

Dr. Shai Efrati on Hyperbaric Oxygen Therapy: A Game-Changer for Stroke Recovery

Discover how Dr. Shai Efrati's hyperbaric oxygen therapy (HBOT) is revolutionizing stroke recovery and offering hope for brain regeneration.

Learn More About Hyperbaric Oxygen Therapy (HBOT)

Hyperbaric Oxygen Therapy Improves Stroke Deficits

Hyperbaric Oxygen Therapy With Dr. Amir Hadanny

Bud Beucher: From Silent Survivor to Speaking His Truth Again

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Transcript:

Updates and Introduction to Hyperbaric Oxygen Therapy (HBOT)

Bill Gasiamis 0:00

Hello everyone, and welcome to another episode of the recovery after stroke podcast. Before we dive into today's fascinating conversation, I have some exciting updates to share. My book "The Unexpected Way That A Stroke Became

The Best Thing That Happened” has now sold over 300 copies and is receiving excellent reviews from readers who are finding it inspiring and practical for navigating post-stroke growth. If you haven’t picked up your copy yet, now’s a great time to do so. I also wanted to remind you about my courses page at recoveryafterstroke.com/learn.

Bill Gasiamis 0:37

Where you’ll find some resources to guide you through stroke recovery. These are courses created by me a stroke survivor, for other stroke survivors, offering insights and actionable advice for reclaiming your life after stroke. Now let’s talk about today’s episode hyperbaric oxygen therapy or HBOT, is a topic that’s been creating a lot of buzz in the recovery community. It’s a therapy I haven’t personally experienced, but one that has sparked my curiosity and the curiosity of many stroke survivors, because of its potential to improve deficits after a stroke.

Bill Gasiamis 1:19

Today, I’m speaking with Dr. Shai Efrati, a leading expert in hyperbaric oxygen therapy and the author of the book ‘Beyond normal, how the new science of enhanced medicine elevates peak performance and repairs brain injuries. Dr. Efrati runs the largest hyperbaric sensor in the world, and has spent decades researching the mechanisms behind this therapy.

Bill Gasiamis 1:48

One of the most fascinating discoveries we’ll explore is how hyperbaric oxygen therapy works, not by simply flooding the body with oxygen, but by mimicking a state of hypoxia to trigger powerful repair mechanisms in the brain and body. We’ll also clarify an important point when we talk about hyperbaric oxygen therapy in this episode, because we’re discussing clinically administered hyperbaric therapy.

Bill Gasiamis 2:19

Not the kind you might find in beauty salons or other non clinical settings, this is about evidence based treatments with protocols designed to heal brain injuries, not just casual wellness solutions. Dr. Efrati and I will cover the science behind hyperbaric oxygen therapy, its practical applications for stroke survivors and why therapy might be a game changer for some, hope you find this episode both inspiring and packed with useful insights.

Bill Gasiamis 2:51

Dr. Shai Efrati, welcome to the podcast.

Dr. Shai Efrati 2:55

Happy to be here.

Bill Gasiamis 2:57

Thanks for being here, I want to get a little bit of an understanding, a deeper understanding, about a conversation I started already with Dr. Amir Haddany, I've had two conversations with him, and the two episodes that we did about hyperbaric oxygen therapy created quite the conversation with the stroke survivors in my community that follow the podcast.

Bill Gasiamis 3:20

Of course, they're looking at hyperbaric oxygen therapy potentially as a way to help improve the deficits after stroke, be it physical leg deficits or mental clarity deficits, and one of the reasons it's being discussed and I like to educate the community about it is because one of the other major therapies that's available, but very difficult to obtain, is the etanercept, Perispinal etanercept (PSE), which is a rheumatoid arthritis therapy that has been found to improve for some patients, the cognitive deficits and physical deficits after a stroke.

Bill Gasiamis 4:08

The only challenge with it is the only place that you can get it is in Bucharad in Florida, through a clinic over there that seems to be the only clinic, almost any clinic in the world, where you can get an extremely expensive right? And one of the things about it is, is that it's very successful, but it's no way of knowing where it's going to who it's going to be able to help or not, and often, stroke survivors have to have to pay up to 20,000 US dollars to find out. So it's a little bit difficult for many stroke survivors who are not working to access it.

Bill Gasiamis 4:51

And my biggest challenge with it is that there aren't enough studies, there aren't enough ways for people to access this particular version of etanercept, which is injected into the spinal cord the person's lying upside down, and it goes into the brain, and then it starts to decrease the inflammation in the head where the stroke occurred. And as a result, it must access those areas where the where the penumbras are, and support to improve the conditions there, and as a result,

people have minor benefits, miraculous benefits or no benefit.

Bill Gasiamis 5:36

And when I mention it to stroke survivors who ask, and they say, you know, how much does it cost? Where can I go and get it? It's a real put off to say it's going to cost you around \$20,000 US, maybe more, and then you have to get to the US, etc. And one of the things I like to do is say to them, before you commit to etanercept perispinal, is have a look at these interviews that I did with Dr. Amir Haddany. What I love about them is that the organization of VIV clinics, does a really important first step.

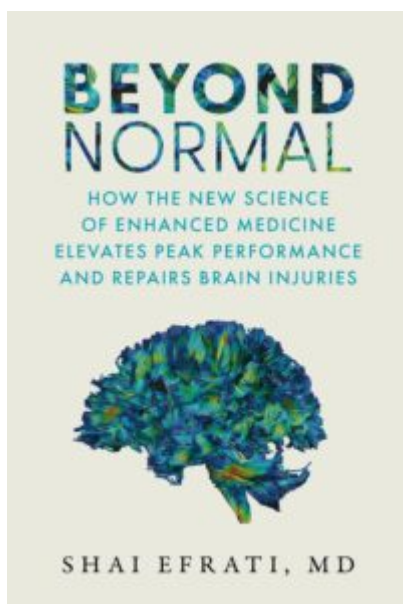
Bill Gasiamis 6:13

Which is to determine whether or not the patient is going to be a good candidate for hyperbaric oxygen therapy, and that, I think that's so important, because that then means that the patient doesn't have to go through the entire process and then not get a result. So this is kind of where I'm at with the whole conversation about hyperbaric oxygen therapy. You wrote a book 'Beyond normal. We'll talk about that, do you have a copy there? Can you show us that?

Dr. Shai Efrati 6:13

Yeah, this is the book.

Beyond Normal By Dr. Shai Efrati



Bill Gasiamis 6:52

Fantastic, 'Beyond normal, how the new science of enhanced medicine elevates

peak performance and repairs brain injuries. My favorite topic, how to repair brain injuries, and I've prepared some questions about your book. But before we go into the questions, can you give me a little bit of background of yourself?

