

OxyEdge Safety Manual

FOR EDUCATIONAL PURPOSES 2025

1 ▪ Relative contraindications

As a safety measure, anyone suffering from the following health conditions must not use OxyEdge hyperbaric chambers.

- All problems related to the eardrum, including eardrum tearing;
- Pneumothorax;
- Acute nasal congestion;
- Blocked eustachian tubes (ear);
- Internal infection of the ear;
- Upper respiratory tract infections or chronic sinusitis;
- Seizure disorder;
- Acute headaches or flu / cold symptoms;
- Otitis or other ear related conditions;
- Cough or nasal congestion;
- Intense fever;
- Intense fatigue;
- Headache;
- Intense muscular pains;
- Chills or hot flash;
- Under the influence of alcohol or recreational drugs.

2 ▪ **Absolute contraindications**

There is currently only one absolute contraindication to hyperbaric oxygen therapy, namely untreated pneumothorax.

Placing a patient in a chamber and changing the pressure around them can result in a tension pneumothorax occurring on ascent, which could quickly become life-threatening. Any patient with pneumothorax should have it treated (likely with some form of thoracostomy tube) before hyperbaric oxygen therapy.

CAUTION!

As a safety measure, anyone taking the following medications is required not to use Oxyedge hyperbaric chambers.

3 ▪ **Contraindicated drugs (DO NOT USE A CHAMBER)**

(non-exhaustive list, please consult your prescribing physician):

Topamax;

Epival or Depakene; Citalopram or Celexa; All anticonvulsants; Bleomycin;

Cisplatin;

Disulfiram (Antabuse);

Doxorubicin hydrochloride (Adriamycin);

Mafenide Acetate (Sulfamylon).

TION!

*Always consult your healthcare professional before initiating treatment.
Respect and follow your healthcare professional's recommendations before initiating treatment.*

**WARNING**

If you use the chamber for commercial purposes, ensure that a list of contraindications is visually accessible near the chamber.

3**Risks of use**

A significant and probable risk of otic barotrauma exists when there is an imbalance of pressure in the tympanic membrane. This can lead to a ruptured eardrum.

Barotrauma can occur during compression and/or decompression phases of the hyperbaric chamber.

It is therefore very important to raise or lower the pressure slowly in a linear fashion and ensure that pressure change remains comfortable.

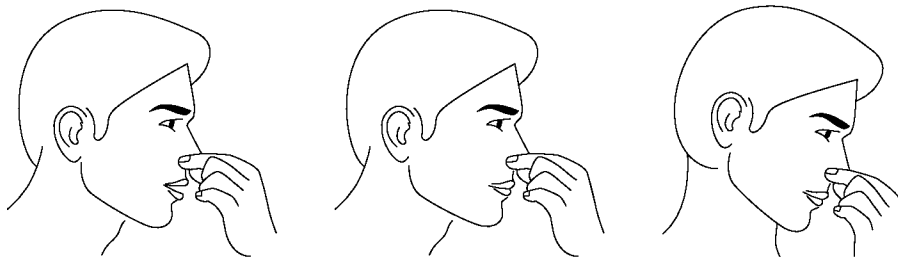
The method below helps to overcome this discomfort:

3.1 Valsalvamethod

The classic Valsalva maneuver aims to equalize pressure in the eardrums by closing the mouth and exhaling while pinching the nose (expiration effort forced to glottal closed for a few seconds).

It is important to only bring back the balance and not anticipate future pressure.

If you feel pain in the eustachian tubes (inner ear, side of throat) or ears, it is better to manually stabilize the pressure of the chamber and allow time to rebalance the pressure in the inner ear. If the pain persists, it is advisable to stop the treatment.



The steps of the Valsalva method in more details:

- 1 / Close your mouth and gently exhale through your nose while pinching it close with your fingers (as if you wanted to slowly blow your nose). It can be done while slightly tilting the head left and right;
- 2 / Swallow your saliva;
- 3 / Yawn;
- 4 / Stretch your eustachian tubes (neck) and massage gently.

How to equalize your ears Q



CAUTION!

It is important to only balance the pressure!

3.2 Possible adverse effects and possible complications

Fortunately, with HBOT (hyperbaric oxygen therapy, there are only a few mild and temporary side effects. These may include:

- Ear and/or lung barotrauma (injury caused by heightened air pressure);
- Temporary changes in vision;
- Lightheadedness;
- Fatigue;
- Low blood sugar.

Although extremely rare, oxygen toxicity seizures and pressure injury to the lungs can occur in patients with underlying brain or lung disorders.

CAUTION!

Most side effects of HBOT are minor and temporary. If they don't go away, or if they worsen, seek medical attention as soon as possible.

4**Claustrophobia**

Claustrophobia refers to the discomfort or the feeling of being trapped in an enclosed place. It is possible that a hyperbaric chamber treatment triggers the symptoms related to claustrophobia. They can manifest in varying degrees. Nonetheless, it is very important to remain calm. If a treatment has to be stopped because the feeling of claustrophobia is too intense, one must still follow the depressurization procedure correctly.

**WARNING**

In order to limit the risks of otic barotrauma, do not depressurize the chamber faster.

| NOTE:

It is quite possible to decrease the feeling of claustrophobia associated with HBOT. It is a matter of going very gradually and staying under the supervision of an attentive and calm attendant.

