

Neuroplasticity and Stroke Recovery - Dr. Kenneth Monaghan

Dr. Kenneth Monaghan shares insights on innovative stroke recovery therapies, the power of neuroplasticity, and the essential support needed for caregivers.

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If you want the practical version of this — what to do, in what order — that is what my four-module course [How To Improve Your Brain Health After Stroke](#) is for.

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Bill Gasiamis 0:00

This episode of the podcast is brought to you by headbed.com.au hey everyone, before we jump into today's episode, I have something special to share with you. Back in episode 305, I had the pleasure of interviewing Catherine Randabel, the brilliant mind behind HeadBed.

Bill Gasiamis 0:20

The product is revolutionizing hair salons, especially for stroke survivors. HeadBed offers exceptional neck and head support during hair washes, reducing strain and enhancing blood flow. And for stroke survivors, this means a lower risk of arterial damage and less worry about another stroke, ensuring a safer and more enjoyable salon experience.

Bill Gasiamis 0:45

I'm excited to support a product that perfectly aligns with my mission of stroke prevention and safety. During our interview, Catherine explained how the ergonomic design of HeadBed prevents neck hyperextension a common issue that increases stroke risk.

Bill Gasiamis 1:04

With HeadBed you can feel assured and comfortable at the salon knowing that your health is being looked after. If you are a stroke survivor or know someone who is, HeadBed is a game changer for your next salon visit, be sure to check out episode 305 for my interview with Catherine and discover how this product can make a real difference.

Bill Gasiamis 1:27

Now for our listeners in the United States visit headbedusa.com to get yours today and enjoy peace of mind during your salon visits. I also wanted to remind you about my book about stroke recovery. It's called *The Unexpected Way That A Stroke Became The Best Thing That Happened*.

Bill Gasiamis 1:45

10 tools for recovery and personal transformation pages inspiring stories from 10 stroke survivors and offers hope for those on the recovery journey. For more details visit recoveryafterstroke.com/book or search for my name Bill Gasiamis on Amazon.

Bill Gasiamis 2:05

Welcome back to a nother episode of the recovery after stroke podcast. This is episode 313 And my guest today is Dr. Kenneth Monaghan, a physiotherapist and researcher dedicated to developing new treatments for stroke recovery. In this insightful episode, Dr. Monaghan shares his expertise on the importance of education and motivation for stroke survivors and caregivers.

Introduction - Dr. Kenneth Monaghan



Bill Gasiamis 2:33

We discuss innovative therapies such as mirror therapy, and sensory substitution, the power of Neuroplasticity and the vital role of positive expectations in recovery. Join us as we explore practical tips and inspiring stories that highlight the journey from rehabilitation to thriving at home. Dr. Kenneth Monaghan, welcome to the podcast.

Dr. Kenneth Monaghan 2:57

Bill, thank you very much for inviting me. It's a great pleasure, I have to say, I've listened to a lot of your podcasts over the last few months and been very impressed with a lot of the guests that you've had on very insightful into the whole world of stroke and stroke recovery.

Bill Gasiamis 3:14

Yeah, thank you so much. I do like to have a vast range of guests, from stroke survivors to people who help out stroke survivors to researchers to all sorts of people, doctors, therapists. So it's good that you're you also reached out because you're in that space of helping stroke survivors and also putting information out there for caregivers. And we're going to talk about your book in a little while. But before we go down that path and chat about that, tell me a little bit about your background and how you came to be involved in the space that you are and the work that you're doing.

Developing New Treatments For Stroke Recovery



Dr. Kenneth Monaghan 3:57

So I'm a physiotherapist or physical therapists for the last 32 years. And I've focused and I suppose specialized in neurology physiotherapy over the last 2025 I live in Ireland and I run a research group which specializes in new treatments for how to repair your brain after you know neurology conditions and stroke being one of them.

Dr. Kenneth Monaghan 4:28

And I call my research group, the Neuroplasticity research group and it's a part of

the University where I work Atlantic Technological University in Ireland. And I have to say I have a huge passion for trying to develop new treatments that help patients to recover mostly in their own homes. I've probably about six PhD students that have passed through my books over the last few years and a number of master's research projects.

Dr. Kenneth Monaghan 5:00

And all of those have been involved in developing novel or innovative techniques that help stroke patients in particular, to recover. So I'm very much involved in developing new technology. But, I also realized that, you know, from talking to hundreds of caregivers and stroke survivors that I've worked with over the years, that when patients go home, or when caregivers are bringing their stroke survivors home, most people tend to feel a little bit, you know, devastated and disappointed, because they feel that this is the, this is kind of the end of the journey for them.

Dr. Kenneth Monaghan 5:43

And that, you know, when they're not in a formal rehab setting, that that's really the best chance of their recovery gone. But I actually, you know, from the research that I've carried out, and also from everything that I've read, and from everything I've experienced, I actually feel that coming home can be a different phase of the recovery, and actually your home really has unexpected benefits that most people would underestimate.

Dr. Kenneth Monaghan 6:12

So that's why I wrote the book, Lights, Mirrors, Action, because I felt that maybe a week to two weeks out from somebody being discharged home, they could benefit from certain information that would educate them and give them confidence, and the caregiver confidence as well that, you know, when they're going home, not to be thinking as a disappointed person, but you know, looking and planning for that next phase, because that can be very successful as far as I'm concerned and it's something I've learned over the years.

Dr. Kenneth Monaghan 6:45

So that's, that's probably my background. And since I've started, since I started writing the book formally about two years ago, and I started interacting on LinkedIn. And that's where I met yourself and where I came in contact with your podcast, I have come across so many people that feel the same way that there is a

need for some information to kind of give people confidence and guidance. And it's been a fantastic journey so far. And I have to say, I absolutely love it. And hopefully, I'll keep going for the next number of years. So thank you for the invite as well.

Bill Gasiamis 7:23

Yeah, you're 100%. Right. One of the biggest challenges that I faced when I went home was no information whatsoever. Now, it's 12 years since I started down this whole journey of stroke and recovery. And the internet was just sort of coming into its own, there wasn't a lot of information online. And there certainly wasn't a lot of books in publication that I could pick up and read. There was a few scattered here or there, but there wasn't an abundance of them.

Bill Gasiamis 7:58

And I remember being at home with my wife and trying to work out what now, you know, what do we do now, nobody gave us any information. When they sent us home, they just said, go home and don't do anything for the next six weeks until your next appointment. And then every time something happened because I had a bleed in the brain and the blood clot was still in my brain for quite some years after that.

Bill Gasiamis 8:23

We didn't know what that meant, like, how does that impact the brain? How does it cause challenges? What does it do to to somebody? So when I noticed that I felt weird or strange or different, or there was a shift in the clot or something? I automatically thought, Well, I'm probably having another stroke. And what do I do about that? And of course, I wasn't having a stroke every time.

Bill Gasiamis 8:54

But the fear and the concern about it, since you have no knowledge whatsoever meant that we ended up in hospital a lot. We ended up in hospital at the drop of a hat every time we thought something was wrong. You know, we went to the hospital, and we wasted resources, which is probably not a waste. It's it's resources, though that could be allocated to somebody else.

Bill Gasiamis 9:19

We also lived in anxiety and probably in fear. And we needed guidance, we needed somebody to tell us how to go about navigating the next six weeks. So we

fumbled our way through that. And then six weeks later, I had another blade. But then that's when things got really serious. So the blade that was in my brain doubled in size. It was about the size of a golf ball, the club that formed and it was the time when I came home where I had no I had problems with my memory.

