

Effects of HBOT on Chronic Wound Healing

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ABSTRACT

Background: A chronic wound is one in which healing fails to proceed through an orderly and timely process to produce anatomic and functional integrity, or proceed through the repair process without establishing a sustained anatomic and functional result. These wounds are often a surface manifestation of an underlying disease such as venous insufficiency, arterial disease, or diabetes. Treatment tends to focus on treating the surface ulcer and commonly ends in nothing more than added expense without successful healing. The factors involved in the development of a chronic wound remain unclear. However, the common cause, is thought to be related to the detrimental effects of prolonged wound hypoxia. It has been suggested that while oxidant species, produced by neutrophils and macrophages within the wound, may serve as messengers to promote healing, overproduction may in fact overwhelm the immune system and delay healing. Chronic wounds can be arrested in any one of the stages of wound healing but disruption commonly occurs in the inflammatory or proliferative phases. Excessive production can have a detrimental effect on healing by destroying growth factors and thus reducing the chemotactic and proliferative stimulus that these chemicals provide through neutrophil production of proteolytic enzymes and degrading ECM components. In chronic wounds, insufficient ECM is deposited leading to a weakened tissue that can easily rupture. Others have reported high levels of MMPs, which can lead to excessive ECM degradation.

Material and Method: A review article, which compiled library resources and international magazines have been used in the new world.

Results: Treatment of chronic wounds according to different causes, but the most important principle, eliminate the causes underlying causes of chronic wounds. Oxygen plays an important role in the physiology of wound healing. The use of hyperbaric oxygen with chamber to increase oxygen for the tissues and increase tissue oxygen levels and increase wound healing. Oxygen

therapy is hyperbaric oxygen 100 % more than 1/4 of the atmosphere for better blood perfusion of tissue that is poorly delivered. Reduce swelling and inflammation, increasing the activity of white blood cells , preventing the production of oxygen free radicals , increases tissue metabolism and stop the bacteria becomes chronic wound healing.

Conclusion: Hypoxia appears to inhibit the wound healing process by blocking fibroblast proliferation, collagen production, and capillary angiogenesis and to increase the risk of infection. Hyperbaric oxygen therapy (HBOT) has been shown to aid the healing of ulcerated wounds. we chronic wound healing and the use of hyperbaric oxygen as an adjunctive treatment for non healing wounds

Keywords: Chronic Wound, HBOT, Wound Healing