

## HYPERBARIC OXYGEN THERAPY

Effective Date: September 1, 2007

Review Dates: 1/93, 12/99, 12/01, 11/02, 11/03,  
11/04, 10/05, 10/06, 6/07, 6/08, 6/09, 6/10, 6/11, 6/12,  
6/13, 5/14, 5/15, 5/16

Date of Origin: June 30, 1988

Status: Current

## I. POLICY/CRITERIA

A. Hyperbaric Oxygen Therapy (HBOT) for non-wound related indications is a covered benefit for the conditions listed below. It should not be a replacement for other standard successful therapeutic measures.

- Acute carbon monoxide intoxication
- Decompression illness
- Gas embolism
- Acute peripheral artery insufficiency
- Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management
- Osteoradionecrosis as an adjunct to conventional treatment
- Soft tissue radionecrosis as an adjunct to conventional treatment
- Cyanide poisoning
- Actinomycosis, only as an adjunct to conventional therapy when the disease process is refractory to antibiotics and surgical treatment

## B. Wound Therapy

1. The use of Systemic Hyperbaric Oxygen Therapy is covered for **initial therapy** as follows:
  - a. Preparation and preservation of compromised skin grafts (not for primary management of wounds)
    - Acute traumatic peripheral ischemia
    - Crush injuries and suturing of severed limbs
    - Progressive necrotizing infections (necrotizing fasciitis)
    - Gas gangrene
2. For the following indications HBOT is only covered as **adjunctive therapy after** there are no measurable signs of healing for at **least 30-days of treatment with standard wound therapy** and must be **used with** standard wound therapy.
  - a. Diabetic wounds of the lower extremities in patients who meet the following three criteria:
    1. Patient has type 1 or type 2 diabetes and has a lower extremity wound that is due to diabetes;

2. Patient has a wound classified as Wagner grade III or higher; *and*
  3. Patient has failed an adequate course of standard wound therapy
- C. Topical Hyperbaric Oxygen Therapy is considered investigational and is not a covered benefit. There is lack of evidence to demonstrate that topical hyperbaric oxygen therapy accelerates wound healing, whether alone or as an adjunct to standard wound care.

**II. MEDICAL NECESSITY REVIEW**

- Required                       Not Required                       Not Applicable

**III. APPLICATION TO PRODUCTS**

*Coverage is subject to member’s specific benefits. Group specific policy will supersede this policy when applicable.*

- ❖ **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ❖ **POS:** *This policy applies to insured POS plans.*
- ❖ **PPO:** *This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*
- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS); if a coverage determination has not been adopted by CMS, this policy applies.*
- ❖ **MEDICAID/HEALTHY MICHIGAN PLAN:** *For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_42542\\_42543\\_42546\\_42551-159815--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html). If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: [http://www.michigan.gov/mdch/0,1607,7-132-2945\\_5100-87572--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html), the Michigan Medicaid Provider Manual will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.*

**IV. DESCRIPTION:**

Hyperbaric oxygen therapy is a technique of delivering higher pressures of oxygen to the tissues either systemically or topically.

In systemic hyperbaric oxygen therapy, the patient is entirely enclosed in a pressure chamber and breathes oxygen at a pressure greater than one atmosphere. This

technique relies on the systemic circulation to deliver highly oxygenated blood to the target site, typically a wound, but can also be used to treat systemic illness such as air or gas embolism, carbon monoxide poisoning, and gas gangrene.

Topical hyperbaric oxygen therapy is a technique of delivering 100% oxygen in a limb-encasing device 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 local cellular oxygen tension to promote wound healing. There is lack of literature and evidence to support this hypothesis.

## V. CODING INFORMATION

### **Revenue code:**

0413 Hyperbaric Oxygen Therapy for Outpatient

### **CPT/HCPCS Codes:**

99183 Physician attendance and supervision of hyperbaric oxygen therapy, per session.

G0277 Hyperbaric oxygen under pressure, full body chamber, per 30 minute interval

### **Not Covered:**

A4575 Topical hyperbaric oxygen chamber, disposable

E0446 Topical oxygen delivery system, not otherwise specified, includes all supplies and accessories

