

## MEDICAL POLICY

### Hyperbaric Oxygen Therapy (HBOT)



#### GUIDELINES

This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

#### DESCRIPTION

Hyperbaric oxygen therapy (HBOT) is a modality in which the entire body is exposed to oxygen under increased atmospheric pressure. The patient is entirely enclosed in a pressure chamber breathing 100% oxygen (O<sub>2</sub>) at greater than one atmosphere pressure. Either a mono-place chamber pressurized with pure O<sub>2</sub> or a larger multi-place chamber pressurized with compressed air where the patient receives pure O<sub>2</sub> by mask, head tent, or endotracheal tube may be used.

HBOT serves four primary functions:

1. It increases the concentration of dissolved oxygen in the blood, which augments oxygenation to all parts of the body; and
2. It replaces inert gas in the bloodstream with oxygen, which is then metabolized by the body; and
3. It may stimulate the formation of a collagen matrix and angiogenesis; and
4. It acts as a bactericide for certain susceptible bacteria.

Developed as treatment for decompression illness, this modality is an established therapy for treating medical disorders such as carbon monoxide poisoning, gas gangrene, acute decompression illness and air embolism. HBOT is also considered acceptable as adjunctive therapy in the treatment of sequella of acute vascular compromise and in the management of some disorders that are refractory to standard medical and surgical care or the result of radiation injury.

Topical hyperbaric oxygen therapy is a technique of delivering 100% oxygen directly to an open, moist wound at a pressure slightly higher than atmospheric pressure. It is hypothesized that the high concentrations of oxygen diffuse directly into the wound to increase the local cellular oxygen tension, which in turn promotes wound healing. Topical hyperbaric oxygen devices consist of an appliance to enclose the wound area (frequently an extremity) and a source of oxygen; conventional oxygen tanks may be used. The appliances may be disposable and may be used without supervision in the home by well-trained patients. Topical hyperbaric oxygen therapy has been investigated as a treatment of skin ulcerations resulting from diabetes, venous stasis, postsurgical infection, gangrenous lesion, decubitus ulcers, amputations, skin graft, burns, or frostbite.

#### POLICY

**Hyperbaric oxygen therapy (HBOT) (99183 & G0277) does not require prior authorization.**

**Procedures A4575 and E0446 are non-covered.**

#### HMO, PPO, Individual Marketplace, Elite, Advantage

Hyperbaric oxygen therapy (HBOT) (99183 & G0277) when administered in a chamber (including the one man unit) is covered for the following conditions:

1. Acute carbon monoxide intoxication
2. Decompression illness
3. Gas embolism
4. Gas gangrene
5. Acute traumatic peripheral ischemia. HBOT is a valuable adjunctive treatment to be used in combination with accepted standard therapeutic measures when loss of function, limb, or life is threatened.
6. Crush injuries and suturing of severed limbs. As in the previous conditions, HBOT would be an adjunctive treatment when loss of function, limb, or life is threatened.
7. Progressive necrotizing infections (necrotizing fasciitis)
8. Acute peripheral arterial insufficiency
9. Preparation and preservation of compromised skin grafts (not for primary management of wounds)
10. Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management

11. Osteoradionecrosis as an adjunct to conventional treatment
12. Soft tissue radionecrosis as an adjunct to conventional treatment
13. Cyanide poisoning
14. Actinomycosis, only as an adjunct to conventional therapy when the disease process is refractory to antibiotics and surgical treatment
15. Diabetic wounds of the lower extremities in patients who meet the following three 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 III or higher; and
  - c. Patient has failed an adequate course of standard wound therapy.

The use of HBOT is covered as adjunctive therapy only after there are no measurable signs of healing for at least 30 days of treatment with standard wound therapy and must be used in addition to standard wound care. Standard wound care in patients with diabetic wounds includes: assessment of a patient's vascular status and correction of any vascular problems in the affected limb if possible, optimization of nutritional status, optimization of glucose control, debridement by any means to remove devitalized tissue, maintenance of a clean, moist bed of granulation tissue with appropriate moist dressings, appropriate off-loading, and necessary treatment to resolve any infection that might be present. Failure to respond to standard wound care occurs when there are no measurable signs of healing for at least 30 consecutive days. Wounds must be evaluated at least every 30 days during administration of HBOT. Continued treatment with HBOT is not covered if measurable signs of healing have not been demonstrated within any 30-day period of treatment.

### **Non-Coverage**

Hyperbaric oxygen therapy (HBOT) is non-covered for the treatment of the following conditions:

1. Cutaneous, decubitus, and stasis ulcers
2. Chronic peripheral vascular insufficiency
3. Anaerobic septicemia and infection other than clostridial
4. Skin burns (thermal)
5. Senility
6. Myocardial infarction
7. Cardiogenic shock
8. Sickle cell anemia
9. Acute thermal and chemical pulmonary damage, i.e., smoke inhalation with pulmonary insufficiency
10. Acute or chronic cerebral vascular insufficiency
11. Hepatic necrosis
12. Aerobic septicemia
13. Nonvascular causes of chronic brain syndrome (Pick's disease, Alzheimer's disease, Korsakoff's disease)
14. Tetanus
15. Systemic aerobic infection
16. Organ transplantation
17. Organ storage
18. Pulmonary emphysema
19. Exceptional blood loss anemia
20. Multiple Sclerosis
21. Arthritic Diseases
22. Acute cerebral edema

Topical application of oxygen (A4575) does not meet the definition of HBOT. The clinical efficacy of this has not been established, and is considered experimental. Devices used in the topical application of oxygen (E0446) are also considered experimental. Therefore, no reimbursement is warranted.

An E/M service is not expected to be billed on the same day as HBO treatment unless there is a concurrent medical problem. Documentation must include the examination findings to support a separately identifiable concurrent problem. Wound assessment, wound monitoring, and redressing of the wound, in addition to an assessment of the patient, cardiopulmonary stability and general clinical condition prior to the initiation of the therapy, is an integral part of the HBO treatment.

### **CODING/BILLING INFORMATION**

The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

#### **CPT CODE**

**99183** Physician or other qualified health care professional attendance and supervision of hyperbaric oxygen therapy, per

	session
<b>HCPCS CODES</b>	
<b>A4575</b>	Topical hyperbaric oxygen chamber, disposable
<b>E0446</b>	Topical oxygen delivery system, not otherwise specified, includes all supplies and accessories
<b>G0277</b>	Hyperbaric oxygen under pressure, full body chamber, per 30 minute interval

**REVISION HISTORY EXPLANATION**

10/12/13: ICD-10 Codes added from ICD-9 conversion. Policy reviewed and updated to reflect most current clinical evidence. Approved by Medical Policy Steering Committee as revised.  
03/10/15: Removed deleted code C1300 and added new code G0277. Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee.  
02/14/17: Removed ICD-9 & ICD-10 codes. Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee.

**REFERENCES/RESOURCES**

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services  
Ohio Department of Medicaid <http://jfs.ohio.gov/>  
American Medical Association, *Current Procedural Terminology (CPT®)* and associated publications and services  
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets  
Industry Standard Review  
Hayes, Inc.