Oxygen Therapy Shows Promise Against Variety of Ailments

By Dr. Patrick Massey for the Daily Herald

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A number of years ago, it was believed that doing surgery in large pressure chambers (hyperbaric chambers) would improve outcomes. To that end, some medical centers began to do surgery in hyperbaric chambers.

Hyperbaric chambers were very expensive and the overall results were not positive enough to justify the expense of doing surgery in them. As a result, over the next 30 years, hyperbaric chambers were rarely used.

However, advances in technology have lowered the cost of hyperbaric chambers to the point where physicians and medical centers are using them again.

Hyperbaric oxygen therapy is done inside a hyperbaric chamber. The patient is exposed to 100 percent oxygen at pressures slightly higher than normal in order to supersaturate the tissues with oxygen. First developed in the early 1900s by Orville Cunningham, hyperbaric therapy was not really used until the 1940s to treat deep-sea divers with decompression sickness. In the 1950s and 1960s, it was used during heart and lung surgery. Later, it was found to be beneficial to treat carbon monoxide poisoning and other medical conditions.

Although hyperbaric oxygen therapy has been the subject of controversy because of the lack of well controlled medical studies, there are a number of medical conditions for which there is substantial evidence that it is effective. These include decompression sickness (scuba diving), moderate to severe carbon monoxide poisoning, prevention and treatment of osteoradionecrosis (radiation therapy-induced bone damage), radiation therapy-induced soft-tissue damage, skin graft healing, enhanced healing after...
plastic surgery and in the treatment of chronic skin ulcers. There are a number of other medical conditions for which hyperbaric oxygen might be beneficial but good clinical trials are lacking. Among these are autism, stroke, dementia, cerebral palsy, multiple sclerosis, diabetic skin ulcers and even chronic fatigue syndrome.

How hyperbaric oxygen helps decompression sickness and carbon monoxide poisoning is clearly defined. However, for most chronic medical conditions, how it works is less clear. It is believed higher oxygenation of the blood and tissues stimulates the growth of new blood vessels and nerves. Hyperbaric oxygen therapy might also reduce swelling and help acute brain and spinal cord injuries. There is some evidence that it might also help lymphedema, swelling and impairment from damage to the lymph system.

The side effects of hyperbaric oxygen therapy are often mild and reversible. The most common side effects are claustrophobia and a readily reversible change in vision clarity. The only absolute reason to avoid hyperbaric therapy is a collapsed lung.