Bill Gasiamis 9:51

I couldn't form a sentence properly. I couldn't start and finish sentences. My thinking was gone. I couldn't work I couldn't write an email, I forgot who come to visit me, there's a whole bunch of problems. And of course, we don't know anything about what that means we don't know if they're permanent, we don't know if they're temporary, we don't know if it's because of the clot.

Bill Gasiamis 10:12

We don't know if there's any damage. So we are just guessing, and we're doing our best. And we're just swimming in this massive ocean of experiences that we've never had before. And we don't know how to navigate it at all. We don't have a map, we don't have anything. So in desperation, you reach out to the internet and you're trying, you know, grasp on to some document that you might come across, or a little bit of research or whatever, and it is a hit and miss a lot of the time it's hit and miss you come across something, and it's not really relevant.

Bill Gasiamis 10:47

And you've spent ages trying to find it, and so on. And one of the reasons the podcast exists is exactly because like you don't want it to address that same gap. It's what do you do, and honestly, the caregivers that I had my wife struggled the most, because she's the one that's okay, she's the one that has the task to suppose that they care for me and look after me and pick up the slack.

Bill Gasiamis 11:14

And she's got no information, because before she became a caregiver, she had no idea what she wasn't trained, you know, doctors and nurses are always in hospital. They're always getting trained, they're always doing extracurricular activities to keep ahead of the the research, etc. But the layperson doesn't have any idea. And they're given the biggest task of anybody. And that's to care for a stroke survivor.

Bill Gasiamis 11:44

So I like the way you think I like that idea of sort of trying to fill that gap and

trying to send people home with some information that they could read to guide them about how to navigate that. And I specifically like the fact that you're doing that for caregivers, you have caregivers in mind, understanding that the caregiver if they get the support and the help, and that ultimately benefits them and the stroke survivor, and then that makes everybody's life a little easier.

Getting Involved In Your Own Stroke Recovery

Bill Gasiamis 12:14

And stroke survivors can be difficult at times, because they've had a stroke, and they're dealing with altered, neurological way of being you know, they've completely altered could be deficits in arms, legs, could be speech deficits, could be eyesight deficits, could be all sorts of deficits. So that part like that part was the part that intrigued me the most that you felt that even though you're doing such a large amount of work in that space of helping people with their rehabilitation, that even then when you sent them home, you felt that they were ill equipped is that right? Was it a kind of a sense that you need to equip them more, or further, or what was it?

Intro 13:05

If you've had a stroke, and you're in recovery, you'll know what a scary and confusing time it can be, you're likely to have a lot of questions going through your mind. Like how long will it take to recover? Will I actually recover? What things should I avoid? In case I make matters worse, doctors will explain things that obviously, you've never had a stroke before, you probably don't know what questions to ask.

Intro 13:07

If this is you, you may be missing out on doing things that could help speed up your recovery. If you're finding yourself in that situation. Stop worrying, and head to recoveryafterstroke.com where you can download a guide that will help you it's called seven questions to ask your doctor about your stroke. These seven questions are the ones Bill wished he'd asked when he was recovering from a stroke, they'll not only help you better understand your condition, they'll help you take a more active role in your recovery. Head to the website now, recoveryafterstroke.com and download the guide. It's free.

Dr. Kenneth Monaghan 14:11

I suppose I think that in terms of rehabilitation, a lot of people are searching for this golden ticket therapy that is the one thing that's going to get them better after stroke naturally, everybody's looking for that. And there's probably from what I have read over the years and experienced there's probably more than 30 different therapies that there's evidence there that are safe that can be carried out and and claim to you know, help people to recover physically after a stroke.

Dr. Kenneth Monaghan 14:48

And each one of those is worth trying for somebody at home. There's no doubt about that. But what people have to realize that there's no one brilliant therapy that will get you better. And people also have to realize, from my experience that you have to try and become active in your rehabilitation program and become active in your decision making. And that's a huge part of it.

Dr. Kenneth Monaghan 15:16

Because what I find not just with stroke patients, but people in general that I work with as a physiotherapist or physical therapist, patients tend to have a passive approach to medicine, I find. And what I mean by that is that and I do this myself, I found myself in you know, I was in with an orthopedic consultant only recently, because I have arthritis in my hip. And I actually even though I know, the exercises that, you know, should be done for arthritis in my hip, I actually felt almost intimidated to ask the consultant or to tell him a little bit about what I knew, in case I insulted him.

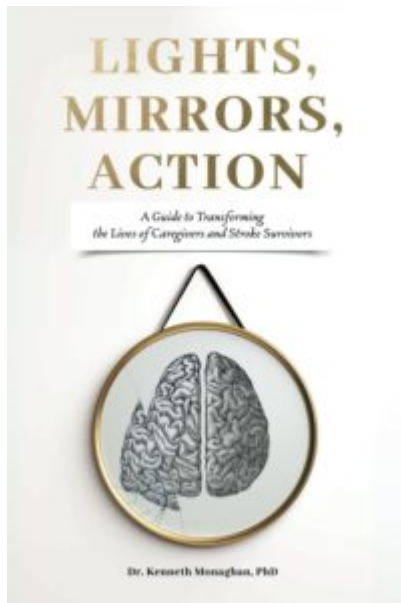
Dr. Kenneth Monaghan 15:57

Because I actually took that passive approach. And I think that this is something that's going to have to change over the coming years where, you know, and I'm interested to hear your opinion about this Bill. But I think that patients, stroke survivors should try as many therapies as they possibly can, that are safe to do but when you try them, you instinctively know that one feels good for you, or, and helps you or that's one that kind of you feel, is doing something for you.

Dr. Kenneth Monaghan 16:34

And on the other hand, you also know ones that don't work so well. So even though my research group is working on a number of different therapies, which are innovative, and the examples would be mirror therapy, and the idea of sensory substitution and cross-education, there's no guarantees that those things will be the ones that you should do.

Writing The Book Lights Mirrors Action



Dr. Kenneth Monaghan 16:56

But when I was writing the book, I was determined that I wasn't going to overload people. So I was going to choose and it'd be six different therapies that people could at least start off with. And that might, you know, people might keep going for, you know, four weeks program because, and get a taste for those. And, more importantly, what I wanted to do was I wanted to tell you through the book that education and kind of information is so important before you even start.

Dr. Kenneth Monaghan 17:34

Because I suppose there's a fabulous book that I've read, I don't know if you've seen it, it's called the expectation effect, and it's by a man called David Robson. And you've probably heard that expression, if you think if you think you can, or you think you can't, then you're usually correct. And that's actually so true in life is that, you know, if you if you believe that you can do something, are you can you believe that something is going to work for you. And then it there's a much, much better chance that it will work for you.

Dr. Kenneth Monaghan 18:09

And it's been proven through research that, you know, when doctors explain to patients, what therapies they're going to be doing, or what medicines are taking, and what what what the likelihood is that they will work and how they work and explain that beforehand. So, so almost like priming the person before they start the therapy, they tend to do far, far, far superior than if you don't explain that to people. And what I wanted to say to caregivers was that caregivers are

overwhelmed when they go home.

Dr. Kenneth Monaghan 18:41

And because they're taking on all these new tasks, your wife, I'm sure, probably had to start dealing with financial things, you had to do all the tasks around the house, you'd make all the decisions a lot that you were doing beforehand. And all I wanted to do was I wanted to kind of take one area off her hands, the area of you know, what should bill be doing each day.