Dr. Shai Efrati 7:17

I'm a physician, I live in Tel Aviv. Actually, I'm speaking in now from Tel Aviv, I started in internal medicine, nephrology, hyperbolic medicine, and I'm a professor at the Tel Aviv University, the medical school and the neuroscience school. I work, I heading this goal center for hyperbolic medicine and in research, which is the last largest hyperbaric center worldwide, we are treating more than 300 patients per day. Just for the perspective, and I would like, based on what you said, just to put two major thing into perspective.

Dr. Shai Efrati 7:57

One of them is the brain, and looking at the brain as a tissue which reflects what kind of treatment can be benefit to that. And with your permission, I would like to say a few words about hyperbolic medicine, just to put things into perspective. So, what is hyperbolic medicine? Usually we train physician in medical school that the tools that they have in their hand in order to target any disease or any limitation that they want for the patient can be one of two is even the knife.

Dr. Shai Efrati 8:42

You know, you can hold the knife and cut and fix whatever you want mechanically. This is one tool, and the second tool is chemistry, you can take a pill or inject chemical entity in order to achieve a biological goal. When we are speaking about hyperbolic medicine, we are utilizing the environment in order to achieve a biological goal, meaning we can play with the pressure and gas concentration in order to achieve some biological, wishful goal that we have that's that's what hyperbolic medicine is.

Dr. Shai Efrati 9:28

And if I need to split the indication into main categories, so there are categories where the pressure is the primary goal. For example, if somebody has dive and went too fast to the surface, and then you have the bends, what we call the compression syndrome, then he has a bubble that need to be shrinking, and for that, we are increasing the pressure shrinking the bubble, and the pressure is the indication of the treatment.

Bill Gasiamis 10:01

Let's take a quick pause here before we dive back into Dr. Shai Efrati's incredible insights on hyperbaric oxygen therapy and its potential for stroke recovery. I want to remind you about my book 'The Unexpected Way That A Stroke Became The Best Thing That Happened. It's already sold over 300 copies and continues to receive excellent reviews for its practical guidance and inspiring stories of stroke survivors who have turned adversity into an opportunity for growth. You can find it on Amazon or at recoveryafterstroke.com/book.

Bill Gasiamis 10:38

And remember to check out recoveryafterstroke.com/learn. Where you'll find narrated video lessons and resources created specifically for stroke survivors and caregivers, these courses are designed to help you take actionable steps in your recovery journey. Now let's get back to Dr. Friday and learn more about hyperbaric oxygen therapy and how it could be a game changer for stroke survivors like you.

Dr. Shai Efrati 11:06

With this regard, we don't even use oxygen, we are using other gasses, like helix in order to get to such a high pressure. Because it doesn't matter to us what you breathe-inhale. What's important is that we will reach the target pressure to shrink the bubble. So that's that's a category. The second category is oxygen as a drug, meaning we want to deliver more oxygen, and if you want to deliver more oxygen, it's not that I can come to you and tell you, I want you to take two or three pills of oxygen per day, you know, I can say that, but oxygen is a gas.

The Hyperoxic Hypoxic Paradox (HHP)

Dr. Shai Efrati 11:48

So if I want you to take more oxygen, it means that I need to compress more all oxygen molecules per square more will go into the lung and from the lungs to the rest of the body, and there are classical indication for that. For example, if somebody have CO intoxication is smoke inhalation, then you have to compete with the CO, the oxygen will compete with the CO on the location when the oxygen is being utilized. So you are increasing the oxygen to very high level, if you have acute retinal arterial occlusion, which is a kind of stroke to the retina.

Dr. Shai Efrati 12:30

If it happened fast enough, if you diagnose that fast enough you will get immediately to the chamber, and then we will get to very high oxygen, and oxygen will go by diffusion, even to the location where there is no perfusion, doing the acute stroke, and by doing that, you can keep the tissue alive until you are opening the occlusion. So this is a kind of acute stroke, but stroke in the eye, while only that, because only on that, we have a study.

Dr. Shai Efrati 13:01

So with this regard, the oxygen is the active ingredient. However, what we have been working on in the last 20 years or more is regeneration, and our thinking is how we can induce regeneration, and that's the third big indication, which is relevant to the chronic stroke injury, not the acute stroke the chronic stroke injury, and when you come to think about it, you say 'Okay, I want to induce regeneration. So what do I need in order to in this generation, meaning the repair mechanism? There are several crucial element.

Dr. Shai Efrati 13:49

One of them is, of course, oxygen, because if there is no oxygen supply, nothing will happen, if I will include the blood flow to the hand 'surprise, surprise, the hand will fall, okay? I mean, doesn't matter what else I will do, and so oxygen is one crucial element, but what's important is to trigger the repair mechanism, and we were thinking, what the body actually sense the triggering that will trigger the stem cells proliferation, the build up of new blood vessels, all the repair that happen.

Dr. Shai Efrati 14:28

What trigger all that it happens to be that the most powerful trigger for the repair mechanism is Hypoxia, is lack of oxygen, because from evolution perspective, when we are lacking oxygen, it means a damage will happen. So lack of oxygen is the most powerful trigger in our body that once it's been sensed, even at the cellular level, when there is lack of oxygen, there is a promotor named Heath, he toxic induced factor free Nobel Prize winner over the Heath, when heat is going up.

Dr. Shai Efrati 15:14

It will initiate expression of a whole casket of gene that will culminate in the repair of the tissue. So hypoxia is the most powerful trigger. So, you can say 'Okay, I will take a person, stop his heartbeat, stop his breathing, I will trigger the

repair mechanism. There are only one problem with regard to that, he will really need it. Okay? So we took it a step forward, and we were thinking, what the body actually sense? Does the body sense absolute values, or does the body sense the Delta, the change, there is no absolute in anything in life, everything is relative, everything.

Dr. Shai Efrati 16:08

I will feel that I'm fortunate or unfortunate, not really based on the absolute value of what I have, but rather based on what my neighbor have. You know, if I have something and my neighbor has more, I will say 'Oh, my God, but, but look what you have, okay? And vice versa. So you can choose the place where you live very carefully if you want to be happy. So the same happen at the cellular level, and we decided we want to take advantage of that, meaning we will increase the oxygen to very high level.

Dr. Shai Efrati 16:43

And then do a fast decline back to the normal, in a way that the decline from very high back to the normal will be interpreted at the cellular level as hypoxia, even though we don't have hypoxia.

Bill Gasiamis 16:59

Wow, okay.

Dr. Shai Efrati 17:00

This is what we call the hyperoxic hypoxic paradox (HHP). So, for example, we have taken a person into a chamber, which is a sweet the the the chamber is being compressed with air, not with oxygen, then you get the oxygen by mask, and by doing that we are increasing the blood oxygenation from 100 Mercurys to 1600.

