EFFECTIVE DATE: 10|01|2019
POLICY LAST REVIEWED: 04|15|2026

OVERVIEW

Hyperbaric oxygen therapy (HBOT) involves breathing 100% oxygen at pressures between 1.5 and 3.0 atmospheres. It is generally applied systemically with the patient inside a hyperbaric chamber. HBOT can also be applied topically; ie, the body part to be treated is isolated (eg, in an inflatable bag and exposed to pure oxygen). HBOT has been investigated for various conditions that have potential to respond to increased oxygen delivery to tissue.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Medicare Advantage Plans and Commercial Products

Hyperbaric oxygen therapy (HBOT) is medically necessary when filed with a covered indication.

Hyperbaric oxygen therapy (HBOT) is not covered for Medicare Advantage Plans and not medically necessary for Commercial Products for all other indications as the evidence is insufficient to determine the effects of the technology on health outcomes.

Medicare Advantage Plans

Topical hyperbaric oxygen therapy is not covered as the evidence is insufficient to determine the effects of the technology on health outcomes.

Commercial Products

Topical hyperbaric oxygen therapy is not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate section of the Benefit Booklet, Evidence of Coverage, Subscriber Agreement for applicable medical treatment coverage.

BACKGROUND

Hyperbaric Oxygen Therapy

Hyperbaric oxygen therapy (HBOT) is a technique for delivering higher pressures of oxygen to tissue. Two methods of administration are available: topical and systemic.

Topical Hyperbaric Oxygen Therapy

Topical hyperbaric 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. 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 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.

Systemic Hyperbaric Oxygen Therapy

In systemic or large hyperbaric oxygen chambers, the patient is entirely enclosed in a pressure chamber and breathes oxygen at a pressure greater than 1 atmosphere (the pressure of oxygen at sea level). Thus, this technique relies on systemic circulation to deliver highly oxygenated blood to the target site, typically a wound. Systemic HBOT can be used to treat systemic illness, such as air or gas embolism, carbon monoxide poisoning, or clostridial gas gangrene. Treatment may be carried out either in a monoplace chamber pressurized with pure oxygen or in a larger, multiplace chamber pressurized with compressed air, in which case the patient receives pure oxygen by mask, head tent, or endotracheal tube.

For individuals with wounds, burns or infections who receive topical hyperbaric oxygen therapy (HBOT), the evidence includes a systematic review, case series, and a randomized controlled trial (RCT). Relevant outcomes are overall survival (OS), symptoms, change in disease status, and functional outcomes. The systematic review identified 3 RCTs including patients with sacral pressure ulcers, ischial pressure ulcers, and refractory venous ulcers. All trials reported that healing improved significantly after HBOT than after standard of care. Pooling of results was not possible due to heterogeneity in patient populations and treatment regimens. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with chronic diabetic ulcers who receive systemic HBOT, the evidence includes RCTs and systematic reviews. Relevant outcomes are symptoms and change in disease status. Meta-analyses of RCTs found significantly higher diabetic ulcer healing rates with HBOT than with control conditions. Two of the 3 meta-analyses found that HBOT was associated with a significantly lower rate of major amputation. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with carbon monoxide poisoning who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are OS and symptoms. A meta-analysis in a Cochrane review of low-quality RCT data did not find HBOT to be associated with a significantly lower risk of neurologic deficits after carbon monoxide poisoning. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with radionecrosis, osteoradionecrosis, or treatment of irradiated jaw who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are symptoms and change in disease status. A meta-analysis in a Cochrane review of RCTs found evidence that HBOT improved radionecrosis and osteoradionecrosis outcomes and resulted in better outcomes before tooth extraction in an irradiated jaw. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with chronic refractory osteomyelitis who receive systemic HBOT, the evidence includes case series. Relevant outcomes are symptoms and change in disease status. The case series reported high rates of successful outcomes (no drainage, pain, tenderness, or cellulitis) in patients with chronic refractory osteomyelitis treated with HBOT. However, controlled studies are needed to determine conclusively the impact of HBOT on health outcomes compared with other interventions. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with acute thermal burns who receive systemic HBOT, the evidence includes a systematic review of 2 RCTs. Relevant outcomes are OS, symptoms, and change in disease status. Both RCTs were judged to have poor methodologic quality. Evidence from well-conducted controlled trials is needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with acute surgical and traumatic wounds who receive systemic HBOT, the evidence includes RCTs, controlled nonrandomized studies, and systematic reviews. Relevant outcomes are OS, symptoms, change in disease status, and functional outcomes. There was considerable heterogeneity across the 4 RCTs identified (eg, patient population, comparison group, treatment regimen, outcomes). This heterogeneity

