

Hyperbaric Oxygen Therapy for Pain, Opioid Withdrawal, and Related Symptoms: A Pilot Randomized Controlled Trial

[Marian Wilson](#)¹, [Ross J Bindler](#)², [Karen Stanek](#)³, [Matthew E Layton](#)⁴, [Raymond M Quock](#)⁵

Affiliations expand

- PMID: 35393218
- DOI: [10.1016/j.pmn.2022.03.001](https://doi.org/10.1016/j.pmn.2022.03.001)

Abstract

Background: Pain, drug cravings, and opioid withdrawal symptoms can interfere with substance use disorder or opioid tapering treatment goals.

Aim: This pilot study investigated the feasibility of a protocol designed to test opioid withdrawal symptom relief relative to a sham condition after two consecutive days of hyperbaric oxygen therapy (HBOT) for adults prescribed daily methadone for opioid use disorder.

Method: Using a double-blind protocol, eight adults were randomized to receive either a full 90-minute HBOT dose in a pressurized chamber with 100% oxygen at 2.0 atmospheres absolute (ATA) or a sham condition receiving 21% oxygen (equivalent to room air within the chamber) at a minimal pressure of ≤ 1.3 ATA. Measures included study retention, treatment satisfaction, and pre- and post-intervention effects for opioid withdrawal symptoms, drug cravings, pain intensity and interference, sleep quality, and mood.

Results: Study retention and treatment satisfaction was high. All measurements improved more, on average, for participants receiving full-dose HBOT treatment than among participants receiving sham treatments except for clinically observed withdrawal symptoms. The largest positive effects were observed in measurements of pain intensity and drug craving.

Conclusions: These pilot results provide evidence to support a fully powered study of HBOT as a potential treatment adjunct for adults receiving methadone for opioid use disorder. Trends towards symptom improvements were detected from pre- to post-HBOT in the full treatment arm versus sham condition. More research into novel non-pharmacologic options to relieve distressing symptoms related to pain and opioid use disorder is essential to improve clinical outcomes.