



HYPERBARIC OXYGEN THERAPY (HBOT)

Patient Information

What is HBOT?

Hyperbaric Oxygen Therapy is a painless medical treatment that allows patients to breathe pure oxygen being carried by the blood and delivered to the body's tissues. By helping more oxygen reach the cells within the body, HBOT contributes to many healing and therapeutic benefits. The concept of HBOT has been in existence as early as 1662 but has only gained recognition in conventional medicine over the past 50 years.

How does HBOT help in healing?

When using HBOT vital oxygen is forced into the tissues, organs, brain and fluids throughout the body due to the pressurization of the hyperbaric chamber.

- Oxygen floods areas that are oxygen starved to stimulate cell growth and regeneration.
- Oxygen displaces toxins and other impurities to assist in detoxification of your system.
- Hyperbaric oxygen acts as an anti-viral and anti-bacterial, as bacteria and viruses typically cannot tolerate oxygen.
- Hyperbaric oxygen is an immune modulator, supporting the immune system to bring T cell and B cells (cells of the immune system) within normal levels.
- Oxygen reduces tumor growth in cancer patients.
- Hyperbaric oxygen increases nerve and brain function due to oxygen saturation.
- Hyperbaric oxygen provides many other condition specific benefits.

Is HBOT a standard therapy in medicine?

Hyperbaric Medicine is an established technology with expanding applications in medicine. Oxygen is a critical and rate limiting factor in healing. Therefore, compromised or impaired delivery of oxygen can slow or prevent healing. In such circumstances, breathing oxygen while at increased pressure can improve the levels of dissolved oxygen in all body fluids. This promotes oxygen delivery to injured tissue and enhances healing.

The FDA approves HBOT for the treatment of a variety of health conditions such as decompression sickness, carbon monoxide poisoning, gas gangrene, crush injuries, soft tissue infections and wound healing, infected bones and thermal burns. We support the FDA for your full informed consent.

Hyperbaric oxygen is also used to treat numerous conditions that are considered "off label" uses, many of which are documented with significant scientific evidence. These include:

- General health, memory and aging support
- Autoimmune disorders (lupus, rheumatoid arthritis, scleroderma)

- Inflammatory musculoskeletal disorders (Fibromyalgia, arthritis, sports injuries and rehabilitation)
- Cardiac disorders (aid to cardiac surgery and rehabilitation, heart failure)
- Neurologic disorders (stroke recovery, brain injury recovery, cerebral palsy, autism, Fibromyalgia, migraine headaches, Parkinson's disease, epilepsy)
- Infectious disease (Lyme disease, chronic viral fatigue, fungal and Candida infections, mycoplasma)
- Ophthalmology (Retinitis Pigmentosa, Macular degeneration)
- Gastrointestinal (Crohn's disease, colitis, ulcers)
- Peripheral vascular disorders (delayed wound healing, circulatory insufficiency)
- Diabetes
- Cancer

It is important to note that insurance usually does NOT reimburse for these "off label" uses.

Are there contraindications to HBOT?

The following conditions and medications may not be compatible with HBOT:

- Pregnancy (in some cases, women are able to receive treatments using mild HBOT)
- Congenital spherocytosis- a genetic disorder of the red blood cell membrane
- Untreated pneumothorax- free air in the chest (outside the lung)
- Upper respiratory infections- these conditions can make it difficult for the patient to clear their ears (equalize pressure) which can result in trauma to the sinuses and middle ear
- Severe emphysema and chronic obstructive pulmonary disease (COPD)- patients with either of these conditions may have trouble breathing due to a decrease of CO₂
- Cis-Platinum- a chemotherapy agent used for treating certain types of cancer
- Disulfiram (Antabuse)- a medicine used to treat chronic alcoholism
- Doxorubicin (Adriamycin)- a medicine used in cancer chemotherapy
- Sulfamylon- a topical cream used to prevent infection in burn patients
- Claustrophobia- while the chamber is very roomy (like being inside a tent) some people find that they become uncomfortable with the confinement

What happens inside the HBOT chamber?

