



### APPENDIX 8.A

#### DIVING MEDICAL EXAM OVERVIEW FOR THE EXAMINING PHYSICIAN

TO THE EXAMINING PHYSICIAN:

\_\_\_\_\_, requires a medical examination to assess fitness for diver status with Texas A&M University-Corpus Christi's diving program.

Applicant is applying for: \_\_\_\_\_ Scientific Diving \_\_\_\_\_ Working Diving  
This examination is: \_\_\_\_\_ Initial exam \_\_\_\_\_ Re-examination

Their answers on the Diving Medical History Form (Attachment 2) may indicate potential health or safety risks as noted. Your evaluation is requested on the attached Diving Fitness Medical Evaluation Report. If you have questions of a general nature about diving medicine, you may wish to consult one of the references on the attached list or contact one of the physicians with expertise in diving medicine whose names and phone numbers appear on the attachment as well (Attachment 3). Please contact the undersigned Diving Safety Officer if you have any questions or concerns about the Texas A&M University-Corpus Christi dive program or the diving medical standards. Thank you for your assistance.

Diving Safety Officer: Brett Dodson 9/13/13  
(Print name) (Date)  
 361.825.3086  
(Signature) (Telephone)

Scuba and other modes of compressed gas diving can be strenuous and hazardous. A special risk is presented if the middle ear, sinuses, or lung segments do not readily equalize pressure changes. The most common cause of distress is Eustachian insufficiency. Most fatalities involve deficiencies in prudence, judgment, emotional stability, or physical fitness. Please consult the following list of conditions that usually restrict candidates from diving (Adapted from Bove, 1998: bracketed numbers are pages in Bove):

- Abnormalities of the tympanic membrane, such as perforation, presence of monomeric membrane, or inability to auto-inflate the middle ears. [5,7,8,9]
- Vertigo including Meniere's disease. [13]
- Stapedectomy and middle ear prosthesis. [11]
- Recent ocular surgery. [15,18,19]
- Psychiatric disorders including, claustrophobia, suicidal ideation, psychosis, anxiety states 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 neurological deficit. [29-30]
- Recurring neurologic disorders, including transient ischemic attack. [29-30]
- History of intracranial aneurysm, other vascular malformation, or intracranial hemorrhage. [31]
- History of neurological decompression sickness with residual deficit. 29-30]
- Head injury with sequelae. [26-27]
- Hematological disorders including coagulopathies. [41-42]
- Evidence of coronary artery disease or high risk for coronary artery disease. [33-35]
- Arterial 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

- Elliott, D.H. ed. 1996. Are Asthmatics Fit to Dive? Kensington, MD: Undersea and Hyperbaric Medical Society.
- Bove, A. A. 2011. The cardiovascular system and diving risk. *Undersea and Hyperbaric Medicine* 38(4): 261-269.
- Thompson, P. D. 2011. The cardiovascular risks of diving. *Undersea and Hyperbaric Medicine* 38(4): 271-277.
- Douglas, P.S. 2011. Cardiovascular screening in asymptomatic adults: Lessons for the diving world. *Undersea and Hyperbaric Medicine* 38(4): 279-287.
- Mitchell, S. J., and A. A. Bove. 2011. Medical screening of recreational divers for cardiovascular disease: Consensus discussion at the Divers Alert Network Fatality Workshop. *Undersea and Hyperbaric Medicine* 38(4): 289-296.
- Grundy, S. M, Pasternak, R., Greenland, P., Smith, S., and Fuster, V. 1999. Assessment of Cardiovascular Risk by Use of Multiple-Risk-Factor Assessment Equations. AHA/ACC Scientific Statement. *Journal of the American College of Cardiology*, 34: 1348-1359. <http://content.onlinejacc.org/cgi/content/short/34/4/1348>
- Bove, A. A. and Davis, J. 2003. *DIVING MEDICINE*, Fourth Edition. Philadelphia: W.B. Saunders Company.
- Edmonds, C., Lowry, C., Pennefather, J. and Walker, R. 2002. *DIVING AND SUBAQUATIC MEDICINE*, Fourth Edition. London: Hodder Arnold Publishers.
- Bove, A. A. ed. 1998. *MEDICAL EXAMINATION OF SPORT SCUBA DIVERS*, San Antonio, TX: Medical Seminars, Inc.
- 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.

