

## Diving Medical Exam Overview for the Examining Physician

### TO THE EXAMINING PHYSICIAN:

This person, \_\_\_\_\_, requires a medical examination to assess their fitness for certification as a Scientific Diver for the KAUST scientific diver-training program. Their answers on the *Diving Medical History Form* (attached) may indicate potential health or safety risks as noted. Your evaluation is requested on the attached scuba *Diving Fitness Medical Evaluation Report*. If you have questions about diving medicine, you may wish to consult the Undersea Hyperbaric and Medical Society, or the Divers Alert Network. Please contact the Diving Safety Officer (David John Pallett at +966 54 470 0384) if you have any questions or concerns about diving medicine or the KAUST scientific diving safety standards. Thank you for your assistance.

Scuba and other modes of compressed-gas diving can be strenuous and hazardous. A special risk is present if the middle ear, sinuses, or lung segments do not readily equalize air pressure changes. The most common cause of distress is eustachian insufficiency. Recent deaths in the scientific diving community have been attributed to cardiovascular disease. Please consult the following list of conditions that usually restrict candidates from diving.

(Adapted from Bove, 1998: bracketed numbers are pages in Bove)

#### *Conditions which may Disqualify Candidates from Diving*

- Abnormalities of the tympanic membrane, such as perforation, presence of a monomeric membrane, or inability to auto-inflate the middle ears. [5 ,7, 8, 9]
- Vertigo, including Meniere's Disease. [13]
- Stapedectomy or middle ear reconstructive surgery. [11]
- Recent ocular surgery. [15, 18, 19]
- Psychiatric disorders including claustrophobia, suicidal ideation, psychosis, anxiety states, untreated depression. [20 - 23]
- Substance abuse, including alcohol. [24 - 25]
- Episodic loss of consciousness. [1, 26, 27]
- History of seizure. [27, 28]
- History of stroke or a fixed neurological deficit. [29, 30]
- Recurring neurologic disorders, including transient ischemic attacks. [29, 30]
- History of intracranial aneurysm, other vascular malformation or intracranial hemorrhage. [31]
- History of neurological decompression illness with residual deficit. [29, 30]
- Head injury with sequelae. [26, 27]
- Hematologic disorders including coagulopathies. [41, 42]
- Evidence of coronary artery disease or high risk for coronary artery disease. [33 - 35]
- Atrial septal defects. [39]
- Significant valvular heart disease - isolated mitral valve prolapse is not disqualifying. [38]

- Significant cardiac rhythm or conduction abnormalities. [36 - 37]
- Implanted cardiac pacemakers and cardiac defibrillators (ICD). [39, 40]
- Inadequate exercise tolerance. [34]
- Severe hypertension. [35]
- History of spontaneous or traumatic pneumothorax. [45]
- Asthma. [42 - 44]
- Chronic pulmonary disease, including radiographic evidence of pulmonary blebs, bullae, or cysts. [45,46]
- Diabetes mellitus. [46 - 47]
- Pregnancy. [56]

### *Selected References in Diving Medicine*

Available from Best Publishing Company, P.O. Box 30100, Flagstaff, AZ 86003-0100, the Divers Alert Network (DAN) or the Undersea and Hyperbaric Medical Society (UHMS), Durham, NC

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- NOAA Diving Manual, NOAA. Superintendent of Documents. Washington, DC: U.S. Government Printing Office.
- U.S. Navy Diving Manual. Superintendent of Documents, Washington, DC: U.S. Government Printing Office, Washington, D.C.