

Nebraska Medicine is home to the only Level 1 (i.e., available 24/7 for emergencies and critical patients) clinical hyperbaric oxygen therapy unit in the region. Our Hyperbaric Medicine Program is medically directed and staffed by physicians and nurses specially trained in hyperbaric oxygen therapy. The unit is open from 7:30 a.m. to 5 p.m. Monday through Friday and is staffed on an “on call” basis 24 hours a day for emergencies. This brochure has been designed to provide you with necessary information and answer the most common questions concerning hyperbaric treatments. After reading this brochure, please call Hyperbaric Medicine at 402-552-2490, or your doctor, if you have any questions.

What Is Hyperbaric Oxygen Therapy?

Hyperbaric oxygen therapy (HBO) is a medical treatment used to treat a limited but diverse group of illnesses. It may be the primary treatment for some disorders, but is often used as part of a combined program involving nursing care, dressing changes, surgical debridement, medications and nutrition.

During hyperbaric oxygen therapy, the patient is placed within a clear plastic chamber which is pressurized with 100 percent oxygen up to two to three times greater than normal atmospheric pressure. This increases the oxygen level in the blood and ultimately in the body tissues.

Hyperbaric oxygen is a simple concept. The air we breathe contains 21 percent oxygen. Providing 100 percent oxygen by face mask without the use of a chamber has certain but limited benefits. By providing pure oxygen in a pressurized chamber, we are able to deliver two to three times that which can be provided by breathing 100 percent oxygen at normal atmospheric pressure. This “hyperbaric” (or high pressure) dose of oxygen offers distinct therapeutic benefits.

How Does Hyperbaric Oxygen Therapy Work?

Oxygen that is delivered to a patient in a hyperbaric chamber greatly increases the amount that can be delivered to body tissues by the blood. The benefits of hyperbaric oxygen are not from oxygen coming in contact with the surface of the body, but from breathing it and getting more in the bloodstream.

Depending on the reason for your referral to the Hyperbaric Medicine Program, hyperbaric oxygen will be used to provide one or more of the following effects:

- Increased oxygen delivery to injured tissue
- New blood vessel formation
- Improved infection control
- Preservation of damaged tissues
- Elimination of toxic substances such as carbon monoxide
- Reduction of effects from toxic substances
- Reduction or elimination of blood vessel obstruction by gas bubbles

The above effects may occur with only one or two treatments. However, it may be necessary to undergo as many as 40 or more treatments for maximum benefit. The planned treatment course will be discussed in detail prior to starting therapy.

What Does Hyperbaric Oxygen Feel Like?

HBO therapy is a virtually pain-free procedure. Patients are placed on a cart in a comfortably lying position and rolled into the chamber. The chamber is large enough to turn from side to side. Pillows are provided for comfort. Patients can listen to music, watch television or movies or nap.

Treatments last approximately two hours. There are three parts: Compression, At Pressure and Decompression.

Compression: Compression lasts 10 to 15 minutes while the chamber pressure increases. During compression, patients will feel fullness in the ears. The fullness occurs as the eardrums respond to the change in pressure. This feeling is very similar to the sensation experienced when driving over a mountain or flying in an airplane. Most patients learn to adjust to these pressure changes. The HBO nurse will teach techniques which will help relieve this fullness. During this part of the treatment, patients may feel warm. This is a result of the increasing pressure of the chamber and will return to normal once compression is complete.

At Pressure: Once the prescribed pressure is reached, patients will no longer have to work to relieve the ear fullness. Twice during this part of the treatment, patients will breathe medical air (21 percent oxygen) through a mask to prevent oxygen toxicity. This is rare, but a potential side effect of hyperbaric oxygen. It will be discussed before the consent form for therapy is signed.

Decompression: Decompression lasts 10 to 15 minutes while the chamber pressure returns to normal. Patients may experience a popping sensation in the ears, a normal adjustment to the changing pressure. As the pressure is released, patients may feel cool.

How Many Treatments Will I Need?

