

TABLE 477e-2 SELECTED INDICATIONS FOR WHICH THERE IS PROMISING EFFICACY FOR THE APPLICATION OF HYPERBARIC OXYGEN THERAPY

Diagnosis	Outcome (number of sessions)	NNT 95% CI	Estimated Cost to Produce One Extra Favorable Outcome 95% CI (USD)	Comments and Recommendations
Radiation tissue injury	More information is required on the subset of disease severity, the affected tissue type that is most likely to benefit, and the time over which benefit may persist.			
	Resolved proctitis (30)	3	22,392	Large ongoing multicenter trial
		2–11	14,928–82,104	
	Healed mandible (30)	4	29,184	Based on one poorly reported study
		2–8	14,592–58,368	
	Mucosal cover in ORN (30)	3	29,888	Based on one poorly reported study
		2–4	14,592–29,184	
	Bony continuity in ORN (30)	4	29,184	Based on one poorly reported study
	2–8	14,592–58,368		
Prevention of ORN after dental extraction (30)	4	29,184	Based on a single study	
	2–13	14,592–94,848		
Prevention of dehiscence (30)	5	36,480	Based on one poorly reported study	
	3–8	21,888–58,368		
Chronic wounds	More information is required on the subset of disease severity or classification most likely to benefit, the time over which benefit may persist, and the most appropriate oxygen dose. Economic analysis is required.			
	Diabetic ulcer healed at 1 year (30)	2	14,928	Based on one small study, more research required
		1–5	7464–37,320	
	Diabetic ulcer, major amputation avoided (30)	4	29,856	Three small studies; outcome over a longer time period required
	3–11	22,392–82,104		
ISSNHL	No evidence of benefit more than 2 weeks after onset. More research is required to define the role (if any) of HBO₂T in routine therapy.			
	Improvement of 25% in hearing loss within 2 weeks of onset (15)	5	18,240	Some improvement in hearing, but functional significance unknown
		3–20	10,944–72,960	
Acute coronary syndrome	More information is required on the subset of disease severity and timing of therapy most likely to result in benefit. Given the potential of HBO₂T in modifying ischemia-reperfusion injury, attention should be given to the combination of HBO₂T and thrombolysis in early management and in the prevention of restenosis after stent placement.			
	Episode of MACE (5)	4	4864	Based on a single small study; more research required
		3–10	3648–12,160	
		6	7296	
Incidence of significant dysrhythmia (5)	3–24	3648–29,184	Based on a single moderately powered study in the 1970s	
Traumatic brain injury	Limited evidence that for acute injury HBO₂T reduces mortality but not functional morbidity. Routine use not yet justified.			
	Mortality (15)	7	34,104	Based on four heterogeneous studies
		4–22	19,488–58,464	
Enhancement of radiotherapy	There is some evidence that HBO₂T improves local tumor control, reduces mortality for cancers of the head and neck, and reduces the chance of local tumor recurrence in cancers of the head, neck, and uterine cervix.			
	Head and neck cancer:	5	14,592	Based on trials performed in the 1970s and 1980s. There may be some confounding by radiation fractionation schedule
	5-year mortality (12)	3–14	8755–40,858	
	Local recurrence 1 year (12)	5	14,592	May no longer be relevant to therapy
		4–8	11,674–23,347	
	Cancer of uterine cervix:	5	24,320	As above
Local recurrence at 2 years (20)	4–8	19,456–38,912		
Decompression illness ^a	Reasonable evidence for reduced number of HBO₂T sessions but similar outcomes when NSAID added.			
	Reduction of HBO ₂ T treatment requirement by 1	5	N/R	Single appropriately powered randomized trial
	3–18			

^aTenoxicam used as an adjunct to recompression on oxygen.

Abbreviations: CI, confidence interval; HBO₂T, hyperbaric oxygen therapy; ISSNHL, idiopathic sudden sensorineural hearing loss; MACE, major adverse cardiac events; N/R, not remarkable; NNT, number needed to treat; NSAID, nonsteroidal anti-inflammatory drug; ORN, osteoradionecrosis; USD, U.S. dollars.

Source: M Bennett: The evidence-basis of diving and hyperbaric medicine—a synthesis of the high level evidence with meta-analysis. <http://unsworks.unsw.edu.au/vital/access/manager/Repository/unsworks:949>.