



The Healing Power of O₂

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Oxygen is a nutrient and life can be over if deprived of this nutrient for more than four minutes!

Oxygen is needed by immune cells to attack bacteria, viruses and parasites. It burns our food to make energy. Our liver uses oxygen to detoxify poisons, drugs and waste products. Fibre-making cells need oxygen to repair damaged and worn-out tissues. Everything on earth would either rust or burn without oxygen.

We are living at the bottom of an ocean of air we call the atmosphere, but don't feel this pressure any more than we see the air. However, air is 21 per cent oxygen. At sea levels it has a pressure of about 15 pounds per square inch. Hyperbaric oxygen means breathing 100 per cent oxygen under pressure, oxygen must be inhaled and taken to cells by the blood.

Normally the oxygen in our blood is carried to tissues on the red pigment hemoglobin in the red blood cells. Hyperbaric oxygen therapy uses the magic of pressure to drive enormous amounts of oxygen into the fluid between the red cells, which then spill into the watery and fatty tissues. We can load literally pounds of oxygen into the tissues, supercharging the body. The hyperbaric chamber can also be pressurized with air. Once the desired pressure is reached, oxygen is breathed in through a special hood or mask over the face.

In some cases oxygen chambers are entirely filled and pressurized with oxygen so no mask is needed: monoplaces hold one person, multiplaces treat several at once. Usually the treatment will last one to one and a half hours at the treatment pressure, plus time to compress and decompress the chamber. Some patients rest, others use music or videos provided to pass the time.

The most common use of this therapy is to heal chronic wounds, such as diabetic ulcers of the foot or leg. Oxygen facilitates connective tissue repair, helps immune cells cleanse and sterilize the wound and drives new blood vessels into the tissue, permanently restoring circulation. Dozens of treatments may be necessary to create healing conditions. Oxygen also neutralizes bacterial toxins like those in gangrene and the toxin of brown recluse spider bites. It's used to heal severe infections such as flesh-eating disease and severe bone infections. It will squeeze bubbles in the blood in deep-sea divers with "the bends", bubbles from catheters, chest trauma or any other source. It also constricts the blood vessels, which reduces edema (fluid leakage into the tissues) in brain and spinal cord injury, crush injuries or sport injuries.

It's the edema that actually does the most harm by cutting off the circulation in the very small blood vessels. By stopping this leakage the inflammation is halted and energy from the high oxygen drives immediate healing. The sooner the treatment is started after injury or surgery, the better the result will be.

Other medical uses include severe blood loss anemia, a thermal burn, radiation burn, late radiation tissue injury, preparing for tissue grafts, salvaging grafts that are failing and carbon monoxide poisoning.

Hyperbaric oxygen is being used outside of hospitals for many conditions by courageous and pioneering hyperbaricists. The most exciting is in the care of children with cerebral palsy. There is always some brain function that can be restored, resulting in less spasticity, fewer epileptic seizures and in some cases, patients able to talk, swallow, sit up, crawl or even walk where this was thought medically impossible. Damaged brains come alive. Many charities should see the value of supporting such disabled children on a course of oxygen therapy.