



Hyperbaric Oxygen Therapy & Advanced Wound Care

Presented by Vincent Ajanwachuku, M.D., F.A.C.S., F.I.C.S., F.A.I.H.Q.

Background

HYPERBARIC OXYGEN THERAPY is an adjunctive therapy used for the treatment of chronic and acute wounds that do not respond to traditional and aggressive wound care. It is administered to patients in a comfortable, private chamber pressurized with 100% pure oxygen. The oxygen rich environment allows the body's natural wound healing mechanisms to function more effectively, dramatically speeding up the healing process. Approved indications for hyperbaric therapy include, but are not limited to:

- » Diabetic wounds of the lower extremities
- » Preparation and preservation of grafts and flaps
- » Necrotizing soft tissue infections, gas gangrene
- » Osteoradionecrosis
- » Chronic refractory osteomyelitis
- » Soft tissue radionecrosis
- » Crush injuries



Multidisciplinary Approach

Since 2010, the St. Mary Center for Wound Care and Hyperbaric Medicine has been providing comprehensive outpatient wound care for hundreds of patients while assisting and supporting physician practices. This physician-based program incorporates the expertise of wound care nurse specialists, certified hyperbaric technologists and various specialty physicians.

Using this multidisciplinary approach, we evaluate not only a patient's wound, but the impact of comorbid conditions and the effect of medications on wound healing. We assess and manage all types of non-emergent acute and chronic wounds, including the following:

- » Venous stasis ulcers
- » Diabetic wounds
- » Arterial ulcers
- » Non-healing surgical wounds, dehisced incisions
- » Gangrene
- » Necrotizing fasciitis
- » Traumatic wounds
- » Pyoderma gangrenosum
- » Pressure Ulcers
- » Burns
- » Infected wounds

Services offered at the center, include: negative pressure therapy (wound vac management), total contact casts, multi-layer compression wraps, skin substitutes, nutritional consults, outpatient debridements, skin biopsies, other advanced dressings and hyperbaric oxygen therapy.

Case Study #1

WEEK 1



WEEK 8



WEEK 12



A 48 year-old female presented to the center with a non-healing, fourth degree burn of the lower extremity. Patient was diabetic with chronic kidney disease, coronary artery disease, overweight and hypertensive.

Total weeks in treatment: 12

Therapies included:

- » Negative Pressure Therapy
- » Advanced dressing techniques using collagen (Prisma) and enzymatic debridements (Santyl)
- » Non-selective debridements and traditional saline irrigation techniques

Case Study #2

WEEK 1



WEEK 13



WEEK 28



A 52 year-old male, diabetic and non-compliant, presented to the center with an open ulceration, status post debridement with failed antibiotics and chronic osteomyelitis.

Total weeks in treatment: 28

Therapies included:

- » Excisional debridements
- » IV antibiotics
- » Completed 53 out of 60 ordered treatments of Hyperbaric Oxygen Therapy
- » Negative Pressure Therapy
- » Alginate with silver dressings
- » Skin Substitutes

Most wounds referred to the center treated without hyperbaric oxygen therapy obtain up to 80% healing rates as illustrated in Case Study #1. Difficult wounds referred to the center that require the addition of hyperbaric oxygen therapy obtain 80% or more healing rates as demonstrated by Case Study #2. Wounds that do not respond to traditional therapies within 4 weeks or heal completely within 8 weeks, should be referred to the center for evaluation and appropriate management.

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Dr. Ajanwachuku is a board certified general, cancer and trauma surgeon providing traditional, laparoscopic and robotic surgery. He completed medical school and a general surgery residency at Howard University

College of Medicine, Washington, D.C., along with a fellowship in surgical oncology. Further training includes a trauma surgery fellowship at General Hospital, Washington, D.C.

Dr. Ajanwachuku is currently the medical director at the St. Mary Center for Wound Care and Hyperbaric Medicine and was the recipient of the St. Joseph Health, St. Mary Humanitarian of the Year award and the Values in Action Award for Justice in 2012. He was also recognized by America's Top Surgeons: Consumers Research Council of America for the past 10 years.

Dr. Ajanwachuku is a published surgeon in The Journal of the American Medical Association and is a fellow of both the American and International College of Surgeons.

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For feedback or questions related to the content of this article, contact Angie Miller,
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