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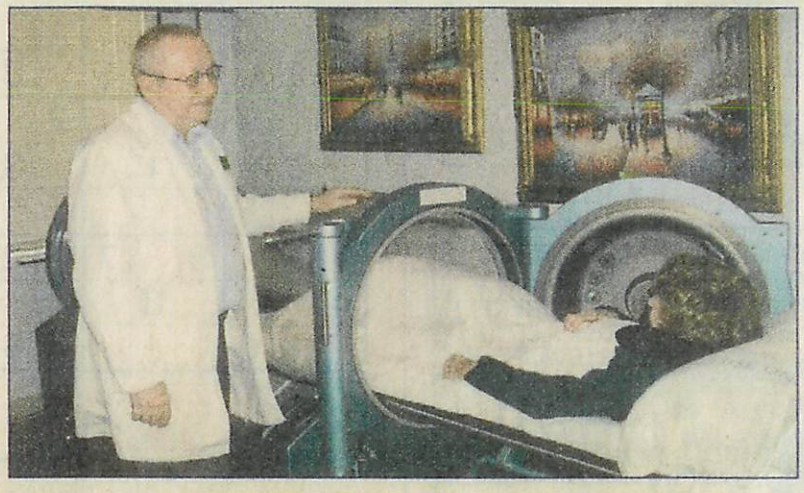
Oxygen plays a significant role in the healing process

By BRANDI SCHLOSSBERG

Nearly everyone knows how important oxygen is to life — after all, we need it to breathe. Oxygen's role, however, doesn't end with the air we breathe. This abundant element plays an essential role in healing as well.

In fact, oxygen is so key to healing that a specific treatment, known as hyperbaric oxygen therapy, was developed to help those patients who face challenges on the path to full recovery. Sitting in an enclosed hyperbaric chamber, these patients breathe 100-percent pure oxygen at twice the normal pressure.

"This can increase tissue oxygen levels to more than 10 times the normal amount and restore the body's ability to heal wounds, fight infections, reduce tissue inflammation and strengthen the immune system," said Richard Flyer, president and clinic director of Northern Nevada Hyperbarics, where this treatment has been offered locally for nearly 10 years.



Provided by Northern Nevada Hyperbarics
Hyperbaric technician Frank Irwin helps patient Jean Wines enter the chamber to treat her non-healing wounds.

Among the most common conditions Flyer said he sees are diabetic and other problem wounds, complications from radiation therapy, bone infections, compromised skin grafts and flaps, and crush injuries.

"Many disease conditions result from reduced oxygen levels and tissue inflammation," Flyer said. "For instance, conditions such as diabetic wounds and complications from radiation are caused by underlying poor circulation.

"Diabetics have poor circulation in the lower extremities due to vascular changes," he continued. "Radiation sometimes can destroy a certain percentage of blood vessels, which reduces circulation in the areas affected."

Dr. Jonathan Tay, director of Saint Mary's Radiation Oncology and Reno CyberKnife, refers patients to hyperbaric oxygen therapy when they develop radiation side effects that don't respond to other treatments.

"Most of the time with radiation injury, it results in abnormal blood flow and an unhealthy lack of blood flow to the area irradiated," Tay said. "Hyperbaric oxygen therapy forces the formation of new blood vessels and, therefore, better oxygenation of those tissues, which is required for healing."

Another area physician who sends patients to Northern Nevada Hyperbarics is plastic surgeon Dr. Boris Volshteyn of Sierra Plastic Surgery.

"It's usually the patients with nonhealing wounds as a result of diabetes, bone infection or people who had radiation therapy," Volshteyn said, "such as the women who had radiation for breast cancer in the past and then need reconstructive surgery later on."

According to Flyer, other physicians who refer patients for hyperbaric oxygen therapy on a regular basis include oral surgeons, urologists, podiatrists, general surgeons and doctors at outpatient wound centers.

"Northern Nevada Hyperbarics is based on physician referral," he said. "Medicare and insurance generally cover [hyperbaric oxygen therapy for] 14 medical conditions."

Examples of other conditions that may be alleviated with hyperbaric oxygen therapy are gas gangrene, carbon-monoxide poisoning, limb salvage and diving injuries.

"Some investigational areas include neurological conditions," Flyer said, "such as stroke recovery, multiple sclerosis and reflex sympathetic dystrophy, as well as Lyme disease and others."

The average course of treatment at Northern Nevada Hyperbarics is 90 minutes per day, five days a week for six weeks. Patients usually select a movie from the clinic's library or opt to take a nap.

For more information about hyperbaric oxygen therapy or Northern Nevada Hyperbarics, call 775-826-2084 or visit www.nevadahyperbarics.com.