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 (O₂) at greater than one atmosphere pressure. Either a mono-place chamber pressurized with pure O₂ or a larger multi-place chamber pressurized with compressed air where the patient receives pure O₂ 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.

Topical hyperbaric oxygen chambers (A4575) are non-covered.

Topical oxygen delivery systems (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
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
23. Retinal Artery Occlusion
24. Limb specific hyperbaric oxygen pressurization
25. Tinnitus

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

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

ICD-10 CODES
A42.0-A42.9  Actinomycosis
A48.0  Gas gangrene
B36.0-B36.9  Other superficial mycoses
B37.0-B37.9  Candidiasis
B46.0-B46.9  Zygomycosis
B48.0-B48.8  Other mycoses, not elsewhere classified
B49  Unspecified mycosis
D62  Acute posthemorrhagic anemia
E08.00-E11.9  Diabetes mellitus
E13.00-E13.9  Other specified diabetes mellitus
G06.0  Intracranial abscess and granuloma
H34.10-H34.13  Central retinal artery occlusion
H70.201-H70.229  Petrositis
I73.89  Other specified peripheral vascular diseases
I73.9  Peripheral vascular disease, unspecified
I74.2-I74.9  Embolism and thrombosis of arteries (upper/lower extremities, iliac artery)
I96  Gangrene, not elsewhere classified
I99.9  Unspecified disorder of circulatory system
K62.7  Radiation proctitis
L08.0-L08.9  Other local infections of skin and subcutaneous tissue
L59.8-L59.9  Other disorders of the skin and subcutaneous tissue related to radiation
L88  Pyoderma gangrenosum
L89.000-L89.95  Pressure ulcer
L97.101-L97.929  Non-pressure chronic ulcer of lower limb, not elsewhere classified
L98.411-L98.499  Non-pressure chronic ulcer of skin, not elsewhere classified
M27.2  Inflammatory conditions of jaws
M72.6  Necrotizing fasciitis
M79.9  Soft tissue disorder, unspecified
M79.A11-M79.A9  Nontraumatic compartment syndrome
M86.30-M86.69  Chronic osteomyelitis
M86.8X0-M86.8X9  Other osteomyelitis
M86.9  Osteomyelitis, unspecified
N30.40-N30.41  Irradiation cystitis
S01.00XS-S01.95XS  Open wound of head [range with 7th character S]
S07.0XXA-S07.9XXS  Crushing injury of head
S11.011S-S11.95XS  Open wound of neck [range with 7th character S]
S17.0XXA-S17.9XXS  Crushing injury of neck
S21.001S-S21.95XS  Open wound of thorax [range with 7th character S]
S28.0XXA-S28.0XXS  Crushed chest
S31.000S-S31.839S  Open wound of abdomen, lower back, pelvis and external genitals [range with 7th character S]
S38.001A-S38.1XXS  Crushing injury of abdomen, lower back, pelvis and external genitals
S41.001S-S41.159S  Open wound of shoulder and upper arm [range with 7th character S]
S45.001A-S45.099S  Injury of axillary artery
S45.801A-S45.999S  Unspecified injury of other blood vessels at shoulder and upper arm level
S47.1XXA-S47.9XXS  Crushing injury of shoulder and upper arm
S51.001S-S51.859S  Open wound of elbow and forearm [range with 7th character S]
T20.20XA-T20.29XS  Burn of second degree of head, face, and neck
T20.30XA-T20.39XS  Burn of third degree of head, face, and neck
T21.20XA-T21.29XS  Burn of second degree of trunk
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>T21.30XA-T21.39XS</td>
<td>Burn of third degree of trunk</td>
</tr>
<tr>
<td>T22.20XA-T22.299S</td>
<td>Burn of second degree of shoulder and upper limb, except wrist and hand</td>
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<tr>
<td>T22.30XA-T22.399S</td>
<td>Burn of third degree of shoulder and upper limb, except wrist and hand</td>
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<tr>
<td>T23.201A-T23.299S</td>
<td>Burn of second degree of wrist and hand</td>
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<td>T23.301A-T23.399S</td>
<td>Burn of third degree of wrist and hand</td>
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<tr>
<td>T24.201A-T24.299S</td>
<td>Burn of second degree of lower limb, except ankle and foot</td>
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<tr>
<td>T24.301A-T24.399S</td>
<td>Burn of third degree of lower limb, except ankle and foot</td>
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<tr>
<td>T25.211A-T25.299S</td>
<td>Burn of second degree of ankle and foot</td>
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<tr>
<td>T25.311A-T25.399S</td>
<td>Burn of third degree of ankle and foot</td>
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<tr>
<td>T31.0-T31.99</td>
<td>Burns classified according to extent of body surface involved</td>
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<tr>
<td>T57.3X1A-T57.3X4S</td>
<td>Toxic effect of hydrogen cyanide</td>
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<td>T58.01XA-T58.94XS</td>
<td>Toxic effect of carbon monoxide</td>
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<tr>
<td>T65.0X1A-T65.0X4S</td>
<td>Toxic effect of cyanides</td>
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<td>T66.XXXA-T66.XXXS</td>
<td>Radiation sickness, unspecified</td>
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<tr>
<td>T70.3XXA-T70.3XXS</td>
<td>Caisson disease [decompression sickness]</td>
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<tr>
<td>T79.0XXA-T79.0XXS</td>
<td>Air embolism (traumatic)</td>
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<tr>
<td>T79.A0XA-T79.A0XS</td>
<td>Compartment syndrome, unspecified</td>
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<tr>
<td>T79.A11A-T79.A9XS</td>
<td>Traumatic compartment syndrome</td>
</tr>
<tr>
<td>T86.820-T86.829</td>
<td>Complications of skin graft (allograft)(autograft)</td>
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</tbody>
</table>

**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.

**11/13/18:** Added 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/](http://jfs.ohio.gov/)
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets
Industry Standard Review
Hayes, Inc.