

Karl J. Moo Young, DO
Medical Director

PATIENT GUIDE TO HYPERBARIC OXYGEN THERAPY

(HBO) therapy is a medical treatment in which the entire body is exposed to increased atmospheric pressure while the patient breathes 100% oxygen.

The breathing of oxygen while in a pressurized environment stimulates the body mechanisms to promote healing.

There is very little sensation while undergoing HBO therapy. During pressurization, you will get a "fullness" buildup in your ears as a result of the pressure change. This feeling is similar to diving down to the bottom of a swimming pool, driving through the mountains or flying in a plane. The technician will show you how to relieve this fullness so that you can avoid discomfort during your treatment.

Once the treatment begins, you will hear a hissing sound as the chamber pressurizes. You may also notice a temporary increase in temperature during this compression. A technician will adjust the rate of compression according to your tolerance and coach you on relieving the full sensation in your ears. The compression phase of the treatment generally lasts about 10-15 minutes, depending upon how effective you are in clearing the pressure in your ears.

Once you are at the prescribed pressure in the chamber, your ear pressure sensation will go away. You should feel absolutely normal at this time. You may watch television, listen

to music, sleep or just rest during the remainder of the treatment. You can expect treatments to usually last about two (2) hours.

At the end of your treatment, the pressure will gradually decrease over a period of 10-15 minutes. During this decompression, you will experience a popping sensation in your ears as a result of the decreasing pressure. This popping is a normal adjustment of pressure inside your ears.

Generally, you experience no after-effects from HBO therapy, however, some patients report a crackling sensation in their ears between treatments. This may be relieved in the same manner as clearing your ears during compression. If the crackling should continue, please report this to the staff. Additionally, some patients report feeling light headed for a few moments following treatment, but the episode is brief and the patients are soon able to continue with their normal daily activity. As with all medical procedures and treatments, there are some side effects that could result from exposure to hyperbaric oxygen. These are rare, but they will be discussed with you in detail before you sign your "Consent for Treatment" form.



PURPOSE OF TREATMENT:

1. A generalized constriction of blood vessels that decreases edema or swelling.
2. Activation of the immune system to fight and kill bacteria.
3. Stimulation of cells to rebuild tissues and enhance healing.
4. Inactivation of toxins produced by bacteria.
5. The rebuilding of small blood vessels, such as capillaries.
6. Enhanced stem cell release.
7. Helps to clear infections in bones and rebuild new bone.

Hyperbaric Oxygen (HBO) Therapy is a medical application, which is useful in the treatment of selected surgical and medical problems. HBO therapy can be used as a primary treatment modality for problems such as decompression sickness (the bends), or as adjunctive therapy to medicines and/or surgery, such as with skin grafts and problem wounds.

HBO therapy may be administered in either a large, steel cylinder called a multiplace chamber or an acrylic monoplace chamber. While in the chamber you will breathe 100% oxygen while subject to increased atmospheric pressure.



KEEP YOUR APPOINTMENTS:

Missing your scheduled appointments can compromise the success of your ongoing care. Follow-up appointments are essential so that you and your physician can assess the progress of your treatment plan. It is also essential that you continue the prescribed plan until the treatment goals you and your physician have agreed upon have been accomplished, and until you and your physician formally agree to end your treatment. If you find you cannot keep a future appointment call the facility as soon as you can to reschedule.

VISITORS:

Visitors are welcome. Children will be required to remain in the reception area **at all times**. Tours may be conducted if prior arrangements have been made so we do not interfere with other patient's treatments or their privacy. After visitors have seen the chambers they will be required to return to the reception area until your treatment is completed.



On treatment days there are several things which will need to be done before, during, and after the treatment.

BEFORE TREATMENT:

Arrive thirty minutes before your scheduled treatment time. Change into approved clothing and use the restroom and attend to other personal needs as necessary. Your physical and psychosocial condition will be assessed before treatment. The staff will check your vital signs, as well as blood sugar if applicable. Continue your regular home medications as scheduled unless otherwise directed by the physician. We will review ear clearing procedures and other information about your treatment. Do not drink carbonated beverages within one hour of your treatment, as this may cause stomach cramps. Please tell a staff member if you have any cold or flu symptoms, such as:

- Sinus drainage.
- Stuffy ears or nose.
- Nausea or vomiting.
- Stomach cramps or diarrhea.

TREATMENT:

DESCENT (compressed gas is put into the chamber). There will be a technician at the chamber with you at all times. Inform them immediately if you require any assistance. The ability to clear your ears is important in preventing ear discomfort or trauma. As the chamber fills with pressure, you will need to equalize the pressure inside your ears to the pressure inside the chamber. You will be taught a couple of different pressure-clearing techniques.

