

# Hyperbaric Oxygen Offers New Hope for Stroke Victims

**O**n October 31, 1998, Carmine Fasciani suffered a disabling stroke in Mount Kisco, New York. He was 63 years old at the time and was not expected to live. With that kind of stroke, only one in five persons recovers enough to live alone. He owned his own security business and specialized in guarding celebrities.

"He appeared to be in excellent condition before the stroke," says Linda Feinberg, a long-time friend of Fasciani's. "He had extensive conventional therapy for the residual effects of the stroke and improved to some degree. However, the real improvement began in March 2000 with hyperbaric oxygen (HBO) therapy.

"We came to the Ocean Hyperbaric Neurologic Center in Lauderdale By The Sea, Florida, and Carmine had 40 treatments in a row, one a day. When he started the treatment, he could only walk a block and since the oxygen treatments, he has improved at least 70 percent. He is able to drive his van, goes up and down the stairs and his speech has improved dramatically."

Before the hyperbaric oxygen, Feinberg would ask her friend if he wanted to eat chicken, fish or a hamburger, and he would grunt yes or no to the questions. After his first hyperbaric treatment, he responded, "If you don't mind, I'd like to go out for Chinese."

Fasciani emphasizes, "The other therapy was helpful, but hyperbaric oxygen has made major improvement and I keep getting better. I owe everything to Linda."

Each year, approximately 750,000 Americans have a new or recurrent stroke and nearly 160,000 die each year as a result. Every 45 seconds in the United States someone experiences a stroke and about one-third of all stroke survivors will have another stroke within five years. Four million Americans are living with the effects of stroke, which is one of the leading causes of adult disability. The cost of strokes in the United States is \$30 billion annually. Strokes have a disproportionate effect on women. Women account for approximately 43 percent of the strokes that occur each year, yet they account for 62 percent of stroke deaths. Strokes kill more than twice as many American women every year as breast cancer.

"The stroke is caused by a sudden loss of blood and oxygen to a specific area of the brain, which kills off the central core of brain cells, says Richard Neubauer, M.D., medical director of the Ocean Hyperbaric Neurologic Center. "With the death of these cells and the swelling it causes, blood and oxygen are further isolated from the surrounding cells, which also then swell in a repeating cycle. When these marginal cells, which are viable but not functioning, can be revived with sufficient oxygen, substantial and sometimes dramatic recovery may result.

"Naturally, the sooner after the stroke the patient receives oxygen, the better chance of recovery. However, in one case, a woman who had suffered a stroke

14 years prior to hyperbaric oxygen therapy was greatly improved."

In hyperbaric oxygen therapy, a patient is placed in a chamber and the pressure is increased between 15 feet to 66 feet below the surface of water and he or she receives pure oxygen for one hour.

It has been scientifically documented that many times, following serious injury, the brain tissue surrounding the injury contains brain cells that have been stunned, but not killed. These idling cells lie in a dormant state between the damaged and the healthy parts of the brain. It is the stunned cells that hyperbaric oxygen therapy can help.

The brain consumes 20 percent of the oxygen in the body even though it makes up only two percent of the weight, so it is understandable why the lack of oxygen in brain cells has such a dramatic effect on the body. Indeed, the brain receives 15 percent of the cardiac output.

Dr. Neubauer is internationally recognized as a pioneer in the use of hyperbaric oxygen for the treatment of stroke, coma, cerebral palsy, multiple sclerosis and other neurological conditions.

A veteran in all phases of the healing method, he speaks from wide experience about the life-saving properties of hyperbaric oxygen therapy. Spotlighting the treatment's possibilities for emergencies, Dr. Neubauer points to a little understood potential dimension in community healthcare.

"Every city of any size should have a hyperbaric chamber for emergency cases," he believes. "We can save drowning victims with this method. Arms, legs or fingers that have been cut off will often be replanted

and frequently restored more successfully when hyperbaric oxygenation is included in the treatment. Brain injuries and crushing injuries respond to fast treatment with pressurized oxygen and this can prevent permanent damage. Gas gangrene requires quick treatment or it is fatal. Any community with a hyperbaric chamber can save those lives by prompt action.

"Often in the summer, youngsters climbing trees or flying kites are electrocuted when they touch high-tension wires. Immediate treatment with hyperbaric oxygen can save these children. As another example, the dangerous crises of sickle cell anemia are weathered successfully if the patient can be given treatment."

Several years ago, Dr. Edwin Levine of Edgewater Hospital in Chicago reported an impressive result in the case of a 14-year-old boy who had been pushed under a train that severely tore and ripped the flesh off one leg. The surgeon wanted to amputate because there was no circulation in the leg. Dr. Levine held out for using HBO treatment because he had seen its effectiveness with crushing injuries. Following two weeks of hyperbaric oxygenation, the infection was gone and circulation restored. After further treatment, new skin was grafted to the leg and soon after the youth walked out of the hospital with two good legs.

HBO treatment is no longer considered experimental. In 2001, the AMA and Medicare approved approximately 14 conditions eligible for reimbursement. Therapy is routinely reimbursed by most major insurance companies as well.

