HBOT2018: Advancing Hyperbaric Medicine Globally in the 21st Century
10-12th August, Denver, Colorado

Dr Paul Buza
Malcolm R. Hooper

International Hyperbaric Accreditation Standards
"I am a gladiator serving the people of Rome … Are you not entertained?"

- Maximus Decimus Meridius
It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better.

The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errrs, who comes short again and again, because there is no effort without error and shortcoming.

But who actually strives to do the deeds; who knows great enthusiasms, great devotions; who spends himself in a worthy cause; who at best knows in the end the triumph of high achievement, and who at the worst, if he fails - at least fails while daring greatly,

Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to rank with those poor spirits who neither enjoy nor suffer, because they live in the gray twilight that knows not victory nor defeat.

- Theodore Roosevelt 26th President of the U.S. and winner of 1906 Nobel Peace Prize

Faith is taking the first step even when you don't see the whole.

“I have a dream”

- Martin Luther King 1963
Who influenced you?

Mother Teresa (1910-1997)
“I wanted to become a Mother to the poorest of the world’s poor.”
Who influences you?
The ‘Bad Ass of Hyperbaric’
How to impact the globe - become a better human being

Preparing Global Leaders & Organizations for the Future

Explore the opportunities and implications of exponential technologies and connect to a global ecosystem that is shaping the future and solving the world's most urgent problems.
LIVER AND DIGESTIVE SYSTEM CHECK-UP

- Taking blood sample
- Ultrasonography
- Liver elasticity measurement
- Liver biopsy
- Consultation with the doctor
Artificial Intelligence - requires the thinking of tomorrow
## Cytokine Profile

### ProInflammatory Cytokines (TH1)

<table>
<thead>
<tr>
<th>Cytokine</th>
<th>Result</th>
<th>Range</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interleukin 1</td>
<td>3463.0</td>
<td>0.0 - 2.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>1252.0</td>
<td>0.0 - 11.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>67.8</td>
<td>0.0 - 15.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>&gt;2500.0</td>
<td>0.0 - 28.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>10.4</td>
<td>&lt; 13.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TNFa</td>
<td>816.00</td>
<td>0.00 - 13.00</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TNFβ</td>
<td>164.0</td>
<td>0.0 - 155.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>S100B</td>
<td>151.8</td>
<td>0.00 - 100.0</td>
<td>pg/mL</td>
</tr>
</tbody>
</table>

### AntiInflammatory Cytokines (TH2)

<table>
<thead>
<tr>
<th>Cytokine</th>
<th>Result</th>
<th>Range</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM-CSF</td>
<td>1620.0</td>
<td>0.0 - 80.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>7.4</td>
<td>0.0 - 10.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 3</td>
<td>&lt;3.2</td>
<td>&lt; 5.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>127.2</td>
<td>0.0 - 19.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 5</td>
<td>3.8</td>
<td>0.0 - 13.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>99.7</td>
<td>0.0 - 7.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>7.9</td>
<td>0.0 - 14.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>21.7</td>
<td>0.0 - 6.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>INFγ</td>
<td>25.8</td>
<td>0.0 - 29.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TGFβ</td>
<td>57.7</td>
<td>23.0 - 64.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Brain Derived Neurotrophic Factor (BDNF)</td>
<td>33.2</td>
<td>20.0 - 50.0</td>
<td>pg/mL</td>
</tr>
</tbody>
</table>