Dr. Shai Efrati 17:30

And then we are asking the people to do things that seems ridiculous. We ask them to take the mask off, and when they are taking the mask off, there is a sharp decline from very high back to the normal and then we are doing that again in a protocol that we develop and utilize, and by doing this fluctuation, the body actually initiate all the biological cascade that happened during epoxia in hyper oxygenized condition. This is what we call the hyperoxic hypoxic paradox, is that point clear? Is that one clear?

Bill Gasiamis 18:16

That's a very clear point, but let me give it to you back, so you know that I did definitely understand it. So from my understanding, is a patient goes into the chamber. The chamber is like a, it's about the size of a room, isn't it, it's quite large, fits a number of people in there. And you walk in, you sit down, and the air is pressurized with normal oxygen. Just the standard oxygen from the environment pressurized to a certain level, and then the particular patient puts a mask on where they received oxygen to increase the blood oxygen concentration to a higher level.

Bill Gasiamis 19:00

And then you guys simply ask them to remove the mask, and that triggers the the brain in thinking that a hypoxic event has happened, and as a result of that, that makes the brain go into that repair mechanism, create more blood vessels, and increase.

Dr. Shai Efrati 19:20

The stem cells proliferation.

Bill Gasiamis 19:23

The stem cells.

Dr. Shai Efrati 19:25

And it happens to be that we have stem cells in the brain. When I was in medical school, I was told that neurons cannot, cannot be regenerated. That's what I was been taught 'surprise, surprise, there are stem cells in the brain. The highest concentration of what we call neuronal stem cells is in the hippocampus, but also in the periventricular area, there are stem cells. These cells replicate and migrate, it takes time, but the brain tissue is changing all the time, so actually. The brain that speak with you now was not in medical school, it's a new brain.

Dr. Shai Efrati 20:04

So if you are frustrated for somebody, there is still hope. Okay, come to him a year later, you are speaking with a new brain. Okay, so don't give up on people, it's changing all the time, and actually, the balance of the amount of functional tissue that we have, functional brain tissue, is the balance between regeneration, the things that takes us down, and regeneration, degeneration and regeneration. That's the balance of where we are now, and this child balance also change a long

life, when we are young, for example, when we were just born as a baby.

Dr. Shai Efrati 20:42

You know, we are born with with an open scalp, why? Because in the first three years, the brain is growing all the time. Okay? We are the only species nature that when the baby is coming to this world is still an embryo, because the brain haven't developed yet, so 80% of the energy is going to build up the brain, and then we have childhood with still the balance, it's toward growing, and then we have the reproductive period, in the reproductive period, you have a balance between degeneration to regeneration.

Dr. Shai Efrati 21:18

It's balanced, of course, that if you have an insult of somebody hit you in the brain, then then it takes you down, and then we are reaching the post reproductive period, where the stem cells are starting to go down. The blood vessels start to be occluded, and then we have the balance towards down in general. So what we are doing with the specific protocol, and it has to be the specific protocol that we develop, nothing else, that's the only thing that was proved to be beneficial.

Dr. Shai Efrati 21:50

For now, maybe we will have a better protocol in a couple of years, for now, it's fluctuation in the oxygen and the pressure. It has to be repeated with each session, you are increasing the stem cells, you are increasing the heave, you are increasing the generation of the blood vessel. But it's not a magic, it takes time. It takes time you have to repeat it, it just like a wound. If you have a wound, you do not expect that the wound will recover in a day or two.

Dr. Shai Efrati 22:23

It's clear to you, it's a tissue. It needs to be repaired, and the brain is also a tissue. Actually, we initiated all the research program that we have 20 years ago by a simple statement that that we had, and the statement was, the brain is a tissue as simple as that.

Dr. Shai Efrati 22:49

That was a new finding, it was a new understanding.

Dr. Shai Efrati 22:54

Perspective, meaning, many neurologies, you know, we used to think about the

brain. We are doing city MRI, high tech, technology, we speak about the brain in a mystic fashion, cognition, personality, it's a tissue. It's a tissue and the first thing that we need is to understand that the brain is a tissue, and just like other wounds in the body, we also have wounds in the brain. If the predominant thing in the wound is inflammation, like we have peripheral vasculitis that cause peripheral wound, then etanercept, anti-TNF, what you have just described, will work for that.

Dr. Shai Efrati 23:20

Because inflammation is the dominant element. If ischemia is a bottleneck, then you need to open that with a hyperbaric if it's a totally necrotic tissue, meaning the tissue is already dead, fully dead. And replaced with fluid, it means that even our hyperbaric oxygen protocol cannot help with that, because you don't have infrastructure on which the stem cells can migrate and proliferate. So the first stage is to look, first of all to have the insight that the brain is a tissue, profound. It's inside, the second thing is to say 'Okay, we have wounds.

Dr. Shai Efrati 24:33

The third thing you say 'Okay, let's characterize the one. But for that, of course, you need some high, advanced imaging that can demonstrate not only the anatomy, but also the metabolism, and once you see that, now you can, you can set the expectation with the patient. You can say the inflammation is predominant, they can tell us 'Okay, you have metabolic dysfunction area. Okay, let's go to hyperbaric and whatever the tissue is that will be the clinical end results, if it's a part related to the hand, the hand will move, if it's part related to the leg, the leg will move.

Dr. Shai Efrati 25:17

But you can set the expectation, you can tell the client, what you think will happen if he wants it can. If not, and if you have only an aquatic tissue, then for now, we have nothing to do. In Tel Aviv University, we are working on solution, for example, to take cells from the abdomen, due to them reverse engineering to become stem cells, and then we are generating neuronal stem cells and creating a patch of neuronal cells, just to put the patch in the place where you have necrotic.

Dr. Shai Efrati 25:54

So for now, it's only in mice, but hopefully it will reach to the stage where human can be your three years. But that's the perspective. The brain is a tissue, okay?

We used to think on the brain, no stem cells, no regeneration. We discussed that, we used to think that in the brain there is no lymphatic tissue. The lymphatic vessels are the are the are the system that take the garbage out. So we didn't so lymphatic vessel 'surprise, surprise, in the last year, we realized that there is glymphatic system, a system, it's working a different way.

Dr. Shai Efrati 26:36

It's like a sponge that you squeeze it and take the garbage out, and the glymphatic system works during our sleep, doing the REM sleep. So we have also that so the brain is a tissue, and we should refer to the brain as a tissue, and we should characterize the wound, see what we are dealing with based on this 'Okay, for you, that's good for you, that's good for you, that's good. That's the perspective, sorry for speaking too much.

Bill Gasiamis 27:08

That's beautiful, I love that, that's a such a great explanation. So not only back in the 90s, when you were studying, because you're 49 years old, right?