**ICD-10 Codes** that are covered for these procedures when criteria are met:

- Acute carbon monoxide intoxication  
T58.01xA – T58.94xS Toxic effect of carbon monoxide
- Decompression illness  
T70.29xS Other effects of high altitude  
T70.3xxA – T70.3xxS Caisson disease [decompression sickness]  
T70.9xxA - T70.9xxS Effect of air pressure and water pressure, unspecified
- Gas embolism  
T79.0xxA - T79.0xxS Air embolism (traumatic)  
T80.0xxA - T80.0xxS Air embolism following infusion, transfusion and therapeutic injection, initial encounter
- Acute peripheral artery insufficiency  
I74.2 – I74.5 Embolism and thrombosis of arteries  
I70.231 – I70.249 Atherosclerosis of native arteries of leg with ulceration  
I70.331 – I70.349 Atherosclerosis of unspecified type of bypass graft(s) of leg with ulceration  
I70.431 – I70.449 Atherosclerosis of autologous vein bypass graft(s) of leg with ulceration not found  
I70.531 – I70.549 Atherosclerosis of nonautologous biological bypass graft(s) of leg with ulceration

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|---|--|
| I70.631 – I70.649   | Atherosclerosis of nonbiological bypass graft(s) of leg with ulceration  |
| I70.731 – I70.769   | Atherosclerosis of other type of bypass graft(s) of extremity with ulceration/gangrene   |
| L97.101 – L97.929   | Non-pressure chronic ulcer of lower limb   |
| • Chronic refractory osteomyelitis<br>M86.30 – M86.69   | Chronic osteomyelitis  |
| • Osteoradionecrosis<br>Soft tissue radionecrosis as an adjunct to conventional treatment<br>T66.xxxA - T66.xxxS<br>M27.8<br>L59.9  | Radiation sickness, unspecified<br>Other specified diseases of jaws<br>Disorder of the skin and subcutaneous tissue related to radiation, unspecified  |
| • Cyanide poisoning<br>T57.3x1A – T57.3x4S<br>T65.0x1A – T65.0x4S   | Toxic effect of hydrogen cyanide, undetermined<br>Toxic effect of cyanides, accidental (unintentional)   |
| • Actinomycosis<br>A42.0 – A42.0<br>A43.0 – A43.9<br>L08.1  | Actinomycosis<br>Nocardiosis<br>Erythrasma   |
| • Preparation and preservation of compromised skin grafts<br>T86.820 – T86.829  | Skin graft rejection   |
| • Acute traumatic peripheral ischemia<br>Crush injuries and suturing of severed limbs<br>S07.0xxA – S07.9xxS<br>S17.0xxA – S17.9xxS<br>S28.0xxA – S28.0xxS<br>S35.511A – S35.513S<br>S38.001A - S38.1xxS<br><br>S45.001A – S45.299S<br>S47.1xxA – S47.9xxS<br>S57.00xA - S57.82xS<br>S67.00xA – S67.92xS<br>S75.001A – S75.099S<br>S77.00xA – S77.22XS<br>S85.001A - S85.189S<br>S87.00xA – S87.82xS<br>S97.00xA – S97.82xS | Crushing injury of head<br>Crushing injury of neck<br>Crushed injury of chest<br>Injury of iliac artery<br>Crushing injury of abdomen, lower back, pelvis and external genitals<br>Injury of axillary or brachial blood vessels<br>Crushing injury of shoulder and upper arm<br>Crushing injury of arm<br>Crushing injury of wrist, hand and fingers<br>Injury of femoral artery<br>Crushing injury of hip and thigh<br>Injury of lower leg blood vessels<br>Crushing injury of lower leg<br>Crushing injury of ankle and foot |
| T87.0x1 – T87.1x9   | Complications peculiar to reattachment and amputation  |
| • Progressive necrotizing infections (necrotizing fasciitis)  |  |

M72.6	Necrotizing fasciitis
M87.00 – M87.9	Idiopathic aseptic necrosis of bone
• Gas gangrene	
A48.0	Gas gangrene
• Diabetic wounds of the lower extremities	
E08.50 – E08.59	Diabetes mellitus due to underlying condition with circulatory complications
E09.50 – E09.59	Drug or chemical induced diabetes mellitus with circulatory complications
E10.51 – E10.59	Type 1 diabetes mellitus with circulatory complications
E10.621	Type 1 diabetes mellitus with foot ulcer
E10.622	Type 1 diabetes mellitus with other skin ulcer
E10.628	Type 1 diabetes mellitus with other skin complications
E10.69	Type 1 diabetes mellitus with other specified complication
E11.51 – E11.59	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene
E11.621	Type 2 diabetes mellitus with foot ulcer
E11.622	Type 2 diabetes mellitus with other skin ulcer
E11.628	Type 2 diabetes mellitus with other skin complications
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma
E13.51 – E13.59	Other specified diabetes mellitus with circulatory complications
E13.621	Other specified diabetes mellitus with foot ulcer
E13.622	Other specified diabetes mellitus with other skin ulcer
E13.628	Other specified diabetes mellitus with other skin complications
L88	Pyoderma gangrenosum
L08.1	Erythema

**Coverage for Medicare members:** This policy does not apply to Medicare members.

## VI. REFERENCES

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