

Hyperbaric Oxygen Treats Central Retinal Artery Occlusion

Hyperbaric Oxygen Therapy (HBOT) has shown promise in the treatment of Central Retinal Artery Occlusion (CRAO), a condition that leads to sudden, painless vision loss due to obstruction of the central retinal artery. HBOT involves administering 100% oxygen in a pressurized chamber, significantly increasing the amount of oxygen dissolved in the plasma. This enhanced oxygen delivery can bypass the occluded artery, providing essential oxygen to the ischemic retinal tissue and potentially preserving retinal function. Early intervention with HBOT can help reduce retinal edema, decrease the extent of retinal damage, and improve visual outcomes. While clinical studies continue to evaluate its efficacy, HBOT remains a viable adjunctive therapy for CRAO.



How Hyperbarics Helps



Delivers oxygen directly to the retina and retinal artery, helping to heal the occlusion



Improves blood flow



Reduces inflammation that can cause restriction around your retinal arteries



Promotes the growth of new blood vessels











What Research Says

Central retinal artery occlusion, (CRAO) occurs when the central retinal artery, which supplies blood to the retina, becomes blocked. This causes a sudden loss of vision in one eye that is painless, but unfortunately usually permanent. A patient with CRAO should go to a hospital emergency room immediately, and should be considered for hyperbaric oxygen treatment within 24 hours of the injury. When the retina does not receive adequate oxygen and nutrients, it can lead to irreversible damage and loss of vision. Even though hyperbaric oxygen therapy provides the best chance of recovery from CRAO, recovery from CRAO is never assured. The treatment protocol for hyperbaric therapy is complex with CRAO, depending on the patient's response.

If you or a loved-one has experienced vision loss in one eye, go to the emergency room immediately and require them to approve hyperbaric oxygen therapy as your best chance for recovery!

By providing oxygen at high concentrations under pressure, HBOT can increase the oxygen supply to the retina, bypassing the blocked artery and promoting tissue survival. The increased oxygen levels also stimulate the formation of new blood vessels, which can help restore blood flow to the affected area and prevent further damage. In addition to improving oxygen delivery, HBOT also reduces inflammation in the retina. Inflammation is a normal physiological response to tissue injury, but when it becomes excessive, it can lead to tissue damage and impaired healing. In CRAO, the blockage of the central retinal artery triggers an inflammatory response that can exacerbate the damage to the retina. HBOT has been shown to

reduce inflammation by decreasing the production of inflammatory cytokines and promoting the release of anti-inflammatory mediators. This anti-inflammatory effect can help reduce tissue damage and enhance healing in CRAO.

HBOT can also promote the growth of new blood vessels in the retina, a process known as neovascularization. Neovascularization is a critical component of tissue repair as it supplies oxygen and nutrients to the damaged tissue. Studies have shown that HBOT can promote the growth of new blood vessels by activating a group of proteins called hypoxia-inducible factors (HIFs). HIFs are involved in the regulation of blood vessel formation and can promote the growth of new vessels in response to low oxygen levels. By promoting neovascularization, HBOT can help restore blood flow to the affected area and enhance tissue repair in CRAO.

HBOT is a safe and well-tolerated therapy, and its use in treating CRAO is supported by several clinical studies. A recent meta-analysis of 17 studies on the use of HBOT in CRAO found that HBOT significantly improved visual acuity and reduced the risk of developing neovascular glaucoma, a severe complication of CRAO. Another study showed that HBOT improved visual acuity and reduced the size of the ischemic area in the retina in patients with CRAO.

The key point here is that if you or a loved one have experienced CRAO, get into the emergency room now, request a prescription for hyperbaric oxygen therapy, and call us. In most cases, we can get you in the same day. Speed to first treatment is critical in helping overcome CRAO.

Research Studies

Oxford Academic

Hyperbaric oxygen therapy for combined branch retinal artery and branch retinal vein occlusiont

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.

Eye

Hyperbaric oxygen treatment for non-arteritic central retinal artery occlusion retrospective comparative analysis from two tertiary medical centres

Utilizing HBOT as part of the SOC for CRAO improves the final visual outcome. HBOT is safe and can be implemented, if available, as part of SOC in all tertiary medical centres.

Retinal Cases & Brief Reports

Case Series of Hyperbaric Oxygen Therapy for Central Retinal Artery Occlusion

This retrospective case series supports the use of emergent HBO therapy as a viable treatment option for patients with central retinal artery occlusion. Hyperbaric oxygen therapy was safely administered and well tolerated.

Patient Experiences

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





Lisa St John, the clinic director for Bay Area Hyperbarics, had chronic refractory osteomyelitis that lasted seven years with no relief. The infection induced severe fatigue and cognitive impairment that prevented her from working, and required her to sleep up to 18 hours per day. Finally, a physician recommended hyperbaric oxygen therapy with antibiotics, which after 60 treatments, healed her. Shortly after being healed, she sold her home to begin her first hyperbaric oxygen therapy clinic, which she has owned for almost 25 years!

Lisa, 44

After seven years of suffering, hyperbaric oxygen therapy healed her osteomyelitis.



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Jennifer had osteomyelitis of the lower jaw (mandible), which proved difficult to heal. Her teeth were becoming loose, and her doctor thought she would need surgery. However, he prescribed hyperbaric oxygen therapy before the surgery, and after 60 treatments, her chronic refractory osteomyelitis healed completely, regrowing bone in her mandible. Jennifer was able to keep her teeth, and was able to return to her active lifestyle, hiking regularly with her husband.

Jennifer, 68

Hyperbaric oxygen therapy eliminated the need for surgery to heal her bone infection.

Refer a Patient

Refer a patient in three easy steps.

You submit patient's information

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

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!

Patient starts HBOT

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

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