

High Pressure Oxygen Offers Hope For Lyme Disease, Post-Polio Syndrome

COLLEGE STATION-- Breathing high-pressure oxygen may provide relief from the often-crippling symptoms of chronic Lyme disease and post-polio syndrome, medical researchers say.

Two weeks of treatment with hyperbaric, or high-pressure, oxygen appears to provide relief -- apparently often permanent -- from the symptoms of chronic Lyme disease, researchers in Texas A&M University's Hyperbaric Laboratory told a meeting of the Southwest and Rocky Mountain Division of the American Association for the Advancement of Science Tuesday morning in College Station Tuesday (May 20).

Similar treatment with high-pressure oxygen appears to stave off muscle weakness, pain and stiffness associated with post-polio syndrome, a sometimes-crippling legacy of polio epidemics that swept the United States in the 1940s and 1950s, another Texas A&M hyperbaric researcher told the conference.

Student-researcher Alan T. Flanigan said a continuing study of people suffering from chronic Lyme disease suggests that hour-long doses of hyperbaric oxygen administered daily for two weeks will relieve the joint pain, neurologic symptoms and other complications of the tick-borne disease in most cases. Flanigan stopped short of claiming that the oxygen treatment cures Lyme disease, however.

The treatment relieves the symptoms of the disease, Flanigan said. He said the researchers suspect the oxygen may kill the *Borrelia burgdorferi* bacterium that causes Lyme disease, but current laboratory tests can't tell the difference between live bacteria and antibodies to those bacteria produced by the immune system.

Another student-researcher, David T. Walker, reported that treatment with high-pressure oxygen also relieves muscle weakness, pain and stiffness associated with post-polio syndrome, a condition that sometimes develops in people who contracted polio during epidemics of the 1940s and 1950s.

As many as 500,000 people in the United States are affected by post-polio syndrome.

Unlike the Lyme disease treatment, hyperbaric oxygen provides only temporary relief from post-polio syndrome, Walker said. Regular treatments must be continued or the symptoms reappear, he said. Many post-polio syndrome patients are able to resume almost normal activities, he said.

Physiologist William P. Fife, director of the Hyperbaric Laboratory, and physician Donald M. Freeman, Hyperbaric Laboratory medical director, supervise the Lyme disease and post-polio syndrome research.

Hyperbaric oxygen also is used to treat illnesses and injuries ranging from gas gangrene to skin ulcers, severely broken bones and, sometimes, so-called closed-head injuries. Treatment involves breathing pure oxygen while under the same pressure as Scuba divers experience under 45 feet of water.

Lyme disease's early symptoms often include a circular rash surrounding the tick bite, fever, headache and nausea. It is often effectively treated with antibiotics, but some patients don't respond to treatment. Untreated, symptoms can range from arthritis-like joint damage to neurological, psychological, heart and liver complications.

The disease has been reported in at least 34 states, including Texas. The federal Centers for Disease Control and Prevention call it the fastest spreading disease in the United States.