



# TOPSIDE



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The NDP Newsletter for NOAA Diving Supervisors and Divers

October 2003

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## TRAINING SCHEDULE

Training requests are still being accepted for the **DMT Prep** and **DMT** courses in December and **Working Diver/Divemaster** courses in January. Please contact Laurie Barber for enrollment or if you have any questions about requirements. Diver candidates must submit the following items to Laurie Barber by December 01, 2003 for the January class: NOAA Diving Training Request and Authorization form, **completed** NOAA diving physical, and Standardized Equipment Measurement form. All of these forms are available at the following web address: [www.ndc.noaa.gov/forms.html](http://www.ndc.noaa.gov/forms.html). Completed forms can be mailed or faxed to the Diving Center. Please contact Laurie with any questions about class enrollment requirements.

The **DMT Preparation** course has replaced EMT – see last month’s TOPSIDE for more information.

Course schedules through September 2004:

### 2003:

Dec 01 - 06	DMT Prep	Seattle
Dec 08 - 13	Diver Medic	Seattle

### 2004:

Jan 12 - 30	Working Diver	Key West
Jan 26 - 30	Divemaster	Key West
Mar 16 - 19	Diver Refresher	Seattle
May 10 - 28	Working Diver	Seattle
May 24 - 28	Divemaster	Seattle
Sep 13 - Oct 01	Working Diver	Seattle
Sep 28 - Oct 01	Divemaster	Seattle




## HONG KONG FIRE SERVICE VISIT




Members of the Hong Kong Fire Service visited the NDP recently during training at Divers Institute of Technology (DIT), and as a token of their appreciation they presented Director Dave Dinsmore with a scroll expressing NOAA’s name in Chinese. L to R: Kin Wing Yip, Wa Hung Chan, Wai Kit Lam, Doug Dearborn (DIT), Dave Dinsmore, Dennis Lucia (DIT), Shu Kai Ip, Yung Yau Cheng, and Chi Kong Chung.

## EFAQ NUMBERS


New electronic-fax numbers are in effect for Lisa Glover (206-529-2757), Steve Urick (206-529-2758), and Mike Lemon (206-529-2759). Fax transmissions to these numbers arrive via email; these numbers can be used for private or confidential information. 

## ELECTRONIC TOPSIDE

This issue of TOPSIDE is the last version to be distributed in printed form. If you desire a printed version, please contact LCDR Lemon. 

## WORKING DIVER CLASS



Congratulations to the October Working Diver graduates ! Back, L to R: Bradford Baker, USS Arizona Memorial, U.S. Park Service; Anthony Bennett, Seattle Fire Department; Jerry Harris, Seattle Police Harbor Patrol; Stephen Marshall, King County (Washington) Sheriff Marine Unit; Gordon Van Rooy, Seattle Police Harbor Patrol; Steve Ivey, Port of Seattle Police; Front, L to R: Elaina Jorgenson, Alaska Fisheries Science Center; Donn Pratt, NOAA Ship McARTHUR II; Ensign Jessica Daum, Erick Long, and Lt (jg) Sean Suk, NOAA Ship MILLER FREEMAN; Nick Tolimieri and Kelly Andrews (crouching) of the Northwest Fisheries Science Center; Ensign Jay Lomnick, NOAA Ship RAINIER; and Hans Van Tilburg, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. 

## CARDIAC STRESS TESTS

Several NOAA divers have recently been asked to undergo a cardiac stress test, and to better articulate the justification - and for the benefit of those who may be asked to undergo a stress test - here's the basis for the request.

The medical policy concerning review of physical examinations for Coronary Artery Disease (CAD) risk assessment is an internal review process, applied to all divers. The questions that elicit the information for making a CAD risk assessment are embedded in the NOAA diving physical and history.

The CAD risk factor assessment protocol we use address the following parameters as risk factors: age over 40 (some authorities use age 45); sex (male); elevated lipid levels; elevated blood pressure; obesity; diabetes; smoking behavior; certain ECG changes; family history of CAD or stroke; and low exercise level (sedentary life style). [continued]

## CARDIAC STRESS TESTS

The presence of 3 or more risk factors is a trigger for cardiac stress testing. A stress test is good until such time (if any) as a change occurs in your medical status or an increase in your cardiac risk factor. Maximal oxygen consumption (VO<sub>2</sub> max) is the greatest amount of oxygen a person can take in from inspired air while performing dynamic exercise involving a large part of total muscle mass. It is considered the best measure of cardiovascular fitness and exercise capacity.

It's convenient to express oxygen uptake in multiples of sitting/resting requirements. One metabolic equivalent (MET) is a unit of sitting/resting oxygen uptake, equaling oxygen consumption at rest of about 3.5 milliliters per kilogram of body weight per minute. The gold standard for exercise stress testing is 13 METs. An individual exercising at 2 METS is consuming oxygen at twice the resting rate. VO<sub>2</sub> max is influenced by age, sex, exercise habits, heredity, and cardiovascular clinical status.

The American Heart Association also addresses the basis for stress tests in it's Scientific Statement: Exercise Standards for Testing and Training: "On the basis of prognostic considerations, asymptomatic male patients older than 45 years with one or more risk factors (hypercholesterolemia, hypertension, smoking, diabetes, or family history of premature CAD) may obtain useful prognostic information from exercise testing. The greater the number of risk factors (i.e., pretest probability), the more likely the patient will profit from screening. For these purposes, risk factors should be strictly defined: hypercholesterolemia as total cholesterol greater than 240 mg/dL, hypertension as systolic blood pressure greater than 140 mm Hg or diastolic blood pressure greater than 90 mm Hg, smoking, diabetes, and history of heart attack or sudden cardiac death in a first-degree relative less than 60 years old."

The NOAA Diving Medical Review Board (NDMRB) has adopted this protocol of risk assessment for divers. There is a large body of medical literature related to cardiac risk assessment in divers, and the question of exercise screening has been posed to the NDMRB. The American Academy of Underwater Sciences (AAUS) also includes a CAD risk assessment in it's physical examination protocol for divers with exercise stress testing, based on similar risk factor assessment :

[http://www.aaus.org/downloads/AAUS\\_STD\\_2002.pdf](http://www.aaus.org/downloads/AAUS_STD_2002.pdf). (Medical standards begin on page 26) 