How HBOT Supports Inflammation, Brain Health, and Cellular Repair Transcript

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MAPS Webinar Introduction

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And when you add a concentrator to that, it goes north of 100%. And then of course, as you escalate to higher pressures, you're in 800s to almost 1000%. Hi, welcome to the MAPS webinar series, Healing Tomorrow's Future.

We are thrilled to be bringing you this series packed with valuable information and education within our community.

What OxiHealth Does

My name is Honey Rinusella and I'm the Executive Director of MAPS, the Medical Academy of Pediatrics and Special Needs. Within these webinars, we're able to empower clinicians on the knowledge and tools to support patients facing a variety of health challenges.

For more information on MAPPs or to register for a conference, please visit us at www.medmaps.org. That's www dot medmapps dot org. Thanks for joining us on this journey towards a brighter, healthier future.

So, tell me a little bit about OxiHealth and what you all do. Of course. Well, Oxihelth is the world's leading provider of portable hyperbaric therapy.

Mm-hmm. 28 years ago, our founder took this concept of hyperbarracks, what would you see in a hospital setting. Okay. High-pressure hyper Barracks that are pressurized with 100% oxygen.

Why Mild Hyperbaric Therapy Was Developed

and he made a milder version of it, right? And part of his goal was to make the therapy more accessible. I mean, when you look at hyperbarics and what the FDA approves it for, they're all life-threatening, very severe indications.

There's 15 of them. And so everything you see hyperbarracks being used for today in the off-label space are for a lot less intense indications and In order for it to get to this point, there had to be a safer concept introduced.

So rather than inflating the chamber with 100% oxygen, our founder thought to himself, well, what if we pressurize it with ambient air, right? Do we really need that 100 percent oxygen exposure in the environment or is it the pressure itself that's drives the oxygen into your body while delivered through a mask, for example.

Okay. And so from that whole idea, the world's first portable hyperbaric chamber was born. You know, we've been doing this for almost 30 years now. We have almost 19,000 chambers in the market today.

Wow. So we have safety data to show how safe this initial concept was. Tell me about the populations that you typically serve. Yeah, there's actually a very broad mix.

So as you can imagine, when you're working with hyperbaric therapy, hyper baric works by really helping your body's own or enabling your bodies own ability to heal itself, right?

So whether using it for sports recovery, or you are using for an acute injury, recovering from an injury.

Who Uses Hyperbaric Therapy

Hyperbarics serves a place in reducing inflammation, stimulating a lot of different healing pathways and you know, in supporting your immune system. So overall, it can really help the body heal itself.

We see it being used for athletes, for example. Yeah, I guess the one question that I did have was, a lot of those listening will be parents. And so when you're talking about healing and, you know, their children may have autism, Lyme, PANS, Pandas, maybe talk a little bit about what are the benefits and why would they consider hyperbaric oxygen therapy?

Okay. Well, one of the biggest benefits is what it does for inflammation, right? So reducing neuroinflammation is huge for a lot of these kids.

Hyperbarics for Neuroinflammation and Kids

A lot information is typically where we get stuck in our healing journey. And so if we're able to alleviate that by increasing cerebral perfusion and kind of starting that cell signaling by introducing oxygen on a molecular level, We can alleviate that inflammation and allow the body to progress to the next step.

But of course, that's not the one I'll fix all right. There are a lot of other factors involved in that, but this is just a tool that we can use to create synergy with a of the base plans and protocols that patients are using.

No, that's great. My primary caseload or the clients that I see are complex autism. And so many of them have seen benefits from hyperbaric oxygen therapy.

I talk to families about that because neuroinflammation is a really big part of some of the symptoms that we see. So being able to support that, tell me a little bit, pretend I'm 10. Explain how hyperbaric oxygen therapy could help my child with a chronic health issue.

Of course. We'll pretend you're 10. Yeah, I'm 10! I know nothing about this. I am just trying to get it so parents are like, oh, oxygen-therapy? What does that do?

Explaining Hyperbaric Therapy Simply

So, try and simplify it. That's my point. Just simplify for people who may know Well, it's a great way to supplement oxygen to your cells, right? Our cells need oxygen just to operate on a daily basis.

And when they're provided with more oxygen and more of the stuff that we breathe in, they do amazing things. So our bodies are always in this recovery mode and we can accelerate that a little bit by providing it with more of the tools or I guess vitamins like oxygen.

You can call it kind of like a supplement or vitamin to do more what it's already programmed to. Yeah. Okay. Perfect. That's great. And so I'm a parent and I want to consider this.

But the ones that I've seen online are these massive, you know, chambers. What are my options? Like, how would that work? Of course. Well, there's two types of hyperbarics, right?

There are clinical hyperbolic devices and there are home hyper-baric devices.

Home vs Clinical Chambers

The home, hyper baric, devices are milder versions of what you'll see in a clinic, so they're limited to mild pressure under FDA regulation and they are a lot easier to use.

You can actually use it completely on your own. Of course, if you're working with your child, you are not expecting them to be independent in operating this, but all of the home hyperbaric devices are engineered to very easy to

use.

I mean, they're easy operate. It's as easy as turning on a compressor, getting yourself in, closing the zipper and shutting the valve. right? Compared to a clinical hyperbaric chamber where you actually require a trained technician who's gone to 40-hour course to actually operate the device safely, you know, giving you the trust that you need.

