



MEDICAL POLICY

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Subject: Hyperbaric Oxygen Therapy

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. 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.

Indications of Coverage:

Hyperbaric oxygen therapy is considered medically necessary when at least one of the following conditions is documented:

Acute carbon monoxide intoxication

Decompression sickness

Gas embolism

Gas gangrene

Treatment of crush injuries or severed limbs

Progressive necrotizing infections (necrotizing fasciitis)

Acute peripheral arterial insufficiency

Acute traumatic peripheral ischemia when loss of function, limb, or life is threatened

Preparation and preservation of compromised skin grafts (not for primary management of wounds)

Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management

Osteoradionecrosis (when the hyperbaric oxygen therapy is used in conjunction with conventional treatment)

Soft tissue radionecrosis (when the hyperbaric oxygen therapy is used in conjunction with conventional treatment)

Cyanide poisoning

Actinomycosis (when the hyperbaric oxygen therapy is used in conjunction with conventional therapy when the disease process is refractory to antibiotics and surgical treatment)

Diabetic wounds of the lower extremities in patients who meet all of the following:

Patient has type I or type II diabetes and has a lower extremity wound that is due to diabetes

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

The hyperbaric oxygen therapy is used in conjunction with standard wound care

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). 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.

CPT code 99183 is not separately reimbursable without documentation that the physician was present during the treatment (this requirement is included in the CPT Manual definition of this code). This must include a signed physician note for each treatment date.

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

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:

Cutaneous, decubitus, and stasis ulcers

Chronic peripheral vascular insufficiency

Anaerobic septicemia and infection other than clostridial

Skin burns (thermal)

Senility

Myocardial infarction

Cardiogenic shock

Sickle cell anemia

Acute thermal and chemical pulmonary damage (for example, smoke inhalation with pulmonary insufficiency)

Acute or chronic cerebral vascular insufficiency

Hepatic necrosis

Aerobic septicemia

Nonvascular causes of chronic brain syndrome (for example, Pick's disease, Alzheimer's disease, Korsakoff's disease)

Tetanus

Systemic aerobic infection

Organ transplantation

Organ storage

Pulmonary emphysema

Anemia

Multiple Sclerosis

Arthritic diseases

Acute cerebral edema

Documentation Required:

Documentation supporting the criteria listed above

Rationale:

This guideline is based on the Medicare National Coverage Determination. 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 with Wagner 3 or higher diabetic wounds unresponsive to standard wound care. Hyperbaric oxygen therapy has been proposed as a treatment for a variety of other conditions, but at this time, there

are few controlled clinical trials documenting the effectiveness of this treatment for conditions such as arthritis, stroke, senility, or anemia.

References: Center for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD): Hyperbaric Oxygen Therapy. NCD 20.29. Baltimore, MD. Effective date: 06/19/06. Available at: www.cms.gov/mcd/index_list.asp?list_type=ncd. Accessed: 11 Mar 11.

Family Practice Notebook. Wagner ulcer classification. 24 Jan 07. Available at: www.fpnotebook.com/Surgery/Exam/WgnrUlcrlClsfctn.htm. Accessed: 11 Mar 11.

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Approved by the Medical Director