Dr. Kenneth Monaghan 19:02

But I wanted to also say to her that, you know, you actually can be a brilliant person to help him because a big part of that, that help is just explaining certain things to him. So explaining to him that there's a thing called Neuroplasticity, for example.

Dr. Kenneth Monaghan 19:22

Just knowing that, like if you're sitting in that hospital bed a week before you go home, if that's explained to you that there's a thing called Neuroplasticity and that everything you do and every you know, can actually make your brain change and can help you to build new pathways and that Neuroplasticity can happen at any stage, no matter how long you've been after a stroke, if that's explained to you in a very easy to understand terms.

No Place Like Home For Stroke Recovery

Dr. Kenneth Monaghan 19:47

Well, I think that's motivation, I think to hear that actually is a very good starting point because now you're starting to think well, maybe there is, you know, maybe there is things I can do. If your wife kind of explains to you a little bit about, you know, how therapies can be done and how, why your home, for example, can have huge, huge advantages that you don't have in a rehabilitation center.

Dr. Kenneth Monaghan 20:12

And, one of those advantages is that, and again, another author that I'm very fond of is a professor in Trinity College in Dublin, Ian Robertson, he's written a fantastic book called The Winner Effect. But what Ian says is that, when I read when we're in our own home environments, our bodies potentially produce a little bit more testosterone, which is that hormone that helps us to kind of rebuild

ourselves.

Dr. Kenneth Monaghan 20:40

And, we get that because the familiarity of being in your own house, I feel that too, you know, when I'm when I'm in somebody else's house, and I don't know, you know, where the cops go or where the knives are, where the jam is, you know, you feel so uncomfortable out of it, when you're in your own home, and you know, everything and of course, the sights and the sounds and everything that are there.

Dr. Kenneth Monaghan 21:04

Apparently, this goes on in our bodies that we wouldn't be aware of. And that gives us an actual physiological benefit or advantage that we wouldn't have been aware of. And, and we can harness those things. So if you as a caregiver, your wife is expected caregiver kind of says those two things to you before you go home. She said, Bill, look at a read, you know, I'm reading research and when you go home, your home is actually a brilliant place to do rehabilitation because of ABC and D advantages.

Dr. Kenneth Monaghan 21:33

And when you go home, you Neuroplasticity is thing that can happen in your brain, and you have to realize that, then that's going to be more motivational. I think I am I suppose I better ask you Do you know, would you feel that that's something that, you know, if you go back to those days when you were in that hospital, if somebody kind of explained those things to you in a very simple to understand way? Would that have been a help?

Bill Gasiamis 21:57

Absolutely, it would have been a help. One of the big challenges is being in hospital and the whole experience, however, also being grateful that I'm in hospital, because I'm being cared for, and looked after. But at some point, you know, that all comes to an end. And you do want to get home. And I suppose I was keen to go home sooner than I was meant to.

Bill Gasiamis 22:21

So I was given a two-month stay. But I went home after four weeks, something like that about four and a half weeks. And one of the things that motivated me was Christmas being at home for Christmas, because exactly what you said, you

know, I wanted to be home for Christmas in my own home with my family, the familiarity of that the whole, I didn't want to spend Christmas in a hospital.

Bill Gasiamis 22:50

So I put a lot of work in to get home. And when you're talking about Neuroplasticity, because I had almost three years of dealing with multiple blades, and then brain surgery and then overcoming the deficits after brain surgery, overcoming the fact that I couldn't walk again and use my left side. I did a lot of research and tried to understand what I could do while I was being passive.

Bill Gasiamis 23:18

And while I was waiting for everyone to fuss about around me, I understood that Neuroplasticity was a thing, I must have picked it up from somebody else. But I took a deep dive into what Neuroplasticity is and how I could use it and harness it. And then I was doing what you mentioned in one part of your book, which is to imagine myself walking again.

Bill Gasiamis 23:42

And while I was sitting there in my bed doing nothing, and had plenty of time on my hand, I was imagining myself walking, and I would see myself in the rehab room, you know, doing the perfect walk even though I couldn't do the perfect walk. So that when I got to rehab, I had given myself some additional neurons to start firing and wiring. So that when I did it, it was much more familiar to my leg which had the deficits.

Bill Gasiamis 24:14

And then I suppose my theory was that I was going to be able to reduce the amount of time that I was going to be needing to learn how to walk again. And then I read your book and in your book, it basically says exactly that. And you know, it makes me feel it makes me feel well not validated. Not that I'm looking for validation. But I suppose for lack of a better word validated that I was on the right path.

Bill Gasiamis 24:42

Because not only have I thought of that, in 2014 You're talking about that to people right now and you're telling them to do that. And I can't remember where I learned that. And I perhaps haven't told as many people as hopefully, you're going to get to tell when you see them every single day in your practice as well as from

your book.

Bill Gasiamis 25:01

And that's what people need, they need to know that without any additional effort, without any additional cost, without going anywhere and spending all their time traveling to and from and organizing a taxi because they can't drive anymore or somebody to drive them, all they have to do is just imagine themselves walking.

Bill Gasiamis 25:21

And if they like meditation, or they're curious about meditation, they can roll that into their meditation, they can imagine themselves walking with a quiet background of a track, that's just playing, keeping them calm, keeping them grounded, and centered, and all that kind of stuff and creating the right environment for Neuroplasticity to occur. So, my wife didn't know about Neuroplasticity, and neither did I, we had no need to know about it until we were sent home with all of this list of issues that you have to deal with and overcome.

Bill Gasiamis 25:57

And it that would have taken a little bit of that weight off of us. And it would have made it a lot easier and allow a lot and I know plenty of stroke survivors who've I've spoken to who, unfortunately, before they get to go home to hospital, they have a terrible interaction with a doctor who will say something ridiculous, like, you're probably not going to walk again. And if I have a hate, in this whole experience that I've ever had, with one of my biggest hates, is that doctors still to this day, stay there. And then you guys and loved ones and caregivers have to have to undo the potential damage that that might create.

Dr. Kenneth Monaghan 26:48

It does. I mean, again, back to the book that we talked about the expectation effect, you know, if your expectations are positive, and positive things will happen because your body responds because your brain is so much like a pharmacy. And in chapter six in the book, just to mention, as I talk about the famous milkshake experiment, I think you're probably familiar with that Bill.

Bill Gasiamis 27:14

I'm familiar with the chapter. So before we go into that, grab the copy of your book, just hold it up to the camera there just so that we can show people who are watching on YouTube, what the cover of the book looks like. It's called Lights,

Mirrors, Action, we'll talk about that title in a minute. But tell me about the milkshake effect chapter six of the book.

The Milkshake Effect



Dr. Kenneth Monaghan 27:39

Yeah, the reason I was mentioning it is that, to me, this is a phenomenal thing is that. So an experiment was done in Stanford University where as, a group of students were given a milkshake and they were told that it was high in calories, so much so that you wouldn't need to take anything for the rest of the day. And the other group of students were given a milkshake low in calories, told that it was low in calories, so much, so you probably need two or three meals for the rest of the day.

Dr. Kenneth Monaghan 28:08

And what they were measuring was this hunger hormone called ghrelin, and they were interested to see how much of it was produced for the rest of the day. And as you can imagine, what they found was that the people who believed that they were having the high calorie milkshake, they produced three times less hunger hormone in their bodies. For the rest of the day, of course, the milkshake was the exact same, which they didn't know, than the people who believed that it was low calorie.