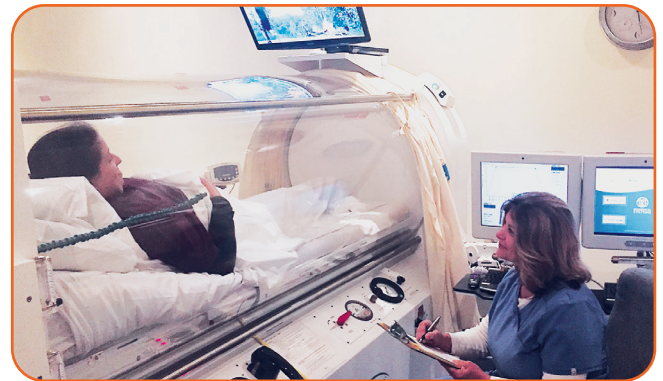
There are several ways to do this: YAWN... SWALLOW... OR BLOW THROUGH YOUR NOSE WHILE PINCHING IT CLOSED (VALSALVA).

This is performed as follows:

- Hold your nose and close your mouth.
- Blow out through your nose.
- Keep blowing until your ears feel normal. Tell the technician immediately if you cannot relieve the fullness or pressure in your ears.

Standard treatments last about two hours. In the monoplace, you will breathe air on your breaks through an air mask provided. The technician will continually assess you during your treatment. Remove the mask only when instructed.

ASCENT (compressed gas is released from the chamber). The inside chamber temperature may chill during ascent. Your Ears may "pop" or "crackle," your ears will equalize by themselves. **DO NOT VALSALVA OR DRINK WATER ON ASCENT.** Tell the technician immediately if the pressure does not relieve itself in your ears or sinus. Breathe normally on the ascent. **DO NOT HOLD YOUR BREATHE DURING ASCENT.**



POST TREATMENT:

A staff member will take your vital signs after the treatment and monitor you for problems. You will be provided wound care if ordered by the physician.



ITEMS NOT ALLOWED IN CHAMBER

- Synthetics, wool, silk.
- Oil based or petroleum products.
- Lipstick, make-up, nail polish, hair spray, lotion, or mousses.
- Hearing aids, beepers, radios, tape players, all electronic devices, pacemakers (external), cell phones.
- Non-pressurized watches, newspapers.
- Contact lenses (hard).

Any items taken into the chamber must be approved by the technician.

ITEMS ALLOWED

- Drinking water.
- 100% cotton clothing.

TOBACCO USE:

If you are a smoker, you will need to refrain from smoking before and immediately following the hyperbaric treatment. Nicotine causes small blood vessels to constrict, and smoke/tar decreases your ability to absorb oxygen through your lungs. Smoking will make HBO much less effective.

I have been made aware that possible risks and side effects of hyperbaric oxygenation include, but are not limited to:



Barotrauma:

A change in ambient pressure can cause discomfort, pain, and damage to air-filled spaces of the body. This can include the ears, sinuses, dental work, and lungs.

I understand that HBOT inherently involves ambient pressure changes. I will be taught pressure equalizing maneuvers and that if I cannot equalize my ears, pressurization will be slowed or halted and other remedies may be applied.

To prevent lung damage, which may result in air escaping into the chest cavity causing pneumothorax or into arteries causing an arterial gas embolism, pressurization and depressurization will be done slowly.

Oxygen Toxicity:

Oxygen is considered a medication, and as such, can have toxic effects causing seizures and/or respiratory problems at high doses.

When undergoing HBOT, I am aware I will be exposed to high concentrations of oxygen. I understand that HBOT protocols are designed to prevent exposures beyond safe limits.

Ophthalmic Effects:

HBOT can result in various ophthalmic effects.

Increases in myopia (near-sightedness) are possible, and with this, decreases in presbyopia (far-sightedness). I understand that these changes usually return to normal within a few weeks, and changing corrective eye-wear may be needed if significant.

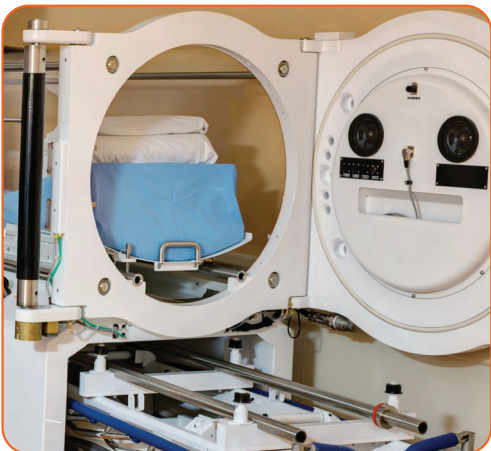
Worsening of established cataracts can occur from large numbers of hyperbaric oxygen treatments. These are generally well managed by eye-care professionals.