**APPENDIX 8.B****MEDICAL EVALUATION REPORT OF FITNESS FOR DIVING**\_\_\_\_\_  
Name of Applicant (Print/Type)\_\_\_\_\_  
Date (Day/Month/Year)**TO THE PHYSICIAN:**

This person is an applicant for training or is presently certified to engage in diving with self-contained underwater breathing apparatus (scuba). This activity puts unusual stress on the individual in several ways. Your opinion of the applicant's medical fitness is requested. Scuba diving requires heavy exertion. The diver must be free of cardiovascular and respiratory disease. An absolute requirement is the ability of the lungs, middle ear, and sinuses to equalize pressure. Any condition that risks the loss of consciousness should disqualify the applicant.

**TESTS:**

Please initial that the following tests were completed.

All Initial and Periodic Re-examination tests are to be completed in their entirety. If they fall between the Initial and Periodic Re-examinations the extent of tests and lab requirements are to be at the discretion of the examining physician and are to be at a level equal to that of basic annual health maintenance physical.

Please check tests performed.

Laboratory Requirements For Evaluations and Intervals	Scientific Diver			Working Diver	
	<40	40 - 60	>60	<35	≥35
___ Age					
___ Frequency	5 yrs.	3 yrs.	2 yrs.	2 yrs.	1 yr.
___ Medical History	X	X	X	X	X
___ Physical, emphasis on neurological/otological components.	X	X	X	X	X
___ Urinalysis	X	X	X	X	X
___ Any further tests deemed necessary by the physician.	X	X	X	X	X
___ Chest X-ray (NOTE: not required for Scientific periodicity, only Working Divers)		X	X	X	X
___ EKG: standard (12 Leads)		X	X	X	X
___ Coronary Assessment using Multi-Risk-Factor Assessment (age, lipid, blood pressure, diabetic screening, smoker).		X	X	X	X
___ Spirometry				X	X
___ Audiogram				X	X
___ Visual Acuity and Color Blindness				X	X
___ Complete Blood Count (CBC) and Chemistry Must include Hematocrit, Hemoglobin, & White Blood Cell count.				X	X

<sup>1</sup> Grundy, R. J. et al. 1999. Assessment of Cardiovascular Risk by Use of Multiple-Risk-Factor Assessment Equations<sup>®</sup>. AHA/ACC Scientific Statement.

<sup>2</sup> Bove, A. A. 2011. The cardiovascular system and diving risk. Undersea and Hyperbaric Medicine. 38(4): 261-269



PHYSICIANS STATEMENT:

Diver **IS** medically qualified to dive on:
  Scientific status for:
  2 years (over age 60)  
 3 years (age 40-59)  
 5 years (under age 40)  
 Working status for:
  2 years (under age 35)  
 1 year (over age 35)

Diver **IS NOT** medically qualified to dive:
  Permanently
  Temporarily

REMARKS:

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I have evaluated the abovementioned individual according to the American Academy of Underwater Sciences medical standards and required tests for scientific diving (Sec. 6.00 and Appendix 1) and, in my opinion, find no medical conditions that may be disqualifying for participation in scuba diving. I have discussed with the patient any medical condition(s) that would not disqualify him/her from diving but which may seriously compromise subsequent health. The patient understands the nature of the hazards and the risks involved in diving with these conditions.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Print/Type)

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Date (month/day/year)

My familiarity with applicant is:  This exam only  Regular physician  Number of years.

Other (describe): \_\_\_\_\_

My familiarity with diving medicine is: \_\_\_\_\_

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APPLICANT'S RELEASE OF MEDICAL INFORMATION FORM

\_\_\_\_\_  
Name of Applicant (print or type)

I authorize the release of this information and all medical information subsequently acquired in association with my diving to Texas A&M University-Corpus Christi's Diving Safety Officer and Diving Control Board, or designee.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date (Day/Month/Year)

**APPENDIX 8.C****DIVING MEDICAL HISTORY FORM  
(TO BE COMPLETED BY APPLICANT-DIVER)**

Name \_\_\_\_\_ Sex \_\_\_\_\_ Age \_\_\_\_\_ Wt \_\_\_\_\_ Ht \_\_\_\_\_

Sponsor Texas A&M University – Corpus Christi Date \_\_\_\_\_  
(Facility, etc.) (Day/Month/Year)**TO THE APPLICANT**

Diving makes considerable demands on your physical and emotional condition. Diving with certain medical conditions may be asking for trouble, not only for yourself but also for anyone coming to your aid if you get into difficulty in the water. Therefore, it is prudent to meet certain medical and physical requirements before beginning a diving or training program.

