

HBOT alleviates osteomyelitis

Inflammation of the bone or osteomyelitis is a bacterial infection which can be chronic. Hyperbaric oxygen therapy can help people suffering from it alleviate their symptoms, together with surgery and antibiotics.

With osteomyelitis, ulcerating inflammation of the bone, blood supply is blocked to tissues and the infected area, and it can be acute, partially acute or chronic. Refractory osteomyelitis denotes a condition in which the damage does not heal despite surgery and antibiotic treatment. HBOT can help with that.

How does oxygen help?

According to the ACHM website, “Increasing the oxygen tension produces a direct lethal effect on strict anaerobic organisms, and on some micro-aerophilic aerobic organisms. During hyperbaric oxygen therapy, an increase in oxygen tension leads to the increased concentration of superoxide, both intracellularly and extracellularly. Increased superoxide levels predispose to increased hydrogen peroxide production (as well as higher output of other toxic oxygen radicals). Anaerobic organisms are extremely sensitive to these proliferating oxygen radicals because most lack the superoxide-degrading enzyme, superoxide dismutase, and the hydrogen peroxide-degrading enzyme, catalase.

Thus, an increase in the oxygen tension with subsequent oxygen radical formation proves lethal or bacteriostatic for anaerobic organisms. Anaerobic organisms make up approximately 25 percent of the isolates in non-hematogenous osteomyelitis. In LeFrock’s 1988 series focusing on long bone osteomyelitis at the University of Texas, Galveston, anaerobes made up 36 percent of the bone culture isolates.”

Taiwanese study

A Taiwanese study, summarized on PubMed website, was carried out on 14 patients with chronic refractory osteomyelitis, who received adequate debridement surgery and antibiotic treatment, as well as adjunctive HBO therapy. All patients underwent follow-ups 15 months after HBOT.

After reviewing all results, the authors concluded that hyperbaric oxygen therapy is an effective and safe treatment for chronic refractory osteomyelitis, provided that patients also receive adequate medical and surgical management. Read their whole study report [here](#) or by following the link under references on the following page.

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References:

[Chronic Refractory Osteomyelitis](#). Published online on American College of Hyperbaric Medicine website.

Chen Chin-En, Shu-Tai Shih, Te-Hu Fu1, Jun-Wen Wang, Ching-Jen Wang. [Hyperbaric Oxygen Therapy in the Treatment of Chronic Refractory Osteomyelitis: A Preliminary Report](#). Chang Guang Med J. Feb 2003; 26(2): 114-21.