



**HYPERBARIC MEDICINE HEALS.**

## **HYPERBARIC OXYGEN THERAPY FOR WOUND CARE**

HyOx treats the following approved and covered conditions:

- **Lower extremity wounds and ulcers in patient with diabetes**
  - **Referral Protocol:** Refer after four weeks if wound has not shown significant progress with conventional treatment (1):
    - Wound is classified as Wagner Grade III or higher (defined as penetrating deeper layers reaching tendon, bone or joint capsule with abscess, osteomyelitis or tendonitis extending to those structures)
    - Patient has failed adequate course of standard wound therapy (30 days of assessment and correction of vascular abnormalities, optimization of nutritional status and glucose control, debridement, moist wound dressing, off-loading, and treatment of infection)
- **Chronic, non-healing wounds from infection, disease or injury (including soft tissue radionecrosis)**
  - **Referral Protocol:** When wound hypoxia and/ or ischemia is identified with a transcutaneous oximetry measuring arterial insufficiency as 25-40 mmHg signifying poor healing and/or amputation flap failure and immediately, when symptoms of the delayed effects of radiation therapy present
- **Chronic refractory osteomyelitis**
  - **Referral Protocol:** When chronic osteomyelitis fails to respond to surgical debridement and to heal after four to six weeks of antibiotic therapy (2)
- **Necrotizing soft tissue infections (necrotizing fasciitis, gas gangrene)**
  - **Referral Protocol:** Immediately, after wound culture or MRI shows necrotizing soft tissue infection – refer in tandem with wound care, debridement and antibiotic therapy
- **Compromised flaps and grafts at amputation site (post limb or body part reattachments)**
  - **Referral Protocol:**
    - Immediately to help revascularize, reduce edema and promote healing
    - Immediately following a diagnosis of gas gangrene
    - When post-surgical or amputation site shows signs of dehiscence, necrosis, blistering, erythema, and/or infection

## 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
- Boosts the outcomes of diabetic foot ulcers and wounds Wagner Grade III or higher **(3)** and decreases the risk of amputation **(4)**
- Promotes fibroblast, collagen deposition, angiogenesis **(5)**, resistance to infection **(6)** 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 **(7)**
- Helps resolve infections by helping augment the transport of certain antibiotics across bacterial cell walls **(8)**
- Stops alpha-toxin production in gas gangrene and inhibits bacterial growth which enables the body to utilize its own host defense mechanisms **(9)**
- Speeds recovery of soft tissues and bone affected by radiation therapy **(10)**

### REFERENCES:

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