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Developed By: Medical Criteria Committee	

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Description:

Hyperbaric oxygen therapy (HBO) is a systemic medical treatment in which high pressures of oxygen are delivered to tissues. The patient is entirely enclosed in a pressurized chamber and breathes oxygen at a pressure greater than one atmosphere (the pressure of oxygen at sea level). Alveolar oxygen pressure is increased, causing a rise in plasma oxygen content which results in enhanced tissue oxygen delivery. Treatment may be carried out either in a monoplace (one person) chamber pressurized with oxygen or in a larger multiplace (two or more person) chamber pressurized with compressed air, in which case the patient receives pure oxygen by mask, head tent, or endotracheal tube.

Topical oxygen therapy, also called topical hyperbaric oxygen therapy, involves the direct application of 100% oxygen to an open wound base. The oxygen is delivered at a pressure just above atmospheric pressure. Topical oxygen therapy is administered through special chambers that fit around a limb or by using disposable polyethylene bags. Conventional oxygen tanks may be used as the oxygen source. Topical oxygen therapy can be performed in an office or clinic or in the home by well-trained patients.

Criteria:

- A. ODS will cover systemic hyperbaric oxygen therapy to plan limitations for **any** of the following conditions:
1. Non-healing diabetic wounds of the lower extremities in patients who meet all of the following 3 criteria:
 - a. Patient has type I or type II diabetes and has a lower extremity wound that is due to diabetes;
 - b. Patient has a wound classified as Wagner grade 3 or higher;
 - c. Patient has no measurable signs of healing after 30 days of an adequate course of standard wound therapy (up to 30 HBO treatments)
 2. Acute air or gas embolism (10 HBO treatments)
 3. Decompression illness ("the bends") (up to 20 HBO treatments)
 4. Acute carbon monoxide poisoning (up to 10 HBO treatments)
 5. Acute peripheral arterial insufficiency (i.e. compartment syndrome) (up to 20 HBO treatments)
 6. Acute traumatic peripheral ischemia (including crush injuries and suturing of severed limbs) (up to 20 HBO treatments)
 7. Cyanide poisoning (10 HBO treatments)
 8. Gas gangrene (10 HBO treatments)
 9. Compromised skin grafts and flaps (20 HBO treatments)
 10. Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management (40 HBO treatments)
 11. Radiation necrosis (osteoradionecrosis, myoradionecrosis, brain radionecrosis, and other soft tissue radiation necrosis) as an adjunct to conventional treatment (up to 60 HBO treatments)
 12. Prophylactic pre- and post-treatment for members undergoing dental surgery of a radiated jaw (up to 20 pre-surgery and 10 post-surgery HBO treatments)
 13. Acute cerebral edema (20 HBO treatments)
 14. Intracranial Abscess (20 HBO treatments)
 15. Exceptional blood loss anemia when there is overwhelming blood loss and transfusion is not possible due to no suitable blood available or religion does not permit transfusions (5 HBO treatments)
 16. Burns of the hands, face or groin area, or deep second-degree and third degree burns that cover 20% or more of the patient's body

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17. Necrotizing soft tissue infections, including refractory mycoses such as mucormycosis, *Conidiobolus coronato* and actinomycosis, severe enough to require multiple surgical procedures (30 HBO treatments)
- B. ODS considers systemic hyperbaric oxygen therapy experimental and investigational for patients with any of the following contraindications to HBO. The safety and effectiveness of HBO for persons with these contraindications has not been established:
 1. Untreated pneumothorax
 2. Concurrent administration of doxorubicin, cisplatin, or disulfiram
 3. Premature infants (birth prior to 37 weeks gestation)
 - C. ODS considers all other indications for hyperbaric oxygen therapy experimental and investigational. HBO for indications other than those listed above, have not identified as widely used and generally accepted in nationally recognized peer-reviewed medical literature.
 - D. ODS considers topical oxygen therapy, including topical HBO administered to an open wound in a small limb-encasing device, experimental and investigational because its efficacy has not been established through controlled clinical trials.

Limitations:

After initial authorization, ODS will request a progress report prior to authorization of additional HBO treatment.

Information to be Submitted with Pre-Authorization Request:

- Chart notes from ordering specialist including history and physical
- Treatment history
- Treatment plan including number of HBO sessions anticipated

Applicable CPT/HCPC:

Note: list may not be all inclusive

99183	Physician attendance and supervision of hyperbaric oxygen therapy, per session
C1300	Hyperbaric oxygen under pressure, full body chamber, per 30 minute interval

Not Covered:

A4575	Topical hyperbaric oxygen chamber, disposable
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References:

<ul style="list-style-type: none"> • Wang J, Li F, Calhoun JH, Mader JT. The role and effectiveness of adjunctive hyperbaric oxygen therapy in the management of musculoskeletal disorder. <i>J Postgrad Med.</i> 2002; 48:226-31. • Cronje, F. Oxygen therapy and wound healing – topical oxygen is not hyperbaric oxygen therapy. <i>S. Afr. Med J.</i> November 2005; 95(11):840. • Kizer K. Hyperbaric emergencies. <i>West J Med.</i> January 1983; 138(1):87-88. • Wright J, Ehler W, McGlasson M, Thompson W. Facilitation of recovery from acute blood loss with hyperbaric oxygen. <i>Archives of Surgery.</i> 2002; 137(7):850-853. • Wang C, Schwaitzberg S, Berliner E, et al. Hyperbaric oxygen for treating wounds. <i>Archives of Surgery.</i> 2003; 138(3):272-279. • Riseman JA, Zamboni WA, Curtis A, et al. Hyperbaric oxygen therapy for necrotizing fasciitis reduces mortality and the need for debridements. <i>Surgery.</i> November 1990; 108(5):847-50. • The Undersea and Hyperbaric Medical Society (UHMS) Hyperbaric Oxygen Committee Guidelines: Indications for hyperbaric oxygen therapy. Kensington, MD: UHMS; 2000.
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- Villanueva E, Bennet MH, Wasiak J, Lehm JP. Hyperbaric oxygen therapy for thermal burns. Cochrane Database Syst Rev. 2004;(3):CD004727.
- Wilkinson D, Doolette D. Hyperbaric oxygen treatment and survival from necrotizing soft tissue infection. Archives of Surgery. 2004; 139(12):1339-1345.
- Merck Manual 17th Edition. Hyperbaric oxygen therapy. Section 21, Chapter 292.
- Weaver L, Hopkins R, Chan K, et al. Hyperbaric oxygen for acute carbon monoxide poisoning. The New England Journal of Medicine. October 2002; 347(14):1057-1067.
- Brown, J. Hyperbaric oxygen therapy: it's use and appropriateness. Department of Health and Human Services Office of Inspector General. October 2000. OEI 06-99-00090.
- Physician Advisors