

Hyperbaric oxygen treatment, nurse's point of view

Kari Keski-Saari

Intensive Care Unit for adults, Turku University Hospital

ABSTRACT

HBO therapy has been administered since 1968 in Turku University Hospital. The first chamber was a monoplace chamber. The first multiplace chamber was purchased to ICU in 1992. It made possible to have a nurse with a patient in the chamber. Trained nursing staff and appropriate equipment makes it possible to treat critically ill patients safely in hyperbaric environment.

ICU and HBOT unit moved to the new T-hospital in 2013. The new environment had space for a multiplace chamber and two monoplace chambers. HBO unit grew to 230m² and got a bigger up-to-date multiplace chamber.

Trained ICU nurse works as an operator. HBOT unit has patients from ward and ICU. Minimum number of personnel during treatment is two for safety reasons according to EUBS guideline (1).

65% of HBO treatments were carried out in monoplace chamber in 2015. Chamber is pressurized by 100% oxygen. Normal ward patients get their treatments mainly in a monoplace chamber. Operator guides patient about chamber safety, pressure equalization and principles of treatment. Operator and an assistant nurse monitor the HBO treatment. Electronic devices inside the monoplace chamber are forbidden for safety reasons. I.V. infusions and epidural infusions are not possible during monoplace chamber treatment. There are instructions in our hospital care guideline's site on how to prepare a patient for HBOT.

35% of HBO treatments were carried out in multiplace chamber in 2015. Chamber is pressurized by air. Patient breathes oxygen via mask, hood or ventilator. ICU patients HBO treatment is mainly in a multiplace chamber. ICU patients HBO treatment staff during treatment are operator, two hyperbaric nurses, ICU nurse and HBO doctor.

Equipment in multiplace chamber have to be specially made for HBOT for safety reasons. We have there e.g. patient monitoring system with defibrillator, syringe pumps, ventilator and special made bed and antidecubitus mattress.

ICU nurse has a special checklist for patient's preparation before HBOT and after HBOT. ICU nurse is often busy carrying out septic HBOT patient's e.g. fluids, medication, extensive wound areas, CT scan and operations.

Hyperbaric nurse has to have ICU experience minimum 2 years and they need medical certification, specific education and test compression with an experienced nurse. There are a few absolute contraindications to work in a HBO chamber. Hyperbaric nurses have periodical medical examination every fifth or third year. Operator must monitor nurses exposure time and follow the diver's table to reduce the risk of decompression sickness.(2)

REFERENCES

1. A European Code of Good Practice for Hyperbaric Oxygen Therapy, Working Group "SAFETY" of the COST Action B14, 2004
2. Wendling J. , Elliot D. , Nome T. , Fitness to Dive Standards, 2003.