Dr. Shai Efrati 27:18

I'm 54.

Bill Gasiamis 27:20

You're 54 so not only in the 90s was it starting to just emerge that the that there is plasticity, and the brain is not like a computer, that in fact, it is plastic, and you can change, and it can adapt.

Bill Gasiamis 27:35

It was also a challenge because it wasn't thought that there was stem cell activity in the brain, that once the tissue was offline, it was offline, and you couldn't regenerate it, and I just find that fascinating, that now we're at that stage that we found that, and you also said that other part, which was to create a patch of stem cells that perhaps we can add to the brain that is an amazing feeling.

Dr. Shai Efrati 28:05

For the future, that's for the future. That's only more than four now, that's for the future.

Bill Gasiamis 28:11

That's fine, I mean, just the fact that that is a discussion, that is an amazing thing,

right? Because most stroke survivors require hope, hope that there is something to look forward to, even if they are not the recipients of that, that other stroke survivors might be the recipients of that. That is such a very important thing. So I love the fact that you, you gave us that information. Now, then what you actually described was the process by which you can receive a patient on day one, have a conversation with them, take them through a certain number of tests.

Enhanced Medicine and Its Principles

Bill Gasiamis 28:55

And then get them to a point in the treatment before this treatment has even started, where you can say, this is what we see based on what we see, this was what we might expect. You have a decision to make as to whether or not you want to continue from here and go forward, it's completely transparent. It is an informed decision that the stroke survivor is making, instead of this kind of, if you've got the money, put it down and roll the dice and see what you get. Like, it's a very different thing.

Bill Gasiamis 29:28

Now, the etanercept, perispinal etanercept, has helped a lot of stroke survivors. So I'm not rubbishing the the procedure. I am concerned a little bit about the way that it's being delivered to patients and the lack of studies around it. However, a lot of people who can afford it have benefited from it. So just now to understand you also said about the time it takes time to support to regenerate the tissue in the brain. What kind of dosage are we talking about over what period of time?

Dr. Shai Efrati 30:06

First of all, I want to reflect to the first part with reflect to the first part, you know, our job as the physician, the way I see it and our team seat is not to tell the patient or the clients what to do. Our job as the physician is to be able to transfer the knowledge and the data that we have to the client in a way that he can understand and make a decision by himself. For example, if you are speaking France and I speak English or speaking Spanish and I speak English, my job is to translate it to Spanish or France or whatever you talk so you can make the decision, I'm not smarter than you.

Dr. Shai Efrati 31:04

I only have more access to data, which also changing in nowadays, because

everybody can discuss his colleague, ChatGPT or Gemini or whatever it is, and have the same access to data. But my job is to translate the data in a way that you can understand, and as long as you understand, any decision that you make is good enough for me. For example, I will give you example from discussions with people who sit in front of me, and then I tell them, you know, I see that the hand is an ecotic area, and I don't think you will be able to move the hand, but I do see that the cognitive area.

Dr. Shai Efrati 31:50

The prefrontal or frontal, I can see that then we can have some benefits so it improve, that your cognitive will improve, Some of the people say 'Okay, so I don't want the treatment. On the other hand, there are people who don't care about the physical movement, they care only about the cognitive which is which is also good. So I'm not judging, our job is not to judge. Our job is to explain some set the expectation and then follow the decision, as long as it's rational, that's the way to perform medicine, that's the way it is.

Dr. Shai Efrati 32:33

That's the way we when we are doing enhanced medicine, and that's what we discuss, also part of it in the book, that's the way medicine should practice, we are not coming above you 'Do that, do that, don't do that, don't do that, what do you mean? Now, in addition to that, you know, I have, for example, two hearts, one heart is as a physician, and the other heart as a scientist, and if you will come to me as a scientist with a lot of question for many of them, my reply to you will be 'We don't have enough data, we need to do more research. Is it scientist?

Dr. Shai Efrati 33:15

But if you come into me as a physician. You're asking me based on the data and the knowledge that we have now, what can I do? You're not asking me, do I have enough research? Not enough research, he said 'Sased on the data and the knowledge that I have now, what can I do? Explain it to me in the language that I can understand. And you don't have to wait now, 20s, 30s, until I will have additional that's good to say we don't have enough, but I'm sick now, I want you to help me now 'What can I do now? If I was your brother, if I was you, what would you consider doing?

Dr. Shai Efrati 34:05

Okay, that's the two element, and we tend to forget that, and we tend to forget

that our job as the physician is not to present the system, our job as the physician is to present the patient, even though we get the salary from the system, okay. But still, our job is to present you, you in your condition 'What can you do? You are going to the court. You will take your own lawyer, okay, you're going to the tax authority.

Dr. Shai Efrati 34:35

You will take your own advisor with you. And he will tell you what you can do, what are the risk, what are the benefit? What has been exposed to you? Anything? No way that you can understand. And that's our work, and when we tend to forget that. So, let's keep that in mind.

Bill Gasiamis 34:57

It's the right way around, usually often many stroke survivors will report to me, and my experience when I was going through all of my health issues was and in one of the hospitals, I felt like I was in the hospital. They were and the doctors were talking about me at the end of my bed, they weren't including me in the conversation, and I felt like I wasn't part of the decision making process. And in fact, I had to leave that hospital and seek another another neurologist and neurosurgeon, and get a different approach.

Bill Gasiamis 35:35

And then the approach that I enjoyed was the one that you said, which was I was part of the discussion, I was part of the team, the information was presented to me, this is what's possible right now. We waited because what was possible at that early stage in my in my diagnosis was not conducive, it was not suitable for me, and what I didn't feel comfortable for it. So we waited, and we had another discussion a number of years later, and then the other discussion, the decision was made to have brain surgery, etc, and it's what you're describing.

Bill Gasiamis 36:10

It's I resonate with what you're saying, because it's really important. But some doctors are not and not where you are. Did you need to pause for a moment?

Dr. Shai Efrati 36:23

No, I'm okay now.

Bill Gasiamis 36:25

Yeah, some doctors are not there, they're not at that stage where you are with

that kind of approach and the way that you're supposed and the way that is better to interact with the patient, it's a relationship.

Dr. Shai Efrati 36:41

Yeah, we people are getting into the medical school mostly because of the grades and not social communication, it's a social work.

Bill Gasiamis 36:56

Well, look, we appreciate that.

Dr. Shai Efrati 36:58

Want them to remember and also patient, if you don't, you have not been approaching that way, and you need that. You feel that it's not good change the physician. It's easy for me to say I'm physician, okay. There are many physician some are good for you, some are less good for you. Choose the one that you feel comfortable with, it's especially with stroke, post stroke rehabilitation.

