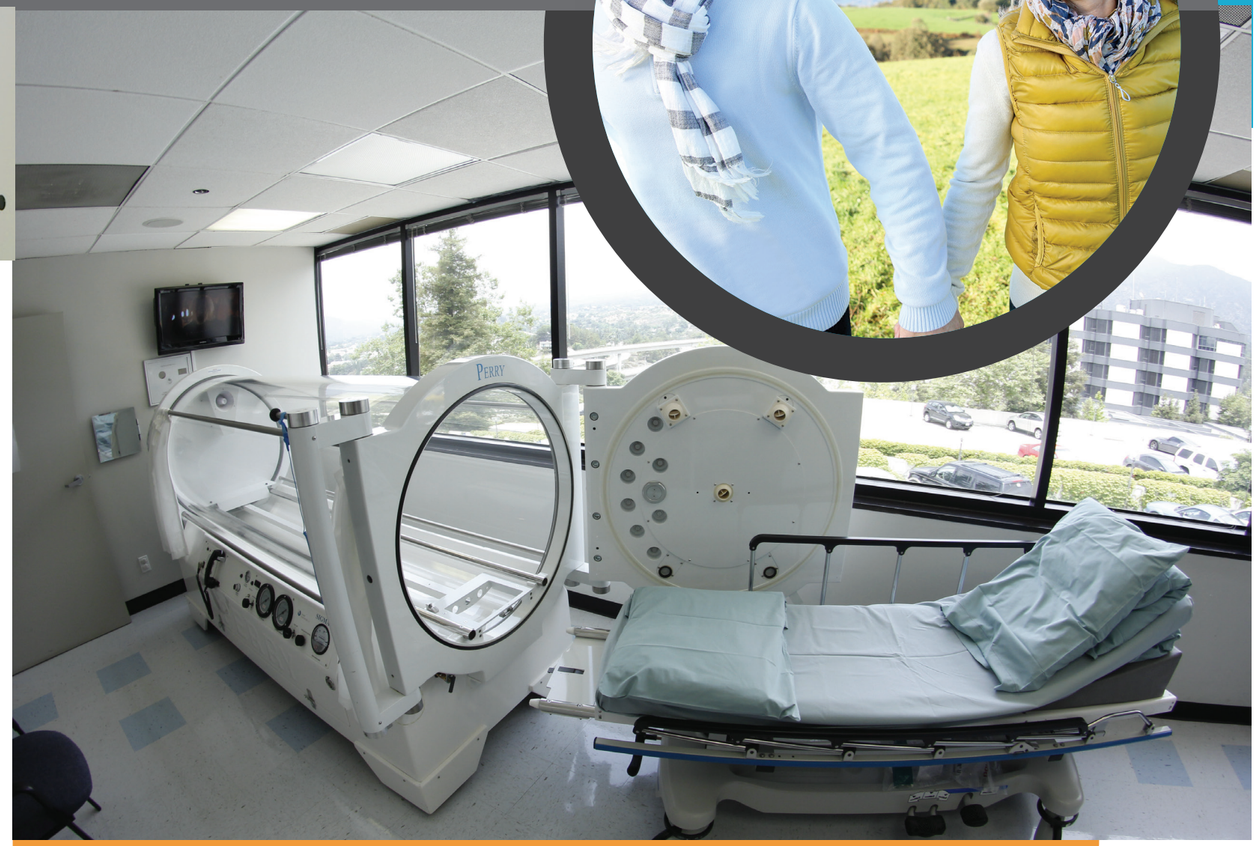
Hyperbaric Oxygen Therapy



Partners in Healing

AS A REFERRING PHYSICIAN, WE REPORT TO YOU

At Wound Healing Center Columbus Regional Healthcare System, we offer your patients access to state of the art wound care and hyperbaric oxygen therapy. Our comprehensive approach enables us to heal chronic wounds in as little as eight weeks. Upon referral, we treat your patient's wound, while you continue to manage all other aspects of their care.

"Hyperbaric Oxygen Therapy is safe and there is no downside to putting a patient in a chamber, – just the potential to heal."

~ Dr. John Gambol, Hyperbaric Medical Officer

References

Gill, A.L., and Belll, C.N.A. (2004) Hyperbaric oxygen: its uses, mechanisms of action and outcomes. Q J Med. 97:385-395. DOi: 10.1093/qjmed/hch074

Thorn, Stephen R. (Jan 2011) Hyperbaric oxygen - its mechanisms and efficacy. Plast Reconstr Surg. 127(Suppl 1): 131S-141S. Doi: 10.1097/PRS.0b013e3181fbe2bf

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AN ADJUNCTIVE THERAPY TO PROMOTE HEALING

Wound Healing Center
Columbus Regional Healthcare System

Restoring Quality of Life for Your Patients

WHAT IS HYPERBARIC OXYGEN THERAPY?

