

Hyperbaric Oxygen Heals Radiation Damage to the Breast

Hyperbaric oxygen therapy (HBOT) often halts ongoing radiation damage to breast tissues, bones, and skin.



How Hyperbarics Helps



Stimulates angiogenesis



Corrects ischemia



Reduces fibrosis, softens connective fibrous tissue



Mobilizes and increases stem cells



Resolves infection



Effective in wound closure and resolving contraction



Salvages threatened breast soft tissue reconstruction



Enhances delivery of antibiotics

What Research Says

Hyperbaric oxygen therapy (HBOT) often halts ongoing radiation damage to breast tissues, bones, and skin. It is also increasingly used as an adjunct to skin grafting in women treated for necrosis of the chest wall after a mastectomy or reconstructive surgery. Skin grafts over tissue that has been damaged by radiation therapy have a lower chance

of healing. When such grafts or flaps become compromised, hyperbarics can heal those wounds. Most insurance companies, as well as Medicare, typically cover the cost of hyperbaric oxygen therapy for damage or non-healing wounds following radiation therapy.



(408) 356-7438



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• 14589 South Bascom Ave Los Gatos, CA 95032



HBOT stimulates angiogenesis in hypoxic tissues, correcting the ischemia. New, healthy blood vessels supplying blood and oxygen to damaged tissues improves flap and graft salvage. Often the wounds that cause pain, tightness, tenderness and burning after breast cancer radiation treatments resolve on their own in a few months. However, those that do not resolve are most often

responsive to hyperbaric oxygen therapy. Over the last 20 years, we have observed HBOT helping patients with a variety of non-healing wounds on the breast, ribs and chest wall. We have seen resolved infections, resolved pain and skin returned to its' normal color. We have also seen shoulder and elbow pain reduced or eliminated by resolving lyphedema and salvaged flaps.

Research Studies

The National Center for Biotechnology Information

Patient EQ-5D and NRS pain scores improved

In these studies, breast cancer patients treated with HBOT for LRITT, the patient-reported outcomes were positive and improvements were observed. HBOT was a well-tolerated treatment for LRITT and its side-effects were both minimal and reversible.

The National Center for Biotechnology Information

67 of 74 studies show significant positive results from HBOT for delayed radiation injury

Hyperbaric oxygen therapy (HBO2) is approved for delayed radiation injuries, including soft tissue and bony radiation necrosis. This paper provides a systematic review of seventy-four publications reporting positive results when HBO2 is used as treatment or prevention for delayed radiation injury. This is particularly impressive considering alternative interventions often require radical surgery, which can result in complications. HBO2 is recommended for delayed radiation injuries of most sites, including an increasing body of evidence supporting its use for radiation-induced necrosis of the brain. Further study is needed for other radiation-induced neurological injuries before routine hyperbaric therapy can be recommended.

The National Center for Biotechnology Information

Hyperbaric oxygen in the treatment of delayed radiation injuries of the extremities

HB02 is effective in treating radiation injuries at various sites. A retrospective review of 17 patients treated with HB02 for nonhealing necrotic wounds of previously irradiated extremities showed a 65% complete healing rate, with 85% success when excluding patients with active cancer or lost to follow-up. Four of the five failures required amputation, emphasizing the importance of successful treatment. HB02 is a useful adjunct in the management of radiation injuries of the extremities and other sites.

Patient Experiences

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





Karen is 36 year old stay at home mom of two little girls, and a musician who taught music whenever she could. As with most women, her cancer diagnosis was a shock to her and her family. She had a double mastectomy, radiation and chemotherapy. The weakness and fatigue that followed in the wake of her procedures were bad enough, but the pain that arose was almost debilitating. Because of the pain, she had difficulty driving her girls to daycare because she could barely hold onto the steering wheel. She complained that her arms felt like lead and her left shoulder hurt with a shocking intensity every time she turned the steering wheel. She simply cried in pain as she drove. Her physician diagnosed this pain as damage from the radiation treatments, and he sent her to Bay Area Hyperbarics. Karen's hyperbaric oxygen treatments healed her pain, the swelling and the aching. To her additional relief, HBOT also helped diminish the overall body fatigue that otherwise increased as morning progressed to afternoon.

Karen, 36

After 40 sessions, he recovered from painful clots due to bladder cancer.



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Angelina is a 43-year-old mother of three and wife who works in the families leather and fabrics repair business. She, her husband and two sisters work out of a shop in our community. On some school holidays, she brings one of her children in to the shop. Angelina had a lumpectomy and radiation to her right breast. The difficulty started slowly over the next several years when she had pain on lifting up her right arm. Cancer was ruled out. She was sent to physical therapy. She did her physical therapy exercises daily as they requested but the weakness and pain continued to make working difficult as she repaired items on the machines. I gave her information about hyperbaric medicine and what it had done for my mother. She took it to her physician who approved her for HBOT. The mild swelling and some pain reduced within the first week of treatments. It took 30 treatments to repair the tissues to dispel the pain. A year later she was still working in the shop without pain or range of motion issues.

Angelina, 43

A lumpectomy and radiation caused pain lifting her right arm. After HBOT, her pain was gone.



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Denise is a 43 year old high energy, traveling nurse who volunteers in her church helping women navigate their lives. Talkative and bright, she also manages her husbands' medical issues and takes care of her family. She had breast reconstruction and subsequent surgical wounds. Unfortunately, one of the incisions became infected, painful and slow to heal. Denise was hospitalized and given IV antibiotics. She came to Bay Area Hyperbarics because her physician said she wasn't healing quickly because the radiation had damaged the tissues. She moved slowly so as not to jostle her shoulder which would cause her more pain. The hyperbaric oxygen sessions healed up her incision and supercharged the antibiotics to kill the infection. Needless to say she is healed and on the road again taking care of others in need.

Denise, 43

An incision from breast surgery became infected and would not heal due to radiation. HBOT healed the 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 pretocal to get the petient on the reserved.
 - 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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