

## Hyperbaric Oxygen Therapy (HBOT)

Policy Number: PG0205  
Last Review: 05/01/2024

HMO AND PPO  
ELITE (MEDICARE ADVANTAGE)  
MARKETPLACE

### GUIDELINES:

- This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder terms, conditions, exclusions, and limitations contract. It does not constitute a contract or guarantee regarding coverage or reimbursement/payment. Self-Insured group specific policy will supersede this general policy when group supplementary plan document or individual plan decision directs otherwise.
- Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards.
- This medical policy is solely for guiding medical necessity and explaining correct procedure reporting used to assist in making coverage decisions and administering benefits.

### SCOPE:

- Professional
- Facility

### 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:

**Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans**

**Hyperbaric oxygen therapy (HBOT) (99183 & G0277) does not require prior authorization when the coverage criteria indicated below are met. and the ICD-10 diagnosis below is indicated.**

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

**Topical oxygen delivery systems (E0446) are non-covered.**

**COVERAGE CRITERIA:**

**Paramount Commercial Insurance Plans**

Hyperbaric Oxygen Therapy (HBOT) is covered for ICD-10 diagnoses codes as listed below supporting the coverage criteria indicated below.

**Elite (Medicare Advantage) Plans**

Hyperbaric Oxygen Therapy (HBOT) is covered for ICD-10 diagnoses codes as listed in CMS LCD Article, may not be all-inclusive, A56431.

**Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans**

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 radio-necrosis 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 (defined as at least 20% reduction in wound surface area) have not been demonstrated within any 30-day period of treatment.

**Non-Coverage (May not be an all-inclusive list)**

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. Cognitive impairment (e.g., senility, senile dementia)
6. Myocardial infarction
7. Cardiogenic shock
8. Sick 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 and storage
17. Pulmonary emphysema
18. Exceptional blood loss anemia
19. Multiple Sclerosis
20. Arthritic Diseases
21. 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.

<b>CPT CODE</b>	
<b>99183</b>	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
<b>ICD-10 CODES</b>	
<b>A42.0-A42.9</b>	Actinomycosis
<b>A48.0</b>	Gas gangrene
<b>B36.0-B36.9</b>	Other superficial mycoses
<b>B37.0-B37.9</b>	Candidiasis

<b>B46.0-B46.9</b>	Zygomycosis
<b>B48.0-B48.8</b>	Other mycoses, not elsewhere classified
<b>B49</b>	Unspecified mycosis
<b>D62</b>	Acute posthemorrhagic anemia
<b>E08.00-E11.9</b>	Diabetes mellitus
<b>E13.00-E13.9</b>	Other specified diabetes mellitus
<b>G06.0</b>	Intracranial abscess and granuloma
<b>H34.10-H34.13</b>	Central retinal artery occlusion
<b>H90.3-H90.A32</b>	Sensorineural hearing loss
<b>H70.201-H70.229</b>	Petrositis
<b>I73.89</b>	Other specified peripheral vascular diseases
<b>I73.9</b>	Peripheral vascular disease, unspecified
<b>I74.2-I74.9</b>	Embolism and thrombosis of arteries (upper/lower extremities, iliac artery)
<b>I96</b>	Gangrene, not elsewhere classified
<b>I99.9</b>	Unspecified disorder of circulatory system
<b>K62.7</b>	Radiation proctitis
<b>L08.0-L08.9</b>	Other local infections of skin and subcutaneous tissue
<b>L59.8-L59.9</b>	Other disorders of the skin and subcutaneous tissue related to radiation
<b>L88</b>	Pyoderma gangrenosum
<b>L89.000-L89.95</b>	Pressure ulcer
<b>L97.101-L97.929</b>	Non-pressure chronic ulcer of lower limb, not elsewhere classified
<b>L98.411-L98.499</b>	Non-pressure chronic ulcer of skin, not elsewhere classified
<b>M27.2</b>	Inflammatory conditions of jaws
<b>M72.6</b>	Necrotizing fasciitis
<b>M79.9</b>	Soft tissue disorder, unspecified
<b>M79.A11-M79.A9</b>	Nontraumatic compartment syndrome
<b>M86.30-M86.69</b>	Chronic osteomyelitis
<b>M86.8X0-M86.8X9</b>	Other osteomyelitis
<b>M86.9</b>	Osteomyelitis, unspecified
<b>N30.40-N30.41</b>	Irradiation cystitis
<b>S01.00XS-S01.95XS</b>	Open wound of head [range with 7 <sup>th</sup> character S]
<b>S07.0XXA-S07.9XXS</b>	Crushing injury of head
<b>S11.011S-S11.95XS</b>	Open wound of neck [range with 7 <sup>th</sup> character S]
<b>S17.0XXA-S17.9XXS</b>	Crushing injury of neck
<b>S21.001S-S21.95XS</b>	Open wound of thorax [range with 7 <sup>th</sup> character S]
<b>S28.0XXA-S28.0XXS</b>	Crushed chest
<b>S31.000S-S31.839S</b>	Open wound of abdomen, lower back, pelvis, and external genitals [range with 7 <sup>th</sup> character S]
<b>S38.001A-S38.1XXS</b>	Crushing injury of abdomen, lower back, pelvis, and external genitals
<b>S41.001S-S41.159S</b>	Open wound of shoulder and upper arm [range with 7 <sup>th</sup> character S]
<b>S45.001A-S45.099S</b>	Injury of axillary artery
<b>S45.801A-S45.999S</b>	Unspecified injury of other blood vessels at shoulder and upper arm level
<b>S47.1XXA-S47.9XXS</b>	Crushing injury of shoulder and upper arm
<b>S51.001S-S51.859S</b>	Open wound of elbow and forearm [range with 7 <sup>th</sup> character S]
<b>T20.20XA-T20.29XS</b>	Burn of second degree of head, face, and neck
<b>T20.30XA-T20.39XS</b>	Burn of third degree of head, face, and neck
<b>T21.20XA-T21.29XS</b>	Burn of second degree of trunk
<b>T21.30XA-T21.39XS</b>	Burn of third degree of trunk
<b>T22.20XA-T22.299S</b>	Burn of second degree of shoulder and upper limb, except wrist and hand
<b>T22.30XA-T22.399S</b>	Burn of third degree of shoulder and upper limb, expect wrist and hand
<b>T23.201A-T23.299S</b>	Burn of second degree of wrist and hand
<b>T23.301A-T23.399S</b>	Burn of third degree of wrist and hand

