

The Science Behind Hyperbaric Oxygen Therapy: How It Works

The Science Behind Hyperbaric Oxygen Therapy

Your mind and body require oxygen. But sometimes — due to injuries, medical conditions, or age — oxygen levels begin to wane.

The good news is your body is capable of natural rejuvenation. The Aviv Clinics team has the data and highly advanced resources to unleash this potential via hyperbaric oxygen therapy (HBOT), which can be included as part of the holistic Aviv Medical Program. Learn about the science behind HBOT and the healing benefits of hyperbaric chambers.

The Aviv Clinics HBOT Protocol

What Is Hyperbaric Oxygen Therapy (HBOT)?

Hyperbaric oxygen therapy (HBOT) is a medical treatment that involves breathing 100% pure oxygen in a pressurized HBOT suite (often called a hyperbaric oxygen chamber). This process increases oxygen levels in the body 10–15 times higher than normal, and has been long-proven to speed up the body's healing and rejuvenation abilities.

The Aviv Medical Program advances the effectiveness of HBOT many steps further by implementing specific oxygen fluctuations, coupled with an array of other therapeutic strategies, to help your body and brain reach their full potential.



What Does Aviv Clinics' Unique HBOT Protocol Do to Your Body?

Aviv Clinic's unique HBOT protocol fluctuates the oxygen levels in the suite. The protocol combines two processes:

First, increasing the oxygen level in the tissues of the body and brain.
Second, fluctuating the level of oxygen to enhance the body's natural

processes of rejuvenation. By controlling and combining these two processes, we maximize the potential of your body and brain, to achieve new standards in cognitive and physical performance.

The intermittent increase of oxygen concentration induces many of the mediators and cellular mechanisms that are usually induced during hypoxia but without the hazardous hypoxia, termed the **Hyperoxic-Hypoxic Paradox**.

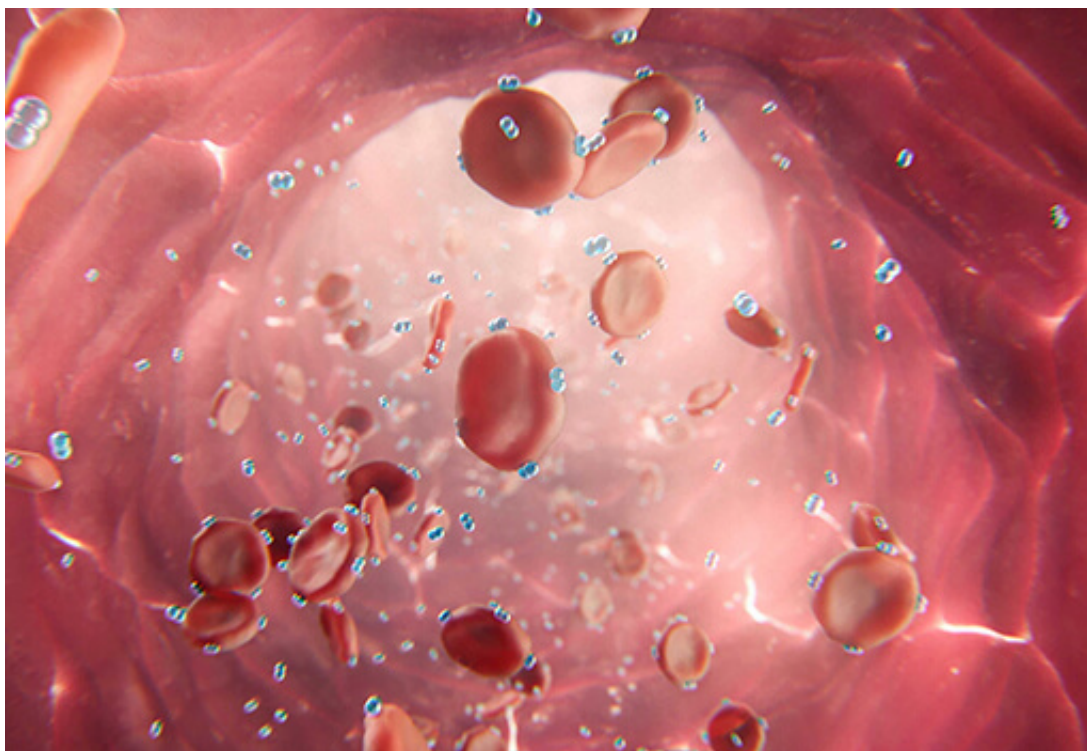
In doing so, these variations:

- Increase the amount of oxygen in the blood.
- Regenerate damaged tissue to heal faster.
- Provide energy the brain needs to trigger the healing process.