**Note:** All results are given in pg/mL.
<table>
<thead>
<tr>
<th><strong>INTEGRATIVE MEDICINE</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLOOD - SERUM</strong></td>
<td></td>
</tr>
<tr>
<td>Hyperbaric Oxygen Therapy (HBO)</td>
<td></td>
</tr>
<tr>
<td><strong>Result</strong></td>
<td><strong>Range</strong></td>
</tr>
<tr>
<td><strong>Hyperbaric Oxygen Therapy (HBO)</strong></td>
<td><strong>106.0</strong></td>
</tr>
<tr>
<td><strong>CYTOKINES, Extensive Panel</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prolinflammatory Cytokines (TH1)</strong></td>
<td></td>
</tr>
<tr>
<td>Interleukin 1</td>
<td>1.9</td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>4.9</td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>24.8 *H</td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>48.4 *H</td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>7.8</td>
</tr>
<tr>
<td>TNFa</td>
<td>10.80</td>
</tr>
<tr>
<td>TNFb</td>
<td>144.0</td>
</tr>
<tr>
<td>S100B</td>
<td>13.6 *L</td>
</tr>
<tr>
<td><strong>Antinflammatory Cytokines (TH2)</strong></td>
<td></td>
</tr>
<tr>
<td>GM-CSF</td>
<td>1510.3 *H</td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>3.5</td>
</tr>
<tr>
<td>Interleukin 3</td>
<td>&lt;3.0</td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>44.4 *H</td>
</tr>
<tr>
<td>Interleukin 5</td>
<td>1.8</td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>14.8 *H</td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>2.4</td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>7.1 *H</td>
</tr>
<tr>
<td>INFg</td>
<td>17.7</td>
</tr>
<tr>
<td>TGFb</td>
<td>50.2</td>
</tr>
<tr>
<td><strong>Brain Derived Neurotrophic Factor BDNF</strong></td>
<td>*<em>82.0 <em>H</em></em></td>
</tr>
</tbody>
</table>
## Cytokine Profiles – before and after HBOT

<table>
<thead>
<tr>
<th>CYTOKINES, Extensive Panel</th>
<th>Result</th>
<th>Hours</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interleukin 1</td>
<td>3463.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>1252.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>67.8 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>&gt;2500.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>10.4 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TNFa</td>
<td>816.00 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TNFβ</td>
<td>164.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S100B</td>
<td>151.8 pg/mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Proinflammatory Cytokines (TH1)

<table>
<thead>
<tr>
<th>Cytokine</th>
<th>Result</th>
<th>Hours</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interleukin 1</td>
<td>3463.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>1252.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>67.8 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>&gt;2500.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>10.4 pg/mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Antiinflammatory Cytokines (TH2)

<table>
<thead>
<tr>
<th>Cytokine</th>
<th>Result</th>
<th>Hours</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM-CSF</td>
<td>1620.0 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>7.4 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>127.2 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>99.7 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>7.9 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>21.7 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFα</td>
<td>25.8 pg/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TGFβ</td>
<td>57.7 pg/mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Brain Derived Neurotrophic Factor (BDNF) 33.2 pg/mL
Case Study DC age 7 Autism

Cytokine Testing pre-HBOT, then again at 70-hours HBOT and final test at 120 hours HBOT.

- **High functional autism, non-social, non-verbal.**
- Typically between 50-70 hours of HBOT, there is a ‘washout of inflammatory cytokines’ followed by reduction of the inflammatory markers corresponding with notable elevation of the anti-inflammatory cytokines including BDNF (Brain Derived Neurotrophic Factor).
- After 120-hours of HBOT, young DC has significant improvements including global executive functioning, talking, instructional responsive, social interactions, drawing and reading.
### INTEGRATIVE MEDICINE

**BLOOD - SERUM**

<table>
<thead>
<tr>
<th>CYTOKINES, Extensive Panel</th>
<th>Result</th>
<th>Range</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prolinflammatory Cytokines (TH1)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 1</td>
<td>6.2 <strong>H</strong></td>
<td>0.0 - 2.3</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>6.7</td>
<td>0.0 - 11.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>22.7 <strong>H</strong></td>
<td>0.0 - 16.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>106.3 <strong>H</strong></td>
<td>0.0 - 28.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>26.7 <strong>H</strong></td>
<td>&lt; 13.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TNFα</td>
<td>21.60 <strong>H</strong></td>
<td>0.00 - 13.00</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TNFβ</td>
<td>98.0</td>
<td>0.0 - 156.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>S100B</td>
<td>&gt;5000.0 <strong>H</strong></td>
<td>60.0 - 100.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td><strong>Antiinflammatory Cytokines (TH2)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM-CSF</td>
<td>1217.7 <strong>H</strong></td>
<td>0.0 - 90.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>7.3</td>
<td>0.0 - 10.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 3</td>
<td>9.6 <strong>H</strong></td>
<td>&lt; 5.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>30.6 <strong>H</strong></td>
<td>0.0 - 10.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 5</td>
<td>5.4</td>
<td>0.0 - 13.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>36.3 <strong>H</strong></td>
<td>0.0 - 7.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>15.6 <strong>H</strong></td>
<td>0.0 - 14.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>24.0 <strong>H</strong></td>
<td>0.0 - 8.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>INFγ</td>
<td>18.5</td>
<td>0.0 - 26.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>TGFβ</td>
<td>36.4</td>
<td>28.0 - 64.0</td>
<td>pg/mL</td>
</tr>
<tr>
<td>Brain Derived Neurotrophic Factor BDNF</td>
<td>47.0</td>
<td>20.0 - 60.0</td>
<td>ng/mL</td>
</tr>
</tbody>
</table>
**Autism Case Study**