<b>T24.201A-T24.299S</b>	Burn of second degree of lower limb, except ankle and foot
<b>T24.301A-T24.399S</b>	Burn of third degree of lower limb, except ankle and foot
<b>T25.211A-T25.299S</b>	Burn of second degree of ankle and foot
<b>T25.311A-T25.399S</b>	Burn of third degree of ankle and foot
<b>T31.0-T31.99</b>	Burns classified according to extent of body surface involved
<b>T57.3X1A-T57.3X4S</b>	Toxic effect of hydrogen cyanide
<b>T58.01XA-T58.94XS</b>	Toxic effect of carbon monoxide
<b>T65.0X1A-T65.0X4S</b>	Toxic effect of cyanides
<b>T66.XXXA-T66.XXXS</b>	Radiation sickness, unspecified
<b>T70.3XXA-T70.3XXS</b>	Caisson disease [decompression sickness]
<b>T79.0XXA-T79.0XXS</b>	Air embolism (traumatic)
<b>T79.A0XA-T79.A0XS</b>	Compartment syndrome, unspecified
<b>T79.A11A-T79.A9XS</b>	Traumatic compartment syndrome
<b>T86.820-T86.829</b>	Complications of skin graft (allograft)(autograft)

**REVISION HISTORY EXPLANATION: ORIGINAL EFFECTIVE DATE: 01/01/2013**

Date	Explanation & Changes
10/12/2013	<ul style="list-style-type: none"> <li>ICD-10 Codes added from ICD-9 conversion. Policy reviewed and updated to reflect most current clinical evidence</li> <li>Approved by Medical Policy Steering Committee as revised</li> </ul>
03/10/2015	<ul style="list-style-type: none"> <li>Removed deleted code C1300 and added new code G0277</li> <li>Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee</li> </ul>
02/14/2017	<ul style="list-style-type: none"> <li>Removed ICD-9 &amp; ICD-10 codes</li> <li>Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee</li> </ul>
11/13/2018	<ul style="list-style-type: none"> <li>Added ICD-10 codes</li> <li>Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee</li> </ul>
12/16/2020	<ul style="list-style-type: none"> <li>Medical policy placed on the new Paramount Medical Policy Format</li> </ul>
02/13/2023	<ul style="list-style-type: none"> <li>Medical Policy updated to reflect Medicaid coverage to Anthem as of 02/01/2023</li> </ul>
05/01/2023	<ul style="list-style-type: none"> <li>Medical Policy updated to reflect DME limits calculated by CMS criteria/guidelines</li> <li>Policy reviewed and updated to reflect the most current clinical evidence</li> </ul>
05/01/2024	<ul style="list-style-type: none"> <li>Medical Policy reviewed and updated to reflect the most current clinical evidence</li> <li>Added documentation indicating the diagnosis required/supporting coverage for each of the product lines - Paramount Commercial Insurance Plans as listed in the medical policy and Elite (Medicare Advantage) Plans as listed in the CMS LCD</li> </ul>

**Paramount reserves the right to review and revise our policies periodically when necessary. When there is an update, we will publish the most current policy to <https://www.paramounthealthcare.com/providers/medical-policies/policy-library>**

