



HYPERBARIC MEDICINE HEALS.

HYPERBARIC OXYGEN THERAPY FOR PEDIATRIC CARE

HyOx treats the following approved and covered complications:

- **Delayed effects of radiation injury (soft tissue radionecrosis, mandibular necrosis, osteoradionecrosis)**
 - **Referral Protocol:**
 - Pre- and post-operatively in a previously irradiated area
 - Immediately, when symptoms manifest
- **Post hypospadias repair**
 - **Referral Protocol:** Immediately, as an adjunctive intervention to complicated hypospadias repair to reduce surgical outcome failure and graft failure rates
- **Compromised skin grafts and flaps**
 - **Referral Protocol:** Immediately, when post-surgical site shows signs of dehiscence, necrosis, blistering, erythema, infection
- **Acute peripheral arterial insufficiency (crush injury) and skeletal muscle-compartment syndromes**
 - **Referral Protocol:** Immediately, as an adjunct used in combination with standard therapeutic measures when loss of function, limb, or life is threatened
- **Non-healing wounds from infection, disease or injury**
 - **Referral Protocol:** Immediately, when wound complications are present to promote the growth of new blood vessels and collagen for wound healing and boost the efficacy of antibiotic treatment
- **Thermal burns**
 - **Referral Protocol:** Immediately, as an emergent condition alleviate the body's intense inflammatory reaction to the heat damage and expedite healing
- **Carbon monoxide poisoning**
 - **Referral Protocol:** Immediately, as an emergent condition to decrease mortality and improve neurocognitive morbidity

- **Necrotizing soft tissue and bone infection (necrotizing fasciitis, gas gangrene chronic refractory osteomyelitis)**
 - **Referral Protocol:** Immediately, in the acute phase, after a deep tissue culture, MRI or bone biopsy show progressive necrotizing infection
 - In osteomyelitis cases, refer when there is a lack of response to surgical debridement for four to six weeks of antibiotic therapy

Benefits of Hyperbaric Oxygen Therapy

- Accelerates healing of chronic wounds by maximizing oxygen delivery through the blood's plasma to encourage growth of new blood vessels (angiogenesis)
- Decreases edema
- Promotes fibroblast, collagen deposition, angiogenesis (1), resistance to infection (2) and intracellular leukocyte bacterial killing - all oxygen sensitive responses essential to normal wound healing
- Accelerates tissue growth for wound healing by stimulating vascular endothelial growth factor, increased granulation tissue formation and wound closure (3)
- Helps resolve infections by helping augment the transport of certain antibiotics across bacterial cell walls (4)
- Stops alpha-toxin production in gas gangrene and inhibits bacterial growth which enables the body to utilize its own host defense mechanisms (5)
- Speeds recovery of soft tissues and bone affected by radiation therapy (6)

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- (4) Mader JT, et al. Hyperbaric oxygen as adjunctive therapy for osteomyelitis. *Infect Dis Clin North Am*, 1990. 4(3): 433-40.
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