By the end of the treatment program, you can see a significant improvement in your mental and physical performance.

Do I qualify for the Aviv Medical program?

[Contact the clinic](#)



Oxygen: Your Brain's Superpower

The brain is the command center of your body, and it needs oxygen. It makes up only 2% of the body's mass, yet the brain uses over 20% of the oxygen we breathe. With age, our bodies become less efficient at channeling that oxygen. This might be why you notice your mind and body "slowing down."

But this doesn't have to be the norm. The [latest scientific research shows](#) it's possible to maintain – and even regain – peak physical and mental performance. The Aviv Medical Program was founded based on this research.



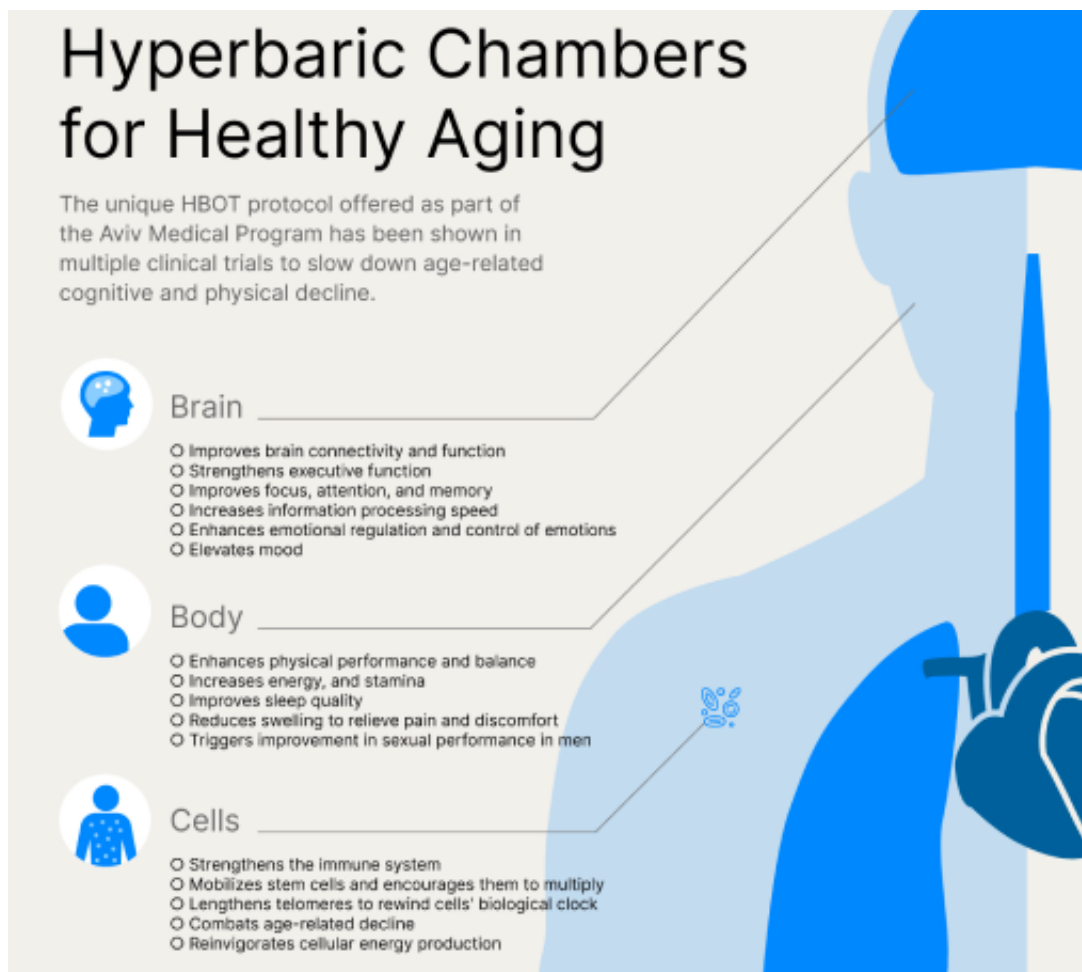
Powerful Hyperbaric Chamber Benefits for Long-Term Health

