



## National Board of Diving & Hyperbaric Medical Technology

### DMT Certification Examination Guidelines

DMT certification is based upon a series on mandatory pre-requisites. They include:

1. Completion of a NBDHMT approved DMT training course
2. Completion of formal medical first responder training
3. Medically determination of fitness to work in pressurized environments

Once all of the above have been satisfactory undertaken the DMT can apply to take the DMT certification examination.

The DMT examination test bank comprised of questions from seven categories. All questions are multiple-choice and have only one correct answer. No questions are designed to trick the examinee. Listed below are the seven categories, topics covered within each category, the percentage of questions from the entire examination that are derived from each category, and how many questions each respective percentage represents. Numerous variations of the DMT examination question bank are in use at any given time.

A scientific calculator may be used.

#### Category 1: **Physics and Physiology**

Defining pressure (absolute, gauge, barometric); measuring pressure (standard/imperial, metric); converting pressure (absolute to gauge - gauge to absolute in mmHg, psig, psia, fsw, msw, ATA); converting between degrees Fahrenheit and degrees Celsius; gas law definitions and computations (Boyle's, Dalton's, Henry's and Charles's/Guy-Lussac's); computing oxygen percent and oxygen/nitrogen partial pressures involving various depths and various breathing mixtures; factors influencing inert gas uptake and elimination; USN definitions of treatment and emergency gases.



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***Nine Category 1 questions are selected from the examination question bank. They represent 7.5% of the total questions in each individual examination.***

### Category 2: Decompression Sickness & Cerebral Arterial Gas Embolism

Basic pathophysiology of decompression illness; surface orientated and saturation diving induced cases; symptom presentation; differential diagnosis Type 1 vs. Type 2 DCS, DCS-CAGE, inner ear DCS- inner ear barotrauma; risk factors;

***Eighteen Category 2 questions are selected from the examination question bank. They represent 15% of the total questions in each individual examination.***

### Category 3: Patient Assessment

Shock; Glasgow Coma Scale; extremity injuries; anticipated physical and/or neurological findings in DCS, CAGE, ear and other barotraumas, pneumothorax, tension pneumothorax, subcutaneous emphysema; differential diagnosis; tuning fork hearing acuity testing; otoscopic findings in barotrauma and infection; omitted decompression.

***Thirty Category 3 questions are selected from the examination question bank. They represent 25% of the total questions in each individual examination.***

### Category 4: Recompression Treatment & Decompression Procedures

US Navy treatment of surface orientated and saturation diving-induced DCS; US Navy treatment procedures for CAGE; incomplete relief of DCS during treatment and upon surfacing; omitted decompression.

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***Twenty-seven Category 4 questions are selected from the examination question bank. They represent 22.5% of the total questions in each individual examination.***

### Category 5: Invasive Procedures

Emergent/field management of pneumothorax; routes of medication administration; nasogastric tubes; wound closure; sterile technique; airway control; Foley catheters; intravenous fluid administration and drip rate calculations; endotracheal tubes; dosing conversions, mg to ml; potential compression complications for ampoules, vials and fluid infusion bottles; Heimlich valves.

***Twelve Category 5 questions are selected from the examination question bank. They represent 10% of the total questions in each individual examination.***

### Category 6: Other Diving Related Injuries, Side Effects & Complications

Central nervous system oxygen toxicity; pulmonary oxygen toxicity; barotraumas; marine envenomation, stings and bites; nitrogen narcosis; hypothermia.

***Eighteen Category 6 questions are selected from the examination question bank. They represent 15% of the total questions in each individual examination.***

### Category 7: Chamber, Equipment and Operational Safety

Diagnostic equipment precautions under pressure; chamber ventilation; chamber fire precautions; atmospheric sampling; tender/medic decompression safety.

***Six Category 7 questions are selected from the examination question bank. They represent 5% of the total questions in each individual examination.***

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*Suggested additional reading to DMT training course materials*

### **United States Navy Diving Manual Revision 6; 2008**

**Chapters:**

- |  |   |
|--|---|
| <b>2.9</b> Pressure in diving                              | <b>2.10</b> Gases in diving                               |
| <b>2.11</b> Gas laws                                       | <b>2.12</b> Gas mixtures                                  |
| <b>3.6</b> Mechanical effects of pressure – during descent | <b>3.7</b> Mechanical effects of pressure – during ascent |
| <b>3.8</b> Pulmonary overinflation syndromes               | <b>3.9</b> Indirect effects of pressure                   |
| <b>3.10</b> Thermal problems in diving                     | <b>12.2</b> Boyle’s law                                   |
| <b>12.3</b> Charles/Gay-Lussac’s law                       | <b>12.4</b> General Gas law                               |
| <b>12.5</b> Dalton’s law                                   | <b>12.6</b> Henry’s law                                   |
| <b>15-23.8</b> Saturation decompression sickness           | <b>20.2</b> Arterial gas embolism                         |
| <b>20.3</b> Decompression sickness                         | <b>20.4</b> Recompression treatments for diving disorders |
| <b>20.5</b> Treatment tables                               | <b>20.7.8</b> Inside tenders                              |
| <b>20.7.11</b> Oxygen toxicity during treatment            | <b>20.11</b> Ancillary care and adjunctive treatments     |
| <b>5A</b> Neurological examination                         | <b>5C-3</b> Venomous marine animals                       |
| <b>5C-4</b> Poisonous marine animals                       |   |

### **Diving & Subaquatic Medicine, Fourth Edition, 2002**

by Carl Emonds, Christopher Lawry, John Pennefather & Robyn Walker

ISBN – O 340 80630 3 [www.arnoldpublishers.com](http://www.arnoldpublishers.com)

**Chapters**

- |   |   |
|---|---|
| <b>2</b> Physics & physiology                 | <b>6</b> Pulmonary barotrauma               |
| <b>7</b> Ear barotrauma                       | <b>9</b> Other barotrauma                   |
| <b>12</b> Decompression sickness: clinical    | <b>13</b> Decompression sickness: treatment |
| <b>17</b> Oxygen toxicity                     | <b>27</b> Thermal problems and solutions    |
| <b>28</b> Cold and hypothermia                | <b>31</b> Trauma from marine creatures      |
| <b>32</b> Venus marine animals                | <b>40</b> Neurological disorders and diving |
| <b>68</b> Deep and saturation diving problems |   |

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