Dr. Shai Efrati 37:27

It's a journey, it's not a magic. It's not that you are going to a surgeon that will take your appendix out and you will never see this physician anymore, or whatever it is. It's a journey, you need a colleague, and it's a colleague. It's not something about it's a colleague that can go with you along the way, and if you don't like this colleague, okay, so change it, go to another one.

Bill Gasiamis 37:55

Totally, it's also our responsibility to take the lead in that relationship as well, and make sure it's the right absolutely.

Dr. Shai Efrati 38:03

It's your body, you should take control, you should learn by yourself, you should do the investigation, and everybody should dig in and find what's good for him, and if you don't understand, ask, and if you don't understand, ask somebody else.

Bill Gasiamis 38:23

Yeah, I agree.

Dr. Shai Efrati 38:25

Just learn it, that's the way to do it.

Bill Gasiamis 38:29

I agree. You mentioned a little bit earlier, enhanced medicine. At the beginning of chapter one in your book, you talk about enhanced medicine, or the dawning of enhanced medicine. What is enhanced medicine describe to me.

Dr. Shai Efrati 38:44

So I will try to give several simple example. When we are doing enhanced medicine, we are not targeting a specific receptor of a specific molecule, we are actually want to trigger a cascade of event that will culminate in a better functionality of the tissue and the body. And I will give simple examples, if you have infection, viral or bacterial infection. Let's say you had viral infection, if you get antiviral medication or antibiotics, this is classical medicine. However, if you give him vaccination, this is enhanced medicine, because what you are doing.

Dr. Shai Efrati 39:35

You are exposing the body to a virus or a bacteria that is weakened, and then the body is been triggering to induce all his immune system, a full casket of events. So when you will meet the virus of the bacteria, you will be ready for that. So antibiotic is a classical medicine, and vaccination is enhanced medicine. So that's enhanced medicine, it's so in enhanced medicine, there are several principle the first principle is first, like we said 'Now understand what we are dealing with. Okay, you don't give just something and see what's going on, you have to understand the biology.

Dr. Shai Efrati 40:22

You have to measure, think objectively, understand what you are dealing with, find the bottleneck that prevent from the tissue for appropriate functioning, and open the bottleneck. Once you're opening the bottleneck, there will be a flow of things that will happen, okay? That's enhanced medicine. Another element in enhanced medicine is we are not targeting the normal, usually in medicine, you are targeting the average for the individual age and sex.

Dr. Shai Efrati 40:57

So if, for example, you are 17, you're saying 'You know, I feel that my cognitive is declining, you will go to the physician, you will do tests. He said 'Yeah, it's, it's probably declined, but you are according to your age, so it's normal. I don't have the legitimate treaty. Who cares about the normal? Who wants to be normal? We want to get the maximum from our biology. And it doesn't matter if you are an athlete or whether you are CEO, whether you have engineer or other human

beings that want to get the maximum from his biology. So we don't care about the normal, this is on the one hand.

Dr. Shai Efrati 41:37

On the other hand is, even if we don't reach the normal it's still a goal that can be beneficial for the individual. Think about somebody who had a stroke, cannot speak, cannot move the hand, cannot move the legs, and after you're doing on the evaluation, you figure out that there is a chance that this individual will be able to move the finger, if you are dealing with classical medicine, moving the finger is not good enough, so he will probably not be treated. However, for the specific individual, moving the finger can make a whole world change.

Dr. Shai Efrati 42:22

Indeed, you can say 'Yes, or No. You can tell him that you feel pain, don't feel pain. You can ask somebody to scratch your bag just by moving the finger, which can be amazing thing for the individual. So, the normal is not the target, not if you're the normal, or if you cannot reach the normal, so that's that's what it is. Now, once you have all of that, the new developing a treatment program plan that will get you to the desired goal, then you sit with the client, setting up the expectation, and then take it forward, that's in general.

Dr. Shai Efrati 43:07

So of course, what we just say, the hyperoxy hypoxic paradox, is a very powerful element in enhanced medicine. But it's not only that, there are additional stuff, you know, the diet is very important, and not only what we eat is also when we don't eat, which is important, the intermittent fasting and all of that. So that's that's enhanced medicine, that's the way we practice medicine. When I'm saying we I mean our clinic in Israel.

Dr. Shai Efrati 43:41

All the clinic that been affiliated to us, you spoke with Amir, is located in Florida, Doctor Haddany. There is also a very successful clinic even in Dubai. Okay, well, the physician will train by us, and we are working in collaboration. So that's, that's the core of enhanced medicine.

Bill Gasiamis 44:00

So what it is, you know, for a lack of a better word, and to use a word that's often overused, it's holistic. It doesn't just look at the symptom, and to provide a

medical, a medicine to deal with the symptom and to get you a result that is either normal below normal, it's, it's actually about creating an environment for a far more optimal outcome than would normally be expected.

Hyperbaric Oxygen Therapy for Stroke Recovery

Dr. Shai Efrati 44:35

It's a program, it's a program. It's not, the one thing you know we are, we have a complex creature.

Bill Gasiamis 44:48

Luckily, it's not the one thing, it's not that the doctor's going to have the magic pill that's going to solve all our problems. We've got to, we've got to take responsibility for our diet, what we eat, what we don't eat, for our environment.

Dr. Shai Efrati 45:01

What do you perform? What do you do? What is your desired goal, where you are now, this is your biology, so we need this intervention in order to improve it. And also know what is our ceiling effect, what we cannot reach? So that's also important. For example, if I would like blue eyes, okay, that's a nice wish, nice biological wish, probably will not happen, not now.

Dr. Shai Efrati 45:02

So, you need to set the expectation, and once you agree on the program, once you agree on the goals, and once you know that you have a good chance to achieve this goal, and everything is clear, then you start with the journey together.

Bill Gasiamis 45:46

We got distracted before when I asked you about the dosage, it sounds like what you're talking about then is the dosage might vary for the different situations conditions, for a gentleman who has cognitive decline at 75 it might be a different dose for somebody who's a stroke survivor at 45 it might be a different dose, a different process. Tell me about how it's different for, say, stroke, concussion and fibromyalgia, I know there's going to be a different approach, right?

Dr. Shai Efrati 46:15

Yes. So I will say some general things so people can take home except from dealing with individual there are some general wolves that holds for all the wounds in the brain and all the things that you just mentioned, of all wounds in

the brain. So generally speaking, if we want to achieve a significant neurogenesis, generation of new neurons and significant angiogenesis. Generation of new blood vessels in the brain, we need something like 60 session, Six-Zero, session, daily, session, five times per week, each session, it's two hours.

