**Medical Affairs Policy**

**Service:** Hyperbaric Oxygen Therapy *PUM 250-0017*

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- Note: See previous Coverage Policy Bulletin or Medical Affairs Policy and Procedure for review/revision history prior to 2014

- **Disclaimer:** Benefit plans vary in coverage and some plans may not provide coverage for certain services listed in this policy. Coverage decisions are subject to all terms and conditions of the applicable benefit plan, including specific exclusions and limitations, and to applicable state and/or federal law. Medical policy does not constitute plan authorization, an explanation of benefits, or a guarantee of payment.

**Description:**

Hyperbaric oxygen therapy is a technique of delivering higher concentrations of oxygen to the tissues. Two methods of administration are available. In systemic or large chamber hyperbaric oxygen, the patient is entirely enclosed in a pressure chamber and breathes oxygen at a pressure greater than one atmosphere (the pressure of oxygen at sea level).

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. The hyperbaric oxygen device consists of an appliance to enclose the wound area (frequently an extremity) and a source of oxygen; conventional oxygen tanks may be used and devices are available for home use.

**Indications of Coverage:**

Hyperbaric oxygen therapy is considered medically necessary when at least one of the following conditions is documented:
A. Actinomycosis and actinomycotic brain abscess (when the hyperbaric oxygen therapy is used in conjunction with conventional therapy for a disease process that is refractory to antibiotics and surgical treatment)
B. Acute carbon monoxide intoxication
C. Acute peripheral arterial insufficiency
D. Acute traumatic peripheral ischemia when loss of function, limb, or life is threatened
E. Anemia: Emergent anemia in a patient unable or unwilling to receive red blood cell transfusion and one or more of the following:
   1. Active hemolysis with rapidly progressive anemia
   2. Active massive hemorrhage
   3. Severe signs or symptoms unresponsive to volume replacement (e.g., tachycardia, hypotension, chest pain, cognitive impairment)
F. Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management
G. Cyanide poisoning
H. Decompression sickness
I. Gas embolism
J. Gas gangrene
K. Idiopathic sudden sensorineural hearing loss (ISSHL), ≥41 dB over at least three contiguous frequencies, occurring within three days, when initiated within 3 months of symptom onset (ideally within 2 weeks).
L. Osteoradionecrosis (when the hyperbaric oxygen therapy is used in conjunction with conventional treatment)
M. Preparation and preservation of compromised skin grafts (not for primary management of wounds)
N. Progressive necrotizing infections (necrotizing fasciitis)
O. Radiation Enteritis/Proctitis or hemorrhagic cystitis
P. Soft tissue radionecrosis (when the hyperbaric oxygen therapy is used in conjunction with conventional treatment)
Q. Treatment of crush injuries or severed limbs
R. Diabetic wounds of the lower extremities in patients who meet all of the following:
   1) Patient has type I or type II diabetes and has a lower extremity wound that is due to diabetes
   2) The wound has shown no improvement after a 30 day trial (minimum) of standard wound therapy that includes correction of any vascular conditions in the affected limb where 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
3) The hyperbaric oxygen therapy is used in conjunction with standard wound care

4) Patient has a wound classified as Wagner Grade 3 or higher (Grade 1: superficial diabetic ulcer, Grade 2: ulcer extension (involves ligament, tendon, joint capsule or fascia, but no abscess or osteomyelitis), Grade 3: deep ulcer with abscess or osteomyelitis, Grade 4: gangrene to portion of forefoot, Grade 5: extensive gangrene of foot)

- If criteria are met, treatment may be approved for one month (thirty days). The frequency of treatments varies by conditions and severity. Acute conditions may warrant only one or two treatments, while chronic conditions may require more than thirty. Approval for further treatment will require documentation of the effectiveness of the previous month’s treatments.

**Limitations of Coverage:**

Review contract and endorsements for exclusions and prior authorization or benefit requirements.

If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental or investigative.

If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.

The use of **topical hyperbaric oxygen therapy** is considered investigational as there is insufficient peer-reviewed scientific literature supporting its effectiveness.

Hyperbaric oxygen therapy is considered investigational for any of the following conditions as there is insufficient peer-reviewed scientific literature supporting the effectiveness of hyperbaric oxygen therapy in individuals with these conditions (list is not considered all-inclusive):

- A. Acute cerebral edema
- B. Acute or chronic cerebral vascular insufficiency
- C. Acute thermal and chemical pulmonary damage (for example, smoke inhalation with pulmonary insufficiency)
- D. Aerobic septicemia
- E. Anaerobic septicemia and infection other than clostridial
- F. Anemia –other than for the indications listed above
- G. Arthritic diseases
- H. Autism
- I. Cardiogenic shock
- J. Chronic peripheral vascular insufficiency
- K. Cutaneous, decubitus, and stasis ulcers
L. Hepatic necrosis  
M. Lyme Disease  
N. Multiple Sclerosis  
O. Myocardial infarction  
P. Nonvascular causes of chronic brain syndrome (for example, Pick’s disease, Alzheimer’s disease, Korsakoff’s disease)  
Q. Organ storage  
R. Organ transplantation  
S. Pulmonary emphysema  
T. Senility  
U. Sickle cell anemia  
V. Skin burns (thermal)  
W. Systemic aerobic infection  
X. Tetanus

**Documentation Required:**

- Documentation supporting the criteria listed above  
- Physician Progress note for each date of service, if procedure code indicates the physician was present during treatment

**Rationale:**

Hyperbaric oxygen therapy has been shown to be effective in improving tissue viability for certain conditions and is the standard of care for several conditions such as acute carbon monoxide poisoning and decompression sickness. The use of hyperbaric oxygen therapy has become customary for individuals with Wagner 3 or higher diabetic wounds unresponsive to standard wound care.

The Undersea and Hyperbaric Medical Society recently revised their recommendation for treatment of idiopathic sudden sensorineural hearing loss. Patients with profound to moderate hearing loss (≥41 dB) who are treated within 2 weeks of the onset of symptoms appear to obtain the best outcomes, although some benefit may be seen up to 3 months after onset.

Hyperbaric oxygen therapy has been proposed as a treatment for a variety of other conditions, but at this time, there is insufficient evidence in the published, peer-reviewed scientific literature of randomized controlled trials addressing the efficacy, superiority over other treatments, or long term outcomes of HBOT in the treatment of conditions such as arthritis, stroke, senility, or anemia.

**References:**

Effective date: 06/19/06. Available at: www.cms.gov/mcd/index_list.asp?list_type=ncd. Accessed: 16 May 2014


6. MCG™ Ambulatory Care 19th Edition. ACGA-0250 Hyperbaric Oxygen


Approved by the Medical Director