



Title **Hyperbaric Oxygen Therapy (HBOT), November 2000**

Agency **MSAC, Medical Services Advisory Committee**

Commonwealth Department of Health and Aged Care, GPO Box 9848, Canberra ACT 2601 Australia;
tel: +61 2 6289 6811, fax: +61 2 62 6289 8799, msac.secretariat@msac.gov.au, www.msac.gov.au

Reference MSAC application 1018-1020. Assessment report ISSN 1443-7120.

<http://www.msac.gov.au>

Aim

To assess the safety and effectiveness of HBOT and whether public funding should be supported.

Conclusions and Results

Safety: HBOT carries some risk of myopia, barotrauma, claustrophobia, and oxygen toxicity, but most effects are self-limiting, and life-threatening events are rare.

<i>Effectiveness:</i>		Thermal burns	Little evidence of benefit and lack of well-conducted studies.
Diabetic wounds			More minor amputation risk, less major amputation risk with chronic ulceronecrotic lesions, better wound healing, reduced hospital stay.
Non-diabetic wounds			One study shows reduction in wound size.
Necrotizing soft tissue infections	general		Some indication that HBOT improved patient survival.
	necrotizing fasciitis		Inadequate information available.
	Fournier's gangrene		One study shows benefit.
Osteomyelitis			One negative study of an atypical HBOT regime.
Osteoradionecrosis	prevention		One representative study indicates HBOT is superior to penicillin.
	treatment		One positive study.
Skin graft survival			Possible benefit, but difficult to interpret.
Multiple sclerosis			Little supporting evidence.
Cardio-vasc. disease	acute myocardial infarction		No supporting evidence, possible benefit if used with thrombolytic therapy.
	cerebrovascular disease		Evidence conflicting.
	peripheral obstructive art. disease		No supporting evidence.
Soft tissue injuries	acute ankle sprains		No supporting evidence.
	crush injuries		Some supporting evidence that HBOT reduces surgical intervention.
Cluster headaches			Little supporting evidence
Migraine headaches			Some evidence of pain relief.
Facial paralysis			Some evidence of benefit.
Sudden deafness or acoustic trauma			Conflicting evidence.
Cancer	head and neck		Conflicting evidence.
	cervix		Little supporting evidence.
	bladder		Conflicting evidence.
	lymphomas		Some supporting evidence.
	lung		Little supporting evidence.
	neuroblastoma		Some positive evidence.
Carbon monoxide poisoning			A Cochrane Review found no reduction in neurologic sequelae.



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Cost-effectiveness: HBOT is cost-effective for diabetic wounds and necrotizing soft-tissue infections, but may cost \$28,480 per case of osteoradionecrosis avoided.

Recommendations

Public funding for HBOT in monoplace or multiplace chambers be supported for decompression illness, gas gangrene, air or gas embolism for which no alternative treatment exists, diabetic wounds (including gangrene and foot ulcers), necrotizing soft tissue infections (including necrotizing fasciitis), Fournier's gangrene, and prevention and treatment of osteoradionecrosis.

Method

MSAC conducted a systematic review of the biomedical literature from 1966 to 1999 using biomedical electronic databases, the Internet and international health technology agency websites. Reference lists of publications and textbooks were consulted. Cost effectiveness is based on expert advice on HBOT costs and effectiveness evaluation in this report.