Dr. Shai Efrati 47:03

That's how it takes for the brain tissue to get you into a new position when the tissue can actually change, of course, that per individual there is fine tuning based on what you see at the beginning or at the end. But if somebody is coming because of a wound in the brain, we will not start unless he committed to the 60 session. Just like somebody will come to you with the peripheral wound that was not recovered in the last year, and he will say 'Okay, I if I will not see results tomorrow, I don't want to continue. Okay, tell him 'I don't want to give you even one session.

Dr. Shai Efrati 47:46

Because nothing will happen in a day and not in two and even not one week. It takes time, and in the brain, it takes more time, it takes more time, and we want you to be also at the position when you have repaired the tissue, meaning that when we are stopping the treatment, the repair tissue will stay with you, there won't be any regression afterwards. And that's why we need the time, and that's why if somebody coming in, he needs to be committed to at least 60 session, five times per week, two hours at each session.

Bill Gasiamis 48:28

Okay, and they're so what's the they turn up? Do they have to do anything before they turn up? Do they have to do anything before they leave? Is it literally just walk in, sit down, put the mask on, take it off, etcetera, and then go home. How do people manage that whole process?

Dr. Shai Efrati 48:47

So if we are doing clinical study, that's what it is, that's the only intervention. But if you are coming to our treatment, then we want to take advantage of this amazing period that you have an amazing regenerative capacity 'Okay, your ability to repair is very high. So based on the problem that we will see in your brain, we will give additional stuff. That's why I'm saying it's a program. So if it's a problem in cognition, while you are sitting in the chamber, we will ask you to do some cognitive training that will trigger the specific brain regions that we want.

Dr. Shai Efrati 49:30

Because we want more stem cells to go over there if you have a motor problem. Also, we will ask you to do some stuff so more stem cells will go over there and so on and so forth. So once we are realizing what is the target tissue, then we want to trigger that tissue even more. So in addition to being in the chapel, we will ask you to do additional stuff to get the most benefit that we can get to you, but this is per individual.

Bill Gasiamis 50:00

Yes, okay, wow, that's amazing. So there is not only it's not a passive exercise, it's a very active exercise that you have to do. You have to be aware of the right environment in your life. You have to make sure you're eating the correct things and not eating certain things. You have to make sure you're not smoking and not drinking. You have to turn up and be willing to participate. And you have to be willing to participate for 60 sessions, five days a week, with two days off, for two hours each session, over 12 weeks, you have to really commit to your health and well being.

Bill Gasiamis 50:42

I see it as a you know? I see it as something that is difficult for a lot of people to be able to step out of life for that period of time, for 12 weeks. Has there been any evidence to show any success in breaking that program up over a longer period of time or over a different kind of process.

Dr. Shai Efrati 51:10

I will tell you something in general, you know Formula One?

Bill Gasiamis 51:16

Yeah, yeah.

Dr. Shai Efrati 51:18

Car Racing, every second count.

Bill Gasiamis 51:20

Yeah, indeed.

Dr. Shai Efrati 51:23

But if you are professional, you will make a stop at the pit stop, not because you have an accident, because you know that if you will not do that, you will not finish

the race. But these are professionals. So you have to invest in your health and your biology if you want to get the maximum of it. So if you are a professional, you will make a stop at the pit stop, okay, if not, you will end up at the garage again.

Dr. Shai Efrati 52:04

Everybody can choose whatever he wants, everybody can choose what. Either you professional and you want to stay in the game, you will make a positive pit stop, invest, invest. You know what happened when you're at the Pit Stop? You're losing time. A lot of people are jumping on you, you're changing but nothing happened. The car is still functioning, very good, yeah, if not, okay, I will meet you in the garage, and then you will have all the time of the world, then you will have all the resources available, but you are crushed. So, everybody can make his choice and his way.

Bill Gasiamis 52:45

There is a saying I think it goes something like 'You have to pay to support your health now, because if you don't pay for it now, you're definitely going to pay for it later, one or the other to invest?

Dr. Shai Efrati 53:03

Yeah, yeah, it's either you are investing in your health.

Bill Gasiamis 53:07

Invest in your health now or you gonna have to lose.

Dr. Shai Efrati 53:12

Managing disease, or you're managing health, one of the two you're managing?

Dr. Shai Efrati - Long COVID and Its Treatment

Bill Gasiamis 53:16

Yes, that's it. That's what I had in mind, when I was saying that, I understand completely. I know that.,I'm asking, just in case other people are wondering, well, you know, that's a big, a big investment. You know, how am I going to take three months out of my time to do that?

Bill Gasiamis 53:33

But it's three months that could change your life for the better, for the long term, and give you high quality of life and make it so that when you're older, your life is,

you know, not so much, not so much a disease and discomfort. It's less disease and discomfort, that's really what it's about.

Dr. Shai Efrati 53:53

Yeah, you know, we are coming for this world, for a journey, so as long as we enjoy the view, feel the air, enjoy the smell, it's a nice journey. But if you're sitting in a car locked inside black windows, just sit inside that kind of journey, I assume you and me will not want, and people are not realizing you're not dying, just dying, it might happen, but usually you suffer a lot before of them, and there are people after severe stroke or people with dementia and alzheimer that are coming to us and saying 'I want you to help me.

Dr. Shai Efrati 54:43

I will give everything for you, I will sell my house, I will do that same. Now, it's too late, yeah, but I will do that. That's too late, but what about your kids? Okay, so they need to handle Omega. Manage their health in an earlier stage, and that's the way, that's the way I think should do it, and if somebody don't wants to do it, okay, whatever you choose is okay, as long as it's your decision.

Bill Gasiamis 55:14

Yeah, that's true, very true. In the book, you also talk about post traumatic stress disorder, long COVID and Alzheimer's disease. Let's talk about long COVID, and let's see if you can maybe just explain to me what it even is, because we hear about it, and there's a lot of people that are experiencing neurological deficits after Long COVID. Can you explain a little bit about what Long COVID is and how you guys treat it?

Dr. Shai Efrati 55:46

Yeah, so long COVID refers to symptoms, mostly cognitive, neurocognitive, which is memory, information processing, speed, mental issue, which is also the brain. Okay, that persists for more than six months after the acute infection, I will focus in the brain, because that's your podcast. So so the virus can penetrate the brain in two ways. One way is here through the cribriform plate. The cribriform plate is the bone above our nose is penetrated, so that's how we smell, and the virus can penetrate through this holes that we have in the scalp.

Dr. Shai Efrati 56:38

It can bind to the neurons, inject the genetic material into the neurons and into

the mitochondria of the neurons, and then the neurons are malfunctioning, it can also bind to the glial cells. The glial cells are the cells that support and keep the environment so the neurons can function in an optimal way. The glial cells may have a receptor it can bind to the receptor and cause gliosis, inflammation of the glial cells, and then it's damaged, since it's usually the frontal lobe.

