

Hyperbaric Oxygen Therapy for COVID-19

Analysis by [Dr. Joseph Mercola](#) ✓ Fact Checked

STORY AT-A-GLANCE

- › Opelousas General Hospital in Louisiana has deployed “off-label compassionate use” of hyperbaric oxygen therapy (HBOT) for all COVID-19 patients with oxygen-resistant hypoxemia
- › During HBOT, you’re breathing air or oxygen in a pressurized chamber, which allows your body to bypass your lungs and directly absorb oxygen into your tissues. There’s no airflow being forced directly into the lungs, thus avoiding lung damage associated with ventilation
- › HBOT helps treat COVID-19 by reversing hypoxia, reducing inflammation in the lungs, increasing viricidal reactive oxygen species, upregulating HIF-increasing host defense peptides and reducing proinflammatory cytokines such as IL-6
- › Chinese doctors report “promising results” after treating five COVID-19 patients with HBOT. Two were in critical condition and five were severe. Patients experienced rapid relief of hypoxic symptoms, rapid correction of hypoxemia, improved lung pathology and a general reversal of associated conditions, including gastrointestinal symptoms
- › NYU Langone Health is recruiting 40 COVID-19 patients for a study using HBOT

I have been saying for months now that hyperbaric oxygen therapy (HBOT) would be an excellent treatment adjunct against severe COVID-19 and a superior alternative to **ventilators, which have been shown to cause harm** in many patients and increase the risk of death.

Mechanical ventilation can easily damage the lungs for the fact that it's pushing air into the lungs with force in a disease where the alveoli are compromised and filled with fluid from inflammatory cytokines due to **insulin resistance**. HBOT bypasses this problem by supplying 100% oxygen in a pressurized chamber, which allows your body to bypass this defect and absorb oxygen directly into your tissues.

There's no airflow being forced directly into the lungs. HBOT also improves mitochondrial function, helps with detoxification, inhibits and controls inflammation and optimizes your body's innate healing capacity.

Louisiana Hospital Deploys HBOT for COVID-19

April 23, 2020, WGNO, a local Louisiana news station reported¹ Opelousas General Hospital in Louisiana, which has a hyperbaric center, has been deploying "off-label compassionate use" of HBOT as an alternative for patients that would otherwise have required ventilation. Dr. Kelly Thibodeaux told WGNO:

"The thing we see with severe COVID-19 patients is a complication with an inability to carry oxygen in addition to the problem to lungs itself. It's not just lung injury. The virus does something to the red blood cells of certain patients ...

Being inside hyperbaric chambers won't cause injury. It's a less invasive way to deliver oxygen that doesn't require sticking a tube down the trachea."

HBOT in the Treatment of COVID-19

Thibodeaux presented his case findings in a **recent webinar** held by the Association for the Advancement of Wound Care (AAWC). As explained in this webinar, HBOT can help treat COVID-19 by:

- Reversing hypoxia
- Reducing inflammation in the lungs
- Increasing viricidal reactive oxygen species

- Upregulating HIF-increasing host defense peptides
- Reducing proinflammatory cytokines such as IL-6, IL-1B, IL 18, TNF alpha and NF kappa B

Thibodeaux, who is board certified in general surgery and wound care, collaborated with Dr. Amer Raza, a doctor of pulmonology and critical care, to develop an inclusive treatment plan using HBOT once a day for 90 minutes.²

In the video above, Thibodeaux reviews the details for the first five cases. All saw rapid improvements in their respiratory rates and dramatic decreases in CRP (an inflammatory marker) and D-dimer (a measure of blood coagulation). The number of treatments required ranged between one and nine.

At the time this video was recorded, 11 patients had received HBOT. None of them required ventilation and five had been successfully discharged. As a result of these positive outcomes, Opelousas General Hospital is now using HBOT for all patients with oxygen-resistant hypoxemia.

Chinese Doctors Report Positive Results Using HBOT

Opelousas General Hospital's decision to deploy HBOT for compassionate use was in part supported by the findings of Chinese doctors who reported³ "promising results" after treating five COVID-19 patients with HBOT. Two were in critical condition and three were severe. As reported by the International Hyperbarics Association:⁴

"Hyperbaric oxygen was added to the current comprehensive treatments being performed at the hospital for COVID-19 affected patients, with a dose of 90-120 minutes at treatment pressures of 1.4 to 1 fi.ATA.

The results were very encouraging as these five patients received significant therapeutic benefits, including rapid relief of symptoms after the first session.

The rationale for adding this procedure is to help combat the progressive hypoxemia (low blood oxygen levels) that COVID-19 can cause. Hyperbaric

oxygen has the ability to add a substantial supply of extra oxygen into the bloodstream ..."

