

A Retrospective Multicenter Review Evaluating the Safety of Utilizing Fiberglass Total Contact Casts in Hyperbaric Oxygen Chambers

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Introduction

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- Diabetic foot ulcers are challenging to heal
- Hyperbaric oxygen therapy (HBOT) and total contact casting (TCC) are effective modalities
- Some practitioners hesitate to utilize both concomitantly
 - Fire-risk?



- Patients included from two facilities

- Patients were treated by one of two wound care specialists (JDL&RSC)

- Inclusion criteria:
 - Neuropathic diabetic foot ulcers
 - Patients simultaneously treated with fiberglass TCC and HBOT

- Center protocols for TCC and HBOT followed



- Retrospective review of all patient charts completed with attention directed towards:
 - Total # of HBOT sessions with TCC
 - Adverse events associated with concomitant HBOT and TCC use
 - All Adverse events noted with HBOT
- Patients followed until completion of HBOT
- TCC product and literature review performed

- Most HBO centers in the USA have a protocol



- Center 1 Protocol:
 - Patient may enter HBOT chambers 20 hours post-application of fiberglass TCC.
 - The TCC must be wrapped in a soft cotton towel for the duration of the HBOT session.
- Center 2 Protocol:
 - Patient may enter HBOT chambers 12 hours post-application of fiberglass TCC.

Total # of Patients	15
Total # of HBOT Dives w/ TCC	179
Male Patients	66.67%
Female Patients	33.33%
Total # of patients with Diabetes Mellitus	15
Total # of patients with Peripheral Neuropathy	15

- NO adverse events noted in regards to the concomitant use of HBOT and TCC
- 5 overall adverse events noted:
 - 2 episodes of hypoglycemia
 - 1 episode of abdominal pain
 - 2 episodes of shortness of breath with diaphoresis

Conclusions



- Combustible events associated with HBOT chambers have been reported and are catastrophic. ^{1,2,3,4}
- Zero adverse events regarding concomitant use of TCC and HBOT were encountered
- ✓ HBOT not listed as a contraindication or precaution in TCC product literature
- ✓ "Rules" for diving TCCs in HBOT not known to be evidence-based
- ✓ December 2016 update by BSN Medical – can dive 1.5 hours post application

- Any questions?

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Thank you for your attention.