Dr. Shai Efrati 57:08

So shorter memory, our ability to concentrate attention, information processing, speed, and even what we call mood or mental issue, Also in the frontal lobe and then, and then that's been damaged. So that's way of one way of penetrating. The other way of penetrating is through the bloodstream for those who doesn't have luck and it just lack the virus can penetrate through the bloodstream on the endothelial cell, the cells that lie the layer of the blood vessels. We also have a receptor so the virus can penetrate, bind to that and activate the coagulation system.

Dr. Shai Efrati 57:51

And then we have, because microscopes, all over the brain. So in many of the long COVID patient, when you look at the brain, you see like somebody at the age of 70, 80 with tiny stroke that happen all the time, and of course, the reflection of it will be the clinical function that is related to that area. So a lot of people may suffer from cognitive decline, memory, attention, information processes with somebody who used to answer 100 emails per day suddenly answer five a fatigue. Fatigue is a clinical symptom of that, why?

Dr. Shai Efrati 58:33

Because the machine is not working the way it's supposed to work. So what we did, when we realized that from our perspective as the first part of our discussion, it's a wound, and we are dealing now with wounds, the wound was caused by a virus, but, but it's a wound. So which characterize the brain, and if we see the kind of injuries that we are looking forward now that we can help, then we are giving the treatment, and based on this, you will have the improvement, as simple as that, okay, it's, it's, you see the wound you treat. The wound is a tissue, you remember.

Bill Gasiamis 59:15

So, COVID has created a wound, the virus is no longer active, the body has mostly dealt with that, but now we're dealing with the aftermath of what the virus did

while it was in the body.

Dr. Shai Efrati 59:28

True, absolutely true, and you know, something very interesting in those days, COVID is not sexy anymore.

Bill Gasiamis 59:38

No.

Dr. Shai Efrati 59:39

Unlike in the past, you don't have it in the news anymore, but still, there is Long COVID And we starting to see an increase in the dementia rate in in young individuals, and more than that, the physician today, unlike in the past, does not ask about COVID anymore. Some countries, I don't know how it is in Australia, even if you want to do a COVID test, it's not easily done anymore.

Bill Gasiamis 1:00:11

No.

Dr. Shai Efrati 1:00:11

Okay, you have to struggle to find a place to do it. All the long COVID clinic that were in each hospital have been closed. So these people don't have even the diagnosis anymore. So suddenly you have some mood problems, suddenly fatigue, suddenly reducing cognitive performance. It's not suddenly, it's long COVID, but nobody makes the diagnosis anymore, because nobody checked for COVID. Nobody asked you about COVID anymore, but that's true, it's all over.

Bill Gasiamis 1:00:52

Well, hopefully we're creating some awareness around that, and I really appreciate that explanation, because that's been a very big conversation, and a lot of people don't understand exactly what it is and why it's a thing, and they, I think they still misunderstand it, and believe that perhaps some virus is still occurring in the body. And they don't particularly understand what it's done and how it's worked, but that really does explain it. Thank you for that. So, your book seems to be very comprehensive.

Dr. Shai Efrati - Aging and the Importance of

Being Needable

Bill Gasiamis 1:01:23

I love the things that you talk about in your book, the subjects, the particular neurological conditions that you talk about, but then you talk about some other things towards the end, in part three, the evolution of aging. You know, we talk about that aging is a good thing 'Okay, that's rare to hear. Not many people say that. Why is aging a good thing?

Dr. Shai Efrati 1:01:46

First of all, aging started the day that we are born, and even before, yes, okay, aging, it's not from a certain age. It's a process, and along the aging process, two major things that happen, you know, our functionality depends on two major element. One of them is the physical performance, physically pure physical strength, breathing, cardiovascularity, pure physical. And the other thing is the knowledge and the wisdom that we gain a long life and in life when we are young. The bottleneck is we have an amazing biology.

Dr. Shai Efrati 1:02:35

But the bottleneck is the knowledge and the wisdom that we have and long life, we are gaining more knowledge, more wisdom, and then the biology become the bottleneck, but that's easy that we can open, and that's what we discuss in the book. So if you will tell me shy, if you want, you can go back to be 18 years old, I will tell you 'No way, I don't want to be there, I was stupid, I did some terrible things. My perspective on the world was not the best.

Dr. Shai Efrati 1:03:09

My testosterone was high. I was just looking for for to do some stuff, I don't want to be there, I want to be exactly where I am now, and I want even to continue to gain more knowledge, more wisdom. All I need to do is to fix the biology, easy done. Let's focus on that, so aging is not a bad thing.

Bill Gasiamis 1:03:36

Yeah, I agree with that.

Dr. Shai Efrati 1:03:38

We are privileged to gain more data and more knowledge, we are privileged to have more wisdom.

Bill Gasiamis 1:03:45

I agree with you. A lot of stroke survivors will tell you that they are privileged to have an extended life, because there was a chance for a lot of the stroke survivors who have been on my podcast, who I talked to, that they weren't going to be around if it wasn't for the right medical intervention at the right time. You know, we could have been another one of the statistics, another one of the people who didn't make it. So we are very privileged, I am very happy to be around and to have made it to my 50th year, to my 50 past my 50 birthday.

Bill Gasiamis 1:04:16

So my 51st year, and it was 37 when all this stuff happened. So if it was a bigger blood vessel in a different location, it could have been a completely different outcome. So I completely agree with you and then I'm going to have to ask you about why I'm I should never retire, according to chapter 12, I should never retire, which I kind of understand, but I'd love to hear your perspective on that.

Dr. Shai Efrati 1:04:44

You know, people ask me, what is the if you need to choose one thing, okay, that will be anti aging or reverse way aging, or will cook your functionality? What it will be, and they expect me to say, you know, take metformin. Do that kind of diet. Go to hydro direct, but no, that's not it. The first and most important thing is make yourself needable, you have to be needable.

Bill Gasiamis 1:05:23

Somebody or not should depend on you.

Dr. Shai Efrati 1:05:27

Something should be depend on you, okay? Because if you are not needable, you are disposable. And you know, another question is, how do you define an old man? Okay, so when people ask me that, they expect me to say, you know, telomere length, the amount of senescence, the biological clock and things like that. But you know, what is my definition of an old man, somebody who looks backwards? If you speak to an old man, he will tell you 'You know, I used to do that, I used to do that, and then I did that, but I used to do that.

Dr. Shai Efrati 1:06:09

And when you are speaking to a young person, he will always tell you, I intending on doing that, after I will do that, I will do that, he's young. It doesn't matter how

many years is on this planet? Is he has a future? Now the body is lazy, very lazy, if you don't have a future, it will not invest in you. If you are not needable, you will nature will not invest in you, you're lost, even me cannot help you, you're lost, you have no meaning, nothing to to to work for, nothing to be built up for.

