DOs and DONTs

Determining medical fitness to dive is not an exact science. Like most topics in medicine, opinions about an individual's fitness to dive should be conditional on their personal medical history as well as on the type of diving planned.

For that reason there are few unambiguous criteria, and exhaustive lists of general prohibitions are usually either inadequate or overly restrictive. From a regulatory point of view, North American recreational divers are free to do whatever they desire once they are certified.

However, the actual health status of all divers can change over time, and often divers are not aware of important individual risk factors, especially those that have developed in the years (or decades) following their initial certification. For that reason any fitness to dive evaluation should have an educational as well as an evaluative function. The encounter should serve to inform and assist prospective candidates to become aware of potential health-related dive safety issues.

This two-part article will outline a strategy to determine fitness to dive based on an individual diver's mental and physical strengths and weaknesses in the context of the types of planned dives. It will also consider the individual candidate as a potential member of a dive team. Part 1 discusses the many existing sources of information about fitness to dive and the problems inherent in their use. Part 2 (in a future issue) creates a strategy for the evaluation of individual divers. It also discusses some of the more problematic topics, including selected specific diseases and medical conditions and their impact on diving fitness.

Existing Regulations And Recommendations

Because each diver is unique, precise lists of exclusionary medical conditions are insufficient to determine general fitness to dive. However, many such lists exist, and it is useful to review the policies of some of these diving organizations. Furthermore, even for commercial and scientific divers, fitness is not regulated by statute but is self-regulated by the different trade organizations. Each organization sets its own medical fitness standards, and they are not all the same. This sometimes causes confusion. For example, the U.S. Coast Guard and the Occupational Safety and Health Administration have regulatory authority over commercial diving vessels and practices (OSHA 29 CFR 1910 subpart "T", U.S. Coast Guard – 46 CFR 197.200), but OSHA does not regulate who may dive, only where and how you dive and with what support.

On most commercial dives, voice communication with the surface is required by law. If it is lost, the dive is terminated. OSHA mandates that a medical exam be performed, but how it is performed or what the results are is not stipulated. In commercial diving, the specific medical fitness details are left up to the trade organizations. Each organization has its own set of standards. For example, the Association of Diving Contractors (ADC) requires a medical exam every two years for divers younger than 35 (yearly thereafter) plus after each dive injury requiring hospitalization. The ADC exam must include an electrocardiogram (EKG), pulmonary function tests (PFTs), audiogram, and bone and joint X-rays. Selected disqualifying conditions for the ADC include seizures (not childhood febrile – i.e., induced by high fever), cavitary pulmonary disease, obstructive or restrictive pulmonary disease, inability to equalize sinuses or ears, significant hemoglobinopathies (blood disorders such as sickle cell anemia), diabetes, psychiatric disease, alcohol or drug abuse, impaired hearing (35 db < 3000hz) and pregnancy.

The American Academy of Underwater Scientists prohibits its members diving with angina, pregnancy, epilepsy, pulmonary cysts and tympanic membranes with one layer. The National Oceanic and Atmospheric Administration (NOAA) Diving Manual has yet another extensive list that rules out divers with

skin, psychiatric, neurological, opthalmological, ENT, oral,pulmonary, cardiovascular, hemotological, gastroenterological, endocrine, musculoskeletal and obstetric problems. It should be evident that the recommendations presented above are always subject to individual interpretation and may not be useful when evaluating a unique case. To its credit, NOAA recognizes that problem and suggests that if there are questions one can always consult with DAN. DAN, however, can advise only on the known medical facts of diving-related conditions, and the doctors and medics at DAN cannot and do not make individual medical decisions regarding fitness.

Sport Diving

Recreational diving is less clearly regulated than commercial or scientific diving. Worldwide, there are many other agencies certifying sport divers and allowing them to request air fills. Some training agencies like the Professional Association of Diving Instructors (PADI), the National Association of Underwater Instructors (NAUI) and Scuba Schools International (SSI) have suggested medical questionnaires that all students must complete prior to participation in training. If any questions are answered "yes," then students are required to receive signed, medical clearance to participate in scuba training. The Recreational Scuba Training Council (RSTC) was incorporated in the United States in 1986 to establish minimum training standards for recreationalscuba diving to promote public safety. Although the RSTC is primarily involved in training, it has a "Medical Statement" in which divers are informed of some potential risks involved in scuba diving. The statement includes a medical questionnaire, the purpose of which is to determine whether a diver should be examined by a doctor before participating in training.

A positive response to a question does not necessarily disqualify divers from diving. However, it means that there is a pre-existing condition that may affect safety while diving, and the advice of a physician prior to engaging in dive activities is required. Rules are different outside the United States. In the United Kingdom, divers may not be trained without a medical declaration form or an examination. The UK Sport Diving Medical Committee advises the British Sub-Aqua Club, Sub-Aqua Association and Scottish Sub-Aqua Club on diving medicine issues, including assessment of fitness to dive. This is conducted through a national network of medical referees with accredited diving medicine expertise, using a uniform set of medical standards that are continually reviewed as new research is published. These standards are reasonable, and because most diving in the United Kingdom is done through the aforementioned clubs, the rules are enforceable. Despite the apparent confusion, it is possible to appropriately determine whether an individual is medically fit to dive.

About the Author

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