

Environmental Issues Catalogue



Hyperbaric Oxygen Treatment

Category: Mechanical Impact; Pressure

**MEDIUM
RISK**

Background

In certain circumstances, hyperbaric oxygen treatment is used to substantially increase oxygen flow within tissues to improve healing.

Patients undergoing hyperbaric treatment are placed in a chamber where 100% oxygen is circulated. The oxygen is pressurized so that air pressure may be 2-3 times greater than normal (2-3 atm). This allows the lungs and skin to absorb more concentrated oxygen in a shorter period of time.

Potential Interactions

Air pressure can introduce pressure on the implant housing and lead to a breaking of the internal semiconductor circuit.

Recommendation

The Nucleus CI24R, CI24M and CI22M are [validated to withstand pressure up to 2,5 atm](#). The Nucleus CI500 series and Freedom implants can withstand pressure up to 4 atm.

Sub Forms / Synonyms / Brand Names

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References

Backous D. et.al., Effects of Hyperbaric Exposure on the Integrity if the Internal Components of Commercially Available Cochlear Implant Systems, *Otology&Neurotology* (2002) 23:461-467