prevented pooling of trial findings and limits the ability to definitively conclude the impact of HBOT on health outcomes for patients with acute surgical and traumatic wounds. Additional evidence from high-quality RCTs is needed. A systematic review of controlled Chinese studies suggests HBOT may increase the survival rate of compromised skin grafts and flaps when initiated within 72 hours; however, risk of bias in the original Chinese publications cannot be evaluated. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with bisphosphonate-related osteonecrosis of the jaw who receive systemic HBOT, the evidence includes an RCT. Relevant outcomes are symptoms and change in disease status. The RCT was unblinded and reported initial benefits at 3-month follow-up; however, there were no significant benefits of HBOT for most health outcomes compared with standard care in the long-term (6 months to 2 years).The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with necrotizing soft tissue infections who receive systemic HBOT, the evidence includes systematic reviews. Relevant outcomes are OS, symptoms, and change in disease status. A Cochrane review did not identify any RCTs. Another systematic review of retrospective cohort studies with methodological limitations did not find consistent benefit of adjunctive HBOT use. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with acute coronary syndrome who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are OS, symptoms, change in disease status, and functional outcomes. A Cochrane review identified 6 RCTs. There were 2 pooled analyses, 1 found significantly lower rates of death with HBOT and the other reported inconsistent results in left ventricular function. Additional RCT data are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with acute ischemic stroke with or without motor dysfunction associated with stroke who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are OS, symptoms, change in disease status, and functional outcomes. Cochrane reviewers could only pool data for a single outcome for acute ischemic stroke (mortality at 3 to 6 months), and for that outcome, there was no significant difference between active and sham HBOT treatments. An RCT found that HBOT combined with DAPT may enhance neurological recovery, and support daily living activities in elderly acute cerebral infarction patients; larger, multicenter studies with standardized HBOT protocols and extended follow-up are needed to confirm these findings. For motor dysfunction, an RCT, which used a crossover design, found better outcomes with HBOT at 2 months than with delayed treatment. However, the trial had a number of methodologic limitations (eg, lack of patient blinding, heterogeneous population, high dropout rate) that make it difficult to evaluate the efficacy of HBOT. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with motor dysfunction associated with stroke who receive systemic HBOT, the evidence includes an RCT. Relevant outcomes are symptoms and functional outcomes. The RCT, which used a crossover design, found better outcomes with HBOT at 2 months than with delayed treatment. However, the trial had a number of methodologic limitations (eg, lack of patient blinding, heterogeneous population, high dropout rate) that make it difficult to evaluate the efficacy of HBOT. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with Bell palsy who receive systemic HBOT, the evidence includes a systematic review. Relevant outcomes are symptoms, change in disease status, and functional outcomes. A Cochrane review did not identify any RCTs meeting selection criteria; the single RCT found did not have a blinded outcome assessment. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with traumatic brain injury who receive systemic HBOT, the evidence includes RCTs and systematic reviews. Relevant outcomes are OS, symptoms, change in disease status, and functional outcomes.