The human body sometimes needs an extra push to reach its full potential. That's where the [benefits of hyperbaric oxygen therapy](#) come in. Traditional HBOT protocols offer a range of benefits, from accelerating wound healing to boosting immune function.

The Aviv Clinics approach goes further than traditional HBOT. Our therapy has been shown to slow down age-related decline, enhance brain function,

and reduce the risk of neurological conditions.

With HBOT treatment at Aviv Clinics (as part of the comprehensive Aviv Medical Program), the possibility of reclaiming your youth becomes a tangible reality. Promising evidence of its ability to influence biological age paves the road for enhancing patients' overall quality of life. This can help patients defy the limitations imposed by the aging process and embrace a future marked by vitality.



- [Aging](#)
- [Mild Cognitive Decline](#)
- [Post-Stroke](#)
- [Traumatic Brain Injury \(TBI\) and Post-Concussion Syndrome \(PCS\)](#)
- [Long Covid](#)
- [Post-Traumatic Stress Disorder \(PTSD\)](#)
- [Lyme Disease](#)

- [Fibromyalgia](#)
- [Erectile Dysfunction](#)
- [Athletic Performance](#)
- [Chronic Carbon Monoxide Poisoning](#)

[Learn more](#)



Aging

Researchers discovered [HBOT may improve signs of aging](#) by:

- Improving cognitive function, specifically attention span, information processing, multitasking, and memory
- Lowering the number of cells responsible for aging
- Increasing telomere length
- SPECT brain scan images before and after HBOT trials suggest positive effects of HBOT on aging.

Learn more about how aging affects brain and body performance.

[Learn more](#)



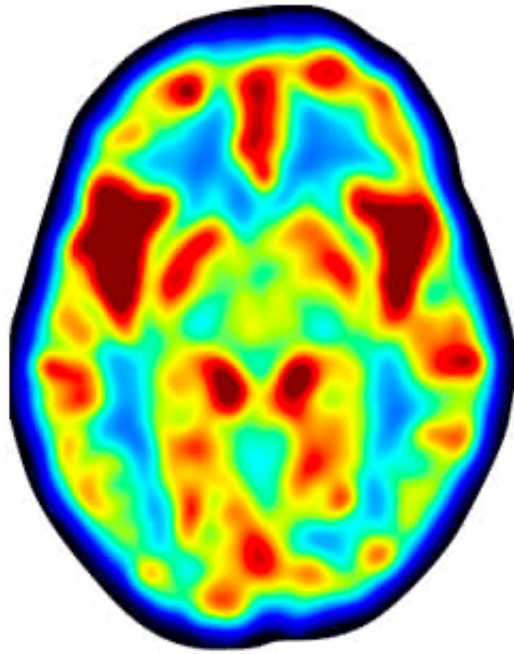
Mild Cognitive Impairment

HBOT's ability to increase blood flow to the brain shows promise in [improving cognitive function](#).

The ability of the blood vessels in our brain to carry oxygen naturally declines with age, and HBOT can help lessen this effect.

[One neuroscience study suggests](#) HBOT can help combat memory loss and reverse early biomarkers of Alzheimer's disease.

[Learn more](#)



Post-Stroke

One research study suggests HBOT can [significantly improve post-stroke conditions](#). Study participants described a distinctly improved quality of life.

When combined with proper nutrition, exercise, and regular cognitive training, a unique HBOT protocol may help [post-stroke patients](#) regain their speech, motor functions, and independence in performing day-to-day tasks.

Speak with an Aviv Clinics team member to learn if you're a candidate for the program.