**HBOT** - 70 hours

### INTEGRATIVE MEDICINE

**BLOOD - SERUM**

Hyperbaric Oxygen Therapy (HBO) Result: 70.0

Cytokines, Extensive Panel

*Proinflammatory Cytokines (TH1)*

- Interleukin 1: 945.6 pg/mL
- Interleukin 6: <0.4 pg/mL
- Interleukin 7: 43.9 pg/mL
- Interleukin 8: >2500.0 pg/mL
- Interleukin 17: 16.6 pg/mL
- TNFα: 213.90 pg/mL
- TNFβ: 123.0 pg/mL
- INFκB: 639.0 pg/mL

*Antiinflammatory Cytokines (TH2)*

- GM-CSF: 1710.3 pg/mL
- Interleukin 2: 9.8 pg/mL
- Interleukin 3: <5.0 pg/mL
- Interleukin 4: 34.7 pg/mL
- Interleukin 5: 4.7 pg/mL
- Interleukin 10: 56.9 pg/mL
- Interleukin 12: 18.2 pg/mL
- Interleukin 13: 30.0 pg/mL
- INFγ: 23.1 pg/mL
- TGFβ: 33.0 pg/mL
- Brain Derived Neurotrophic Factor (BDNF): 39.0 ng/mL
### INTEGRATIVE MEDICINE

**Blood - Serum**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Range</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperbaric Oxygen Therapy (HBOT)</td>
<td>120.0</td>
<td>Hours</td>
<td></td>
</tr>
<tr>
<td>Cytokines, Extensive Panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProInflammatory Cytokines (TH1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 1</td>
<td>9.6 *H</td>
<td>0.0 - 2.8</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>7.2</td>
<td>0.0 - 11.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>34.3 *H</td>
<td>0.0 - 10.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>317.9 *H</td>
<td>0.0 - 28.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>33.0 *H</td>
<td>&lt; 13.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>TNFα</td>
<td>33.40 *H</td>
<td>0.00 - 13.00</td>
<td>pgmL</td>
</tr>
<tr>
<td>TNFβ</td>
<td>93.0</td>
<td>0.0 - 156.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>S100B</td>
<td>&lt;10.0 *L</td>
<td>60.0 - 100.0</td>
<td>ngmL</td>
</tr>
<tr>
<td>AntiInflammatory Cytokines (TH2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM-CSF</td>
<td>514.0 *H</td>
<td>0.0 - 80.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>9.6</td>
<td>0.0 - 10.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 3</td>
<td>&lt;1.0</td>
<td>&lt; 5.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>61.3 *H</td>
<td>0.0 - 10.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 5</td>
<td>5.2</td>
<td>0.0 - 13.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>34.0 *H</td>
<td>0.0 - 7.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>13.1</td>
<td>0.0 - 14.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>37.3 *H</td>
<td>0.0 - 6.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>INFγ</td>
<td>28.0</td>
<td>0.0 - 28.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>TGFβ</td>
<td>37.0</td>
<td>28.0 - 64.0</td>
<td>pgmL</td>
</tr>
<tr>
<td>Brain Derived Neurotrophic Factor BDNF</td>
<td>52.0 *H</td>
<td>20.0 - 50.0</td>
<td>pgmL</td>
</tr>
</tbody>
</table>
### INTEGRATIVE MEDICINE