RCTs were heterogeneous regarding intervention protocols, patient populations, and outcomes reported. Systematic reviews conducted pooled analyses only on a minority of the published RCTs, and these findings were inconsistent. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with inflammatory bowel disease who receive systemic HBOT, the evidence includes RCTs, observational studies, and a systematic reviews. Relevant outcomes are symptoms, change in disease status and functional outcomes. RCTs have reported mixed findings in patients with ulcerative colitis, with one study terminated early due to futility. A systematic review including the RCT and observational studies found a high rate of bias in the literature due to attrition and reporting bias. Another systematic review found that HBOT appears to be a safe and effective adjunctive therapy for UC, with potential benefits for CD requiring further investigation. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with idiopathic sudden sensorineural hearing loss who receive systemic HBOT, the evidence includes systematic reviews. Relevant outcomes are symptoms, change in disease status, and functional outcomes. A Cochrane review of RCTs had mixed findings from studies that included individuals with tinnitus. Some outcomes (ie, improvement in hearing of all frequencies, >25% return of hearing) were better with HBOT than with a control intervention, but more than 50% return of hearing did not differ significantly between groups. There was important variability in the patients enrolled in the studies. A subsequent systematic review had similarly limited conclusions due to the inclusion of non-randomized studies. A third review found a higher proportion of patients with hearing recovery with HBOT compared to medical treatment alone, but the analysis was limited to 2 RCTs with methodological limitations. One RCT published subsequent to the systematic reviews found a positive effect of HBOT plus steroid combination therapy on measures of auditory function compared to either HBOT or steroids alone, but other outcomes were not reported and the study had numerous relevance, design, and conduct limitations. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with delayed-onset muscle soreness who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are symptoms and functional outcomes. A Cochrane review of RCTs found worse short-term pain outcomes with HBOT than with control and no difference in longer-term pain or other outcomes (eg, swelling). The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with autism spectrum disorder who receive systemic HBOT, the evidence includes an RCT and systematic reviews. Relevant outcomes are symptoms and functional outcomes. A systematic review reported that HBOT appears promising for reducing core ASD symptoms and enhancing functional outcomes, but further high-quality, multicenter trials are needed to confirm efficacy and establish optimal treatment parameters. A Cochrane review identified a single RCT on HBOT for autism spectrum disorder and this trial did not find significantly better parental-assessed or clinician-assessed outcomes with HBOT compared with sham. A subsequent controlled trial reached the same conclusion. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with cerebral palsy who receive systemic HBOT, the evidence includes 2 RCTs and an observational study. Relevant outcomes are symptoms and functional outcomes. One RCT was stopped early due to futility, and the other did not find significantly better outcomes with HBOT than with a sham intervention. The observational study focused on sleep disorders in children with cerebral palsy and reported improvements with the HBOT treatment. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with vascular dementia who receive systemic HBOT, the evidence includes an RCT and a systematic review. Relevant outcomes are symptoms and functional outcomes. The Cochrane review identified only a single RCT with methodologic limitations. Well-conducted controlled trials are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with radiotherapy adverse events who receive systemic HBOT, the evidence includes RCTs, nonrandomized comparator trials, case series, and systematic reviews. Relevant outcomes are symptoms and functional outcomes. Two systematic reviews included few RCTs and provide limited evidence on the effect of HBOT. Two RCTs had inconsistent findings. One reported no short-term benefit with HBOT, but some benefits 12 months after radiotherapy; the other did not find a significant benefit of HBOT at 12-month follow-up. Another RCT assessed HBOT for radiation-induced cystitis and found significant benefit by some measures but not others. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with idiopathic femoral neck necrosis who receive systemic HBOT, the evidence includes an RCT. Relevant outcomes are symptoms, change in disease status, and functional outcomes. The RCT, which had a small sample, only reported short-term (ie, 6-week) outcomes. Larger well-conducted RCTs reporting longer-term outcomes are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with a migraine who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are symptoms, change in disease status, and functional outcomes. The Cochrane review conducted a pooled analysis including 3 of the 11 trials. Meta-analysis of these 3 RCTs found significantly greater relief of migraine symptoms with HBOT than with a comparator intervention within 45 minutes of treatment. Longer-term data are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with herpes zoster who receive systemic HBOT, the evidence includes an RCT. Relevant outcomes are symptoms and change in disease status. The RCT was unblinded and only reported short-term (ie, 6-week) outcomes. Additional well-conducted RCTs with longer follow-up are needed. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with fibromyalgia who receive systemic HBOT, the evidence includes RCTs. Relevant outcomes are symptoms, change in disease status, and functional outcomes. Only 2 RCTs were identified, and both reported positive effects of HBOT on tender points and pain. However, the trials had relatively small samples and methodologic limitations (eg, quasi-randomization, no or uncertain sham control for a condition with subjective outcomes susceptible to a placebo effect). Moreover, the HBOT protocols varied. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with multiple sclerosis who receive systemic HBOT, the evidence includes RCTs and a systematic review. Relevant outcomes are symptoms and functional outcomes. A Cochrane review of RCTs did not find a significant difference in Expanded Disability Status Scale scores when patients with multiple sclerosis were treated with HBOT versus a comparator intervention. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with cancer and are undergoing chemotherapy who receive systemic HBOT, the evidence includes an RCT and a systematic review. Relevant outcomes are OS and change in disease status. While the systematic review reported improvements in tumor control in patients with head and neck cancer who received HBOT, the adverse events accompanying the treatment (eg, radiation tissue injury, seizures) were significant. The single RCT did not find a significant difference in survival for cancer patients who received HBOT before chemotherapy compared with usual care. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

CODING:

Medicare Advantage Plans and Commercial Products

The following code(s) are medically necessary when filed with a covered ICD-10 Diagnosis Code* listed below:

99183 Physician or other qualified health care professional attendance and supervision of hyperbaric oxygen therapy, per session
G0277 Hyperbaric oxygen under pressure, full body chamber, per 30 minute interval

Note: The covered diagnosis must be filed on the claim line to ensure correct claim processing

*2026 Covered Diagnosis Code List for Hyperbaric Oxygen Therapy

The following HCPCS code(s) are not covered for Medicare Advantage Plans and not medically necessary for Commercial Products:
A4575 Topical hyperbaric oxygen chamber, disposable
E0446 Topical oxygen delivery system, not otherwise specified, includes all supplies and accessories