5.1 ▪ Intended use

Anyone with an optimal health condition and who has no limitation for using a hyperbaric chamber can perform up to two sessions a day without any risks. The increase in pressure inside the chamber results in a change in the oxygen saturation of the blood. As ambient air is pressurized, red blood cells have a greater capacity for oxygen absorption. After a few minutes, the oxygen level in the whole body is increased slightly above normal. The body having more oxygen regenerates faster and decreases healing time. The benefits of this therapy are multiple

**WARNING**

No specialized training is necessary, but the instructions given should be understood and followed in order to operate the chamber safely.

**WARNING**

Children ages eight and up have to be accompanied by an adult in the hyperbaric chamber.

5.1.1. Recommendations before treatment

CAUTION!

It is advised for smokers not to smoke at least two hours before the treatment and two hours after the treatment, otherwise the effect is not as beneficial. Smoking may even negate it.

CAUTION!

It is advised not to drink coffee at least one hour before the treatment.

CAUTION!

It is advised to wear cotton underwear.

CAUTION!

It is advised not to wear makeup or perfume.

5.2 ■ Wellness and non-medical hyperbaric benefits

An absolute key component of optimal physical and mental health is oxygen, as it:

- Increases concentration during mental activity;
- Reduces stress;
- Straightens the immune system;
- Promotes new blood vessels growth;
- Has a fabulous effect on skin;
- Has a positive effect on digestion;
- Promotes faster healing of injuries and wounds;
- Slows down aging process on cellular level;
- Increases stem cells production;
- Increases mental clarity and alertness; Detoxifies cells;
- Has a favorable effect on mood;
- Has a positive effect on fatigue and relaxation of the mind;
- Has a favorable effect on sleep;
- Improves poor posture;
- Smooths wrinkles and fine lines;
- Has a positive effect on joint mobility;
- Reduces inflammation and swelling;
- Has a positive effect on joint mobility;
- Reduces serum lactate accumulation;
- Alleviates the peripheral fatigue.
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5.3 ▪ *Preparation for a session*

Before starting your first hyperbaric session, it is important to become familiar with the Valsalva maneuver. This will allow you to balance the pressure in your ears, especially during pressurization and avoid an otic barotrauma, which is felt by pain in ears and / or eustachian tubes. Here are the steps for the Valsalva maneuver.



WARNING

It is also important to use only a properly grounded electrical outlet. Do not position equipment in such a way that makes it difficult to disconnect the plug from the outlet.

CAUTION!

Make sure the chamber and compressor (transports straps removed) are properly installed, placed in a well-ventilated area and that the hose is well connected. Plug the compressor in a wall outlet.

CAUTION!

It is important to only balance the pressure!

Before starting your first hyperbaric session, it is important to become familiar with the Valsalva maneuver (section 8.1).

Be familiar with the manipulation of the handle to control the air pressure rates.

5.3.1. Average session duration

A session usually lasts 45 to 90 minutes, depending on your health goals and the protocol you were advised to use.

5.4 ▪ *Things to never take with you in a hyperbaric chamber*



Laptop and other electronic devices are not advised due to fire hazards



Food (for sanitary reasons)



Electrical outlet/extension cord since the zippers have to be completely closed



Balls or balloons due to pressure changes



Any pointy and/or sharp objects



Watches or jewellery



Hand warmers



Flame producing devices such as lighters or matches



Cigarettes



Shoes



Anything containing oil, grease or alcohol



Any other items deemed unsafe by the hyperbaric operator



WARNING

It is also important to use only a properly grounded electrical outlet. Do not position equipment in such a way that makes it difficult to disconnect the plug from the outlet.

5.5 ▪ *To do before a session:*

- 1 /** Take the time to go to the bathroom;
- 2 /** Bring a bottle of water, drink moderately during the session;
- 3 /** In order to avoid any spark, change clothing made of static-generating fabrics or synthetic fibers to a 100% cotton or any known non-static fabrics;
- 4 /** Take off your shoes. You can keep your socks;
- 5 /** Carry a lightweight blanket for optimal comfort.

5.5.1 *To be done during a session:*

Allow yourself some rest and indulge in a calm inducing activity such as sleeping, reading a book, meditating, or listening to your favorite music.

The person inside the hyperbaric chamber can easily communicate with an attendant who is outside of the hyperbaric chamber when the latter approaches a window.

5.5.2 *To do after the session:*

After the completion of the treatment in the hyperbaric chamber, the treatment effect continues for approximately six more hours, because of the higher oxygen concentration in the user's body. Feelings of relaxation, concentration, and greater energy as well as a pleasant feeling of tiredness can also be experienced. Effects of the treatment can be seen and felt right away or a day or two after the treatment. The number of necessary treatments may vary from one user to another depending on the reason for the consultation.

NOTE:

It is very important to respect the comfort and limits of the body of the person undergoing the session. If it takes more than 10 minutes to reach the operating pressure there is no problem!

Here are the steps that will be described in more details further:

- 1 /** Prepare for your session. Comfortable clothing, small water bottle, pillow /blanket, book
- 2 /** Enter the chamber, close door or zipper, relax
- 3 /** Adjust the pressurization speed by turning the pressurization/depressurization handle;
- 4 /** Perform the Valsalva method, or any other in order to balance the pressure inside the ears.

At the end of the session, during the depressurization, the handle is very slightly opened. Depressurize the chamber over a period of 15 minutes or more (depending on the comfort levels of the user, by always slowly opening the handle a little more.

6.1 ▪ Pressurizing the chamber with a single user operating the chamber from the inside

NOTE:

See section 11.2 Use with an attendant for use with an attendant outside.

Take your time to depressurize. Its not a race and you can hurt yourself.

Credits

- Underwater hyperbaric medical society (UHMS)
- Oxynova
- International hyperbaric foundation (IHF)
- Hyperbaric Health