

HYDROGEN THERAPY

There are studies showing that inhaling hydrogen gas under carefully controlled conditions selectively neutralizes hydroxyl radicals and peroxynitrite. (The hydroxyl radicals and particularly the peroxynitrite are discussed at some length in our Nitric Oxide monograph, if you have it.) By its protective effects against hydroxyls and peroxynitrite, hydrogen gas has antioxidant properties, but more particularly anti-inflammatory effects.

One good reference from the Literature is Li Ge, et al. Molecular Hydrogen: A Preventive and Therapeutic Medical Gas for Various Diseases. Oncotarget. 2017.

----- However, note that this Journal, while a publisher of peer reviewed studies, is not among the most respected. And furthermore, the researchers who did the study are clearly biased in favor of promoting hydrogen gas therapy (as opposed to seeking the truth about the subject). It is studies like these that the health food industry and alternative medical people seize with glee, and extrapolate all sorts of wild claims.

This promotional “study” on hydrogen therapy makes it clear that administrating it via inhalation of hydrogen gas is really the most efficacious means of administration --- but, I must warn you --- it is completely unsafe to do so outside of clinical conditions. Even more impractical is hydrogen gas by injection into the bloodstream.

As With most Alternative Medicine Man “cures”, the Health Food Industry charlatans have packaged and promoted hydrogen therapy as the latest “Flavor of the Month”. All sorts of supplements and apparatus are being peddled to the gullible nature cure faithful. The truth? -----

The true believers are dangerously confused. Breathing hydrogen gas can be fatal. --- The only routine use of hydrogen gas inhalation is a very, very dilute mixture of hydrogen and oxygen that is inhaled by deep sea divers, which allows the divers to go deeper without dying. However, even in professional divers, there is extreme risk in using that gas mixture.

There is one other use of inhaled hydrogen, and that is in very, very, very dilute quantity in critically old patients who have been on oxygen therapy for long enough that the lung tissue has been damaged by the oxygen’ free radical catabolic affects. In that case, adding a very small amount of hydrogen to the inhaled oxygen has some protective effect.

The nature cure hype about inhaling hydrogen has even been twisted to include nonsense about inhaling hydrogen peroxide. Hydrogen peroxide (because of the release of free radical oxygen, and nothing to do with the

hydrogen) is destructively Catabolic/Dysaerobic. It is extremely damaging to tissues. The biggest natural cure claim for hydrogen peroxide is that it will cure cancer --- which has been shown over and over again to be nonsense. In fact, certain cancers actually thrive in an environment high in hydrogen peroxide, and hydrogen peroxide is actually a metabolite of thriving cancer cells. It is all quackery.

The Oncotarget study mentioned above also recommends oral intake of hydrogen-rich water as a convenient and safe and easily administered therapy --- but admits that much of it is lost to evaporation and is lost in the gut --- so you really have no idea what, if anything, you are getting from hydrogen water.

The nice thing about this article is that it does give references to many other studies on therapeutic use of hydrogen. I have not yet thoroughly investigated those. To the extent I have scanned through these, the most intriguing aspect of hydrogen therapy is that the hydrogen does cross the blood brain barrier, while many other anti-oxidants, anti-reductants and anti-inflammatories do not.

The one inconsistency or question mark or uncertainty, or maybe we should call an unresolved dilemma, regarding hydrogen therapy is that the amount administered in hydrogen water is just a fraction of what is produced by a healthy colonic microbiota every day. This study that I am referencing points out that what it calls an “enormous” quantity of H₂ (12,000 ml/day) is released in the colon, and presumably absorbed. “Intestinal hydrogen has also been shown to have beneficial effects on disease remission.” So, since the amount of H₂ derived from supplemental administration is minimal relative to that which is produced in a healthy gut anyway, the question remains unanswered how supplemental hydrogen water could have the clinically researched effects.

I have to say that there are enough brain teasers in the articles I have read to pique my interest. And I will be looking into therapeutic hydrogen further. Of course for me (and for you as a NUTRI-SPEC practitioner), the key is how does hydrogen water influence the parameters we measure --- such as oxidation index, hydration index, urine and saliva pH, respiratory rate, breath hold time, and dermographics and edema testing.