 | 1 | 0 |
| 200-239 | 7 | 5 | 3 | 1 | 0 |
| 240-279 | 9 | 6 | 4 | 2 | 1 |
| 280+ | 11 | 8 | 5 | 3 | 1 |



| Age | Points |
|-------|--------|
| 20-34 | -9 |
| 35-39 | -4 |
| 40-44 | 0 |
| 45-49 | 3 |
| 50-54 | 6 |
| 55-59 | 8 |
| 60-64 | 10 |
| 65-69 | 11 |
| 70-74 | 12 |
| 75-79 | 13 |

| HDL | Points |
|-------|--------|
| 60+ | -1 |
| 50-59 | 0 |
| 40-49 | 1 |
| <40 | 2 |

| Systolic BP | If Untreated | If Treated |
|-------------|--------------|------------|
| <120 | 0 | 0 |
| 120-129 | 0 | 1 |
| 130-139 | 1 | 2 |
| 140-159 | 1 | 2 |
| 160+ | 2 | 3 |

| Age | Smoker | Non-smoker |
|-------|--------|------------|
| 20-39 | 8 | 0 |
| 40-49 | 5 | 0 |
| 50-59 | 3 | 0 |
| 60-69 | 1 | 0 |
| 70-79 | 1 | 0 |

| Enter No of Points | |
|--------------------|--|
| Age | |
| Total Chol | |
| HDL Chol | |
| Sys B/P | |
| Smoking | |
| Total | |

| Point Total | 10-Year Risk |
|-------------|--------------|
| <9 | <1% |
| 9 | 1% |
| 10 | 1% |
| 11 | 1% |
| 12 | 1% |
| 13 | 2% |
| 14 | 2% |
| 15 | 3% |
| 16 | 4% |
| 17 | 5% |
| 18 | 6% |
| 19 | 8% |
| 20 | 11% |
| 21 | 14% |
| 22 | 17% |
| 23 | 22% |
| 24 | 27% |
| 25 or more | ≥30% |

Determine Risk
From Chart



Cardiac Risk Calculator - WOMEN

| Total Cholesterol | Age 20-39 | Age 40-49 | Age 50-59 | Age 60-69 | Age 70-79 |
|-------------------|-----------|-----------|-----------|-----------|-----------|
| <160 | 0 | 0 | 0 | 0 | 0 |
| 160-199 | 4 | 3 | 2 | 1 | 1 |
| 200-239 | 8 | 6 | 4 | 2 | 1 |
| 240-279 | 11 | 8 | 5 | 3 | 2 |
| 280+ | 13 | 10 | 7 | 4 | 2 |

| Age | Points |
|-------|--------|
| 20-34 | -7 |
| 35-39 | -3 |
| 40-44 | 0 |
| 45-49 | 3 |
| 50-54 | 6 |
| 55-59 | 8 |
| 60-64 | 10 |
| 65-69 | 12 |
| 70-74 | 14 |
| 75-79 | 16 |

| HDL | Points |
|-------|--------|
| 60+ | -1 |
| 50-59 | 0 |
| 40-49 | 1 |
| <40 | 2 |



| Systolic BP | If Untreated | If Treated |
|-------------|--------------|------------|
| <120 | 0 | 0 |
| 120-129 | 1 | 3 |
| 130-139 | 2 | 4 |
| 140-159 | 3 | 5 |
| 160+ | 4 | 6 |

| Age | Smoker | Non-smoker |
|-------|--------|------------|
| 20-39 | 9 | 0 |
| 40-49 | 7 | 0 |
| 50-59 | 4 | 0 |
| 60-69 | 2 | 0 |
| 70-79 | 1 | 0 |

| Enter No of Points | |
|--------------------|--|
| Age | |
| Total Chol | |
| HDL Chol | |
| Sys B/P | |
| Smoking | |
| Total | |

| Point Total | 10-Year Risk |
|-------------|--------------|
| <9 | <1% |
| 9 | 1% |
| 10 | 1% |
| 11 | 1% |
| 12 | 1% |
| 13 | 2% |
| 14 | 2% |
| 15 | 3% |
| 16 | 4% |
| 17 | 5% |
| 18 | 6% |
| 19 | 8% |
| 20 | 11% |
| 21 | 14% |
| 22 | 17% |
| 23 | 22% |
| 24 | 27% |
| 25 or more | ≥30% |

Determine Risk
From Chart