Advanced Wound Care Solutions: The Role of HBO Therapy in Limb Preservation and Wound Healing

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Introduction

Hyperbaric Oxygen (HBO) Therapy for Chronic Wounds

Why It Matters:

Chronic wounds can lead to pain, disability, and limb loss.

Traditional care may not be enough—advanced solutions are needed.

What HBO Therapy Does:

Delivers 100% oxygen at high pressure in a specialized chamber.

Enhances oxygenation of hypoxic tissues.

Clinical Benefits:

Stimulates angiogenesis and collagen synthesis

Boosts immune response

Purpose

Evaluate the impact of Hyperbaric Oxygen (HBO) Therapy on:

- Limb preservation
- Wound healing in patients with complex, non-healing wounds

Demonstrate how HBO Therapy:

- Enhances oxygen delivery to tissues
- Promote healing
- Reduces infection rates

Highlight the potential benefits of integrating HBO Therapy into standard wound care protocols

Improve patient outcomes

Method

Three patients with severe, non-healing wounds were included in this project:

- Treatment plan tailored to each patient.
- Multiple sessions of HBO Therapy
- Weekly wound assessments and documentation .

Effectiveness of HBO Therapy analyze as an adjunct to standard wound care.

Case Study 1

Comprehensive Management of a Diabetic Foot Ulcer with HBO Therapy

Patient Profile:

The patient is a 56-year-old male with a history of diabetes mellitus, presenting with a chronic foot ulcer resistant to conventional wound care methods

- **Before HBO Therapy**:
  - Chronic, non-healing foot ulcer

The amputation site of the 3rd digit healed

The patient struggle with compliance

The patient admitted to the hospital on 12/04/2024 and the 5th digit was amputated

The patient was released from the clinic with

Case Study 2

Accelerated Recovery from a Traumatic Injury with HBO Therapy

Patient Profile:

A 13-year-old female presented to the emergency department (ED) via EMS following an ATV rollover accident. She was the right back passenger on the vehicle.

Initial Condition:
Severe traumatic wound to the foot

The first day in the clinic 10 days post-crash.

4 weeks after the accident

The surgeon wanted to do a trans metatarsal amputation

16 weeks after the accident

Could not save the 1st and 2nd digits. The patient is still able to take part in sports.

Case Study 3

Multidisciplinary Management of a Crush Injury with HBO Therapy

Patient Profile:

59-year-old male, sustained a crush injury to the left foot at work after a 600-pound pipe fell onto it. His past medical history is

Severe crush injury with high infection risk

Four weeks of treatment

Seven weeks of treatment

The patient foot is completely healed

Results

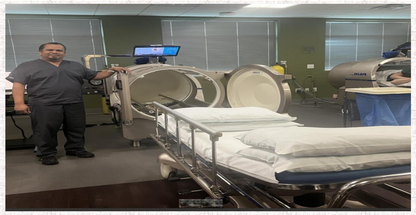
The three case studies demonstrated the following positive outcomes:

- Enhanced wound healing.
- Reduced infection rates
- Successful limb preservation.

These findings support the integration of HBO Therapy into standard wound care protocols as a valuable adjunct in managing complex wounds.

Conclusion

Hyperbaric Oxygen Therapy offers substantial benefits in advanced wound care, particularly in limb preservation and wound healing. Its integration into standard care protocols has the potential to transform treatment outcomes for patients with complex wounds, as evidenced by the case studies presented.



References **Power Point**