

OHCA Guideline

Medical Procedure Class:	Hyperbaric Oxygen Therapy
Initial Implementation Date:	10/1/2019
Last Review Date:	
Effective Date:	10/1/2019
Next Review/Revision Date:	September 2020
* This document is not a contract, and these guidelines do not reflect or represent every conceivable situation. Although all items contained in these guidelines may be met, this does not reflect, or imply, any responsibility of this agency or department to change the plan provision to include the stated service as an eligible benefit.	
<input checked="" type="checkbox"/> New Criteria <input type="checkbox"/> Revision of Existing Criteria	
Summary	
Purpose:	To provide guidelines to assure medical necessity and consistency in the prior authorization process.
Definitions	
<p>Abscess – A localized collection of pus surrounded by inflamed tissue.</p> <p>Adjunctive Treatment – A treatment added to accompany standard treatment.</p> <p>Anemia – A condition in which the blood is deficient in red blood cells.</p> <p>Carbon Monoxide – A colorless, odorless, and very toxic gas that can cause sudden illness and death.</p> <p>Compartment Syndrome – A painful condition resulting from the expansion or overgrowth of enclosed tissue within its anatomical enclosure producing pressure that interferes with circulation and adversely affects the function and health of the tissue itself.</p> <p>Decompression Sickness – A sometimes fatal condition that is caused by the formation of inert gas bubbles in tissues and/or blood due to a rapid decrease in barometric pressure, causing organ dysfunction.</p> <p>Debridement – The surgical removal of lacerated, devitalized, or contaminated tissue.</p> <p>Devitalized Tissue – Non-viable tissue.</p> <p>Embolism – The sudden obstruction of a blood vessel by air or gas circulating in the blood.</p> <p>Fascia – A sheet of connective tissue covering or binding together body structures.</p> <p>Gangrene – Local death of soft tissues due to a loss of blood supply.</p> <p>Gas Gangrene – A progressive gangrene marked by saturation of the dead and dying tissue with gas.</p> <p>Granulation Tissue – Tissue made up of granulations that temporarily replace lost tissue in a wound.</p> <p>Ischemia – A deficient supply of blood to a body part that is due to obstruction of the inflow of arterial blood.</p> <p>Necrotizing Fasciitis – A severe infection of soft tissue that is caused by bacteria and is marked by edema and necrosis of subcutaneous tissue with involvement of adjacent fascia.</p> <p>Osteomyelitis – An infectious, usually painful, inflammatory disease of bone.</p> <p>Osteoradionecrosis – The necrosis of bone following exposure to radiation.</p> <p>Provider – For the purposes of this policy, a provider may be a physician (MD, DO), physician’s assistant (PA), or advanced practice registered nurse (APRN).</p> <p>Radionecrosis – The ulceration or destruction of tissue resulting from exposure to radiation.</p> <p>Refractory Osteomyelitis – A bone infection that is resistant to treatment or cure.</p> <p>Tendinitis – Inflammation of a tendon typically associated with acute injury.</p>	

Description

Hyperbaric Oxygen Therapy

- A treatment in which a patient breathes 100% oxygen while completely enclosed in a pressurized chamber, with pressures greater than sea level (1 atmosphere absolute [ATA]).

Standard Wound Care – For diabetic lower extremity wounds

- Assessment of vascular status and correction of any vascular problems in affected lower extremity if possible;
- Optimization of nutritional status as evidenced by Pre-Albumin and Albumin laboratory levels within normal limits;
- Optimization of glucose control as evidenced by a hemoglobin A1c (HbA1c) level of 10.0% or less;
- Debridement to remove devitalized tissue;
- Surgical debridement with removal of infected bone;
- Maintain a clean, moist bed of granulation tissue with appropriate moist dressings;
- Appropriate off-loading;
- Necessary treatment to resolve any infection that might be present.

Wagner Wound Grading System (Diabetic foot ulcers and lesions)

- Grade 0 – No open lesion, may have healed lesions
- Grade 1 – Superficial ulcer without penetration to deeper layers
- Grade 2 – Deeper ulcer, reaching tendon, bone, or joint capsule
- Grade 3 – Deeper tissues are involved, and there is abscess, osteomyelitis, or tendinitis
- Grade 4 – There is gangrene of some part of the toe, toes, and/or forefoot
- Grade 5 – Gangrene involves the whole foot or enough of the foot that no local procedures are possible and below the knee amputation (BKA) is indicated

CPT Codes Covered Requiring Prior Authorization (PA)

99183 – Hyperbaric oxygen therapy, per session

G0277 – Hyperbaric oxygen therapy, full body chamber, per 30 minute interval

*Please see CPT and HCPCS books for full definition of codes

Approval Criteria

I. GENERAL

- A. Medical necessity must be met. All documentation submitted to request services or substantiate previously provided services must demonstrate through adequate objective medical records, evidence sufficient to justify the member's needs for the service, in the most cost-effective manner, in accordance with the OAC 317:30-3-1.
- B. Documentation requirements include:
 1. Documentation to support section **II.A.1-4** indications below.

2. Documentation that standard medical and surgical interventions have been attempted and what their results were for section **II.B.1-9** indications below.
3. Documentation that a diabetic wound of the lower extremity shows no measureable signs of healing (specific, documented, clinical evidence of healing) for at least 30 consecutive days with standard wound care.

