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HYPERBARIC MEDICINE

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General description

Hyperbaric oxygen therapy consists of breathing pure oxygen in a pressurized room or pressurized tube. Hyperbaric oxygen therapy is a well established treatment for decompression sickness, a diving hazard. Other conditions treated with hyperbaric oxygen therapy include severe infections, air bubbles in the blood vessels, and wounds that do not heal as a result of diabetes or radiation injuries.

In a hyperbaric oxygen therapy chamber, air pressure rises up to 3 times higher than normal air pressure. Under these conditions, the lungs can breathe more oxygen than would be possible by breathing pure oxygen at normal air pressure.

The blood carries this oxygen throughout the body. This helps fight bacteria and stimulate the release of substances called 'growth factors' and 'stem cells', which promote healing.

Why is Hyperbaric medicine performed?

Body tissues need an adequate supply of oxygen to function. When tissue is injured, it needs even more oxygen to survive. Hyperbaric oxygen therapy increases the amount of oxygen that the blood can carry. An increase in blood oxygen temporarily restores normal blood gas levels and tissue function to promote healing and fight infection.

Bibliografía: Mayo Clinic Family Health Book (Libro de Salud Familiar de Mayo Clinic) 5.ª edición

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Hyperbaric oxygen therapy is used to treat various diseases and is used by medical centers in different ways. Your doctor may suggest hyperbaric oxygen therapy if you have one of the following conditions:

01-Severe anemia

02-Brain abscess

03-Air bubbles in the blood vessels (arterial gas embolism)

04-Burns

05-decompression sickness

06-Carbon monoxide poisoning

07-Crush injury

08-Sudden deafness

09-Gangrene

10-Skin or bone infection that causes tissue death

11-Wounds that do not heal, example diabetic foot ulcers

12-Radiation injury

13-Skin graft or skin flaps with risk of tissue death

14-Loss of vision, sudden and painless

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There is but not enough evidence to support the claim that Hyperbaric oxygen therapy can effectively treat the following conditions:

01-HIV / AIDS
02-Allergies
03-Alzheimer's disease
04-Arthritis
05-Asthma
06-Autism
07-Facial paralysis
08-Brain injury
09-Cancer
10-Infant cerebral palsy
11-Chronic fatigue syndrome
12-Cirrhosis
13-Depression
14-Fibromyalgia
15-Gastroduodenal ulcers
16-Heart disease
17-Heat stroke
18-Hepatitis
19-Migraine
20-Multiple sclerosis
21-Parkinson's disease
22-Spinal cord injuries
23-Sports trauma
24-Stroke

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Potential risks include the following:

1-Temporary myopia caused by transient changes in the lens of the eye

2-Injuries to the middle ear, including loss of fluid and ruptured eardrum, due to increased air pressure.

3-Lung collapse caused by changes in air pressure (barotrauma)

4-Seizures produced by excess oxygen (oxygen toxicity) in the central nervous system.

5-Fire due to high oxygen level in the treatment chamber (under certain circumstances)

How to prepare

Pure oxygen can start a fire if a spark or flame ignites a fuel source. Because of this, you can't have items like lighters or battery-powered devices in the hyperbaric oxygen therapy chamber.

Also, to limit sources of excess fuel, you may need to remove skin and hair care products that are petroleum-based and pose a potential fire hazard.

Ask a member of your healthcare team for specific instructions before your first hyperbaric oxygen therapy session.

What you can expect

Single hyperbaric oxygen chamber (single)
Individual hyperbaric oxygen chamber (single) Open pop-up dialog box
Hyperbaric oxygen therapy room

Hyperbaric oxygen therapy roomOpen pop-up dialog box

During hyperbaric oxygen therapy
Hyperbaric oxygen therapy is typically performed as an outpatient procedure and does not require hospitalization. If you are already hospitalized and need hyperbaric oxygen therapy, you will remain in the hospital to receive the therapy. You may also be transferred to a hyperbaric oxygen therapy center outside of the hospital.

Depending on the type of medical institution and the reason for treatment, you may receive hyperbaric oxygen therapy in one of these 2 settings:

1-A unit designed for 1 person. In a single unit (single-seater), you lie on a table that slides into a clear plastic tube.

2-A room for several people. You can sit or lie down in a multi-person hyperbaric oxygen therapy room, which generally looks like a large hospital room. You may receive oxygen through a mask placed on your face or a transparent lightweight hood placed over your head.

During hyperbaric oxygen therapy, the air pressure in the room is approximately 2 to 3 times higher than normal air pressure.

The increase in air pressure creates a temporary feeling of plugged ears, similar to what it feels like on an airplane or at high altitudes. This feeling can be relieved by yawning or swallowing.

For most conditions, therapy lasts about 2 hours. Members of the healthcare team will monitor therapy and monitor you until treatment is complete.

After hyperbaric oxygen therapy
You may feel a little tired or hungry after treatment. This does not limit normal activities.

After Hyperbaric Oxygen Therapy Your therapy team evaluates you, which includes looking into your ears and taking your blood pressure and pulse.

If you have diabetes, your blood glucose is monitored. Once the team decides you are ready, you can get dressed and leave.

You may feel a little tired or hungry after your treatment. This does not limit normal activities.

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Results

To benefit from hyperbaric oxygen therapy, you will likely need more than one session. The number of sessions depends on your disease. Some conditions, such as carbon monoxide poisoning, may be treated in three visits. Others, such as non-healing wounds, may require 20 to 40 treatments.

Hyperbaric oxygen therapy alone can effectively treat decompression sickness, arterial gas embolism, and severe carbon monoxide poisoning.

To effectively treat other conditions, hyperbaric oxygen therapy is used as part of a comprehensive treatment plan and is administered with other therapies and medications that are tailored to your individual needs.