RELATED POLICIES
Not applicable

PUBLISHED
Provider Update, June 2026
Provider Update, December 2025
Provider Update, October 2024
Provider Update, April 2023
Provider Update, April 2022

REFERENCES

1. Centers for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD) for Hyperbaric Oxygen Therapy (20.29). 2017; https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?ncdid=12&ver=3. Accessed April 7, 2026.
2. The Centers for Medicare and Medicaid Services. Local Coverage Determination (LCD) for *Oxygen and Oxygen Equipment* (L33797): https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33797&ver=50&bc=0. Accessed April 7, 2026.
3. Undersea and Hyperbaric Medical Society. Hyperbaric Oxygen Therapy Indications, 15th Edition. Best Publishing Company (North Palm Beach, FL). 2023.
4. Gornik HL, Aronow HD, Goodney PP, et al. 2024 ACC/AHA/AACVPR/APMA/ABC/SCAI/SVM/SVN/SVS/SIR/VESS Guideline for the Management of Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. Jun 11 2024; 149(24): e1313-e1410. PMID 38743805
5. United States Navy Dive Manual, Revision 7. 2016
6. Sadri RA, Cooper JS. Hyperbaric, complications. NCBI Bookshelf 2017; https://www.ncbi.nlm.nih.gov/books/NBK459191/. Accessed July 7, 2024.
7. U.S. Food and Drug Administration. Hyperbaric Oxygen Therapy: Get the Facts. 2021; https://www.talkingaboutthescience.com/studies/FDA2013.pdf. Accessed December 10, 2025.
8. de Smet GHJ, Kroese LF, Menon AG, et al. Oxygen therapies and their effects on wound healing. Wound Repair Regen. Aug 2017; 25(4): 591-608. PMID 28783878
9. Sharma R, Sharma SK, Mudgal SK, et al. Efficacy of hyperbaric oxygen therapy for diabetic foot ulcer, a systematic review and meta-analysis of controlled clinical trials. Sci Rep. Jan 26 2021; 11(1): 2189. PMID 33500533
10. Kranke P, Bennett MH, Martyn-St James M, et al. Hyperbaric oxygen therapy for chronic wounds. Cochrane Database Syst Rev. Jun 24 2015; 2015(6): CD004123. PMID 26106870
11. Elraiyah T, Tsapas A, Prutsky G, et al. A systematic review and meta-analysis of adjunctive therapies in diabetic foot ulcers. J Vasc Surg. Feb 2016; 63(2 Suppl): 46S-58S.e1-2. PMID 26804368
12. Buckley NA, Juurlink DN, Isbister G, et al. Hyperbaric oxygen for carbon monoxide poisoning. Cochrane Database Syst Rev. Apr 13 2011; 2011(4): CD002041. PMID 21491385