The number of treatments are individualized to each patient and determined by the reason for referral for hyperbaric oxygen treatments. Some emergency treatments will only require one or two treatments. Most conditions will require 30 to 40 treatments.

Treatments will be scheduled on a once daily, Monday through Friday schedule between 7:30 a.m. and 2:30 p.m. Every effort will be made to accommodate other daily activities. If a patient is not able to keep an appointment, please notify Hyperbaric Medicine as soon as possible. There may be times when we must cancel or postpone an appointment due to an emergency situation. In these cases, patients will be notified as quickly as possible.



Jeffrey S. Cooper, MD
Medical Director, Hyperbaric Oxygen Therapy

Is Hyperbaric Oxygen Therapy Covered by Insurance?

The HBO Committee of the Undersea & Hyperbaric Medical Society (UHMS) has separated disorders into two major categories: those for which HBO therapy is “Currently Accepted” and those which are considered “Investigational.” In general, Medicare and almost all insurances will reimburse for HBO treatments on the “Currently Accepted” list. Most insurance requires pre-authorization prior to starting HBO therapy. The HBO nurse will assist with the pre certification process. Patients with questions regarding reimbursement should consult their health care insurer for clarification.

Are There Any Side Effects?

Generally, patients experience no after effects from hyperbaric oxygen therapy. However, some report a “crackling” in the ears between treatments. This can be relieved the same way the ears were cleared during pressure changes while in the chamber. There are no side effects that would not allow a patient to continue normal daily activities.

Patients receiving hyperbaric oxygen therapy may develop TEMPORARY changes in eyesight, making them more near-sighted. These vision changes should return to pre-HBO status within six to eight weeks after treatment ends.

Like all medical treatments and procedures, some risks are associated with hyperbaric oxygen therapy. These risks are quite rare and will be discussed before the consent form for therapy is signed.

Do I Need To Make Special Preparations for Hyperbaric Oxygen Therapy?

There are a number of necessary preparations before starting each treatment. These will be discussed in detail by the hyperbaric medicine team. The following information summarizes these preparations:

Hyperbaric Oxygen

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MEDICATIONS:

HBO therapy may alter the way in which the body utilizes some medications or the response to oxygen.

It is VERY important to provide a complete list of medications, including non prescription drugs and supplements, to the hyperbaric medicine team. Patients should notify HBO staff if they stop taking any medication or start taking new medications.

SMOKING AND CAFFEINE:

Nicotine and caffeine diminish the healing effects of hyperbaric oxygen therapy by shrinking small blood vessels. This results in decreased circulation and oxygenation. Patients will be strongly encouraged not to use tobacco and caffeine products during the course of treatment.

ILLNESS:

Patients experiencing symptoms of a cold or flu, such as fever, runny nose, diarrhea, cough, nausea, sore throat, vomiting or generalized body aches, should notify a hyperbaric staff member as soon as possible. These symptoms may require treatment be postponed until the symptoms resolve.

CLOTHING AND OTHER PERSONAL ITEMS:

Due to the increased risk of fire in a high-oxygen environment, personal items are not permitted within the hyperbaric chamber. Patients will be provided a gown made of 100 percent cotton to wear during treatment. Cotton is necessary in order to reduce the potential for static electricity. For this same reason, patients MAY NOT use petroleum or alcohol-based products before HBO treatment.

The following items are not allowed in the chamber:

- All air or chemically-activated heat wraps such as ThermoCare®
- Cigarettes, matches or lighters
- Jewelry
- Makeup, hairspray, hair gel, mousse or styling products
- Perfume, deodorant, shaving lotion or aftershave
- Any battery-powered device (e.g., cell phones, hearing aids)
- Lotions, ointments, creams or Vaseline®
- Hair extensions, wigs, freshly applied perms, new acrylic nails or new nail polish

In addition, dentures and partial plates will be removed. It may be necessary to remove contact lenses. Locked drawers are provided for clothing and other items. Please do not bring valuable items to hyperbaric therapy.