So it's all about safety, right. Yeah, for sure. Because when you think about that, I have this oxygen, is it flammable? Like, what are the guess, what are the differences between the two options, too?

Because when I'm thinking about that, I would say, okay, so maybe the clinical version, the hospital version is going to make my inflammation heal faster than home.

Is that accurate? Or what's the difference between of things but what are the differences so that parents know, you know these are, this is what I'm getting there and this what would be getting at home.

Of course. Well, actually a lot of the newer research is showing that different pressures have a different response from the body. Oh, okay. So there's some research that came out recently by Dr.

Jason Sauners where he compared, he answered that exact question. What's the difference between two atmospheres and 1.3 atmophheres? 1.3 being the mild version in a home chamber.

And what he found is that when it comes to inflammation, 1.

Pressure Differences and Research Findings

3 atmospheres had a significantly greater effect on interleukin-6, TNF-alpha, and Tnf-beta, right? Inflammatory markers that have a higher association with symptoms from chronic diseases, Right?

And higher pressures had greater response when it came to different healing factors. So that's why you'll see in wound care, for example, they'll use high-pressure hyperbarics in a clinical setting, So it's pretty fascinating to see that shift in the industry.

Historically, there's a lot more research for high pressure because hyperbaric started with high-pressure. You know, it has been around for 30, 40 years.

Mild pressure is something new to the Industry and still growing. But I like to think of it as I guess every minute you spend inside of the chamber, you're getting a dose of oxygen, right?

So whether you are in there at 1.3 atmospheres for 60 minutes, breathing 100% oxygen or just breathing ambient air, You're giving a certain dose oxygen.

And based off of that dose that you receiving, your body will respond differently. So if you have a larger dose, oxygen you gonna have greater anti-oxidative stress response.

as opposed to a lower dose of oxygen where you might get a completely different response. And we're starting to see some of the research show that that response is more inflammation-based and once you pass a certain threshold and oxidative stress, then you get greater antioxidant response, which is pretty neat.

That's interesting. So, imagine I'm a parent coming to you and my child, you know, I feel that they would benefit from this. I want to get one from my home.

You mentioned a mask. My child, there's no way that my child's going to wear a masque. They probably won't sit in there. Like, tell me a little bit more about, you know, again, my familiarity is autism, complex autism.

How, like, why would I to?

Using Ambient Air at Home

Because they're expensive. It's something that, is an investment, right? Which I'm willing to do as a parent. How is that going to work in my house? How can I make this successful?

Well, you know, actually a lot of our patients don't use masks with oxygen. They actually stay with ambient air setups. And if you look at, children tend to be a little bit more sensitive to oxygen than adults.

With ambient alone in the research, after about 60 minutes at mild pressure, There's a measurable 50% increase in the amount of oxygen that's diffused into the blood plasma.

And when you add a concentrator to that, it goes north of a hundred percent. Then of course, as you escalate to higher pressures, you're in 800s to almost a thousand percent, right?

So there is a significant amount oxygen introduced with just ambient air alone. This wasn't something that was well-researched 20 years ago, but there's research now to actually support how effective ambient can be in itself.

It's not a great fit for anybody, but in my opinion, it's a very safe therapy overall. You're not adding oxygen to the equation. It is a bit easier for children to use and you're still able to get a healthy dose of oxygen without overdoing it.

Okay. In some of the research that's out there, what are the benefits? What are things that we're seeing as a result of hyperbaric oxygen therapy? Of course, inflammation is one of the biggest mechanisms in hyperbarics.

There's a pretty significant effect on your stem cells. In a lot of research, you'll see the term stem cell mobilization. You're not producing these stem-cells, but we're mobilizing stem from the bone marrow into circulation while using something like hyper-baric.

Key Benefits and Safety Standards

I mean, it's the whole hyperoxic-hypoxic paradox with pinpoint alpha. And so it's pretty neat. You're tricking your body into thinking that it is in a lower oxygen environment the moment you step out of a chamber, which then triggers this adaptive response to mobilize stem cells as your bodies tries to protect itself.

So this is where we see things like stem cell mobilize, angiogenesis, the formation of new circulation pathways. And then also there's a very strong mechanism for supporting your immune system as well.

And also building cellular energy. So mitochondrial health, which is huge in this space and functional medicine. You'll actually see in some of the research that mitochondria density increases over time with consistent hyperbaric use.

It's almost like your body's adapting to being in the surplus oxygen environment to use it. Because again, our bodies are adaptive. When they're given certain things, they'll use to their advantage and make the most of it in most cases.

Yes, no, that's great. Is there anything else that I haven't mentioned or asked just about oxy health, but then just hyperbarics in general that is important for audience to know?

Of course. Well, one of the biggest questions we get asked is what makes the hyperbaric chamber safe? And, you know, the industry standard right now is FDA, right?

Having an FDA cleared chamber. Unfortunately, there are a lot of non-FDK cleared products in this world outside of just hyper barics. Right, yes. It's just very important to remember that this is a class two medical device, meaning that there's a prescription requirement for the patient to actually get the device.

But there is also a whole set of requirements for manufacturer to safely build this device up to the industry standards for human use. So that's something that we get asked all the time and I just always emphasize these conversations.

No, that's great. Thank you so much. I appreciate it. It's been great and really informative.