Dr. Shai Efrati 1:06:46

So that's the one and most important thing, and it's clear to you, for example, if you're walking in a dark, dark street and you're reaching up a corner, what will happen? The body will prepare you. The blood pressure will go out, your heart rate will go in, your adrenaline will go up, everything is ready for the next turn. Okay, that's how the body doing the preparation, and if you are coming to your body, you said 'You know, I need to do that, and then I will need to do that. Said 'Oh my God, I need to be prepared to that.

Dr. Shai Efrati 1:07:16

I will, I will do my best to be ready to this crazy guy future. Because he's serious about it, I need to be prepared. Of course, you might need some help for several points, but if you don't have that, you're lost, you just lost. And that's the one and most important thing, once you have this, we can help with the other.

Bill Gasiamis 1:07:40

Yeah, that's a really good take. I love that the old man is looking backward and the young man is looking forward, looking forward to something, or he's going to accomplish something or achieve something, or attempt to accomplish something or achieve something. I love that. That is such a great explanation about what it means to be old, I love it. And when I reflect on the people who have been old in my life, that's what they've done. They've reflected on the past, and they haven't really spoken about what the future holds and if it holds anything at all, and that's very telling.

Personal Regimen and Lifestyle Advice From Dr. Shai Efrati

Bill Gasiamis 1:08:19

I'm going to pay attention to how people speak to me from now on in that manner, and I'll know whether they're young or old. Now, speaking about age, you look very youthful for your years, I imagine that hyperbaric has something to do with that, you must have a personal regimen. Can you give us a bit of an

understanding of what Dr. Efrati might do for.

Dr. Shai Efrati 1:08:51

For himself?

Bill Gasiamis 1:08:52

For himself? Yeah, cuz you can't just talk the talk, you have to walk the walk.

Dr. Shai Efrati 1:08:57

Exactly and practice what you preach. We'll never, I will never ask somebody to do something that I don't do. So the basic elements of the things that they do, for example, the first thing is, don't put junk into your body. Okay, just like you will not put junk into the engine. You will look at your gum to fill the engine. You see Jack, you say 'No, no, no, no, no, I'm not putting that in my engine, It will destroy the engine. However, you still take, take the junk into your personal engine. So be respectful for that, and don't put junk in your body this.

Dr. Shai Efrati 1:09:38

This is one for squatual elements. The other thing is, this body was not built for refrigerator, meaning it was built you know, you're living in the jungle, you hunt something you eat now go in and find yourself something else to to eat, it will take you a couple of months, a couple of days or hours, but it's not a refrigerator, so it's highly important to have period of time that you don't eat, okay, and once you are that's what we call intermittent fasting. So I'm doing the 16/8, 16 hours not eating, eight hours eating, you can drink, really, and the reason for that is not losing weight.

Dr. Shai Efrati 1:10:24

People mistakenly thinks that's for losing weight, no, it's for Auto Fauci. Auto Fauci, there is a nobel price on it. Once you are not eating for more than 12 hours, then the cells starting to eat the junk that was accumulated within the cells. Just like you will go to the refrigerator, open the refrigerator, you will see a cake, and you will see the vegetables. You will go for the cake, you are opening again, you will see again the cake, you will go to another cake, another cake. What will get to the vegetables? It will get rotten and smell okay?

Dr. Shai Efrati 1:11:00

The same in our body, okay, but if you don't have the cake, you will eat the vegetables. So again, the junk is being accumulated at the cellular levels and and

they got rotten and smelling, so you need period that you don't eat. That's for the auto Fauci. There are several protocols with related to that. I'm doing the 16 end. If you want to keep your fitness, then you should not sit in hotel all day or be a potato cow. You need to activate, generate the demand so the body will build itself, so that's another element that I'm doing.

Dr. Shai Efrati 1:11:39

And of course, I'm doing to myself, the hyperbaric protocol, the hyperoxic hypoxic paradox. And I started, we did something like 18 years ago when we finished the first talk study I was looking at on the brain scans, and I said 'Oh, my God, what? What happens here? I see neurogenesis, I see angiogenesis, what the hell was going on here? And when I looked at you said 'Wow, got it. First of all for me, just like the plant that is crushing and, you know, the oxygen, you know, they tell you first put the oxygen on yourself.

Dr. Shai Efrati 1:12:21

So since then, I'm doing it for me, and another thing is be professional. Evaluate yourself in objective measure. If you're evaluating the brain, this is your brain now, this is your cognitive this is your physical performance, re-evaluate anything you do, re-evaluate and then optimize best based on yourself. So that's generally the core of what I'm doing, and if people wants to dig more into those things, it's all in the book.

Conclusion and Final Thoughts From Dr. Shai Efrati

Bill Gasiamis 1:12:57

Fantastic, where can people find the book? Is it available?

Dr. Shai Efrati 1:13:04

Amazon, people can see it on Amazon.

Bill Gasiamis 1:13:08

Show us the book again 'Beyond normal, how the new science of enhanced medicine elevates peak performance and repairs brain injuries. Okay, the links will be in the show notes, people will be able to very easily find it by putting your name, Shai Efrati, MD, into Amazon, or typing the title of the book, they'll be able to find it and get more information. I really appreciate your work, and I really

appreciate your insights. Thank you so much for joining me on the podcast.

Dr. Shai Efrati 1:13:42

It's a privilege.

Bill Gasiamis 1:13:43

That brings us to the end of this episode with Dr Shai Efrati. His groundbreaking work on hyperbaric oxygen therapy and its ability to mimic hypoxia, triggering the brain's natural repair mechanisms, offers hope and practical insights for stroke survivors looking to improve their recovery outcomes. Before we wrap up, I want to thank everyone who's been a part of this incredible recovery after stroke community, your support, comments and feedback on YouTube, Spotify and iTunes are what keep this podcast going. If today's episode inspired you or gave you a new perspective.

Bill Gasiamis 1:14:21

Consider leaving a five star rating on Spotify or iTunes, or add a like and a comment on the YouTube video. It truly helps others find the podcast and discovering the same hope and encouragement you have found here. If you're interested in learning more about hyperbaric oxygen therapy. I encourage you to check out Dr. Efrati's book 'Beyond normal, how the new science of enhanced medicine elevates peak performance and repairs brain injuries.

Bill Gasiamis 1:14:52

The link is in the show notes. And finally, if you'd further like to support the podcast, consider becoming a Patreon, go to patreon.com/recoveryafterstroke. Every contribution helps me bring more stories, resources and hope to stroke survivors around the world. Thank you for listening today. I can't wait to bring you more inspiring stories and insights in the next episode.

Intro 1:15:18

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experience of Bill Gasiamis.

Intro 1:15:48

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Intro 1:16:12

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Intro 1:16:39

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