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## Unregulated hyperbaric oxygen therapy clinics a hazard, experts say

Private, often unregulated, clinics are offering hyperbaric oxygen therapy for non-indicated conditions in Canada, according to several doctors in public hyperbaric facilities.

The therapy, in which patients breathe in 100% oxygen in a pressurized tank, is covered by provincial health systems to treat 13 specific conditions for which the treatment has been deemed beneficial by the international Undersea and Hyperbaric Medical Society (UHMS). Those 13, often rare, approved conditions are: air or gas embolisms, decompression sickness, gas gangrene, carbon monoxide poisoning, acute trauma that causes blood flow to be reduced or cut off (such as with frostbite or crush injury), foot ulcers and other wounds related to diabetes, exceptional blood loss, intracranial abscess, necrotizing soft tissue infections, bone infection, delayed radiation injury, thermal burns and poorly healing skin grafts and flaps.

But unencumbered by the same rules as public facilities, the private clinics are also offering pressurized oxygen to those with non-indicated conditions such as Parkinson disease, autism and even HIV/AIDS.

“Some practitioners will not refer their patients to us because they think we are snake oil vendors,” says Dr. David Harrison, medical director of Vancouver General Hospital’s hyperbaric clinic in British Columbia. “When there are people out there prescribing hyperbaric oxygen as an anti-aging tonic, I don’t blame them.”

In August, the College of Physicians and Surgeons of British Columbia, petitioned BC’s health department to introduce standards for private hyperbaric clinics.

Currently, provincial regulatory agencies such as the Alberta Boilers Safety Association make sure that the tanks are up to snuff when they’re installed in private clinics, but no agency actually oversees operations to ensure that the equipment is used safely. The federal government says responsibility falls outside their purview. According to Health Canada, the clinical safety of the private centers comes under provincial jurisdiction.

Harrison isn’t opposed to using hyperbaric oxygen for non-approved conditions “provided that the safeguards are there and the patient is fully informed that this is an experimental treatment.”

But the problem, he says, is that many private clinics don’t have a doctor on hand, patients are given misleading information about the efficacy of the treatment, and there are health risks. Middle ear barotrauma can occur in about 2% of patients and in much rarer instances, seizures or flash pulmonary edema can result.

“One needs to screen for other conditions or diagnoses that might make hyperbaric harmful,” says Harrison, adding that whoever administers the treatment should be able to recognize early signs of stress to the ear drum and pull someone out, if need be.

Tasreen Alibhai, a naturopathic doctor at the private Canadian Hyperbaric Institute in Vancouver agrees that regulation is needed. “Sometimes the people running these clinics are not medically trained, they’re businessmen,” she says. “How are they screening patients?”

But Humphrey Killam, director of HOC Hyperbaric Care Center, a private centre in Victoria, BC, argues that 9-1-1 paramedics are sufficient if a seizure or other adverse medical reaction occurs. “What’s a doctor going to do?” he asks.

Harrison is also concerned that the lack of regulation may result in inadequate maintenance of machines in private chambers (which aren’t inspected) and ultimately, explosions. In May, 2009, a private chamber in Florida exploded and killed a grandmother and her four-year-old grandson who was being treated for cerebral palsy, which isn’t an approved condition.

Other concerns that have been raised include the fact that people pay top dollar in hopes of results that haven’t been scientifically proven. A single session at the private Ontario Hyperbaric Oxygen Therapy Centre, which specializes in treating children with autism, costs \$180. Between 20 and 40 sessions are recommended.

The Ontario clinic points to studies on its website as evidence that the therapy helps autistic patients. But Harrison says the scientific community isn’t yet persuaded. “There are some studies that show some benefits but they’re very controversial and the weight of evidence has not been enough to convince UHMS,” he says.

Killam, who works at a clinic that also treats autistic children, argues the proof is in the patients. “You don’t need the studies, you just need to see the children after they’ve done the treatments,” he says. “They’re making eye contact with others and they’re much more focused.”

That kind of anecdote often inspires parents with autistic children, and others with chronic or terminal ailments, to seek out private clinics. And their number has been growing, although it’s unclear exactly how many are operating in Canada. An online search suggests there are at least 10, including two which opened in Ontario over the past year.

Alibhai argues that the list of covered treatments should be expanded to take into account emerging evidence that hyperbaric therapy is helpful for neurological and other disorders. “The list was made a long time ago and there have been advancements,” she says. “We see great improvements with brain injury using hyperbaric oxygen therapy.”

The United States Department of Defense is launching a clinical study in January 2011 that will examine hyperbaric oxygen therapy in reducing headaches, memory loss and mood swings associated with traumatic brain injury.

Harrison agrees that the therapy’s ability to deliver oxygen to poorly supplied tissues, promote the recovery of damaged capillary areas and decrease inflammation suggest it could be useful beyond the UHMS-approved conditions. “I think five or 10 years down the road, we could see hyperbaric oxygen being used for things like acute spinal cord injury, Bell’s palsy in its early form and erectile dysfunction,” he says.

But whatever indications it’s ultimately approved for, Harrison wants provincial governments to shut down unregulated private clinics. There’s always going to be a safety issue, he says. “There’s nothing natural about breathing 100% oxygen.” – Wendy Glauser, Toronto, Ont.