**REFERENCES/RESOURCES**

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals> <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs>

American Medical Association, *Current Procedural Terminology (CPT®)* and associated publications and services <https://www.ama-assn.org/amaone/cpt-current-procedural-terminology>

Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets <https://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/HCPCS-Quarterly-PG0205-05/01/2024>

Update

U.S. Preventive Services Task Force, <https://www.uspreventiveservicestaskforce.org/uspstf/>  
Industry Standard Review

Hayes, Inc., <https://www.hayesinc.com/>

Industry Standard Review

## Medical Policy History – Prior to 04/01/2024

### **Paramount Commercial Insurance Plans, Medicare Advantage Plans, and Paramount Advantage Medicaid**

Hyperbaric oxygen therapy (HBOT) (99183 & G0277) does not require prior authorization when the coverage criteria indicated below is met and the ICD-10 diagnosis below is indicated.

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

Topical oxygen delivery systems (E0446) are non-covered.

#### **COVERAGE CRITERIA**

Paramount Commercial Insurance Plans, Medicare Advantage Plans, and Paramount Advantage Medicaid

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

16. Acute carbon monoxide intoxication
17. Decompression illness
18. Acute air or gas embolism
19. Gas gangrene (e.g., Clostridial myositis and myonecrosis)
20. 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.
21. 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.
22. Progressive necrotizing infections (necrotizing fasciitis)
23. Acute peripheral arterial insufficiency
24. Preparation and preservation of compromised skin grafts (not for primary management of wounds)
25. Chronic refractory osteomyelitis, unresponsive to conventional medical and surgical management
26. Osteoradionecrosis as an adjunct to conventional treatment
27. Radiation necrosis (including brain radionecrosis, myoradionecrosis, osteoradionecrosis (including jaw osteonecrosis), and other soft tissue radiation necrosis (including breast, chest wall, head and neck, and pelvic organs (e.g., bladder and rectum)
28. Radiation-induced hemorrhagic cystitis
29. Prophylaxis and treatment of radiation necrosis of the of mandible in members undergoing dental surgery of a radiated jaw, where the extraction site is anticipated to be within the XRT portal, and where HBOT is delivered according to established (Marx) protocol
30. Radiation proctitis
31. Cyanide poisoning (only with co-existing carbon monoxide poisoning)
32. Actinomycosis, only as an adjunct to conventional therapy when the disease process is refractory to antibiotics and surgical treatment
33. Central retinal artery occlusion (CRAO)
34. Idiopathic sudden sensorineural hearing loss (SSHL) – SSHL greater than 30 dB affecting greater than 3 consecutive frequencies of pure-tone thresholds when member has failed oral and intra-tympanic steroids, and HBOT is initiated within 3 months after onset
35. Pneumatosis cystoides intestinalis
36. Severe blood loss anemia only when there is overwhelming blood loss and transfusion is impossible because there is no suitable blood available, or religion does not permit transfusions (three or four times a day until there is replacement of red blood cells by regeneration or transfusion)
37. Acute thermal burns: deep second degree or third degree in nature
38. 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 (defined as at least 20% reduction in wound surface area) have not been demonstrated within any 30-day period of treatment.

**Non-Coverage (May not be an all-inclusive list)**

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

22. Cutaneous, decubitus, and stasis ulcers
23. Chronic peripheral vascular insufficiency
24. Anaerobic septicemia and infection other than clostridial
25. Skin burns (thermal)
26. Cognitive impairment (e.g., senility, senile dementia)
27. Myocardial infarction
28. Cardiogenic shock
29. Sick cell anemia
30. Acute thermal and chemical pulmonary damage, i.e., smoke inhalation with pulmonary insufficiency
31. Acute or chronic cerebral vascular insufficiency
32. Liver diseases (e.g., hepatic artery thrombosis hepatic fibrosis, hepatic necrosis, hepatitis, hepatocellular carcinoma, non-alcoholic steatohepatitis, sepsis-induced liver injury)
33. Aerobic septicemia
34. Nonvascular causes of chronic brain syndrome (Pick's disease, Alzheimer's disease, Korsakoff's disease)
35. Tetanus
36. Systemic aerobic infection
37. Organ transplantation and storage
38. Pulmonary emphysema
39. Multiple Sclerosis
40. Arthritic Diseases
41. Acute cerebral edema
42. Limb specific hyperbaric oxygen pressurization
43. Tinnitus
44. Osteonecrosis of the jaw when the cause is not radiation necrosis (osteoradionecrosis);
45. Preoperative treatment for jaw osteomyelitis
46. Traumatic brain injury
47. Parkinson's disease
48. Anorectal conditions (e.g., fissures and fistulas)
49. Lupus vasculitis

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.