# Table of Specifications

The AOCUHM does not endorse any board review course for use in preparing to take the certification examination in Undersea and Hyperbaric Medicine. Many organizations provide intensive board review courses which can be taken in preparation for the boards. The AOCUHM table of specifications is posted herein and can be used to determine if the content of a board review is sufficient to cover the listed topics.

# Undersea and Hyperbaric Medicine

1. Fundamentals – 40%

    1.1 Physics

        1.1.1 Units
        1.1.2 Gas laws, principals of buoyancy
        1.1.3 Visions and acoustics
        1.1.4 Physical properties of gases (density, solubility, thermal conductivity etc.)

    1.2 Recognition and treatment of physiological/pharmacological effects/toxicity of gases

        1.2.1 Oxygen
            1.2.1.1 CNS
            1.2.1.2 Pulmonary
            1.2.1.3 Ocular
            1.2.1.4 Blood
        1.2.2 Carbon Dioxide
        1.2.3 Nitrogen
        1.2.4 Other (helium, argon, carbon monoxide, etc)

    1.3 Equipment

        1.3.1 Chamber systems design, construction & maintenance, operations
        1.3.2 ASME and NFPA regulations
        1.3.3 Diving equipment/breathing systems

    1.4 Decompression Theory

        1.4.1 Decompression tables
        1.4.2 Decompressing chamber attendants
        1.4.3 Altitude effects of decompression
        1.4.4 Diving effects of decompression sickness

1.4.5 Saturation
1.4.6 Repetitive
1.4.7 Bubble theory and detection

1.5 Pathophysiology and clinical manifestations of dysbarism
1.5.1 Barotrauma (otic, sinus, pulmonary, GI, other)
1.5.2 DCS
1.5.2.1 Neuro
1.5.2.2 Pulmonary
1.5.2.3 Skin
1.5.2.4 Joint
1.5.2.5 Other
1.5.3 AGE
1.5.4 Venous gas embolism
1.5.5 Long-term diving effects (dysbaric osteonecrosis, etc)
1.5.6 Management of pressure related diving chamber accidents
1.5.7 Effects of bubbles
1.5.8 Mechanism of gas entry and distribution
1.5.9 Diving casualties

1.6 History of Diving and Hyperbaric Medicine

2. Diving Medicine – 30.5%

2.1 Physiological effects of diving

2.1.1 High pressure nervous syndrome
2.1.2 Breath-hold diving
2.1.3 Physiology of immersion
2.1.4 Surface decompression
2.1.5 Mixed gas diving effects
2.1.6 Inert gas narcosis
2.1.7 Thermal effects

2.2 Diving Operations

2.2.1 Bounce diving
2.2.2 Saturation diving
2.2.3 Caisson and tunnel work
2.2.4 Surface decompression
2.2.5 In water recompression
2.2.6 Diving at altitude
2.2.7 Flying after diving
2.2.8 Mixed gas diving
2.2.9 Recreational diving

2.3 Medical and technical support of diving

2.3.1 Medical standards for diving and chamber personnel
2.3.1.1 Commercial
2.3.1.2 Recreational
2.3.1.3 Hyperbaric Operations
2.3.1.4 Pregnancy
2.3.1.5 Patent foramen ovale
2.3.1.6 Prior history of DCS
2.3.1.7 Other
2.3.2 Hazardous marine life
2.3.3 Other medical disorders
2.3.3.1 Drowning
2.3.3.2 Near drowning
2.3.3.3 Sudden death
2.3.3.4 Neurological disorder
2.3.3.5 Accident
2.3.3.6 Cardiac
2.3.3.7 Infection
2.3.3.8 Diabetes
2.3.3.9 Other
2.3.4 Psychology of closed spaces
2.3.5 Chambers, bells, habitats, and saturations systems
2.3.6 Underwater breathing apparatus

3. Clinical Hyperbaric Medicine – Including the incorporation of osteopathic principals and practice – 26.5%

3.1 Indications for hyperbaric oxygen therapy – Including key articles/landmark studies and trials

3.1.1 Carbon monoxide poisoning – carbon monoxide complicated by cyanide poisoning
3.1.2 Clostridial myositis and myonecrosis (gas gangrene)
3.1.3 Crush injury, compartment syndrome
3.1.4 Enhancement of healing in selected problem wounds
3.1.4.1 Fundamentals of wound care
3.1.5 Exceptional anemia
3.1.6 Intracranial abscess
3.1.7 Neocrotizing soft tissue infections
3.1.8 Osteomyelitis (refractory)
3.1.9 Delayed radiation injury (soft tissue and bony necrosis)
3.1.10 Skin graft and flaps (compromised)
3.1.11 Thermal burns
3.1.12 Air or gas embolism
3.1.13 Decompression sickness

3.1.14 Other

3.2 Patient Management

3.2.1 Patient selection and care
3.2.2 Treatment protocols
3.2.3 The physiological effect of hyperbaric oxygen
3.2.4 Pharmacological effects of HBO
3.2.5 Management of oxygen toxicity
3.2.6 Patient monitoring and equipment
3.2.7 Complications of hyperbaric oxygen therapy
3.2.8 Contraindications of hyperbaric oxygen therapy
3.2.9 Osteopathic Principles and Practices

4. Research – 3%

4.1 Research Methodologies related to Undersea and Hyperbaric Medicine

4.1.1 Biostatistics, epidemiology, medical information sciences, decision analysis, critical literature review, and research design