[Learn more](#)



Traumatic Brain Injury (TBI) and Post-Concussion Syndrome (PCS)

Approximately 30–40% of those who suffer [concussions or traumatic brain injuries](#) experience lingering symptoms. This condition is called post-concussion syndrome (PCS) and merits careful medical attention.

[Research indicates](#) HBOT may improve PCS, even years after a mild traumatic brain injury event.

[Learn more](#)



Long COVID

When you experience lingering symptoms beyond three months after the onset of COVID-19, it's called [long COVID or post-COVID-19](#). Symptoms can include physical, cognitive, respiratory, and cardiac complications.

Studies illustrate that when included with other types of therapies, HBOT [encourages oxygenation](#) and reduces inflammation to "improve the clinical status of severely ill COVID-19 patients." In clinical trials, HBOT has been shown to [enhance neuroplasticity](#) in brain areas linked to "cognitive and emotional recovery in post-COVID-19 patients."

"During the program I gradually started to feel the improvements. I felt sharper, I could think more clearly, and could even concentrate for longer. I regained back my capabilities... it's like an upgraded version of myself."". Vered Israelowitz. Long Covid survivor and Aviv Clinics Protocol patient.

[Learn more](#)



Post-Traumatic Stress Disorder (PTSD)

PTSD is a psychiatric disorder that often occurs in those who have experienced a traumatic event.

Upon a series of HBOT sessions, PTSD patients reported positive outcomes.

Through MRI scans, veterans with PTSD showed their [brains' microstructure and functionality improved](#).

[Learn more](#)



Lyme Disease

Chronic [Lyme disease](#) is one of the most challenging illnesses from which to recover. Patients often experience limited relief from antibiotic-heavy therapies.

Luckily, recent research suggests [HBOT may improve symptoms of Lyme disease](#) in patients who have taken antibiotics for at least 10 years.

"I now have a solution. I have a way to get back to this place where I'm feeling energized, I'm feeling vital, I'm feeling like I can take on the world again". Lyndi Scott-Strite, Lyme disease survivor and Aviv Clinics patient

[Learn more](#)



Fibromyalgia

[Fibromyalgia](#) is a chronic disorder that causes musculoskeletal pain throughout the body as well as other symptoms such as fatigue and/or sleep issues.

In one research study, fibromyalgia patients who underwent HBOT sessions five days per week over 12 weeks [experienced less chronic pain](#).

Further research needs to be conducted, but these early [studies](#) suggest HBOT may help fibromyalgia patients live a more comfortable life.

[Learn more](#)



Erectile Dysfunction

[Erectile dysfunction](#) (ED) affects [nearly 30 million men](#) in the United States. Medical professionals have concluded HBOT may be a [good alternative](#) or supplemental treatment for ED.

[Having HBOT sessions for 40 Days](#) eased chronic ED among patients. Erectile function improved by 88%—and 80% of individuals indicated positive results.



Chronic Carbon Monoxide Poisoning

Immediate treatment for CO poisoning is crucial to restore the flow of fresh oxygen throughout the body, which is crucial for preventing long-term damage to brain and organ tissue. However, individuals may still suffer from debilitating delayed or chronic effects.

The Aviv Medical Program offers advanced therapies in addition to specialized hyperbaric oxygen therapy, to address concerns by those suffering from chronic effects of carbon monoxide poisoning.

[Learn more](#)