Our HBOT chamber is considered a "mild" or "portable" chamber. It is made of fabric that inflates with the pressure to a level of 1.3 ATA (atmospheres) which is the same as diving under water to 11 feet depth. This is a lower pressure than the hard chambers which can be pressurized to 2.5 ATA. As a result, our chamber presents less risk of ear or sinus pressure difficulties and actually has a better documented effect on the immune system than the higher pressurized chambers.

Our trained office personnel will be in attendance and will take you through the process with step-by-step supervision. After your initial preparation, you will get inside the chamber (much like getting inside a backpacking tent) and will put on your oxygen mask. For the first few minutes the chamber will be inflated with room air.

During the chamber inflation time you will need to “pop” your ears frequently to maintain equal pressure (like going up and down in an airplane). Your ears may feel full during this time. To help relieve this, take a breath and blow it out gently through your nose while holding your mouth and nose closed. Swallowing, moving your jaw (chewing) and yawning also help.

As the air flows into and out of the chamber, you will notice a hissing type noise and an increase in air temperature (you may feel warm or start sweating). Once the pressure level is reached, the air temperature should become comfortable again. You will be offered the use of soft foam ear plugs in case the noise is too great for comfort.

Once you are in the chamber, you can simply relax, read, play games, etc. There is enough room in the chamber for parents of small children to join them in the chamber during the treatment. (Accompanying parents will not wear the oxygen mask since this is only for the treatment patients.) The chamber has several windows, or viewing ports, so that you can see outside and communicate with your attendant.

Treatments typically are one hour long. There will be a watch and timer visible through the window so that you can keep track of elapsed time.

When the chamber’s pressure is slowly released at the end of the treatment (decompression), you may notice a popping in your ears, along with some noise and a cooling temperature. You do not need to clear your ears at this time. Just breathe normally and do not hold your breath.

How many treatments will I need?

For most of the “off label” uses of HBOT, a series of forty (40) sessions is typically recommended. In many cases, the desired effect from the treatment is not observed until towards the end of the series. Some issues can be resolved in a shorter number of treatments, and other issues require an ongoing maintenance program. Individuals will vary in how soon and how much they respond to HBOT.

If you are doing a series of treatments, it is better to perform them as close together as possible (every day is best).

Are there any special preparations or instructions?

Medicines: Be sure that our staff knows ahead of time what prescriptions and over-the-counter medicines or supplements you are taking. If you are scheduled to take any medicines or supplements before or after the HBOT, you should continue to take them as instructed.

Food: Unless otherwise instructed, you should eat something before coming in for treatment. If you are diabetic, it is important that you maintain your diet and medication regimen. Parents with small children using the chamber can use snacks or beverages in the chamber (with appropriate spill safeguards) to help the child chew and swallow during pressurization.

What to bring and wear: You have to wear 100% cotton clothes and socks. You may bring approved reading material and games, but not newspapers or electronic devices. Synthetic clothing and other

personal items such as lotions, ointments, makeup, nail polish, hairspray, hairpieces and battery-powered devices like watches and hearing aids, are not permitted inside the chamber for safety reasons. Rigid contact lenses must be removed, but glasses are allowed.

Will there be any side effects from the treatment?

Generally, patients experience no after effects from HBOT. Some patients report feeling lightheaded for a few minutes following a treatment, but this is brief and patients are able to continue with their normal daily activities.

A very small number of patients develop temporary changes in eyesight. Studies have shown in these rare cases that any altered vision is of short duration and will return to pre-treatment status within six to eight weeks after the end of treatment.

Like all medical treatments and procedures, some risks are associated with HBOT. These risks are quite rare and they will be discussed with you before you sign your consent form for therapy. During the course of your treatment if you should notice any changes in how you normally feel, please let our staff know.

What will it cost?

The cost for HBOT at our facility is \$85 per session (one hour). This compares to the industry standard range of anywhere from \$100 to \$600 per treatment. If you sign up for a series of treatments, we often can arrange for discount pricing (\$75 each).

As mentioned before, insurance often does not reimburse for HBOT that is used for “off label” indications.

What if I have other questions or concerns?

Please contact our office to discuss any other questions or concerns. We are more than willing to show you the chamber and even have you try it for a brief therapy session so that you can evaluate the experience for yourself.

While we are very excited to offer HBOT in our clinic, and sincerely believe that it can provide effective treatment in a variety of health conditions, it is not for everyone. At no time can we promise specific results of healing for any individual patient.