

Hyperbaric Oxygen Therapy for the Treatment of Diabetic Foot Ulcers: OHTAC Recommendation

ONTARIO HEALTH TECHNOLOGY ADVISORY COMMITTEE RECOMMENDATION

- The Ontario Health Technology Advisory Committee concludes that the current evidence is insufficient to assess the benefits of hyperbaric oxygen therapy in healing diabetic foot ulcers. Given the low quality of the available evidence, the effectiveness of this treatment cannot be determined.

RATIONALE FOR THE RECOMMENDATIONS

The Ontario Health Technology Advisory Committee accepted the findings of the health technology assessment conducted by Health Quality Ontario.¹

There is a large degree of uncertainty in both the clinical and economic evidence for hyperbaric oxygen therapy, meaning that it is unclear how effective hyperbaric oxygen therapy is and how cost-effective it is. Given this uncertainty, the Ontario Health Technology Advisory Committee decided the evidence was insufficient to make a recommendation to publicly fund or not fund hyperbaric oxygen therapy for treating diabetic foot ulcers.

Decision Determinants for Hyperbaric Oxygen Therapy for the Treatment of Diabetic Foot Ulcers

Decision Criteria	Subcriteria	Decision Determinants Considerations
Overall clinical benefit How likely is the health technology/intervention to result in high, moderate, or low overall benefit?	Effectiveness How effective is the health technology/intervention likely to be (taking into account any variability)?	The available evidence made it difficult to draw conclusions on the clinical effectiveness of HBOT. There were inconsistent results among the studies about whether HBOT reduced the rate of major amputations, but the evidence did show an improvement in ulcers healed in patients receiving standard wound care plus HBOT compared with patients receiving standard wound care alone.
	Safety How safe is the health technology/intervention likely to be?	Unique adverse events are associated with HBOT and not standard wound care, including a worsening of cataracts, barotraumatic otitis, and an inability to equalize middle ear pressure. However, the number of adverse events was not significantly different when HBOT was compared with standard wound care.
	Burden of illness What is the likely size of the burden of illness pertaining to this health technology/intervention?	Diabetes affects 10.2% of the Ontario population, ² and it is estimated that about 15–25% of people with diabetes will develop a foot ulcer in their lifetime. ^{3,4} Because of this, the burden of illness is rated as high.
	Need How large is the need for this health technology/intervention?	We are unaware of how many people with diabetic foot ulcers have an ulcer of Wagner grade 3 or higher.
Consistency with expected societal and ethical values^a How likely is adoption of the health technology/intervention to be congruent with societal and ethical values?	Societal values How likely is adoption of the health technology/intervention to be congruent with expected societal values?	Patients with diabetic foot ulcers report that HBOT improves wound healing, requires a moderate time commitment, and is associated with moderate out-of-pocket costs. Patients feel that there are barriers to accessing HBOT in Ontario and that this is an equity issue.
	Ethical values How likely is adoption of the health technology/intervention to be congruent with expected ethical values?	
Value for money How efficient is the health technology/intervention likely to be?	Economic evaluation How efficient is the health technology/intervention likely to be?	The analysis of the value for money for standard wound care plus HBOT versus standard wound care alone is associated with a large degree of uncertainty. Standard wound care plus HBOT may be less costly and associated with better quality-adjusted life years versus standard wound care alone.
Feasibility of adoption into health system How feasible is it to adopt the health technology/intervention into the Ontario health care system?	Economic feasibility How economically feasible is the health technology/intervention?	The technology has diffused into the health care system, in a limited way, and it appears to be economically feasible to continue to provide it in the way it is provided now. Not applicable since this technology is currently publicly funded in Ontario for this indication.
	Organizational feasibility How organizationally feasible is it to implement the health technology/intervention?	

Abbreviation: HBOT, hyperbaric oxygen therapy.

^aThe anticipated or assumed common ethical and societal values held in regard to the target condition, target population, and/or treatment options.

Unless there is evidence from scientific sources to corroborate the true nature of the ethical and societal values, the expected values are considered.

REFERENCES

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