March 13, 2020

Re: COVID-19 and Hyperbaric Oxygen Therapy

Attention: PROFESSIONAL ATHLETES AND ATHLETIC TRAINERS

COVID-19 – background information:

Infectious diseases *– Viruses have been a continual threat to humans since the beginning of our understanding of these pathogens, causing outbreak after outbreak. The latest development is called COVID-19 and has impacted the whole world, putting certain regions in the world into a precarious state.*

Professional athletes *– These individuals, particularly those involved in contact sports, can be at a higher risk for contracting COVID-19. In fact, already we have seen public precautions being taken, including suspending games in the NBA, NHL, MLB, and many more leagues in order to reduce exposure.*

Infection control *– At this time, suspending sporting events may be a good way to protect the athletes and mitigate the spread of this disease. However, one of the best ways that the athlete can protect himself and/or herself is to keep their immune system at peak optimal levels. This can be done by taking appropriate diet and lifestyle measures, including good nutrition, sleep, along with various immune supporting therapies like vitamins and nutritional supplements. One of the key nutrients for keeping the immune system strong is oxygen, and the best delivery method to provide the body with extra oxygen is via hyperbaric therapy.*

Hyperbaric Oxygen – background information:

Since many professional athletes are already utilizing hyperbaric oxygen for the benefits of improving their performance and accelerating their recovery periods, it would make sense that they also take advantage of the immune supporting benefits that this procedure can provide, particularly during this time of uncertainty.

Going back to 1662*, Hyperbaric oxygen has had a long history for its health benefits, but it was not until 1918 where Dr. Orval Cunningham of Kansas City was able to publish his data on its*

influence on one of the most deadliest pandemics in human history, the Spanish Flu. It all started with a dying patient that improved when Dr. Cunningham administered a simple, one-hour hyperbaric session. From there, he helped improve many lives by giving them access to this service. Simply put, hyperbaric oxygen therapy provides a surplus of extra oxygen to support the body.

The simple physiology of oxygen *is that ALL cells in the human body require an extremely high and continuous supply for basic functioning. This is an absolute, and it's the reason why you need to breathe about 14 times per minute and why your heart beats an average of 70 times per minute – all to deliver this vital nutrient to highly demanding cells. If this process is disrupted for more than 5 minutes, it would cause grave consequences for all body organs, systems, and even more so for immune function.*

The immune system *requires a bigger demand of oxygen due to its greater utilization of this nutrient. The immune system is comprised of white blood cells; these cells are the body's defense and kill bacteria, viruses, and invading organisms. They are oxygen-dependent and the more oxygen they have, the greater their killing activity can be. Since hyperbaric oxygen therapy provides extraordinarily high (and continuous) levels of extra oxygen to the body, one of the key organ systems to benefit from this procedure is the immune system. In fact, hyperbaric oxygen is used in hospitals for major life-threatening conditions, including flesh-eating diseases and bone infections. Please note that these hospital hyperbaric procedures are at very high dosages and should not be confused with those that are typically used in athletic training rooms, which are tightly regulated to lower dosages, and hence referred to as mild hyperbaric therapy (m-HBT).*

Mild Hyperbaric therapy (m-HBT) *has made its way to top tier athletes in all fields of their respective sports. Names include Tiger Woods, LeBron James, Dwyane Wade, Jordan Spieth, Richard Sherman, Kirk Cousins and many more. Major league teams are also making this service available within their training room facilities. The key focus they have is to help their athletes gain a competitive advantage in performance and recovery. By making slight adjustments to their protocol, this therapy could be used to help maximize the immune system benefits from this procedure. Around 20 years ago, Dr. Gunnar Heuser MD, was one of the first physicians to publish a study utilizing mild hyperbaric therapy as an immune modulator. In this study, he also used brain imagining techniques (SPECT imagining) to demonstrate improvement on brain*

functioning, and also documented an overall increase in attention, as well as reaction time. This was observed in just 10 sessions of m-HBT.

Though hyperbaric therapy cannot protect someone from being exposed to the virus, the extra oxygenation that is provided by adding regular hyperbaric therapy, may just be that extra edge for the immune system to ward off the infection and/or limit the severity of the infection. So, for athletes that are currently utilizing hyperbaric therapy, by slightly adjusting the timing and frequency of their therapy and delivering this procedure outside of intensive training sessions, there can be a very strong benefit for the immune system. For those athletes that do not have access to m-HBT, now may be the time to look into this procedure and search out a hyperbaric center near you. The good news is that m-HBT is becoming more accessible and should be available within your local community. The protocol for immune support differs from those that are used for performance and recovery, so speak to a qualified provider of hyperbaric therapy for the most appropriate usage. Keep in mind, healthy diet and lifestyle support provides a critical base to get the most out of hyperbaric therapy so keep a strong focus on this, at the time of high stress.

To summarize, athletes are always looking to gain that extra edge in performance and recovery. By adjusting the timing, frequency, and duration of their hyperbaric programs, athletes that are currently undergoing m-HBT may be able to get a competitive advantage to help promote a strong, robust immune system – not only now during this current pandemic, but for years ahead as new kinds of infections come forth.

DISCLAIMER: It is very important that this article is not construed as an article that promotes treating COVID-19 with hyperbaric therapy. Anyone who has been diagnosed with COVID-19 or suspected of having this infection , should follow the CDC guidelines (and not seek treatments in a hyperbaric chamber as an alternative). This is purely educational material on the rationale and benefits of using hyperbaric oxygen therapy to support the immune system.

Zayd Ratansi, ND