

# Hyperbaric Oxygen Therapy: Soft-tissue radiation necrosis

## What is soft-tissue radiation necrosis?

Radiation therapy is used to kill cancer cells, but it can also injure normal cells and tissues in the area around the cancer. These injuries may heal within a few months after therapy. If they don't heal, or if you develop new injuries in the treated area, you may have **soft-tissue radiation necrosis** [neh-CROW-sis]. Soft tissues include your skin, muscles, nerves, blood vessels, and anything else that is not bone.

Soft-tissue radiation necrosis starts when small blood vessels are damaged by radiation. Because the blood vessels are damaged, there is less blood flow and less oxygen reaching the area. This can cause the tissue to die, become infected, or not heal well if you have a wound or surgical incision (cut).

If you have soft-tissue radiation necrosis in your abdomen (belly) or pelvis, you might notice blood or have pain when you urinate (pee) or have a bowel movement (poop). Sometimes, the tissue can erode (gradually wear away) and an opening called a fistula [FISS-tyoo-lah] can develop between your bladder and bowel, or the bowel and vagina in women.

Treatment for soft-tissue radiation necrosis can include surgery, medicines such as steroids, and hyperbaric oxygen therapy.



Hyperbaric oxygen is delivered in hyperbaric chambers like the one pictured above.

## What is hyperbaric oxygen therapy, and how can it help me?

Hyperbaric [hy-per-BARE-ik] oxygen therapy is when you breathe 100% oxygen at pressures 2 to 3 times greater than normal air pressure.

Hyperbaric oxygen increases the amount of oxygen in your blood that is carried to injured tissues. Higher levels of oxygen help your body grow new blood vessels, repair and build new tissues, and fight the bacteria that cause infections.

The oxygen is delivered in a special cylinder or room, called a hyperbaric chamber. The chamber may be a single-person cylinder, or it can be a room-size chamber for several people. Both therapies are equally effective.

Hyperbaric oxygen therapies can help many people with soft-tissue radiation necrosis. The symptoms that improve most are blood in the urine or stool and pain when urinating (peeing). Many people say they get better after about 30 to 40 therapies with hyperbaric oxygen.

## What can I do to get the most from my therapies?

You can improve your response to hyperbaric oxygen by doing the following:

- Quit smoking. (Every cigarette makes your blood vessels smaller for 8 hours.)
- Do not drink alcohol 8 hours before or after a therapy.
- Take your medications exactly as prescribed by your doctor.
- Keep all of your appointments for hyperbaric oxygen therapy. Hyperbaric oxygen has an additive effect. This means the benefits grow the more you go. It may not work as well if you take a long break (more than 3 to 4 days between therapies).
- Eat at least 60 grams of protein every day and take a mineral and vitamin supplement that includes vitamins D and E. Your healthcare team will talk with you about good sources of protein and how much to eat to meet your body's needs.
- Follow your doctor's recommendations about keeping pressure and friction off a skin wound, if you have one.
- Follow your dentist's recommendations for good dental hygiene after radiation therapy for your head or neck.

**Avoid these things** because they can slow down healing:

- Smoking, smokeless tobacco, using alcohol or street drugs, including marijuana.
- Skipping antibiotics or other medications prescribed for you by your doctor.
- Poor nutrition (not getting enough protein, minerals, and vitamins in your diet).
- If you are diabetic, not controlling the level of glucose (sugar) in your blood.

### What about the cost?

Insurance coverage varies, depending on your provider. We recommend you contact your insurance carrier and Intermountain financial services for more information.

To learn more, call us at: \_\_\_\_\_

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