Hyperbaric oxygen therapy - recent findings on evidence for its effectiveness. Update
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Record Status
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Citation

Authors' objectives
<p>The aim of this report is to provide an indication of opinions on the effectiveness or efficacy of hyperbaric oxygen therapy (HBOT) applications reached in recent health technology assessments and systematic reviews and of selected findings reported in the literature.</p>

Authors' conclusions
It is emphasized that, while this paper has identified some findings and opinions regarding HBOT, it is not a systematic review of the recent literature. However, even with this limited approach, some general comments can be made on the current status of HBOT from the perspective of assessment. While there have been further studies since the AHFMR report on HBOT, the conclusions from systematic reviews and health technology assessments are generally similar to the earlier findings. - There is support for use of HBOT for the following conditions: Decompression sickness, air and gas embolism, gas gangrene. - There is conditional support for use of HBOT in: CO poisoning, osteoradionecrosis, diabetic wounds, necrotising soft tissue infections (noting the still limited evidence of benefit and/or dependence on local protocols). - There is no consensus on support for use of HBOT in: osteomyelitis, thermal burns, soft tissue radionecrosis, compromised skin grafts and flaps, dental implants following radiotherapy, retinal artery occlusion (a tendency to recommend against use in these conditions, due to lack of evidence). - Use of HBOT is not supported for: crush injury, nondiabetic wounds, multiple sclerosis, cerebral palsy, or for a large number of conditions identified in one of the following: decubitus ulcers, necrotising arachnidism, actinomycosis, cardiovascular conditions, Bells palsy, cluster and migraine headaches, Legg-Calve-Perthes disease, sudden deafness and acoustic trauma, Crohn's disease, osteoporosis, cancer, cyanide poisoning, head trauma, cerebral oedema, acquired brain injury, cognitive impairment, senile dementia, glaucoma, keratoconjunctivitis, HIV infection, anaemia from exceptional blood loss, insulin-dependent diabetes mellitus, facial neuritis, arthritis, spinal injuries and non-union of fractures. - Information on the use of transcutaneous oxygen measurements in association with HBOT suggests that evidence of predictive value and analytical reliability may be limited and that local validation of these attributes by HBOT centres would be desirable. A general theme in the systematic reviews and health technology assessments is the continuing lack of good quality evidence in support of most HBOT applications. Some publications have recognized the difficulties in undertaking good quality studies in some HBOT applications and have adjusted their recommendations accordingly. Others have been more insistent on the availability of randomized controlled trials. It has been pointed out that there is insufficient evidence to ascertain the appropriate time to initiate therapy in some applications and to establish criteria that determine whether patients will benefit. There is likely to be a continuing tension between those who advocate the use of HBOT for management of various conditions, sometimes under circumstances of pressing clinical need, and those who require adequate proof of benefits in terms of health outcomes. Absence of proof of benefit is not the same as absence of benefit. On the other hand, assertions of the effectiveness of HBOT for a wide range of conditions in the absence of credible evidence are unconvincing and unhelpful. As noted in the AHFMR assessment, HBOT is a well established and useful health technology but there are a number of questions regarding the indications for which it is appropriate.

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