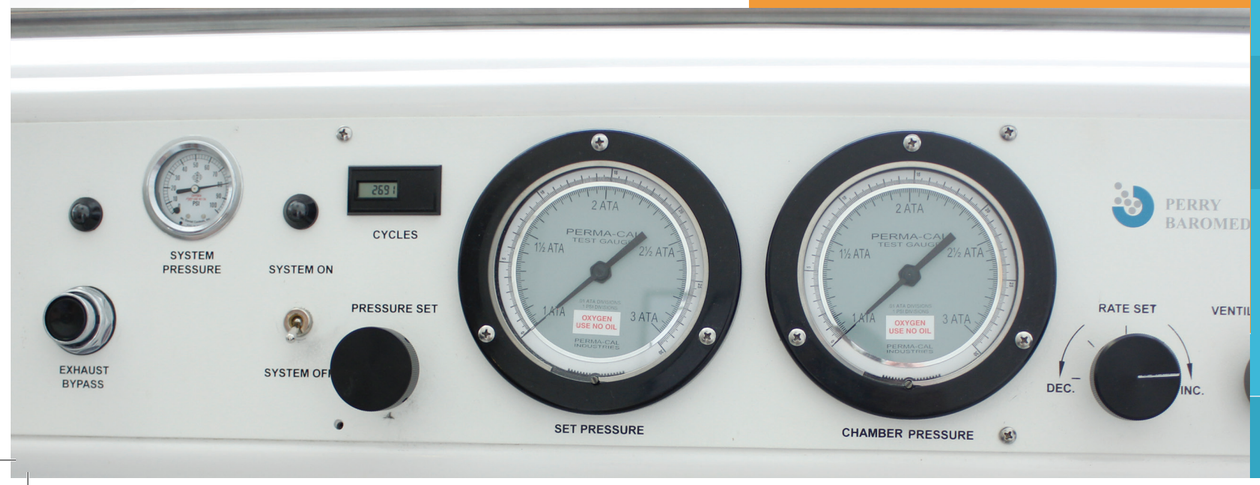
Hyperbaric oxygen therapy (HBOT) is the administration of 100% oxygen in a pressurized environment. Diffusing oxygen throughout the body promotes angiogenesis, allowing a chronic wound to get the nutrient and oxygen rich blood it needs to heal. Specialized wound care — including HBOT — is often necessary for optimal treatment of chronic wounds. HBOT is an effective adjunctive therapy used in conjunction with advanced wound care. Along with proper attention to nutrition and other underlying medical problems, we achieve greater healing results.

HBOT IS A PROVEN TREATMENT FOR:

- **Chronic refractory osteomyelitis**
- **Lower extremity diabetic ulcers**
- **Radiation cystitis**
- **Radiation necrosis**
- **Failed skin grafts**

THE NEED

- **6.5 million Americans** are estimated to have wounds (Singer AJ, 1999) (Crovetti G, 2004)
- **Obesity, diabetes** and **increasing elderly populations** substantiate the need for wound care
- In 2004, over **71,000 diabetic lower-limb amputations** were performed (Center for Disease Control and Prevention, 2008)
- The **economic costs of wound care** can be mitigated through a wound care program



MECHANISM	EFFECT	INDICATIONS
Hyper-Oxygenation	Enhances in vitro phagocytosis in regions of limited perfusion Allows higher amounts of oxygen to be diffused into the plasma	Severe blood loss anemia (unable to carry oxygen) Crush injury, compartment syndrome graft, and flap salvage (decreased perfusion) Edema (increased diffusion barrier)
Vascoconstriction	Decreases neutrophil activation, preventing accumulation of white blood cells Reduces edema allowing better diffusion of oxygen and nutrients to tissues	Crush injuries Acute burns Compartment syndrome
Angiogenesis	Increases neovascularization by angiogenic stimulation Stimulates cell differentiation in the form of blood vessels Increases production of growth factors Enhances extra cellular matrix formation	Graft and flap salvage Osteoradionecrosis Radiation endarteritis obliterans Chronic wounds
Fibroblast Proliferation	Stimulates proliferation and collagen synthesis, both of which are oxygen dependent Increases the overall oxygen gradient between tissues and the central hypoxic area	Chronic wounds Radiation-induced injury
Leukocyte Oxidative Killing	Increases intracellular leukocyte killing Accelerates microbial oxidative killing	Necrotizing soft tissue infections Chronic osteomyelitis
Toxin Inhibition	Enhances oxidative killing of bacteria by leukocytes and macrophages	Clostridial gas gangrene Decreased cardio toxins
Antibiotic Synergy	Improves oxygen dependent transport of certain antibiotics across bacterial cell walls Creates an adverse environment for anaerobic bacteria	Sepsis Necrotizing infections