Dr. Kenneth Monaghan 28:37

Now that is an astonishing and a phenomenal fact, just by itself, because there is no other explanation to explain why that would happen, except that your brain

responded physiologically, to what it believed psychologically, it's so simple. So when you hear that, now you start to realize how important and how impactful it can be, for people to say positive things to you and people to say that you know, you're likely to have recoveries or you know, to kind of explain how therapies work and why they would work and so that your understanding and your expectations such is a positive one and that's that's such an important message to get across.

Dr. Kenneth Monaghan 29:30

As you were speaking earlier, Bill what I was thinking about, again, with Neuroplasticity was that I first encountered I suppose I really first encountered the idea of Neuroplasticity from from who I think is a brilliant, brilliant author and researcher is Norman Doidge, who has written those, you know, those fabulous books, the one called The Brain That Changes Itself.

Dr. Kenneth Monaghan 29:54

And when I got that book, whatever number of years ago at That was very much like a lightbulb moment for me because you know that on the simple understanding that our brains are changing every milliseconds that we're alive and everything we're doing, so me talking to you now here watching you, my brain is actually changing in response to that. And that's, that's such an important message to tell people.

Dr. Kenneth Monaghan 30:25

Because it allows you to realize that this process can kind of go on for longer than, than the six to 12 months, which was kind of the myth that people had, when I first started 30 years ago as a physical therapist. And that was the message that was sent to everybody and gender, we were trained this way, we were told that, you know, if a patient got, you know, between six to 12 months, that was really what the recovery was going to be. So without 12 months, you didn't have a full recovery.

Dr. Kenneth Monaghan 30:58

Well, then you felt then that that was it, that's the end of the line for me. So for somebody then like Norman Deutsch, to write a book that discusses so many different new technologies and cases and and mentioned the word Neuroplasticity and explain what that means that your brain can repair itself. And that that was phenomenon that that was brilliant.

Dr. Kenneth Monaghan 31:21

And then what so our research group, in the university in Ireland where I work with, I almost use Norman's book as a template for some of the projects that we were doing, because, and that's where the idea of sensory substitution came along, which we might discuss at some stage. But what was brilliant as well was that I had been, I had been hugely interested in the whole idea of repetitive practice and kind of repetitive hours of work. And where I first heard about this or read about this was an author called Malcolm Gladwell, who wrote a brilliant book called Outliers.

Dr. Kenneth Monaghan 32:05

And in that he talked about this principle of the 10,000 hours rule. And the 10,000 hours rule was something that was being applied to sport and to business. And essentially, it said that, if you do 10,000 meaningful hours of practice in any area of life, then you can become an expert. And there's, you know, Tiger Woods would be an act would be an example of doing that in golf, as some of the chess grandmasters.

Dr. Kenneth Monaghan 32:31

And when I read that, and because I was so involved in stroke research at that stage, that's, that's when I really felt that that principle could be applied to rehabilitation as well. However, the most 10,000 hours or that principle is a lot of hours. So if you're sitting in your home, as you know, yourself, no matter what therapy I give you to do that kind of repetitions and things, it's hard to motivate yourself to keep doing that.

Dr. Kenneth Monaghan 33:01

So an important principle that we mentioned in the book, and you, hopefully you would agree with this is that it's very important to see bits of progress, so that you can prove to yourself that you're making, making recovery. And actually, Ian Robertson in that book I mentioned before the winner effect, he again says that when you see a little bit of recovery, so for example, Bill, if you could move your arm to here, and you use a measuring tape, and you know, you can move it to centimeters more, and you're measuring that, even if it's not the most accurate measurement, every time you see that progress, again, your body responds by producing this extra testosterone.

Dr. Kenneth Monaghan 33:39

So it's like these little wins help you to be more likely to get more wins in the future, if that makes sense. So now you're going to building up the the home environment that has the kind of extra testosterone, if you can measure in a very simple way progress, you get the testosterone. And if you do this repetitive practice, and of course, what was very lucky for me, I suppose in one way, it was very close to when I had the book finished. The Irish and the UK and American Stroke Association's came out with new clinical guidelines are they kind of redefined the guidelines.

Dr. Kenneth Monaghan 34:14

And one of them, well, two of them. One was that they for the first time said that repetitive practice is definitely evidence, you know, there's evidence to say that this is what stroke survivors should be doing, or it gives them the best chance for recovery. So that was definitely backing up what what I was thinking and what I was talking about. And then the second was that stroke survivors, if possible, should be aiming to do you know, between two to three hours of little packages, you know, of therapies during the day that they find work for them.

Dr. Kenneth Monaghan 34:48

And if it's possible at all and again, people get tired and of course, fatigue is a very big part of your recovery and it's and and that's, you know, you have to have Is the juggle with those things. But if possible, you're aiming to do two to three hours of therapy every day. And when I heard this, this was this was fantastic for me, because this is what I had believed all along, or that I had kind of the message that I had been portraying in the book. So it was great to have the backup from the professional associations to kind of say that this is really what we're looking for.

Bill Gasiamis 35:24

Finding similar anecdotes as well, like, there's people that I've interviewed who do little and have, you know, small outcomes, or that don't have such big results yet. And they might be doing a little because they are still very fatigued, and they still grappling with all of that. And then there's people who have a stroke, and then running ultra marathons. You know, so the, the spectrum is very vast, it's huge, and there's so many different versions of recovery in between.

Bill Gasiamis 36:02

But it is true that with time, people will tell us that, you know, I've interviewed a

lot of stroke survivors that are 10 years out and 15 years out, and then they'll tell me that they've had gains in the last few years. And they didn't expect that it was something that just came out of the blue. And it just sort of showed them another level of recovery that kicked in.

Bill Gasiamis 36:26

And it was just as a result of going about life as normal, you know, doing business as normal, which is going about their home, doing the tasks, perhaps, you know, being a husband, or a wife, or an employee, whatever they were, and they just found out that all of a sudden that they had this wind, and they might not be able to explain it.

Bill Gasiamis 36:47

But if you dive a bit deeper into it, and you ask them what they were doing different or what they were doing the same, they might tell you that, you know, they always spent five minutes helping their hand to move or, you know, picking something up and putting it in a different position. And there is no doubt about it, that the Neuroplasticity of work.

Bill Gasiamis 37:12

And research does show that the more you fire off a set of neurons and neuronal pathway towards a task, the more likely that neuronal pathway is going to become embedded in the brain. And as a result is going to be there to support that movement. And also perhaps bypass the original path for that particular task. Now, of course, obviously, we know that the stroke survivors who will struggle with some exercises because they might have spasticity in the hand, so the hand might not physically open to get them a result that they specifically want.

Bill Gasiamis 37:52

But we're talking about here, in general, even if it's not a task, by opening the hand, perhaps it's walking and walking doesn't look like it did before stroke. Even if it's moving in an upright position that's hunched over or in a different kind of way than it used to be. It's still walking, and it should be considered a win. And I highlighted in section three of your book in the table of contents, chapter nine, I highlighted a win is a win.

Bill Gasiamis 38:22

And that's exactly, we're going full circle. Now back to that whole idea of no

matter how little the gain is, or the winners, it's really important to recognize it and celebrate it and make a note of it, and refer back to it every once in a while and mark it as a point of a place that you've arrived so that you can go back and see in 12 months, how far you've gone.