Your answers to the questions are as important, in many instances, in determining your fitness as what the physician may see, hear, or feel when you are examined. Obviously, you should give accurate information or the medical screening procedure becomes useless.

This form will be kept confidential. If you believe any question(s) amounts to invasion of your privacy, you may elect to omit an answer, provided you discuss the matter with the physician; and they must then indicate, in writing, that you have done so and that no health hazard exists.

If your answers indicate a condition(s) that might make diving hazardous, you will be asked to review the matter with your physician. In such instances, their written authorization will be required in order for further consideration to be given your application. If your physician concludes that diving would involve undue risk for you, remember that they are concerned only with your well-being and safety. Respect this advice and the intent of this medical history form.

	Yes	No	Please indicate whether or not the following apply to you	Comment
1			Convulsions, seizures, or epilepsy	
2			Fainting spells or dizziness	
3			Been addicted to drugs	
4			Diabetes	
5			Motion sickness or sea/air sickness	
6			Claustrophobia	
7			Mental disorder or nervous breakdown	
8			Are you pregnant?	
9			Do you suffer from menstrual problems?	
10			Anxiety spells or hyperventilation	
11			Frequent sour stomach, nervous stomach, or vomiting spells	
12			Had a major operation	



	Yes	No	Please indicate whether or not the following apply to you	Comment
13			Presently being treated by a physician	
14			Taking any medication regularly (even non-prescription)	
15			Been rejected or restricted from sports	
16			Headaches (frequent and severe)	
17			Wear dental plates	
18			Wear glasses or contact lenses	
19			Bleeding disorders	
20			Alcoholism	
21			Any problems related to diving	
22			Nervous tension or emotional problems	
23			Take tranquilizers	
24			Perforated ear drums	
25			Hay fever	
26			Frequent sinus trouble, drainage from the nose, post-nasal drip, or stuffy nose	
27			Frequent earaches	
28			Drainage from the ears	
29			Difficulty with your ears in airplanes or on mountains	
30			Ear surgery	
31			Ringing in your ears	
32			Frequent dizzy spells	
33			Hearing problems	
34			Trouble equalizing pressure in your ears	
35			Asthma	
36			Wheezing attacks	
37			Cough (chronic or recurrent)	
38			Frequently raise sputum	
39			Pleurisy	
40			Collapsed lung (pneumothorax)	



	Yes	No	Please indicate whether or not the following apply to you	Comment
41			Lung cysts	
42			Pneumonia	
43			Tuberculosis	
44			Shortness of breath	
45			Lung problem or abnormality	
46			Spit blood	
47			Breathing difficulty after eating particular foods, after exposure to particular pollens or animals	
48			Are you subject to bronchitis	
49			Subcutaneous emphysema (air under the skin)	
50			Air embolism after diving	
51			Decompression sickness	
52			Rheumatic fever	
53			Scarlet fever	
54			Heart murmur	
55			Large heart	
56			High blood pressure	
57			Angina (heart pains or pressure in the chest)	
58			Heart attack	
59			Low blood pressure	
60			Recurrent or persistent swelling of the legs	
61			Pounding, rapid heartbeat or palpitations	
62			Easily fatigued or short of breath	
63			Abnormal EKG	
64			Joint problems, dislocations or arthritis	
65			Back trouble or back injuries	
66			Ruptured or slipped disk	
67			Limiting physical handicaps	



	Yes	No	Please indicate whether or not the following apply to you	Comment
68			Muscle cramps	
69			Varicose veins	
70			Amputations	
71			Head injury causing unconsciousness	
72			Paralysis	
73			Have you ever had an adverse reaction to medication?	
74			Do you smoke?	
75			Have you ever had other medical problems not listed? If so, please list or describe below;	
76			Is there a family history of high cholesterol?	
77			Is there a family history of heart disease or stroke?	
78			Is there a family history of diabetes?	
79			Is there a family history of asthma?	
80			Date of last tetanus shot? Vaccination dates?	

Please explain “yes” to any of the above questions.

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I certify that the above answers and information represent an accurate and complete description of my medical history.

\_\_\_\_\_  
Applicants Name (Print/Type)

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date (Day/Month/Year)





## **APPENDIX 8.D**

### **RECOMMENDED PHYSICIANS WITH DIVING MEDICINE EXPERTISE**

Divers Alert Network  
Duke University Medical Center  
P.O. Box 3823  
Durham, North Carolina 27710  
OFFICE: 919-684-2948

Dr. Colette Simon  
CHRISTUS Spohn Hospital, Corpus Christi - *Shoreline*  
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361.861.9686 phone  
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