

**To Print: Click your browser's PRINT button.**

**NOTE:** To view the article with Web enhancements, go to:  
<http://www.medscape.com/viewarticle/496651>



## Hyperbaric Oxygen May Improve Outcome in Necrotizing Soft Tissue Infection

**Laurie Barclay, MD**

Medscape Medical News 2004. © 2004 Medscape

Dec. 28, 2004 — Hyperbaric oxygen improves survival and limb salvage in necrotizing soft tissue infection (NSTI), according to the results of a retrospective cohort study published in the December issue of the *Archives of Surgery*.

"Necrotizing soft tissue infection (NSTI) refers to a spectrum of infective diseases characterized by necrosis of the deep soft tissues," write David Wilkinson, FANZCA, from the Royal Adelaide Hospital and The University of Adelaide in Australia, and colleagues. "Features of manifestation and medical management have been analyzed for association with outcome. The use of hyperbaric oxygen (HBO<sub>2</sub>) therapy has been recommended as an adjunctive treatment but remains controversial."

Records of all patients admitted with a diagnosis of NSTI to a major tertiary hospital during a five-year period were analyzed for the association of various clinical features with survival to hospital discharge, and for the association of HBO<sub>2</sub> therapy with long-term survival. The primary outcome measure was survival to hospital discharge, and secondary outcome measures were limb salvage and long-term survival after hospital discharge.

Of 44 patients whose records were reviewed, six (14%) died. Factors associated with mortality were increased age, renal dysfunction, unknown etiology of infection, and lack of HBO<sub>2</sub> therapy. Based on logistic regression, the best predictor of survival was the use of HBO<sub>2</sub> therapy ( $P = .02$ ), which increased survival nearly nine-fold (odds ratio, 8.9; 95% confidence interval, 1.3-58.0; number needed to treat, 3).

When NSTI involved an extremity, HBO<sub>2</sub> treatment reduced the incidence of amputation ( $P = .05$ ). Survival analysis revealed that the HBO<sub>2</sub> group had an improved long-term outcome ( $P = .002$ ).

"Hyperbaric oxygen therapy was associated with improved survival and limb salvage and should be considered in the setting of NSTI," the authors write. "Hyperbaric oxygen therapy can be provided safely to patients who are intubated and require intensive care. The incidence of ear barotrauma in this study (eight of 29 patients) suggests prophylactic myringotomy should be routinely considered prior to initiating HBO<sub>2</sub> therapy."

*Archives of Surgery*. 2004; 139:1339-1345

Reviewed by Gary D. Vogin, MD