13. Nakajima M, Aso S, Matsui H, et al. Hyperbaric oxygen therapy and mortality from carbon monoxide poisoning: A nationwide observational study. Am J Emerg Med. Feb 2020; 38(2): 225-230. PMID 30797609
14. Bennett MH, Feldmeier J, Hampson NB, et al. Hyperbaric oxygen therapy for late radiation tissue injury. Cochrane Database Syst Rev. Apr 28 2016; 4(4): CD005005. PMID 27123955
15. Borab Z, Mirmanesh MD, Gantz M, et al. Systematic review of hyperbaric oxygen therapy for the treatment of radiation-induced skin necrosis. J Plast Reconstr Aesthet Surg. Apr 2017; 70(4): 529-538. PMID 28081957
16. Ravi P, Vaishnavi D, Gnanam A, et al. The role of hyperbaric oxygen therapy in the prevention and management of radiation-induced complications of the head and neck - a systematic review of literature. J Stomatol Oral Maxillofac Surg. Dec 2017; 118(6): 359-362. PMID 28838774
17. Savvidou OD, Kaspiris A, Bolia IK, et al. Effectiveness of Hyperbaric Oxygen Therapy for the Management of Chronic Osteomyelitis: A Systematic Review of the Literature. Orthopedics. Jul 01 2018; 41(4): 193-199. PMID 30035798
18. Maynor ML, Moon RE, Camporesi EM, et al. Chronic osteomyelitis of the tibia: treatment with hyperbaric oxygen and autogenous microsurgical muscle transplantation. J South Orthop Assoc. 1998; 7(1): 43-57. PMID 9570731
19. Davis JC, Heckman JD, DeLee JC, et al. Chronic non-hematogenous osteomyelitis treated with adjuvant hyperbaric oxygen. J Bone Joint Surg Am. Oct 1986; 68(8): 1210-7. PMID 3771602
20. Chen CE, Ko JY, Fu TH, et al. Results of chronic osteomyelitis of the femur treated with hyperbaric oxygen: a preliminary report. Chang Gung Med J. Feb 2004; 27(2): 91-7. PMID 15095953
21. Chen CE, Shih ST, Fu TH, et al. Hyperbaric oxygen therapy in the treatment of chronic refractory osteomyelitis: a preliminary report. Chang Gung Med J. Feb 2003; 26(2): 114-21. PMID 12718388
22. Chen CY, Lee SS, Chan YS, et al. Chronic refractory tibia osteomyelitis treated with adjuvent hyperbaric oxygen: a preliminary report. Changgeng Yi Xue Za Zhi. Jun 1998; 21(2): 165-71. PMID 9729650
23. Villanueva E, Bennett MH, Wasiak J, et al. Hyperbaric oxygen therapy for thermal burns. Cochrane Database Syst Rev. 2004; 2004(3): CD004727. PMID 15266540
24. Eskes A, Vermeulen H, Lucas C, et al. Hyperbaric oxygen therapy for treating acute surgical and traumatic wounds. Cochrane Database Syst Rev. Dec 16 2013; (12): CD008059. PMID 24343585
25. Dauwe PB, Pulikkottil BJ, Lavery L, et al. Does hyperbaric oxygen therapy work in facilitating acute wound healing: a systematic review. Plast Reconstr Surg. Feb 2014; 133(2): 208e-215e. PMID 24469192
26. Zhou YY, Liu W, Yang YJ, et al. Use of hyperbaric oxygen on flaps and grafts in China: analysis of studies in the past 20 years. Undersea Hyperb Med. 2014; 41(3): 209-16. PMID 24984315
27. Freiberger JJ, Padilla-Burgos R, McGraw T, et al. What is the role of hyperbaric oxygen in the management of bisphosphonate-related osteonecrosis of the jaw: a randomized controlled trial of hyperbaric oxygen as an adjunct to surgery and antibiotics. J Oral Maxillofac Surg. Jul 2012; 70(7): 1573-83. PMID 22698292
28. Levett D, Bennett MH, Millar I. Adjunctive hyperbaric oxygen for necrotizing fasciitis. Cochrane Database Syst Rev. Jan 15 2015; 1(1): CD007937. PMID 25879088
29. Hedetoft M, Bennett MH, Hyldegaard O. Adjunctive hyperbaric oxygen treatment for necrotising soft-tissue infections: A systematic review and meta-analysis. Diving Hyperb Med. Mar 31 2021; 51(1): 34-43. PMID 33761539
30. Bennett MH, Lehm JP, Jepson N. Hyperbaric oxygen therapy for acute coronary syndrome. Cochrane Database Syst Rev. Jul 23 2015; 2015(7): CD004818. PMID 26202854
31. Bennett MH, Weibel S, Wasiak J, et al. Hyperbaric oxygen therapy for acute ischaemic stroke. Cochrane Database Syst Rev. Nov 12 2014; (11): CD004954. PMID 25387992
32. Efrati S, Fishlev G, Bechor Y, et al. Hyperbaric oxygen induces late neuroplasticity in post stroke patients--randomized, prospective trial. PLoS One. 2013; 8(1): e53716. PMID 23335971
33. Holland NJ, Bernstein JM, Hamilton JW. Hyperbaric oxygen therapy for Bell's palsy. Cochrane Database Syst Rev. Feb 15 2012; 2012(2): CD007288. PMID 22336830
34. Wang F, Wang Y, Sun T, et al. Hyperbaric oxygen therapy for the treatment of traumatic brain injury: a meta-analysis. Neurol Sci. May 2016; 37(5): 693-701. PMID 26746238