<table>
<thead>
<tr>
<th>BLOOD - SERUM</th>
<th>Result</th>
<th>70.0</th>
<th>120.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CYTOKINES, Extensive Panel</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prolinflammatory Cytokines (TH1)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interleukin 1</td>
<td>6.2 H</td>
<td>945.6 H</td>
<td>9.6 H</td>
</tr>
<tr>
<td>Interleukin 6</td>
<td>6.7</td>
<td>&lt;0.4</td>
<td>7.2</td>
</tr>
<tr>
<td>Interleukin 7</td>
<td>22.7 H</td>
<td>43.9 H</td>
<td>34.3 H</td>
</tr>
<tr>
<td>Interleukin 8</td>
<td>106.3 H</td>
<td>&gt;2500.0 H</td>
<td>317.9 H</td>
</tr>
<tr>
<td>Interleukin 17</td>
<td>26.7 H</td>
<td>16.6 H</td>
<td>33.0 H</td>
</tr>
<tr>
<td>TNFa</td>
<td>21.60 H</td>
<td>213.90 H</td>
<td>33.40 H</td>
</tr>
<tr>
<td>TNFb</td>
<td>98.0</td>
<td>123.0</td>
<td>93.0</td>
</tr>
<tr>
<td>S100B</td>
<td>&gt;5000.0 H</td>
<td>639.0 H</td>
<td>&lt;10.0 L</td>
</tr>
<tr>
<td><strong>Antinflammatory Cytokines (TH2)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM-CSF</td>
<td>1217.7 H</td>
<td>1710.3 H</td>
<td>514.0 H</td>
</tr>
<tr>
<td>Interleukin 2</td>
<td>7.3</td>
<td>9.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Interleukin 3</td>
<td>9.6 H</td>
<td>1.3</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Interleukin 4</td>
<td>30.6 H</td>
<td>34.7 H</td>
<td>61.3 H</td>
</tr>
<tr>
<td>Interleukin 5</td>
<td>5.4</td>
<td>4.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Interleukin 10</td>
<td>35.3 H</td>
<td>56.9 H</td>
<td>34.0 H</td>
</tr>
<tr>
<td>Interleukin 12</td>
<td>15.6 H</td>
<td>18.2 H</td>
<td>13.1</td>
</tr>
<tr>
<td>Interleukin 13</td>
<td>24.0 H</td>
<td>30.0 H</td>
<td>37.3 H</td>
</tr>
<tr>
<td>INFg</td>
<td>18.5</td>
<td>23.1</td>
<td>28.0</td>
</tr>
<tr>
<td>TGFb</td>
<td>36.4</td>
<td>33.0</td>
<td>37.0</td>
</tr>
<tr>
<td>Brain Derived Neurotrophic Factor BDNF</td>
<td>47.0</td>
<td>39.0</td>
<td>52.0 H</td>
</tr>
</tbody>
</table>
Dare mighty things..

We are bold with **Vision and Passion**
We are blessed with **Abundance and Knowledge**
We are committed to stand for **Human Rights**
We are called to serve the **Spirit of Humanity**

Accreditation and Standards are the **first step**

We have a dream
International Chapters are the **second step**

‘The world we lived in the past has created the problems of today,
But to solve today’s problems requires the thinking of tomorrow’ Einstein

**Become part of change**
Expanding the Spectrum of Clinical Hyperbaric Medicine

- Critical Care
- Hospital Based Out-Patient
- Non-hospital Based Wound Care Programs
- Mild Pressure Hyperbaric Programs
- Normobaric Oxygen Based Programs
- Hypobaric Chamber Programs
Terms We Should Avoid And Terms We Should Use

• “Experimental”
• “Off Label”
• “Exclusionary”

• Emphasize:
  • “International Accepted Indication”
  • “Inclusionary”
Rule Number 1

• “Primum non nocere”