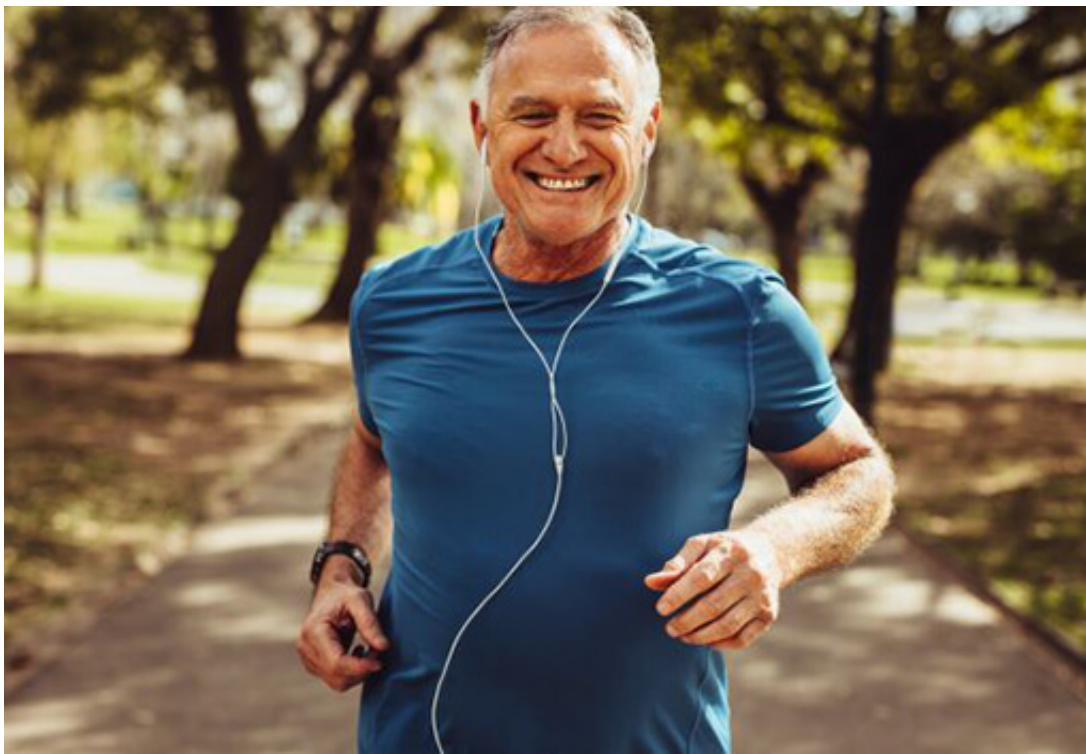


Athletic Performance

In recent years, HBOT has proven to be an effective way to address injuries, aid in recovery, and improve [athletic performance](#)—both [mentally](#) and [physically](#).

[Peter Paltchik](#) is a Judo champion who was looking to enhance his physical capacity and cognitive fortitude. Paltchik describes the program as his “ace card” to success:

“To be an Olympic medalist, every second counts. You must be able to analyze, to react, to think very quickly. This is the difference between winning and losing. After I joined the program, I felt the improvements in my mind and body. I was sharper, more focused in fights, and I was able to make quicker decisions.”



Aviv Improves Quality of Life

Improving Quality of Life Through the Aviv Medical Program | Aviv Clini...

How Does HBOT Work at Aviv Clinics?

1. You enter a hyperbaric oxygen chamber

Sit comfortably and breathe through a custom-fitted oxygen mask. Patients generally don't feel anything during this process. Most play brain exercise games on a tablet. Others listen to podcasts or practice a new language.



2. You rotate between breathing through the mask and breathing air

During the HBOT treatment, our staff helps you alternate between breathing 100% pure oxygen and medical-grade air. This fluctuation is customized to your physical and mental health needs. It's the key to gaining the greatest benefits HBOT offers.



3. You complete multiple HBOT sessions

As part of the Aviv Medical Program, most patients complete 60 sessions, but your Aviv Clinics physician helps determine what's right for you. At the end of your treatment, you receive detailed before-and-after reports that outline your progress.

[Learn more](#)



How Long Does HBOT Take to See Results?

Most people see improvement from the Aviv Medical Program during the the 8–12 weeks of therapy and see medically verifiable results by the end of their treatment. Measurable improvements often continue for weeks or months after completion of the program.

Keep in mind there is no one-size-fits-all approach. You'll receive your own [unique, holistic therapy plan that can include HBOT](#), so outcomes and timelines will vary. Aviv Clinics provides objective data during your treatment plan to assess your physician and cognitive output before and after implementing HBOT and other therapies. Our ability to quantify your health plan is ultimately what delivers results.

