



TAOS HYPERBARIC
OXYGEN & LIGHT THERAPIES

Articles on HBOT and Altitude Sickness:

Hyperbaric oxygen chamber helps patients heal in the high country

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(Below is an EXCERPT from the article named above found at...<https://www.vaildaily.com/entertainment/hyperbaric-oxygen-chamber-helps-patients-heal-in-the-high-country/>)

HIGH COUNTRY APPLICATIONS

Dekanich decided to bring hyperbaric oxygen therapy to his practice about a year and a half ago, after hearing from NFL athletes about how the therapy was helping them recover after tough practices.

"For the last six or seven years I've been working closely with NFL players, usually in summer in pre-season camps. ... Hyperbaric oxygen therapy is becoming more and more commonplace for a lot of these players, to help them stay healthy and to help their bodies heal and regenerate from the activities of professional football," Dekanich said. "And, again, this is more anecdotal evidence, but you've got more and more high-level athletes utilizing the treatment."

In addition to offering hyperbaric therapy to athletes in the Vail Valley, Dekanich also saw a value in being able to offer the therapy to visitors

to the valley suffering from acute mountain sickness, also known as altitude sickness.

"A lot of our guests come to the valley from sea level and will experience common symptoms of altitude sickness, such as headache, nausea — a feeling kind of like a hangover — fatigue, things like that, and I thought it made perfect sense to bring this to the valley," Dekanich said.

In order to understand how hyperbaric oxygen therapy may help those suffering from altitude sickness, it helps to understand what happens to our bodies when we ascend to a higher altitude.

"There is about a third less oxygen at altitude, so our bodies have to adjust to being in this low-oxygen environment" said Dr. Dennis Lipton, an internist at Vail Valley Medical Center. "We have to move more air through our lungs to extract enough oxygen, and our hearts have to pump harder to maintain adequate oxygen levels through our bodies."

Lipton explained that the best treatment for altitude sickness is to descend from altitude and that ascending slowly — gaining no more than 4,000 to 5,000 feet daily — to begin with, in addition to avoiding alcohol and staying well-hydrated for a few days before leaving sea level, can help prevent altitude sickness.

While altitude sickness is also considered an off-label use of hyperbaric therapy, according to an article published in the Journal of Emergency Medical Services in June 2016 about treating sickness and edema caused by high altitude, a hyperbaric chamber can be used to help treat altitude sickness in cases where immediate descent is not possible.

"By being in the chamber we're going to lower the effects of where you're at by over 7,000 feet," Dekanich said. "So literally, we're going to take you down to sea level in as little as 10 minutes. It'll take you lower in altitude and also increase the oxygen-carrying capacity of cells simultaneously. ... It's kind of a jumpstart, so to speak. ... You're going to hyper-saturate your red blood cells with oxygen — not only that, but all the other fluids in your body, which makes it more effective than just breathing oxygen."

Dekanich said patients suffering from symptoms of altitude sickness typically see improvement in one or two 60- to 90-minute hyperbaric therapy sessions.

Studies on Altitude Sickness:

5Netzer, N, MD et al. Hypoxia-related altitude illnesses. *Journal of Travel Medicine*. 20(4): 247.

1Thompson, R. (2007, June). High Altitude Cough. Retrieved from http://www.altitude.org/high_altitude_cough.php

2Hultgren, H. (1997). *High Altitude Medicine*. San Francisco, California: Hultgren Publications.

3Altundag A, Salihoglu M, Cayonu M, Cingi C, Tekeli H, Hummel T. (2014).

4The effect of high altitude on olfactory functions. *European Archives of Oto-Rhino-Laryngology*. 271(3). 615-618)