Bill Gasiamis 38:49

And one of the things that I've said previously to caregivers is that it's a good idea to record their loved ones or their patients or whomever. And then at the six month mark, show them the progress because there will definitely have been progress in some way, shape, or form. And it's really important to be able to give them a picture of what that looked like. I remember going to counseling and seeing my psychologist.

Bill Gasiamis 39:16

And she initially, you know, six to eight weeks out picked up that I wasn't speaking, like I was previously that I wasn't able to form and complete sentences and my thoughts were all over the place. And then every once in a while, she'll remind me, you know, six weeks ago, you weren't able to have this conversation or answer this question like that, do you remember?

Bill Gasiamis 39:41

And I would say I don't remember but she would encourage me and tell me that it's definitely the case. And then that would make me feel better. And then that would allow me to celebrate that win and take a little bit of the load off. And I'd feel a little bit more encouraged to continue going after you know the recovery.

Dr. Kenneth Monaghan 40:03

There's two or three things you said there that are there, they're actually huge, very important. And I agree with completely. And the last thing that you're talking about is the recognition of progress. And I see this, I run a practice a couple of evenings a week, in my local town. And this is the thing that when patients come in to me, they can never tell whether they've made progress for the most part unless they've made huge progress.

Dr. Kenneth Monaghan 40:32

So I suppose the analogy here is, is a bit like our kids, we never really see them getting tall in front of us, because unless, unless we've measured, you know, their heights on the walls, and have that famous marks on the walls thing that goes on,

because when you know, granny, who hasn't seen them for six months comes in, they say, Oh, my God, James, and Alan got so tall, you know, and you're kind of going to get there.

Dr. Kenneth Monaghan 40:55

And of course, that's the reason because it's if it happens so slowly in front of you, you can't see it, and patients are the same. So if I have patients that have, you know, sore shoulders, and you know, they can only move their arm to here, when they come to me, but they can move to here, the next day they come in, just to be able to prove to them that they can do that is almost like phenomenon, they just as you say you felt great when it was proven to you that you were doing better.

Dr. Kenneth Monaghan 41:22

And what I was saying in the book was that in terms of a very simple thing to do, and I know that this is a very, a lot of stroke survivors find this very difficult, but just to take a video even even, you know of walking up the corridor. So I am I've been working with a stroke family and close to us over the last few months. And we actually did this at the start, we took the you know, the we took the walking and he was walking with a cane, and you could see the kind of, as you said, the very slow walking and the steps were very small.

Dr. Kenneth Monaghan 41:55

There's no kind of continuity with it. And we use take a video every two weeks of the walking from, you know, more or less the same position. And it was amazing just to see the difference and even show that to the stroke person themselves. And you could just see the smile on their face. You know, they it was just a realization that it had changed so much from that.

Dr. Kenneth Monaghan 42:23

And that was really such a brilliant thing. And you see the other thing that you mentioned there, which which I which I'm hugely interested in was the whole issue of you were talking about your caregiver or your wife, acknowledging what you were doing and kind of recording what you were doing. And I think this is a very, very important point, because there's a psychologist in America he's called Dan Ariely.

Acknowledgement Caregivers And Recognizing Progress In Stroke Recovery

Dr. Kenneth Monaghan 42:47

And he's written a brilliant book called Predictably Irrational. And one experiment that he doesn't know if it's okay to mention it is he doesn't experiment with Lego Bill. And what he does is he takes people to groups of people, and he gives them the he's giving them sets of Lego that maybe takes them 10 minutes to make, and he's paying them to do it. And what he's interested in is, every time they do a Lego set, they come and get the next one, but he pays them a little bit less for the next one.

Dr. Kenneth Monaghan 43:21

And he pays less for the next one. And he wants to see at what point do people feel that it's not worth their while to keep going. However, there's a little trick to the experiment in that when one group of people come up with their Lego set made and they come to the researcher, the researcher looks at the Lego set, they acknowledge it and they say well done that looks very good.

Dr. Kenneth Monaghan 43:48

And then they place it behind them in a place on a shelf where the person can see it. The second group, they come up the researcher, they look, they don't say anything much they kind of nod, and then they break the Lego piece up and they put it in the Lego bin under the table. And then they hand them the next set, they pay them for that one. And this is what goes on.

Dr. Kenneth Monaghan 44:12

And I suppose you can imagine what would happen, the group that where their work was acknowledged and where their work was recorded, and basically had something there visually to see where they had a bit of pride in what they were doing. They kept going for almost twice as long as the people where the work was not acknowledged where there was no record of it being done, even though that we've been paid the same thing.

Dr. Kenneth Monaghan 44:36

And the reason I'm mentioning this is that this same thing happens in human nature in every aspect of life. I mean, I see it in my own work sometimes, you know if if somebody a manager or somebody says to you, God Ken you're doing a

great job, which doesn't cost anything. It's a huge motivation keeps you going. If you're a stroke survivor, and somebody you know is acknowledging that you are, you know, Bill, you're doing fantastic work.

Dr. Kenneth Monaghan 45:02

Actually, you know that we record how many repetitions you did today, with keep a log of it, we'll actually see that the log, you know, is growing each day. Or if it's steps, we record the steps on our step counter or Fitbit. And we have that. So we at least can look back and say that look at a month ago, this is what we were doing. Look at the volume that you've done fairplay to you've done really well.

Dr. Kenneth Monaghan 45:26

And a caregiver can easily have the qualities to do that. And it's one of the things that they don't realize is so important. Just to just do that record what people are doing knowledge, what they're doing, praise them for it is like in the business world, we do much more, we can do twice as long, because we just that's the kind of motivation. And I think that's a very interesting concept that Dan rarely mentioned. And I think I think we should be very cognizant of that.

Dr. Kenneth Monaghan 45:56

And then the final thing that you mentioned, just again, with your walking was that, I suppose over my 30 years, I kind of feel that, as I said to you earlier, there's there's probably 30 therapies that people can do. But I fully believe that it's the sequencing of therapies is actually an important thing that people don't think about. So if we have four or five therapies that I think you can do during the day, and of course, this is the beauty of being at home, as well as that, you know, the night before, we might have planned that you're going to start your therapy at 10 o'clock or 10am.

Dr. Kenneth Monaghan 46:36

But when you wake up in the morning, and you feel very tired or extra fatigued, because of whatever's going on your life, you can throw that out to 12 o'clock or one o'clock. But when you're in a rehab center, you don't usually have that flexibility, you know, your therapist has your therapy scheduled at a certain time. And if that suits the way you're feeling that they're great, and if it doesn't, sometimes that may be means you might miss out on your therapy on a particular day.

Dr. Kenneth Monaghan 47:00

But if I would feel that, and I suppose I use this analogy of lights, MERS action a little bit to stand for the sequencing. So I would feel that lights kind of really, you know, is standing for those therapies that kind of warm up or wake up your body and I would include walking as being one of the first things that should be done. So if if you can walk and if if, if you've been encouraged to do walking, and you you believe about walking and you know, the benefits, then I would be saying to you let walking be one of the first things you do each day, because it's kind of warming up your body.

Dr. Kenneth Monaghan 47:35

And it's kind of you know, getting that brain producing those growth factors and hormones that are produced that probably allow you to benefit a little bit better later on. And I would feel that then after being warmed up, that if you're going to do some simple stretches for your limbs that you know, keep the keep you from developing contractures. And you know, there's some very simple stretches that can be done.

