**Faculty In Charge Of Course:** Mahalia D. Smith, M.D.

**Participating Faculty:** Division faculty

**Location:** Memorial Hermann Center for Hyperbaric Medicine And Wound Healing

**Offered:** Each period

**Max. # Students/Period:** 1

**Course Objective**

**Material Covered:**

- Principles of oxygen transport to tissues
- Diving physiology
- Pathophysiology and treatment of decompression sickness, air embolism, carbon monoxide poisoning, radiation tissue damage, HBO Enhanced Wound Healing
- Pathophysiology and treatment of chronic wounds and lymphedema

**Skills Acquired:**

- Understanding of oxygen transport to tissues
- Familiarity with chamber environment during simulated dives
- Able to identify clinical uses of hyperbaric oxygen therapy
- Able to identify etiology of chronic wounds
- Able to perform sharp debridement of chronic wounds
- Able to identify etiology of chronic edema
- Place compression bandage on lower extremity
- Able to interpret transcutaneous oximetry test results
- Able to interpret skin perfusion test results

**Activities Of Elective**

**Number Of New Patients/Student/Week:** 3

**Responsibilities Of Student For Assigned Patients:**

- Does history/physical: Yes
- Who critiques: Attending Physician
- Follows patients, with appropriate notes as needed: Yes
- Who supervises: Attending Physician & Research Fellows
- Does student see ambulatory patients: Yes

**Procedures**

<table>
<thead>
<tr>
<th></th>
<th>Observe</th>
<th>Perform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of injured scuba divers</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Transcutaneous oximetry</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Wound debridement</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Assist patients inside hyperbaric chamber</td>
<td>X*</td>
<td></td>
</tr>
<tr>
<td>Use of laser doppler to determine perfusion pressure</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Attend to critically ill patients in hyperbaric chamber</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

* If physically cleared by HBO MD

**Scheduled Duties Of Student:**

- Frequency of rounds on patients: As dictated by consultations done
- Presents patients to preceptor or attending physician: Yes
- Weekly schedule of required teaching sessions: 2 per week scheduled around clinical duties

**Describe Optional Rounds And Activities, If Any:**

- Exposure to hyperbaric chamber environment

**Other Required Activities:**

- Reading/review of current literature: Reading and review of current literature
- Other: Participate in ongoing research activities

**How Is Student Evaluated:**

Clinical skills, intellectual curiosity, effort and willingness to participate. Assessed in written format per University standard.

**Who Evaluates Students:**

Faculty in charge of course, with input from all participating faculty.

**Unique Features Of This Elective:**

Exposure to altered environmental conditions which affords application of physiologic principles.