

# HBOT for Depression Treatment

Hyperbaric Oxygen Therapy (HBOT) is being investigated as a novel adjunctive treatment for depression, particularly in patients who have not responded to traditional therapies. By delivering 100% oxygen in a pressurized chamber, HBOT increases oxygen availability in the brain, which can enhance neuronal function and reduce neuroinflammation—factors often implicated in depressive disorders. The improved oxygenation may also promote neuroplasticity, aiding in the repair and formation of neural connections that are crucial for mood regulation. Preliminary studies and clinical observations suggest that HBOT can lead to significant improvements in depressive symptoms, offering a promising therapeutic avenue.



## How Hyperbarics Helps



Heals Physical Disorders that Cause Depression



Oxygenates Damaged Brain Tissue



Stimulates stem cell reproduction and mobilization



Repairs Damaged Brain Tissue and Idling Neurons



Stimulates Stem Cells to Reproduce



Up-Regulates Growth Hormones that Heal



Reduces Inflammation in the Brain



## What Research Says

At Bay Area Hyperbarics, we have given numerous patients HBOT for depression treatment. It turns out that most of the patients with depression who come to us have a history that includes anoxic brain injuries, including concussions, mild traumatic brain injury (mTBI), post-concussive syndrome radiation damage or other injuries.

Many patients with depression who have been referred to us also present other conditions. They often have a history of head injuries, most often from car accidents, but also sports injuries, falls, and multiple surgeries with anesthesia. Numerous studies show that a whiplash can for example shake the brain in the skull and cause trauma. The anoxic brain injury causing such depression can at times be treated with hyperbaric oxygen therapy.

Other symptoms appear in combination with depression, including anxiety, headaches, cognitive challenges, psychosocial disability, or psychiatric symptoms. When depression occurs with these other symptoms, some physicians consider the depression a result of physical disorders rather than mental disorders. The depression often resolves significantly or completely when treated with a head injury protocol that includes hyperbaric oxygen therapy. Patients who are medicated should also be closely supervised.

Medications often need to be reduced or discontinued as patients' brains heal. When patients with depression who have experienced anoxic brain injury receive brain scans showing their brains before and after HBOT, the contrast is at times striking. Some patients' brains in the "before" images show dark areas, meaning the neurons are not firing.

After patients receive their hyperbaric treatments (40 to 60 treatments, depending on a physician's recommendation), previously dark areas appear in color. This means that the neurons in these areas are again firing.

While hyperbaric oxygen therapy cannot cure all forms of depression, those that have a physical cause often find significant healing. If you or a loved one experienced brain trauma or anoxic brain injury from sports, an auto accident, or any other cause, please call us. We help many patients feel like their old self again. We know how debilitating such injuries can be, and we want to help you get on the road to recovery. For patients with severe depression, we require ongoing support from a mental health professional throughout their HBOT sessions, as our experience is that many patients' depression worsens for a period while they are undergoing hyperbarics.

# Research Studies

Plos One

## HBOT improved symptoms, brain microstructure and functionality in veterans with treatment resistant PTSD.

Hyperbaric oxygen is among the most studied and frequently reported applications in the treatment of delayed radiation injuries. This application of hyperbaric oxygen to the treatment and prevention of delayed radiation injury will be the topic of this chapter. The management of delayed radiation injury, especially when bone necrosis is present, requires multi-disciplinary management. The nature of delayed radiation injury, the mechanisms whereby hyperbaric oxygen is effective, clinical results, the effects of hyperbaric oxygen on cancer growth and future areas for research will be discussed.

Pakistan Journal of Medical Sciences

## Efficacy of hyperbaric oxygen combined with escitalopram in depression and its effect on cognitive function

The results suggest that HBO has been shown to be an effective method for treating complex wounds. It significantly improved wound healing. However, HBO does not replace quality wound care. HBO should be used in addition to, but not as a replacement of aggressive wound treatment.

# Patient Experiences

Listen to what real patients have to say about their experiences.



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Kevin had suffered several concussions while playing football. Previously a very good student, he found himself unable to attend High School classes. Instead, he lay most days on his bed in his darkened room depressed, unable to read, talk, or hang out with his friends. His parents were frantic. Kevin had tried prescription drugs and therapy which helped some with his systems. However, they did not eliminate the headaches, fatigue or improve his mood. They did not get him up and back to school. After HBOT, Kevin could attend school again and interact with his friends. HBOT made a major impact on bringing back Kevin's cognitive and emotional health and well-being.

### Kevin, 18

Improved functionality was hampered due to injury caused while playing football.



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Until recently, Shawn held the world record for the largest wave ever ridden. One day while surfing, Shawn had a major accident on the rocks. He broke his neck in four places and experienced significant traumatic brain injury (TBI). As Shawn said “I had suffered major brain damage.” His neurologists had no more answers on how to help him return to normal. As he said “before hyperbaric Oxygen therapy, I was a mess. I wasn’t myself, and was desperate to find a solution to the pain, the headaches, and the brain fatigue.” After only his first treatment, he felt an improvement; the effects were immediate. Shawn said, “I could feel my old self coming back. I was aware that I was going to get better, finally.” In the end, Shawn attributes his full recovery from concussion symptoms to Bay Area Hyperbarics. He is surfing once again and continues to ride the big waves.

### **Shawn Dollar, 34**

Fully recovered from concussion symptoms caused after a surfing accident.



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Mara had severe brain trauma at birth, so at 3 months old, her mom brought her into HBOT. She had a severely misshapen head, a tube in her stomach to feed her, and a tube to help her breath. Tragically, Mara’s mother was told her baby would never recover nor respond like a normal child. She had already returned to the hospital twice for complications with her conditions. Mara’s mother brought her in 5 days a week for treatment with HBOT. When Mara finished hyperbarics, her tubes had been removed. She could breathe on her own. She was able to eat and swallow food like a normal child. And Mara was strong enough to sit up and wave bye bye when encouraged. The nurse in the Pediatrician’s office burst into tears of joy, when she saw the improvements in Mara’s conditions.

### **Mara, 3 months old**

Gained the ability to sit up, which she was unable to do because of severe brain trauma at birth.

# Refer a Patient

Refer a patient in three easy steps.

## 1 You submit patient's information

As a provider, your office fills out and faxes back the Patient Referral Form. Have questions? Call us!

## 2 We get authorizations

We make sure the patient understands treatment and then follow the prescribed protocol to get the patient on the road to recovery!

## 3 Patient starts HBOT

Our medical staff meets with the patient to ensure that HBOT is appropriate, and contacts Medicare or private insurance to receive authorization.

 **Call Us: (408) 356-7438**



**Scan for Patient  
Referral Form**