Dr. Kenneth Monaghan 47:59

And I mentioned some of those in one of the chapters as well, I would feel that's that the correct place to do that. And then after that, then we're into our therapies that can kind of excite the brain or, you know, energize the brain. And that's, that's where, what, what I feel are the kind of mer therapies or the sensory substitutions or the cross educations are those therapies that kind of potentially excite your brain and allow more Neuroplasticity to potentially take place.

Dr. Kenneth Monaghan 48:28

And then after that, the normal things you do in your day, you know, your normal functional activities that you would do around the house, like lifting things, you know, cutting things, opening jars, while those things I feel, then that you have a better chance that when you do those, because you've kind of set the environment in your brain to be, you know, you know, energized and kind of excited, I think that there's a better chance that you will recover a great new pathways because of that. So I would feel that sequencing is quite an important thing as well. So I don't know how you feel about that.

Bill Gasiamis 49:01

I agree with that, and flexibility, especially in your timeline and your shedule

because if you wake up in the morning and you're feeling terrible, then nothing's getting done. Nothing has been done. Really, I still experienced that. Sometimes, you know, and I'm 12 years out. So I wake up in the morning, if I had a bad night's sleep, there is nothing getting done in the morning.

Bill Gasiamis 49:22

It doesn't matter how motivated I want to be or I think I am. It's just not getting done. And the best thing to do the safest thing to do is to do nothing. And then allow myself to slowly warm up, wake up whatever the word is that I need to to get to that particular day. And then after that I can definitely consider doing that particular exercise of Sometimes I wake up in the morning at six and I feel like I need to go to the gym, and I'll wake up in the morning and I'll go to the gym at six in the morning.

Bill Gasiamis 49:58

Sometimes I will not get there. for the whole week, because I just cannot get my head around getting there. And you know that going to the gym and not feeling good about my body means that I don't put a good exercise a good effort in into the weightlifting. And perhaps my form is out. There could risk injuring me or pulling a muscle or causing more long-term damage. So the flexibility and not being hard on myself for not doing the gym today, that's really important as well.

Bill Gasiamis 50:29

So waking up in the morning and deciding, I've got 25 emails to answer. And then being really upset with myself that I can't answer, it doesn't also help. So it's like, very important to be able to be flexible. And to not give yourself a hard time to give yourself a break. And to say, look, okay, we're having a rough day, today's not the day, let's fight the battles we can fight when we can fight him. And it kind of puts you in a sense of more of a sense of control, right? Not that we're in control of anything really.

Bill Gasiamis 51:05

But in the sense of like, I'm gonna go with the flow. And when you're in flow with your particular mood, or your energy levels are experienced, when your head is on board at the same rate as your body, then you can just get through it. And I feel like the healing time decreases as well, like that recovery from that terrible night's sleep decreases. If I'm exerting energy and being hard on myself and giving myself a hard time as well as being low on energy, when I wake up, it's just

going to make the day worse, and it's going to get things happening worse, you know, my take it out of my wife or I might interact badly with one of the kids.

Bill Gasiamis 51:44

And it's all things that I don't want to be doing. So that's become really good at trying to go with the flow and try to be flexible with my timeline. So that nobody is expecting me to respond to an email, because I haven't set an expectation that as soon as you send the email, I will definitely answer it within three minutes. And then nobody is expecting that type of a response from me. So I can look at the lifter List of 25. And I can get to them in my own time. And I might feel good about the fact that I answered three of them, or four of them today.

Bill Gasiamis 52:24

And the others go in to do this for tomorrow. And if I wake up in the morning feeling great. Well, then I'll I'll go through a few more and send them out the the things that you're suggesting a very common sense things there. It doesn't sound like you've rewritten anything, or created anything spectacularly new. And that's what I like about your book, it is back to basics. It's just standard stuff that all people may already have known that they've forgotten about, or they're not completely.

Bill Gasiamis 52:58

They're distracted by other things. So they just haven't come back to those standard, simple things. And that's what I like about your book, it's very it's not very scientific, from the point of view, or we're not reading literature, pieces there that are about, you know, the studies and the research and the data, we're just actually taking examples, you're applying it to common day, everyday life, and people can definitely benefit from it.

Bill Gasiamis 53:26

Caregivers, most importantly, can definitely benefit from it. In that time where maybe the person who you're caring for is resting or they're not in your care for the moment or you've got some time to yourself, you can read it. And as a result of that you can make your your role as a caregiver a little easier, I feel.

Dr. Kenneth Monaghan 53:49

Yeah. Well look when I was when I started writing the book. I was working with three stroke survivors and their families and very closely in particular, I was

obviously, you know, I had heard and interviewed lots of stroke survivors hundreds over the few years beforehand.

Dr. Kenneth Monaghan 54:09

But what I was hearing was that it was very important to write the information in a very easy to understand way because, you know, if it's if it was a caregiver, then they don't have help, you know, they didn't have health background or healthcare background and you had to try and write it in some way that it was very easy to understand.

Dr. Kenneth Monaghan 54:28

And actually to be honest, I've even my wife Maria, I, she didn't read the book or until relatively recently and I actually she said to me that she was almost a little bit afraid to read it because she thought that she wouldn't understand it because it was she was expecting it to be a lot of medical jargon and a medical terms as you just said.

Dr. Kenneth Monaghan 54:50

But actually she she she enjoyed it because she said it was just very simple. But what just to say to people that there's there's about 140 footnotes of evidence that goes along with the information. So if the want the evidence of your healthcare professional and you're reading it, it'll direct you to where the evidence is.

Bill Gasiamis 55:13

It's evidence based, but it's not a, it's not an academic.

Dr. Kenneth Monaghan 55:22

No, and I set out and also to I found from looking at an awful lot of stroke books that I had read, obviously, when I was researching that a lot of stroke books tried to do in my mind a little bit too much, because they try to tell you everything about stroke, they tried to do the medical side of things, and it's driving, you know, the different types of strokes and the medication for strokes and all those things.

Dr. Kenneth Monaghan 55:45

And I kind of felt that, you know, I don't want that part, you know, we're going straight in here into, it's a week from your discharge home, you are going to feel disappointed, you're you're not looking forward to this because you're going to be

disappointed. And I want you to so many to give you this book and read it are you give it to your caregiver who's also going to be stressing, because they're not looking forward.

Dr. Kenneth Monaghan 56:11

And it to give you confidence, it gives you a kind of a going, oh my god, like these are the things that go on. If I explain this to my stroke survivor, that hopefully will motivate them that, you know, when they get home there, there is a program. And then I wanted to kind of have a definite, you know, I'm not saying that the program I've laid out is the absolute recipe because it isn't the recipe, but it's a recipe that can be tried. And it'll get people going, and it'll give them a sensible one to try and do.

Dr. Kenneth Monaghan 56:43

Now, and it's lovely for you to say to me that, you know, it kind of sounds like we're taking common sense things and we're just repackaging them a little bit. And that's exactly what we do. A lot of times, I mean, a lot of, you know, famous therapies and things, I often say the likes of Pilates and things like this, Pilates is a is a hugely successful therapy that talks about, you know, doing core exercises, but when you break it down, Pilates is very simply simple strengthening exercises, and sometimes simple, you know, stretching and things are incorporated.

Dr. Kenneth Monaghan 57:16

And what it becomes part, because there's a you know, there's, there's a whole life around that and people have become to love it. And it becomes popular. But essentially when you know, but lower down. We haven't, they haven't created anything really too new. It's just how they different simple exercises are arranged into a program that works for people.