II. INDICATIONS

Hyperbaric oxygen therapy will be considered for the below diagnoses:

- A. Primary Treatment for the following indications while inpatient:
 1. Carbon Monoxide Poisoning
 2. Decompression Sickness
 3. Air or Gas Embolism
 4. Severe Anemia
- B. Adjunctive Treatment to Standard Medical and Surgical Interventions for the following indications:
 1. Clostridial Myositis and Myonecrosis (Gas Gangrene)
 2. Crush Injury, Compartment Syndrome, and other Acute Traumatic Ischemias
 3. Necrotizing Soft Tissue Infections (Necrotizing Fasciitis)
 4. Compromised Skin Grafts and Flaps
 - a. Must submit evidence that the graft or flap is failing because tissue has been compromised by irradiation or there is decreased perfusion or hypoxia
 5. Intracranial Abscess
 6. Chronic Refractory Osteomyelitis
 - a. Must submit evidence of unsatisfactory clinical response to conventional multidisciplinary treatment
 7. Osteoradionecrosis and Soft Tissue Radiation Injury (Radionecrosis)
 8. Acute Thermal Burn Injury
 - a. Partial or full-thickness burns covering > 20% body surface area (BSA); **AND/OR**
 - b. Burns to the face, hands, feet, and perineum
 9. Diabetic Wounds of the lower extremities must meet the following criteria:
 - a. Patient has Type I or Type II diabetes and a lower extremity wound due to diabetes; **AND**
 - b. Patient's wound is classified as a Wagner Grade 3 or higher; **AND**
 - c. Patient has failed an adequate course (at least 30 consecutive days) of standard wound care; **AND**
 - d. Non-smoking status, **OR**
 - e. If member is a smoker, counseling on the effects of smoking and wound healing should be documented, as well as the smoking cessation treatments offered

III. FREQUENCY

- A. Based on the indicated diagnosis being treated (section **II.A-B** above), the medical documentation received, and the previous interventions attempted with outcomes, hyperbaric oxygen therapy may be approved for up to three units (1 unit = 30 minutes) per day.
- B. PA is required every 30 days

IV. CONTINUED MEDICAL NECESSITY

- A. Medical documentation must show evidence that the indicated diagnosis is responding effectively and improving with hyperbaric oxygen therapy.

Discontinuation Criteria

Hyperbaric oxygen therapy will not be considered medically necessary with any of the following conditions:

- When there are no measureable signs of healing in a diabetic wound of the lower extremity within any 30-day period of treatment.
- When there are no measureable signs of healing in the indicated diagnosis (section **II.A-B.1-8**) within any 30-day period of treatment.

When the medical documentation no longer shows evidence of effective improvement in the indicated diagnosis (section **II.A-B.1-9**) being treated.

Additional Information

- Requests for hyperbaric oxygen therapy outside of this guideline will be referred for medical director review.
- Only oxygen treatment administered inside of a hyperbaric pressurized chamber is reimbursable.

References

- Centers for Medicare & Medicaid Services. (2019). *Local coverage determination (LCD): Hyperbaric oxygen (HBO) Therapy (L35021)*. Retrieved from <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=35021&ver=156&Date=&DocID=L35021&bc=iAAAABA AAAAA&>
- Elraiyah, T., Tsapas, A., Prutsky, G., Domecq, J.P., Hasan, R., Firwana, B...Murad, M.H. (2016). A systematic review and meta-analysis of adjunctive therapies in diabetic foot ulcers. *Journal of Vascular Surgery*, 63(2S), 46S-58S. Doi: 10.1016/j.jvs.2015.10.007
- Fife, C.E., Eckert, K.A., & Carter, M.J. (2016). An update on the appropriate role for hyperbaric oxygen: Indications and evidence. *Plastic and Reconstructive Surgery*, 138(3), 107S-116S. Doi: 10.1097/PRS.0000000000002714
- Hingorani, A., LaMuraglia, G.M., Henke, P., Meissner, M.H., Loretz, L., Zinszer, K.M.,... & Murad, M.H. (2016). The management of diabetic foot: A clinical practice guideline by the Society for Vascular Surgery in collaboration with the American Podiatric Medical Association and the Society for Vascular Medicine. *Journal of Vascular Surgery*, 63(2), 3S-21S. Doi: 10.1016/j.jvs.2015.10.003
- Huang, E.T., Mansouri, J., Murad, M.H., Joseph, W.S., Strauss, M.B., Tettelbach, W., & Worth, E.R. (2015). A clinical practice guideline for the use of hyperbaric oxygen therapy in the treatment of diabetic foot ulcers. *Undersea and Hyperbaric Medicine*, 42(3), 205-245. Retrieved from https://www.uhms.org/images/CPG/UHM_42-3_CPG_DFU_PROOF_4-27-2015.pdf
- Johnston, B.R., Ha, A.Y., Brea, B., & Liu, P.Y. (2016). The mechanism of hyperbaric oxygen therapy in the treatment of chronic wounds and diabetic foot ulcers. *Rhode Island Medical Journal*. Retrieved from <https://pdfs.semanticscholar.org/ee57/e296d15031f822ffaecf0591b668ee6cc868.pdf>
- Lam, G., Fontaine, R., Ross, F.L., & Chiu, E.S. (2017). Hyperbaric oxygen therapy: Exploring the clinical evidence. *Advances in Skin & Wound Care*, 30(4), 181-190. Doi: 10.1097/01.ASW.0000513089.75457.22
- Mathieu, D., Marroni, A., & Kot, J. (2017). Tenth European Consensus Conference on hyperbaric medicine: Recommendations for accepted and non-accepted clinical indications and practice of hyperbaric oxygen treatment. *Diving and Hyperbaric Medicine*, 47(1), 24-32. Doi: 10.28920/dhm47.1.24-32
- Undersea & Hyperbaric Medical Society. (2019). *Indications for hyperbaric oxygen therapy*. Retrieved from <https://www.uhms.org/resources/hbo-indications.html>