35. Crawford C, Teo L, Yang E, et al. Is Hyperbaric Oxygen Therapy Effective for Traumatic Brain Injury? A Rapid Evidence Assessment of the Literature and Recommendations for the Field. J Head Trauma Rehabil. 2017; 32(3): E27-E37. PMID 27603765
36. Bennett MH, Trytko B, Jonker B. Hyperbaric oxygen therapy for the adjunctive treatment of traumatic brain injury. Cochrane Database Syst Rev. Dec 12 2012; 12: CD004609. PMID 23235612
37. Hart BB, Weaver LK, Gupta A, et al. Hyperbaric oxygen for mTBI-associated PCS and PTSD: Pooled analysis of results from Department of Defense and other published studies. Undersea Hyperb Med. BIMA 2019; 46(3): 353-383. PMID 31394604
38. mTBI mechanisms of action of HBO2 for persistent post-concussive symptoms. U.S. National Library of Medicine. ClinicalTrials.gov. https://clinicaltrials.gov/ct2/show/NCT01611194. Accessed July 3, 2024.
39. Hart BB, Wilson SH, Churchill S, et al. Extended follow-up in a randomized trial of hyperbaric oxygen for persistent post-concussive symptoms. Undersea Hyperb Med. BIMA 2019; 46(3): 313-327. PMID 31394601
40. Churchill S, Deru K, Weaver LK, et al. Adverse events and blinding in two randomized trials of hyperbaric oxygen for persistent post-concussive symptoms. Undersea Hyperb Med. BIMA 2019; 46(3): 331-340. PMID 31394602
41. Weaver LK, Churchill S, Wilson SH, et al. A composite outcome for mild traumatic brain injury in trials of hyperbaric oxygen. Undersea Hyperb Med. BIMA 2019; 46(3): 341-352. PMID 31394603
42. Hyperbaric oxygen therapy (HBO2) for persistent post-concussive symptoms after mild traumatic brain injury (mTBI) (HOPPS). U.S. National Library of Medicine. ClinicalTrials.gov. https://clinicaltrials.gov/ct2/show/NCT01306968. Updated September 5, 2014. Accessed July 5, 2024.
43. McCurdy J, Siw KCK, Kandel R, et al. The Effectiveness and Safety of Hyperbaric Oxygen Therapy in Various Phenotypes of Inflammatory Bowel Disease: Systematic Review With Meta-analysis. Inflamm Bowel Dis. Mar 30 2022; 28(4): 611-621. PMID 34003289
44. Dulai PS, Buckey JC, Raffals LE, et al. Hyperbaric oxygen therapy is well tolerated and effective for ulcerative colitis patients hospitalized for moderate-severe flares: a phase 2A pilot multi-center, randomized, double-blind, sham-controlled trial. Am J Gastroenterol. Oct 2018; 113(10): 1516-1523. PMID 29453383
45. Dulai PS, Raffals LE, Hudesman D, et al. A phase 2B randomised trial of hyperbaric oxygen therapy for ulcerative colitis patients hospitalised for moderate to severe flares. Aliment Pharmacol Ther. Sep 2020; 52(6): 955-963. PMID 32745306
46. Pagoldh M, Hultgren E, Arnell P, et al. Hyperbaric oxygen therapy does not improve the effects of standardized treatment in a severe attack of ulcerative colitis: a prospective randomized study. Scand J Gastroenterol. Sep 2013; 48(9): 1033-40. PMID 23879825
47. Bennett MH, Kertesz T, Perleth M, et al. Hyperbaric oxygen for idiopathic sudden sensorineural hearing loss and tinnitus. Cochrane Database Syst Rev. Oct 17 2012; 10: CD004739. PMID 23076907
48. Rhee TM, Hwang D, Lee JS, et al. Addition of Hyperbaric Oxygen Therapy vs Medical Therapy Alone for Idiopathic Sudden Sensorineural Hearing Loss: A Systematic Review and Meta-analysis. JAMA Otolaryngol Head Neck Surg. Dec 01 2018; 144(12): 1153-1161. PMID 30267033
49. Joshua TG, Ayub A, Wijesinghe P, et al. Hyperbaric Oxygen Therapy for Patients With Sudden Sensorineural Hearing Loss: A Systematic Review and Meta-analysis. JAMA Otolaryngol Head Neck Surg. Jan 01 2022; 148(1): 5-11. PMID 34709348
50. Eryigit B, Ziylan F, Yaz F, et al. The effectiveness of hyperbaric oxygen in patients with idiopathic sudden sensorineural hearing loss: a systematic review. Eur Arch Otorhinolaryngol. Dec 2018; 275(12): 2893-2904. PMID 30324404
51. Cavaliere M, De Luca P, Scarpa A, et al. Combination of Hyperbaric Oxygen Therapy and Oral Steroids for the Treatment of Sudden Sensorineural Hearing Loss: Early or Late?. Medicina (Kaunas). Oct 10 2022; 58(10). PMID 36295581
52. Bennett M, Best TM, Babul S, et al. Hyperbaric oxygen therapy for delayed onset muscle soreness and closed soft tissue injury. Cochrane Database Syst Rev. Oct 19 2005; 2005(4): CD004713. PMID 16235376