Factors that could influence how quickly you see hyperbaric chamber benefits include:

- The condition being addressed
- Severity of the condition
- Overall health status

- Concurrent treatments
- Individual healing responses
- Lifestyle factors

The personalized treatment plans offered through the Aviv Medical Program can combine HBOT with targeted therapy, including cognitive and physical training with nutritional coaching, for synergistic effects. Each element of the program works together to bolster the body's natural healing potential. **Harnessing the combined power of HBOT with these complementary therapies can result in more effective results.**

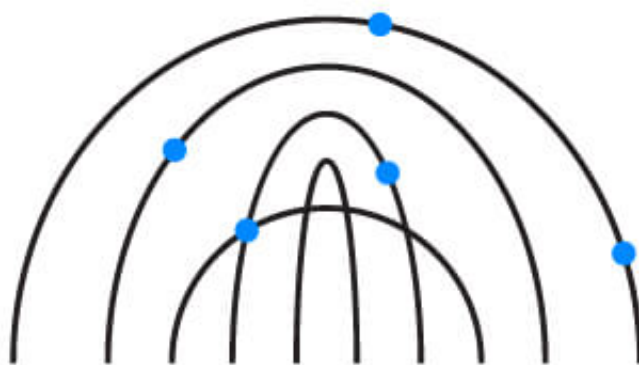


How Long Do the Effects of Hyperbaric Oxygen Therapy Last?

Hyperbaric oxygen therapy is designed to offer a sustained edge in brain and body performance by promoting lasting effects on your health, promoting neuroplasticity and improving the flow of nutrients to the brain. This means that even after ceasing therapy, HBOT continues to empower the body to perform its innate, independent ability to heal from within.

While some effects can be felt relatively quickly, like enhanced mental clarity and increased energy levels, lasting outcomes can progress over months.

"It Gives You a New Lease on Life." | Zizi's Healthy Aging Story, 2.5 Year...



Is HBOT Therapy Safe?

HBOT is considered a generally safe therapy. Studies show pre-evaluations

and in-suite monitoring are the two essential roles in ensuring HBOT patient safety. Rest assured, the Aviv medical team puts your well-being front and center in your personal treatment plan.

Read more about the [safety of hyperbaric oxygen therapy](#).

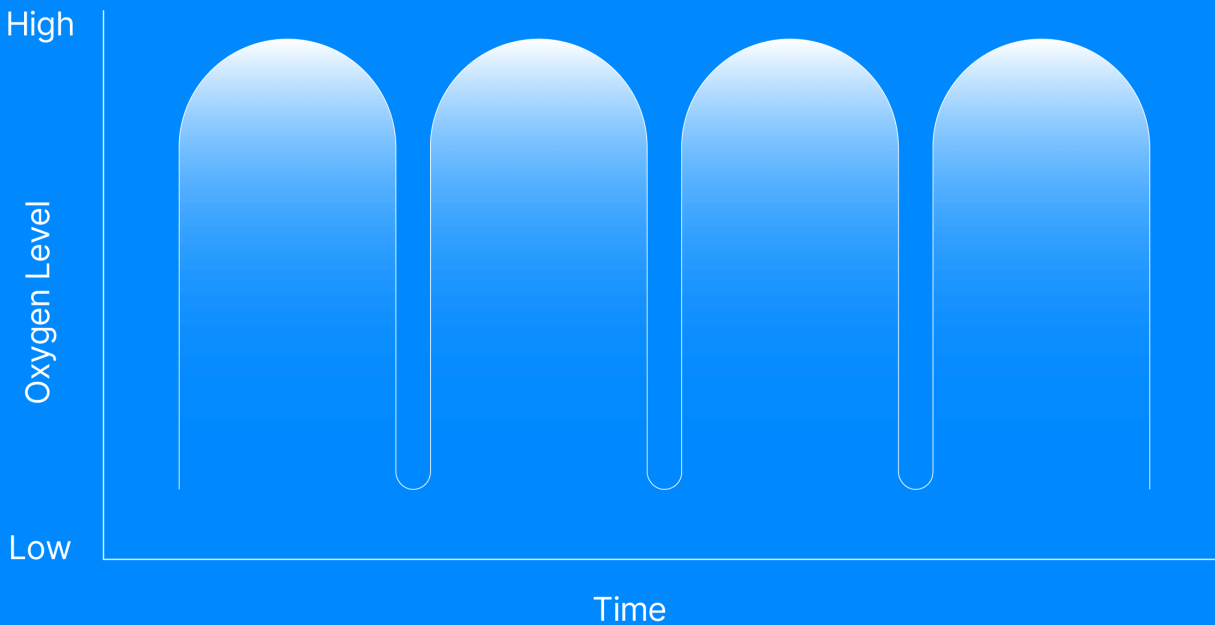


What makes Aviv's HBOT protocol unique?