Fire Risk/Tobacco Use:

With the presence of high concentrations of oxygen possible in and around the chamber, fire is a great risk.

Policies and procedures, including guidelines for chamber occupants, have been developed to reduce fire risk. I understand that it is important for me to follow any instructions I am given pertaining to my treatment in order to maintain my safety and the safety of those around me.

I have been made aware of the importance of not using any tobacco or nicotine products in the course of my treatment. These products can include, but are not limited to: cigarettes, cigars, chewing tobacco and pipe tobacco, nicotine gum, patches or lozenges. I understand using tobacco or nicotine products may adversely affect the efficacy and success of hyperbaric oxygen therapy.





Fax: 910-425-5178

Karl J. Moo Young, DO
Medical Director

**PATIENT CONSENT TO
HYPERBARIC OXYGEN THERAPY**

Patient Last: _____ First: _____ MI: _____ Date of Birth: _____
Physician: ☐ Karl J. Moo Young, DO ☐ Helen Gelly, MD ☐ David Schwegman, MD
☐ Other _____

The patient hereby acknowledges that he or she has read or had it read to them and agrees to the contents of this document (A Patient Guide to Hyperbaric Oxygen Therapy). Patient agrees that his or her medical condition has been explained to him or her by the physician. Patient agrees that the risks, benefits, and alternatives of all care, treatment, and services that patient will undergo have been discussed with the patient by the physician. I understand that the practice of medicine and surgery is not an exact science and I have been made no promises or guarantees as to the results of hyperbaric oxygen therapy. Patient understands the nature of his or her medical condition, the risks, (Barotrauma, Oxygen Toxicity, Ophthalmic Effects, Fire Risk) alternatives and benefits of treatment, and the consequences of failure to seek or delay treatment for any conditions. The patient has had the opportunity to ask questions of the physician and has received answers to all of his or her questions.

I understand that my participation in hyperbaric oxygen therapy provided by North Carolina Hyperbarics is voluntary and I have the right to halt treatment at any time, but I will still be held to any financial obligations per any established payment agreements made with North Carolina Hyperbarics.

By signing below, Patient: (1) My signature below constitutes acknowledgment that I have read and agree to the attached

document, and that a physician has satisfactorily explained hyperbaric oxygen therapy to me, I have received "A Patient Guide to Hyperbaric Oxygen Therapy", and that I have all the information that I desire. (2) I grant permission to take medical photographs of my condition and hereby authorize the publishing or reproduction of such photographs for correspondence with my referring physician and for teaching purposes. I also understand that I will not be identified by name and that my anonymity will be preserved in any presentation or publication. (3) Consent to the transfer of health information protected by HIPAA for purposes related to treatment, payment and health care operations. (4) Furthermore, I grant permission to take a photograph of myself for the purpose of patient identification. This photograph shall remain a permanent part of my patient record. (5) I understand that I am undergoing hyperbaric oxygen treatment at my own risk. (6) I hereby give my authorization and consent to the implementation of hyperbaric oxygen therapy by North Carolina Hyperbarics.

Patient understands that this consent form will be valid and remain in effect from the date of signature, as long as the patient receives care, treatment, and services at the facility. A new consent will be obtained when a patient is discharged from the facility and returns for care, treatment or other services.



Signature of Patient/Parent/Guardian or Authorized Representative
(Guardian or authorized representative must attach documentation of such status.)

Date

Printed Name of Authorized Representative

Relationship/Capacity to Patient



Witness Signature

Date

Printed Name of Witness

The undersigned Physician has explained to the Patient (or his or her legal representative), in layman's terms, the nature of the treatment, reasonable alternatives, benefits, risks, side effects, likelihood of achieving patient's goals, complications and consequences which are/or may be associated with the treatment or procedure(s).



Signature of Physician

Date

ORIGINAL SIGNATURE STAYS IN PATIENTS CHART



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- Synthetics, wool, silk.
- Oil based or petroleum products.
- Lipstick, make-up, nail polish, hair spray, lotion, or mousses.
- Hearing aids, beepers, radios, tape players, all electronic devices, pacemakers (external), cell phones.
- Non-pressurized watches, newspapers.
- Contact lenses (hard).

Any items taken into the chamber must be approved by the technician.

ITEMS ALLOWED

- Drinking water.
- 100% cotton clothing.
- One book or magazine (multi-place only).
- Tissues (multi-place only).

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