53. Tu P, Halili X, Zhang S, et al. The effectiveness of hyperbaric oxygen therapy in children and adolescents and with autism spectrum disorders: A systematic review and meta-analysis. Prog Neuropsychopharmacol Biol Psychiatry. Mar 20 2025; 137: 111257. PMID 39826608
54. Xiong T, Chen H, Luo R, et al. Hyperbaric oxygen therapy for people with autism spectrum disorder (ASD). Cochrane Database Syst Rev. Oct 13 2016; 10(10): CD010922. PMID 27737490
55. Sampanthavivat M, Singkhwa W, Chaiyakul T, et al. Hyperbaric oxygen in the treatment of childhood autism: a randomised controlled trial. Diving Hyperb Med. Sep 2012; 42(3): 128-33. PMID 22987458
56. Rizzato A, D'Alessandro N, Berenci E, et al. Effect of mild hyperbaric oxygen therapy on children diagnosed with autism. Undersea Hyperb Med. 2018; 45(6): 639-645. PMID 31158930
57. Lacey DJ, Stolfi A, Pilati LE. Effects of hyperbaric oxygen on motor function in children with cerebral palsy. Ann Neurol. Nov 2012; 72(5): 695-703. PMID 23071074
58. Collet JP, Vanasse M, Marois P, et al. Hyperbaric oxygen for children with cerebral palsy: a randomised multicentre trial. HBO-CP Research Group. Lancet. Feb 24 2001; 357(9256): 582-6. PMID 11558483
59. Long Y, Tan J, Nie Y, et al. Hyperbaric oxygen therapy is safe and effective for the treatment of sleep disorders in children with cerebral palsy. Neurol Res. Mar 2017; 39(3): 239-247. PMID 28079475
60. Xiao Y, Wang J, Jiang S, et al. Hyperbaric oxygen therapy for vascular dementia. Cochrane Database Syst Rev. Jul 11 2012; (7): CD009425. PMID 22786527
61. Villeirs L, Tailly T, Ost P, et al. Hyperbaric oxygen therapy for radiation cystitis after pelvic radiotherapy: Systematic review of the recent literature. Int J Urol. Feb 2020; 27(2): 98-107. PMID 31617263
62. Gothard L, Haviland J, Bryson P, et al. Randomised phase II trial of hyperbaric oxygen therapy in patients with chronic arm lymphoedema after radiotherapy for cancer. Radiother Oncol. Oct 2010; 97(1): 101-7. PMID 20605648
63. Oscarsson N, Müller B, Rosén A, et al. Radiation-induced cystitis treated with hyperbaric oxygen therapy (RICH-ART): a randomised, controlled, phase 2-3 trial. Lancet Oncol. Nov 2019; 20(11): 1602-1614. PMID 31537473
64. Camporesi EM, Vezzani G, Bosco G, et al. Hyperbaric oxygen therapy in femoral head necrosis. J Arthroplasty. Sep 2010; 25(6 Suppl): 118-23. PMID 20637561
65. Bennett MH, French C, Schnabel A, et al. Normobaric and hyperbaric oxygen therapy for the treatment and prevention of migraine and cluster headache. Cochrane Database Syst Rev. Dec 28 2015; 2015(12): CD005219. PMID 26709672
66. Peng Z, Wang S, Huang X, et al. Effect of hyperbaric oxygen therapy on patients with herpes zoster. Undersea Hyperb Med. 2012; 39(6): 1083-7. PMID 23342765
67. Efrati S, Golan H, Bechor Y, et al. Hyperbaric oxygen therapy can diminish fibromyalgia syndrome--prospective clinical trial. PLoS One. 2015; 10(5): e0127012. PMID 26010952
68. Yildiz S, Kiralp MZ, Akin A, et al. A new treatment modality for fibromyalgia syndrome: hyperbaric oxygen therapy. J Int Med Res. 2004; 32(3): 263-7. PMID 15174219
69. Bennett M, Heard R. Hyperbaric oxygen therapy for multiple sclerosis. CNS Neurosci Ther. Apr 2010; 16(2): 115-24. PMID 20415839
70. Bennett M, Feldmeier J, Smee R, et al. Hyperbaric oxygenation for tumour sensitisation to radiotherapy. Cochrane Database Syst Rev. Oct 19 2005; (4): CD005007. PMID 16235387
71. Bennett MH, Feldmeier J, Smee R, et al. Hyperbaric oxygenation for tumour sensitisation to radiotherapy. Cochrane Database Syst Rev. Apr 18 2012; 2012(4): CD005007. PMID 22513926
72. Bennett MH, Feldmeier J, Smee R, et al. Hyperbaric oxygenation for tumour sensitisation to radiotherapy. Cochrane Database Syst Rev. Apr 18 2012; 2012(4): CD005007. PMID 22513926
73. Heys SD, Smith IC, Ross JA, et al. A pilot study with long term follow up of hyperbaric oxygen pretreatment in patients with locally advanced breast cancer undergoing neo-adjuvant chemotherapy. Undersea Hyperb Med. 2006; 33(1): 33-43. PMID 16602255
74. Hyman SL, Levy SE, Myers SM, et al. Identification, Evaluation, and Management of Children With Autism Spectrum Disorder. Pediatrics. Jan 2020; 145(1). PMID 31843864
75. Singh S, Loftus EV, Limketkai BN, et al. AGA Living Clinical Practice Guideline on Pharmacological Management of Moderate-to-Severe Ulcerative Colitis. Gastroenterology. Dec 2024; 167(7): 1307-1343. PMID 39572132