Dr. Kenneth Monaghan 57:43

What is discussed in my book is are some innovative term, I suppose, I use the opportunity to actually introduce three different types of therapy that maybe people might not be so familiar with, because this was the focus of my research group. And those therapies were number one mer therapy, which which a lot of people are used to, but actually, I'm quite surprised because I spoke to a stroke family in Canada only recently, and they had never heard of very therapy. I was very surprised at that.

Bill Gasiamis 58:20

That person had a deficit in one of their arms?

Dr. Kenneth Monaghan 58:24

They did well, it was actually the son of the family that had the stroke. And actually they had been to lots of different or, you know, different places looking for kind of solutions. But they never heard of mirror therapy, which I was surprised about. And I don't know if this is common, it was on a snapshot. But when you're involved in these therapies, you always assume that everybody knows about them.

Importance of Sensory Substitution

Dr. Kenneth Monaghan 58:51

So to hear that somebody didn't know about that was reassuring for me that it was good then to be talking about it. The second thing we talked about is the whole idea of sensory substitution. And this is a very interesting area. And is it okay to talk about it a little bit?

Bill Gasiamis 59:09

It is because I've delved a little bit into sensory substitution and I interviewed for episode 200. I interviewed Cheryl Shiltz, who was a lady who was one of the first people to substitute inner ear and her balance with her tongue. And that work was done by Paul Bach-y-Rita and his team. Some researchers from Massachusetts, from the University somewhere in Madison, Wisconsin or whatever, way around that goes.

Bill Gasiamis 59:47

And Cheryl is like patient number one in this particular field in that when she was able to reestablish her balance by training her tongue to take over the role of her damaged in a year. It opened a whole world of possibility for people with all sorts of issues. So I'd love to hear about your thoughts on sensory substitution.

Dr. Kenneth Monaghan 1:00:19

Well, it's a I mean, it's brilliant. I just like yourself when I read Norman Doidge's the brain that changes itself. And I read that chapter about Cheryl, and they were termed wobblers. So essentially, when women who were pregnant, were put on an antibiotic afterwards, if they needed it, they use an antibiotic called

Gentamicin. And if you were on it for far too long, it destroys the vestibular apparatus in your ears, which is your balance mechanism.

Dr. Kenneth Monaghan 1:00:52

So these people's lives were ruined, and she probably would have told you all that experience. And then Paul Bach-y-Rita developed this very novel idea that if the information from the IRS wasn't, you know, working correctly and going up to your brain and telling your brain, how to control your balance, could other information be substituted from it. And of course, what he did was he created a like a piece of chewing gum or a piece of plastic with sensors on it that glow on the tongue, as you've mentioned, and they were attached to like a Bob the Builder helmet.

Dr. Kenneth Monaghan 1:01:24

So when the person when she went forward and backwards, a certain array of sensors were stimulated. And then when she went side to side, different array, and when so you know, and and what's what, what was brilliant is your tongue is so sensitive here that the brain was, was able to figure out, the brain figures out essentially, those three different messenger messages, and it was actually able to kind of reestablish an ability to control balance, which is phenomenal.

Dr. Kenneth Monaghan 1:01:55

So when I read that, first of all, excuse me, I actually had a PhD student that was just starting off with me, and we thought, I thought we'll get involved in this area, I think this is great. This is great potential. And we actually contacted an entrepreneur in London, I think, who had actually started off with the intention of setting up a huge business around creating tongue stimulators, because the whole science sounded interesting. And he was a very interesting character.

Dr. Kenneth Monaghan 1:02:28

But his the interesting became not so interesting when he wanted about \$15,000 from us to get us involved in the research and essentially, do research that would have helped him to promote this. So we figured this wasn't going to be possible, we didn't have the money and also didn't make sense to helps to help do the research in that area. So what we started doing was we, my PhD student, started investigating whether other senses, and that could also be used instead.

Dr. Kenneth Monaghan 1:03:01

And what he found what Peter Lynch found was, and we've published a number of papers on this, some systematic reviews, which is very good evidence, he found that tactile sense or touch sense or vibration sense, and is one sensation that has potential to substitute for missing information. The other was hearing our auditory information. So what we set about doing was, and again, the idea of sensory substitution is very much that if, you know, if you have a stroke, and you've had your arm and disability.

Dr. Kenneth Monaghan 1:03:40

The normal information that should go every day, and every moment up to your brain is not going in that fashion. So could we substitute something else, and what we've been working on in our lab is we created a device that, you know, if we, if we if we use, if a patient holds a sensor that gives a vibration, are they they and they hear a sound while they're trying to stand and re re learn how to take weight on their legs. So that if they take a lot of ways, they they feel they get a very big sensation and hear a big sound if they take very little weight.

Dr. Kenneth Monaghan 1:04:25

They you know, get a small sensation and very small sounds and then there's that sweet spot that you know the correct weight. We find that patients in our trials are doing really, really well with this they find that this is the brain is essentially figuring it out. And my analogy of this here is very much you see the glasses that I've on. I don't know do wear glasses Bill, but I wear what's called very focal glasses.

Dr. Kenneth Monaghan 1:04:53

So these glasses have three different types of lenses in them. So the bottom lenses for when I'm reading, and the middle is for when I'm looking at television and the top for when I'm driving. And when I got these at the start, I actually, I was so disappointed because I thought to myself, my optician has definitely got the prescription wrong here, because I can't, I can't use them. It's It was ridiculous. I know. But after about almost a week, something clicked and they were perfect.

Dr. Kenneth Monaghan 1:05:26

And I I understand now what's happening is that our brain, my brain has to figure out very subtly how to tilt my head. So that when I look at a book, The tilt happens at the right time, when I look at the television, a different tilt happens.

And when I'm driving a different tilt happens, and essentially, the brain figures that out. And that's was the that's, that's the principle or the concept behind sensory substitution, that if you can input more different information into your brain, while you're doing a similar task, it's possible for the brain to figure it out.

Dr. Kenneth Monaghan 1:06:04

And in my book, I wanted to try and come up with, you know, a cost effective or some version of this, and that patients can try at home in their own homes. And what I did was, I I've given the example of a digital weighing scales that people can use a bit like what I was discussing earlier that, you know, you can, you can kind of practice taking weight using this and making a small little platform for yourself. And then again, it's just a cost effective way of using a kind of a, an innovative therapy, that that has huge potential down the line for rehab centers. But it's a version that you can use at home yourself. So I don't know, how does that sound to you?

Bill Gasiamis 1:06:44

That sounds fantastic. I mean, I love the idea that somebody who's actually working in that space and doing the research in that space, because let's face it, I mean, most of the people who deal with stroke survivors, they get them to the point of this is the best that we can do the the allocation of rehabilitation is over, the insurance company won't fund it anymore. And then they'll send that person home.

Bill Gasiamis 1:07:10

And then the task is up to the caregiver and the stroke survivor to do the rest of the work to get their leg working better, or, or doing more or, or whatever that is. And that would be a big setback. And like you said, some people will leave hospital, they'll come home, they'll feel better about that, but some will leave hospital or their rehabilitation, they'll come home. And they'll feel worse about that. Because they feel like they didn't get enough rehabilitation.

Bill Gasiamis 1:07:39

So any tool that can do that can support somebody to get additional movement in their leg is fantastic, or in their arm. And I love the idea of connecting that to a sound and then also to a physical stimulation stimulus like vibration. And that teaches that the brain the difference in the in where the leg is in the world, because that's what I had an issue with, I had an issue with neuro with

proprioception, so my leg didn't know where it was in the world.

