

Hyperbaric oxygen therapy

Hyperbaric oxygen therapy is a method of treatment that uses the ability of blood at higher atmospheric pressure to deliver a greater amount of oxygen to the organs.

Distribution of hyperbaric chambers

- Decompression chambers;
- medical research chambers;
- treatment chambers;
- small chambers are filled with oxygen as well as air;
- chambers with larger filling are usually filled with air;
- diving and experimental chambers are filled with a mixture of oxygen and helium for high pressures;
- hydrobarochambers are filled with water.

HBO indication

Indications are assessed according to urgency.

I. Degree– affects the prediction of survival, it is vital indications

- Brain anoxia;
- burns;
- hemorrhagic shock;
- air embolism;
- decompression syndrome (condition in divers);
- crush syndrome.

II. Degree – used as part of treatment, prevention. Transportation to HBO is recommended.

- Cyanide poisoning;
- polytrauma;
- replantation of amputated limbs;
- cardiogenic shock.

III. Degree – is part of therapy, improves results.

- Decubitus necrosis;
- inflammatory tissue changes;
- grafting of skin flaps and grafts.



Hyperbaric chamber



Hyperbaric chamber

Contraindications of HBO

- *Absolute contraindications* – this includes untreated pneumothorax, cytostatic treatment, during the withdrawal of alcoholics.
- *Relative contraindications* – acute viral infections, artificial lung ventilation, especially controlled ventilation, untreated tumor malignancy, pregnancy, acute bronchial asthma, condition after chest surgery, epilepsy.

HBO complications

- **Compression phase** – barotrauma – pressure difference damage – teeth, ear canal, ear drum, lungs, inner and middle ear.
- **Isocompression phase** – failure to observe the maximum safe inhalation times - oxygen intoxication can occur - damage to the brain, lungs, nitrogen narcosis.
- **Decompression phase** – damage to the ear, overpressured barotrauma of the lungs, damage to the secondary nasal cavities, pneumothorax may occur.

Links

Related Articles

- Oxygen therapy • Oxygen toxicity • Oxygen • Oxygen radicals • Oxygen parameters

References

- KAPOUNOVÁ, Gabriela. *Ošetřovatelství v intenzivní péči*. 1. edition. Grada, 2007. ISBN 978-80-247-1830-9.