There are two key processes:

- First, we increase the oxygen level you breathe through a mask in the HBOT suite. As you breathe it in, your bloodstream sends this oxygen to tissue in your body that has been deprived of it. Oxygen-saturated blood can bypass blood vessels which have become clogged or narrowed with age. This gives the brain the energy it needs to turbocharge the healing process.
- Second, we fluctuate the level of oxygen you breathe when inside the HBOT suite. This variation in oxygen supply triggers your body's own regenerative mechanisms.

Oxygen Fluctuation



Aviv's Holistic Approach

A holistic approach to recovery can include HBOT coupled with additional therapies for a more comprehensive treatment. Your holistic plan may include:

- Hyperbaric oxygen therapy (HBOT)
- Cognitive training
- Physical training
- Nutritional coaching

Our holistic medical protocol delivers incredible results, often greater than what research studies illustrate.

"The Aviv Medical Program can be successful because it addresses the cause of the symptoms, not just the symptoms alone. In combination with cognitive, physical, and nutritional coaching, some HBOT

protocols can be very effective.” Dr. Mohammed Elamir, MD, FACP

“At your beck and call, you have a physician, dietitian, physical therapist... so many professional people who will help you. What came out was a plan for me—just for me.” ZiZi McKinnon, former Aviv patient

“You get to work with everybody from the neurologist who works with you on brain games to the dietitian who helps you with your diet. For Lyme disease, that’s extremely important.” Lyndi Scott-Strite, former Aviv patient

[Learn more about the program](#)



Hyperbaric Sessions



Cognitive Training



Physical Training



Nutrition Coaching

Why People Seek Out HBOT

Success stories from our very own Aviv community.

Each of these patients experienced unique conditions that put their lives on hold until they reached out to us:

- 14-year-old [Linden Perry](#) suffered post-concussion syndrome after sustaining multiple concussions while playing basketball and soccer.

- 74-year-old [Trice Hirr](#) couldn't attain her competitive swimming speed because of a history of injuries and a hip replacement.
- [Lyndi Scott-Strite](#) suffered from symptoms of Lyme disease, which made her step back from her usual activities and routine.
- The stress from her husband's illness put pressure on [Zizi McKinnon's](#) mental and physical health.

The common thread that binds these individuals is not just about health – **it's about proactively caring for their minds and bodies** to help them live the way they want. No one deserves to live while plagued with discomfort or health problems.

[Watch more success stories](#)



HBOT: A Research-Backed Therapy Program

HBOT has been utilized since the 1800s, which demonstrates its longevity and effectiveness over the years. Today Aviv uses advanced and unique HBOT technology to deliver safe and secure medical treatments. [Decades of research illustrate](#) that HBOT may help people suffering from a variety of health conditions, including: Stroke, Lyme disease, Long COVID, TBI

(traumatic brain injury), Post Concussion Syndrome (PCS), PTSD (Post-traumatic stress disorder), MCI (mild cognitive impairment).

Scientific References

This section contains medical information and is intended for healthcare professionals only. It includes references to studies carried out by the team at [The Sagol Center for Hyperbaric Medicine and Research](#) in Israel as well as relevant studies done by others.

Start Your Healing Journey with Aviv

Declining health does not have to – and should not- be permanent. Whether you have a specific health concern or want to manage age-related decline, lean on Aviv's research-backed program to maximize the quality of your life.

[Contact our HBOT Florida](#) medical professionals to discuss how to incorporate hyperbaric oxygen therapy benefits into your healing and relief journey.

[Contact us](#)

