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Oxygen in wound healing: nutrient, antibiotic, signaling molecule, and therapeutic agent.

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Source

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Abstract

Disturbances to healing observed under hypoxic conditions have given insights into the roles of oxygen. Wound hypoxia is more prevalent than generally appreciated, and occurs even in patients who are free of arterial occlusive disease. There is a strong scientific basis for oxygen treatment as prophylaxis against infection, to facilitate wound closure, and to prevent amputation in wounded patients. This article reviews extensive data from preclinical and human trials of supplemental inhaled oxygen, hyperbaric oxygen, and topical oxygen treatment. Oxygen supports biochemical metabolism and cellular function, and has roles in combating infection and facilitating the wound healing cascade.

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