HBOT Has Many Benefits Over Alternatives

The report⁵ from China states patients with severe COVID-19 disease experienced rapid relief of hypoxic symptoms, rapid correction of hypoxemia, improved lung pathology and a general reversal of associated conditions, including gastrointestinal symptoms, appetite, headache and mental state.

The report also details some of the mechanics behind HBOT and why it benefits COVID-19. Importantly, delivering oxygen under pressure allows for greater oxygen uptake by inflamed lung tissue.

It also improves cellular oxygen uptake in general, and to a greater degree than extracorporeal membrane oxygenation (ECMO), which involves oxygenating the patient's blood outside the body and then pumping it back into circulation.

And, while ECMO is recommended^{6,7} for relatively young patients with few comorbidities who are failing to respond to ventilator treatment, Opelousas General Hospital's work shows HBOT can successfully be used on older patients who have several comorbidities. Moreover, as noted in the Chinese report, HBOT does not conflict with other conventional means of critical treatment:⁸

"HBOT is not the etiological treatment of COVID-19, it is the symptomatic treatment of hypoxia in patients with COVID-19, and it is a supplement to the existing oxygen treatment technology ...

In addition to HBOT, ICU clinicians are still responsible for the daily comprehensive treatment of the above-mentioned severe patients. There is no conflict in treatment technology. On the contrary, it can provide better support for other supportive treatments."

HBOT Trial for COVID-19 Underway

NYU Langone Health is also recruiting COVID-19 patients for a study using HBOT.⁹ The study was posted April 2, 2020 and is expected to end in July 2020. As detailed on ClinicalTrials.gov:¹⁰

"This is a single center prospective pilot cohort study to evaluate the safety and efficacy of hyperbaric oxygen therapy (HBOT) as an emergency investigational device for treating patients with a novel coronavirus, disease, COVID-19 ...

The patient will receive 90 minutes of hyperbaric oxygen at 2.0 ATA with or without air breaks per the hyperbaric physician. Upon completion of the treatment the patient will then return to the medical unit and continue all standard of care ...

After the intervention portion of this study, a chart review will be performed to compare the outcomes of intervention patients versus patients who received standard of care."

This study will also examine whether HBOT reduces the cytokine storm reaction that is so prevalent among patients with severe COVID-19 infection, and how this might impact the recovery process.¹¹ In all, 40 patients will be enrolled. To be eligible, patients must test positive for COVID-19 and be diagnosed with respiratory distress. All patients will be recruited from the NYU Winthrop Hospital.

Hypoxia Is the First Indication for HBOT

As mentioned, Opelousas General Hospital is now using HBOT for all patients with oxygen-resistant hypoxemia. Similarly, the Chinese report¹² states that "hypoxia is the first indication of HBOT." Another indication for HBOT is a diagnosis of anoxia, i.e., severe hypoxia where the patient is severely deprived of oxygen.

"The therapeutic effect of five patients was very significant, and both the subjective and objective clinical indexes showed that the deterioration of hypoxia was interrupted immediately and then the whole body recovered gradually after the first HBOT," the Chinese report states.¹³

"Such a consistent treatment response, according to the statistical law, cannot be explained by chance. The above mechanism demonstrated that the efficacy of HBOT in five patients was not accidental ...

The relevant scientific papers, literature and works are endless. The superiority of HBOT in solving severe hypoxia in patients with COVID-19 is clearly scientific.

Unlike the newly developed treatment stage or the efficacy of medicine is still in the scientific hypothesis stage, HBOT don't need clinical trial verification and other methods of oxygen therapy that have been used clinically, such as mechanical ventilation or ECMO, it can be reasonably used."

Both Thibodeaux and the Chinese report also review the excellent safety record of HBOT. There really aren't any drawbacks to the treatment, aside from the fact that some patients may be too vulnerable to be transported to the chamber.

Overall, it seems clear that HBOT can be an extremely valuable adjunct in COVID-19 treatment and can help lower the mortality rate. You can learn more about HBOT – how it works and what its benefits are – in my previous article, "[Hyperbaric Oxygen Therapy as an Adjunct Healing Modality](#)."

Other Uses of HBOT

It is exciting to see this valuable intervention provide such promising results in COVID-19, which is precisely what I predicted. However, HBOT is also useful in a wide range of other disorders such as [traumatic brain injury](#) (TBI), stroke, wounds and even adjunctive cancer treatments.

There are primarily two different types of hyperbaric chambers, inexpensive soft shells that cost \$5,000 to \$30,000 or professional hospital grade hard shell chambers. Within the hard-shell chamber some use oxygen concentrators to provide the oxygen but the better ones use 100% liquid oxygen.

These chambers typically are over \$100,000. The most common one is made by Sechrist, which is what they use in the Opelousas General Hospital's hyperbaric center, which has six chambers.