• First, Do No Harm!
IHMA Council for Accreditation

• Founded 2018
• Create the “International Clinical Hyperbaric Technologist” ICHT
• To establish the fundamental guidelines for ICHT accreditation
• To promote the easy transfer of current CHT to ICHT certification
• Emphasize the importance of the safe provision of HBO within the “scope of practice” of a wide variety of different clinics.
• To encourage our training providers to be chamber specific
Our Philosophy

• “To advance the beneficial effects of HBO within the field of medicine while maintaining the highest standards of safety. To encourage the acceptance and growth of “International Accepted Indications” allowing greater access to treatment thereby improving quality of life. To enhance an international forum of physicians and scientists to advance the field of clinical hyperbaric medicine. “

•
Scope of Practice

• “The spectrum of hyperbaric medicine is broad and diverse. From inpatient critical care, stable outpatient clinics and veterinarian medicine this wide spectrum of pathology is encompassed. As a result, there needs to be a tiered level of training standards to address the needs of this broad spectrum. The IHMA and its ICHT certifying board model the FDA policy/guideline/position of not interfering with the practice of medicine. An ICHT certification allows a hyperbaric technician to treat any and all diagnoses as directed by their supervising medical practitioner. There is no penalty for treating off-FDA label.”
Qualifying Pathways

• This is not an entry-level qualification, rather an additional certification beyond the applicant’s qualifying profession (refer to qualifying pathway list).

• Respiratory Therapist
• Physician Assistant
• Active Duty Military Corpsman
• EMT/Paramedic
• Registered Nurse or LPN
• Nurse Practitioner
• Physician
• Chiropractic Physician
• Veterinarian Physician
• Veterinarian Technologist
• Military diving personal
• Diving Medical Technician
• Biomedical Technologist
• Naturopathic Physicians
• Commercial diving personnel and Diving supervisors
• Tier 1 Clinic based MHBT- Mild Hyperbaric Therapy (up to 1.4 ATA)

• As an international standard, some countries are less restrictive with the application of pressures and use of enriched O2 than the U.S. This standard allows clinicians across the globe to work within their regulatory guidelines and scope of practice. Further, the IHMA does not recommend or prohibit the use of oxygen, leaving that to the applicable regulatory guidelines for each country, chamber design/approval, and medical/clinical license and scope of practice of the practitioner.

• Tier 1 ICHT certification for MHBT may be accomplished with the candidate’s successful completion of an IBCHMT approved introductory course which offers theory, hands-on practice, and a final examination.

• Following the successful completion of the approved course, Tier 1 ICHT candidates must:
  • Be at least 18 years of age with a high school diploma or equivalent.
  • Complete the ICHT application form and remit the $195 application fee, and a $25 administrative fee for their background check.
  • Submit evidence of the successful completion of an IBCHMT approved introductory course, hands-on practice portion and final examination. The IHMA Council for Accreditation ensures that applicants meet the eligibility criteria and will complete background checks on all applicants.
  • Upon successful completion of this requirement, Tier 1 ICHT certification will remain valid for a 2-year period.
  • Tier 1 ICHT’s will be required to maintain a minimum of 12 continuing education credits every 2 years, specific to clinical hyperbaric medicine.
Tier 2 Hospital and or Free-Standing Clinics (up to 3.0 ATA)

1. Applicant must be at least 18 years of age with a high school diploma or equivalent.
2. ICHT applicants must have completed an International Board of Clinical Hyperbaric Medical Technology (IBCHMT) approved hyperbaric medicine introductory training course within three years of intended ICHT test date.
3. Upon completion of an approved course, ICHT applicants must undergo a clinical work experience of 480 hours in hyperbaric medicine or aviation medical technology. Forty (40) hours of this requirement must be a supervised direct and physically present clinical internship. The Board must be notified in writing of the name of the preceptor prior to commencing the internship. The preceptor must be an ICHT or a CHT with a minimum of two years’ clinical experience.
4. Maintain a minimum 24 continuing education credits every two years specific to clinical hyperbaric medicine.
• Tier 3 Critical Care Hyperbaric Medicine- In-patient ICU and ER (up to 6.0 ATA)

• To be developed
Thank You!!
And Good Luck