Sandra Z. is a lively woman in her 60s with multiple sclerosis. Five years ago she couldn't sit up, couldn't hold her head up and was not able to speak. She had been in that condition since 1987.

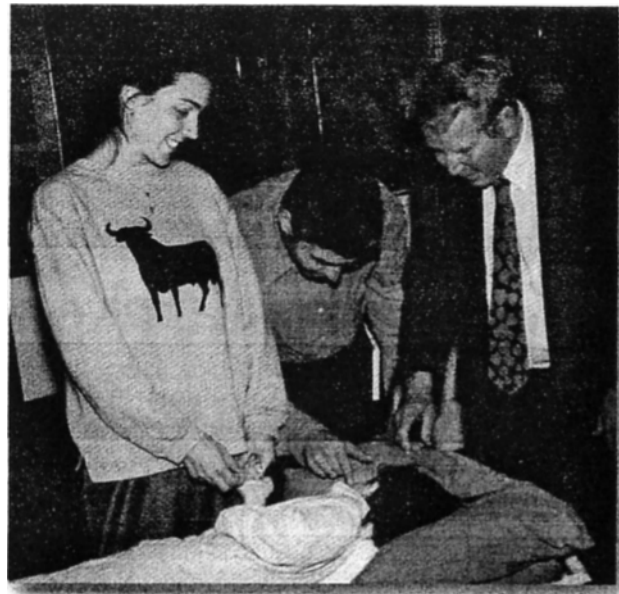
"I started hyperbaric oxygen treatment five years ago and after the very first treatment, I regained control of my bladder," she says. "I have had 400 treatments in that time and my ability to talk has been restored.

"I can remember," she continues, "and I can sit up. I got my mind and life back, thanks to Dr. Neubauer. I had been looking for help with my MS. Nothing had worked until I tried hyperbaric oxygen. I get treatments once a month. In fact, I feel so much better that the other day, I got an eyelift."

About 350,000 Americans have been diagnosed with multiple sclerosis and there are 200 new cases every week. Baffling and tragic, sometimes the disease goes into remission only to return more virulently than ever after a time.

"Over the years we have treated about 1,500 MS cases," says Dr. Neubauer. "The results around the world show that this is not a cure. You have to use the proper pressure and this may change from time to time during the treatment. It requires follow-up treatments and it alters the natural history of the disease in a favorable fashion. In 1980, I published an article in *The Florida Medical*

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*Dr. Richard Neubauer (right) talks with the parents of a child who is about to receive a treatment.*



*Respiratory therapist Dale Wells prepares Carmine Fasciani for a treatment in the hyperbaric oxygen chamber.*

*Journal* about the results of treating a large number of cases of MS. Some years ago my wife and I went to London to lecture to a group of neurologists and a group of advocates for MS. They got the message and there are now 110 chambers in the U. K. treating 12,000 MS patients a year and they have a 20-year Follow-up. The results are exactly as I had published in 1980."

There are approximately 500 hyperbaric oxygen centers in the United States and about 480 of them treat nothing but wound care, including carbon monoxide poisoning and gangrene. They treat no neurological ailments. The facility in Lauderdale By The Sea is one of the

few hyperbaric oxygen centers that does treat neurological conditions.

In the United States, each year 1.6 million men, women and children sustain traumatic brain injuries. It is an epidemic. Extensive results have been documented in the literature showing that if traumatic brain injury is treated early with hyperbaric oxygenation, the results are superior.

"Hyperbaric oxygen is frequently used in Japan, where there are many head injuries from motorcycle accidents," says Dr. Neubauer. "The treatment prevents permanent brain damage by quickly reducing edema from the injury."

Darin Bryant, 33, lives in Crandall, Texas. His daughter Katlyn,

now nine years old, suffered a severe brain injury in a car accident when she was five-and-a-half.

"The first three and a half years she went downhill with conventional treatment," says Bryant. "We came to the Hyperbaric Center in Florida several months ago because we had tried everything else we could think of and we didn't have too much hope that this would help. To date, she has had 102 treatments and is 75 percent better than she was before we began the treatments. My wife and I are in touch with 20 to 25 other families who have kids with brain injuries or cerebral palsy and they have all experienced similar results. The addition of oxygen under pressure wakes up the cells that had been dormant because of the injury."

"Hyperbaric treatment for cerebral palsy began in China and Sao Paulo, Brazil, a number of years ago," Dr. Neubauer explains. "I have treated around 300 cases and about 75 percent have had impressive results. It's not 100 percent and it's no miracle, but to the family of a child who couldn't crawl or turn over, we get rid of 80 percent of the gastric feeding tubes and 70 percent of the tracheotomies. The improvements are mostly in spasticity, cognitive and fine and gross motor control. We have statistical evaluation on them by doing a functional brain image before, during and after the treatments. We have been able to show that the changes in blood flow and metabolism on the brain scan have a high correlation with clinical improvement."

Dr. Neubauer stresses that hyperbaric oxygenation is not a cure-all. However, since the 1950s, thousands of articles on HBO have been published in medical journals around the world documenting its value in successfully treating many conditions. Countless numbers of men, women and children bear grateful witness that it does work. ■



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