Subject: Hyperbaric Oxygen Therapy (HBO)

Background: HBO is used to treat a variety of conditions including carbon monoxide poisoning, tissue injuring due to thermal burns, radiation exposure, trauma, surgery or infection. During the therapy patients breathe pure oxygen at a pressure typically 2 to 3 times greater than the atmospheric pressure. It is intended to either accelerate or cause healing that would not ordinarily occur.

Policy and Coverage Criteria:
Harvard Pilgrim Health Care (HPHC) considers HBO therapy as medically necessary when documentation confirms ANY of the following:

- Acute carbon monoxide intoxication
- Decompression illness
- Gas embolism
- Gas gangrene
- Acute traumatic peripheral ischemia
- Crush injuries & suturing of severed limbs
- Progressive necrotizing infections
- Acute peripheral arterial insufficiency
- Preparation and preservation of compromised skin grafts
- Chronic refractory osteomyelitis
- Osteoradionecrosis as adjunct to conventional treatment
- Soft tissue radionecrosis as an adjunct to conventional treatment
- Cyanide poisoning
- Actinomycosis as adjunct to conventional therapy
- Chronic non-healing infected, deep ulcerations of lower extremities in diabetic adults
- Skin burns (thermal)

Exclusions: Harvard Pilgrim Health Care (HPHC) does NOT cover HBO therapy for conditions other than those listed above, including: exceptional blood loss anemia (only with overwhelming blood loss and transfusion not an option), acute cerebral edema, intracranial abscess, Crohn’s disease, brown recluse spider bites, and topical hyperbaric oxygen therapy.

Supporting Information:
During HBO therapy, patients breathe pure oxygen gas at high pressure, usually 2 to 3 times greater than atmospheric pressure. The elevated concentration and pressure of the oxygen result in higher levels of oxygen absorption by blood plasma and by non-poisoned hemoglobin, elevating oxygen delivery to the tissues. Multi-place chambers allow closer monitoring of critically ill patients, while single occupancy chambers are most appropriate for the treatment of chronic medical conditions in stable patients. Chamber pressure is usually maintained between 2.5 and 3.0 atm, with treatment lasting 45 to 300 minutes depending upon the indication. Acute therapy may require only one or two treatments, while chronic medical conditions may warrant up to 30 or more sessions. Typically, hyperbaric therapy is administered with pressurized oxygen or air. Pressures exceeding 2.8 to 3.0 atm, particularly over prolonged exposure hyperbaric periods, dramatically increase the risk of both neurologic and pulmonary oxygen toxicity. Helium/oxygen (heliox) or nitrogen/oxygen (nitrox) mixtures are indicated only in certain instances of decompression illness. The only absolute contraindication to HBO therapy is untreated pneumothorax. Relative contraindications include obstructive lung disease, upper respiratory or sinus infections, recent ear surgery or injury, fever, and claustrophobia. Pregnancy was once believed to represent a contraindication to HBO, but now is considered an impetus to pursue HBO therapy among patients with CO.
intoxication. Patients with a history of a seizure disorder, pneumothorax, or chest surgery are at highest risk for complications related to barotrauma or central nervous system oxygen toxicity.

The safety and efficacy of HBO therapy has been validated in peer-reviewed literature for a number of selected conditions.

HBO is considered standard of care in the primary treatment of acute carbon monoxide poisoning, air or gas embolism, and decompression sickness. It has also been shown to be effective as an adjunctive therapy in the treatment of acute cyanide poisoning, gas gangrene, crush injuries and suturing of severed limbs, compromised skin grafts, acute thermal burns, progressive necrotizing infections, chronic refractory osteomyelitis, osteoradionecrosis and soft tissue radionecrosis, as well as treatment of chronic, non-healing, lower extremity diabetic wounds.

Appropriate indications have been reviewed and assessed by groups such as the Agency for Healthcare Research and Quality, Undersea and Hyperbaric Medical Society, American College of Hyperbaric Medicine, and the Alberta Heritage Foundation for Medical Research. Collective literature notes that HBO therapy should not be a replacement for other standard successful therapies.

**Coding:**

Codes are listed below for informational purposes only, and do not guarantee member coverage or provider reimbursement. The list may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible.

<table>
<thead>
<tr>
<th>CPT® Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>99183</td>
<td>Physician attendance and supervision of hyperbaric oxygen therapy, per session</td>
</tr>
<tr>
<td>G0277</td>
<td>Hyperbaric oxygen under pressure, full body chamber, per 30 minute interval</td>
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**Medically necessary ICD-10 codes**

**Billing Guidelines:**

Member’s medical records must document that services are medically necessary for the care provided. Harvard Pilgrim Health Care maintains the right to audit the services provided to our members, regardless of the participation status of the provider. All documentation must be available to HPHC upon request. Failure to produce the requested information may result in denial or retraction of payment.

**References:**


**HPHC Medical Policy**

**Hyperbaric Oxygen Therapy (HBO)**

*HPHC policies are based on medical science, and written for the majority of people with a given condition.*

Coverage described in this policy is standard under most HPHC plans. Specific benefits may vary by product and/or employer group. Please reference appropriate member materials (e.g. Benefit Handbook, Certificate of Coverage) for member-specific benefit information.

Summary of Changes

<table>
<thead>
<tr>
<th>Date</th>
<th>Changes</th>
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<tbody>
<tr>
<td>4/19</td>
<td>Annual review, formatting updated, no changes to coverage</td>
</tr>
<tr>
<td>4/17</td>
<td>Removed benchmarks and ICD 9 references</td>
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Approved by Medical Policy Committee: 4/9/19

Approved by Clinical Policy Operational Committee: 9/01; 9/07; 12/09; 12/11; 12/13; 12/15; 12/17; 4/19

Effective: 4/19

Initiated: 12/02