

# Letters to the Editor

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Please include your complete address, e-mail address, and telephone number. Letters should be fewer than 400 words and limited to six references, one table or figure, and three authors.

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## Hyperbaric Oxygen Therapy for Chronic Refractory Osteomyelitis

**Original Article:** Diagnosis and Management of Osteomyelitis

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TO THE EDITOR: Chronic refractory osteomyelitis is a persistent or recurrent bone infection lasting longer than six months despite appropriate surgical and medical therapy, such as debridement and intravenous antibiotics. Although it is unlikely that family physicians will directly treat this condition, the medical home may be involved in the care of patients with osteomyelitis.

Drs. Hatzenbuehler and Pulling provided an excellent review of the management of osteomyelitis. However, they omitted one important tool that can be effective for chronic disease. Hyperbaric oxygen therapy (HBOT) is associated with remission rates of 81 to 85 percent at two to three years in patients with chronic refractory osteomyelitis.<sup>1-3</sup> It involves placing the patient in a single- or multi-place chamber, where he or she breathes 100 percent oxygen at increased atmospheric pressure. A typical course of therapy consists of 90-minute sessions five days per week for 20 to 60 treatments. The mechanisms of action are enhanced leukocyte oxidative killing, osteogenesis, angiogenesis, and synergistic antibiotic activity. Complications of treatment are infrequent, and the only absolute contraindications are pneumothorax and previous bleomycin therapy. Family physicians should be aware of local hyperbaric resources and consider this therapy for appropriate patients.

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IN REPLY: I appreciate your comments regarding the use of HBOT for the treatment of chronic refractory osteomyelitis. As discussed in our article, most cases of chronic osteomyelitis can be resolved with a combination of surgical debridement and intravenous antibiotics. That being said, recurrence rates approach 30 percent in adults.

The risk of chronic osteomyelitis is increased in patients with chronic diseases such as diabetes mellitus, peripheral vascular disease, and chronic renal insufficiency caused by poor wound healing and increased susceptibility to infection.<sup>1</sup> The mechanisms of action for HBOT potentially enhance the healing response in these patients and may be an effective treatment option. However, the studies Dr. Rose referenced citing remission rates of 81 to 85 percent were conducted on a small number of patients and had no control groups. Two of the studies were also conducted when antimicrobial therapy was not as effective as current therapies.

Several case reports and case series suggest that HBOT may be an effective treatment option when the primary treatment options have been ineffective.<sup>2-4</sup> HBOT also seems to be safe, with infrequent complications. On the other hand, two recent systematic reviews found no clear evidence that HBOT should be recommended as adjunctive therapy in patients with chronic diabetic wounds and concomitant osteomyelitis.<sup>4,5</sup>

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Corrections

**Error in thumb joint typically affected by osteoarthritis:** In the article “Osteoarthritis: Diagnosis and Treatment” (January 1, 2012, p. 49), Table 1 (p. 49) contained an error in the third item listed under the “hand” heading. The statement should refer to tenderness over the carpometacarpal joint of the thumb, rather than the metacarpophalangeal joint of the thumb. The online version of this article has been corrected.

**Error in risk factors for cardiovascular disease:** In the article “Pharmacologic Treatment of Hyperlipidemia” (September 1, 2011, p. 551), Table 1 (p. 552) contained an error in the fourth footnote (§), which listed risk factors for cardiovascular disease. The last risk factor, which addressed age, should have read “age 45 years or older in men, age 55 years or older in women,” rather than “age 45 years or younger in men, age 55 years or younger in women.” The online version of this article has been corrected. ■

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