76. Scott FI, Ananthakrishnan AN, Click B, et al. AGA Living Clinical Practice Guideline on the Pharmacologic Management of Moderate-to-Severe Crohn's Disease. Gastroenterology. Dec 2025; 169(7): 1397-1448. PMID 41274746
77. Rubin DT, Ananthakrishnan AN, Siegel CA, et al. ACG Clinical Guideline Update: Ulcerative Colitis in Adults. Am J Gastroenterol. Jun 03 2025; 120(6): 1187-1224. PMID 40701556
78. Lichtenstein GR, Loftus EV, Afzali A, et al. ACG Clinical Guideline: Management of Crohn's Disease in Adults. Am J Gastroenterol. Jun 03 2025; 120(6): 1225-1264. PMID 40701562
79. Hyman SL, Levy SE, Myers SM, et al. Identification, Evaluation, and Management of Children With Autism Spectrum Disorder. Pediatrics. Jan 2020; 145(1). PMID 31843864
80. Singh S, Loftus EV, Limketkai BN, et al. AGA Living Clinical Practice Guideline on Pharmacological Management of Moderate-to-Severe Ulcerative Colitis. Gastroenterology. Dec 2024; 167(7): 1307-1343. PMID 39572132
81. Scott FI, Ananthakrishnan AN, Click B, et al. AGA Living Clinical Practice Guideline on the Pharmacologic Management of Moderate-to-Severe Crohn's Disease. Gastroenterology. Dec 2025; 169(7): 1397-1448. PMID 41274746
82. Rubin DT, Ananthakrishnan AN, Siegel CA, et al. ACG Clinical Guideline Update: Ulcerative Colitis in Adults. Am J Gastroenterol. Jun 03 2025; 120(6): 1187-1224. PMID 40701556
83. Lichtenstein GR, Loftus EV, Afzali A, et al. ACG Clinical Guideline: Management of Crohn's Disease in Adults. Am J Gastroenterol. Jun 03 2025; 120(6): 1225-1264. PMID 40701562
84. Powers WJ, Rabinstein AA, Ackerson T, et al. Guidelines for the Early Management of Patients With Acute Ischemic Stroke: 2019 Update to the 2018 Guidelines for the Early Management of Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. Stroke. Dec 2019; 50(12): e344-e418. PMID 31662037
85. Kernan WN, Viera AJ, Billinger SA, et al. Primary Care of Adult Patients After Stroke: A Scientific Statement From the American Heart Association/American Stroke Association. Stroke. Aug 2021; 52(9): e558-e571. PMID 34261351
86. Department of Veterans Affairs. VA/DoD clinical practice guideline for the management of stroke rehabilitation. 2024. https://www.healthquality.va.gov/HEALTHQUALITY/guidelines/Rehab/stroke/VADOD-2024-Stroke-Rehab-CPG-Full-CPG_final_508.pdf Accessed December 22, 2025.
87. ACS Committee on Trauma. Best Practice Guidelines: The Management Of Traumatic Brain Injury. 2024. https://www.facs.org/media/vgfgjpfk/best-practices-guidelines-traumatic-brain-injury.pdf. Accessed December 12, 2025.
88. Carney N, Totten AM, OReilly C, et al. Guidelines for the management of severe traumatic brain injury, fourth edition. Neurosurgery. 2017;80(1):6-15.
89. Department of Veterans Affairs. VA/DoD clinical practice guideline for the management and rehabilitation of post-acute mild traumatic brain injury. 2021. https://www.healthquality.va.gov/HEALTHQUALITY/guidelines/Rehab/mtbi/VADODmTBICPGFinal508.pdf. Accessed December 12, 2025.
90. Hingorani A, LaMuraglia GM, Henke P, et al. The management of diabetic foot: A clinical practice guideline by the Society for Vascular Surgery in collaboration with the American Podiatric Medical Association and the Society for Vascular Medicine. J Vasc Surg. Feb 2016; 63(2 Suppl): 3S-21S. PMID 26804367
91. Huang ET, Mansouri J, Murad MH, et al. A clinical practice guideline for the use of hyperbaric oxygen therapy in the treatment of diabetic foot ulcers. Undersea Hyperb Med. 2015; 42(3): 205-47. PMID 26152105
92. Chandrasekhar SS, Tsai Do BS, Schwartz SR, et al. Clinical Practice Guideline: Sudden Hearing Loss (Update). Otolaryngol Head Neck Surg. Aug 2019; 161(1_suppl): S1-S45. PMID 31369359

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