Bill Gasiamis 1:08:14

So when I was first learning how to walk, I would stand very heavily, I would lean very heavily on my leg and jaw, my whole leg all the way up and down up to my hip. And it wasn't pleasant. And then some days I'd be standing still at the bench at the kitchen, making a cup of tea or something. And then because I wasn't moving my leg or it wasn't in the right position, my knee would just collapse and I would trip over and I would fall.

Bill Gasiamis 1:08:46

So any additional information that my leg had, had to come from learning the hard way had to come from either jarring, and and putting my knee in the wrong position or dropping that knee and tripping over hat. That is a way of learning but it's probably not the ideal way of learning. So yeah, I love that work, I do hope that you guys get some results that you can work with. And you can develop something that is going to make a difference.

Dr. Kenneth Monaghan 1:09:18

It is and I suppose look up behind all of this is a full race in a research lab that's working to try and develop, you know, systems that allow patients to do therapy in their own home and maybe be monitored remotely. And that's kind of the on one side of of what I'm interested in. But the book was was the idea was could you develop something that is you know, that you don't have to buy fancy equipment for you don't have to outlay a lot of money.

Dr. Kenneth Monaghan 1:09:51

And so those three therapies that I discussed, you know, mainly because they're they're very innovative things and they're very exciting the potential of them, but you No mer therapy, you can buy a 10 to \$15. myrrh, and you can place it on your table. And you can get huge benefits from you know, on your arms and in your legs. And again, as some people use that, and they find it phenomenal.

Dr. Kenneth Monaghan 1:10:13

And some people also then use it and they don't like the concept of it at all. And that's the way that it should be done, you should try these things. And you get your gut feeling whether they they're there for you or not for you. The the concept of cross education of strengthening. And I know there's a lot of, there's a

lot of people in one way or a wee bit a wee bit nervous about this concept. But it's the idea that if if you go to the gym Bill, for six weeks, and you just strengthen your good side, your non affected side for six weeks.

Dr. Kenneth Monaghan 1:10:52

If you measure the strength on that side, after six weeks naturally is going to be much stronger. But amazingly, if you measure the other side, it could be potentially 30 40% Stronger, even though you've never done anything. And that's another phenomenal concept as well. And it's because there's an overload of electricity that goes between the two sides to the brain.

Dr. Kenneth Monaghan 1:11:14

And so it's more of a neural effect. But it bought, it's a very definitely evidenced thing that could work. And what we were working on in our lab was the idea that we might do mer therapy and strengthening exercises at the same time. So we were combining both of those two things. But what for, for practical point of view, a person can buy a resistance band for less than \$10 or 10 euros. And in their own home, they can, you know, attach that resistance band to a door handle.

Dr. Kenneth Monaghan 1:11:48

And there's a very simple way of doing it when enough and they can do exercises on their good side. As long as people realize I'm I'm not advocating that that's what you do all the time. But if you do that for 10 or 15 minutes as a little package during the day, then you potentially can benefit from that cross education effect. Of course, you have to do all the other things.

Dr. Kenneth Monaghan 1:12:11

And there's nobody suggesting that you would ignore the you know, the affected side, I think people get a bit nervous, because they feel that maybe, maybe there's a suggestion that we would just focus on the non affected side. And that wouldn't make sense whatsoever. But I think during a day in your home, that there's a place for you to kind of strengthen the good side of your body to try and benefit from those cross education effects.

Dr. Kenneth Monaghan 1:12:36

And I would feel that that type of therapy is what we were saying there, it's you know, after you're walking, and you're stretching, that you're kind of doing one of these things to activate or energize your brain, I feel that that fits in there. And

definitely it's worth trying for people. And again, very cost effective and a very simple and can be built into a program very easily.

Dr. Kenneth Monaghan 1:12:55

And some of the patients that I've used this with absolutely love it, they find it very easy to carry out and you know, they feel like they are strengthening and all strengthening and all exercise is beneficial regardless, and some others don't take to it as much. But it's good to have the choice, you know. And so those are the three things that I suppose we've spent a lot of time really researching very, very deeply in our in our research lab.

Dr. Kenneth Monaghan 1:13:21

And then I'm bringing those then into a kind of a cost effective, very practical way that they can be done in the book, but more importantly, explaining to people about them and explaining to them in a simple to understand way so that you know, again, if your wife was back in those days, when you came home, that you know machine, I'd say to Bill, you know, there's a thing called you know, murder therapy, and I'm just going to explain to you in a very easy to understand way, how it's supposed to work.

Dr. Kenneth Monaghan 1:13:50

And you know what happens in your brain, supposedly, that makes you a better chance of recovery. And maybe we'll we'll spend \$10. And we buy one and maybe maybe we'll give it a go. And you see one of the things that I've done with the book, and hopefully this is successful is that I wanted to try and merge the book with some digital information or extra resources. So what I've done at the end of every chapter, I don't know, they see when I probably sent you an advanced copy of the book that bill so you wouldn't have noticed this.

Bill Gasiamis 1:14:24

The QR codes where there.

Dr. Kenneth Monaghan 1:14:27

Yes. So you can see that at the end of the chapter. There's a QR code and if you scan your phone over that, that then brings you to my website and to a resource where there's YouTube videos that describe how to do the exercises, theres YouTube videos that discuss in very easy to understand, a way a summary of what's in the chapters as well. And actually, recently, a friend of mine, his family

had a stroke and actually I It was the first time I actually saw this working, that I was showing them the book, and the caregiver was reading it.

Dr. Kenneth Monaghan 1:15:09

And when I gave it to this stroke person, I hadn't realized that their eyesight or their visual thing was a bit difficult. So they actually weren't able to read it. And it was, it was actually brilliant than to just put on the videos, which described what I was doing, and they loved it. So I suppose another version would be to, to to record an audio version of the book.

Dr. Kenneth Monaghan 1:15:35

And maybe we'll do that at some stage. But I've kind of tried to bring in these extra resources and hopefully that will build as time goes on, because I've set it up so that more worksheets or more documents can be attached. So that you're hopefully we're giving a little bit of extra value, you know, for what you're getting.

Bill Gasiamis 1:15:56

I absolutely love it. As we wrap up. Can you just give us a brief website, tell people where they can find it, where they can buy the book, of course, we're going to use all the links in the show notes. So people who are listening, who want to go and check it out, they can go to recoveryafterstroke.com/episodes. And we'll have the show notes there with all the links. But Ken, can you just tell people where they can go and find the book?

Dr. Kenneth Monaghan 1:16:27

Yes, so my publisher is called Book launchers in America. And the book was, it was put up on Amazon, all Amazon sites from last Thursday. Now there's a little bit so probably most of your audience will be this side of the world. So there's obviously amazon.au.

Bill Gasiamis 1:16:54

Most my audiences are in the US actually that'd be amazon.com I know from experience, whenever somebody is in their country, if they just put Amazon in the search engine, their particular home, Amazon comes up and then you can do a search like that.

Dr. Kenneth Monaghan 1:17:18

So if it's amazon.com, then essentially just go to Amazon and put in Lights, Mirrors, Action, and the book will come up. There's three versions of the book,

there's an ebook, and there's the paperback that I just put up in front of you. And then there's a hardback cover over it. And yeah, the easiest thing then is just to buy it through Amazon. Now. It's also available through all larger bookstores as well.

Dr. Kenneth Monaghan 1:17:44

But most of them will probably need you to order the book and then they'll get it in for you. But I think Amazon is probably the easiest thing to do. Because I know here, you know, most people will have prime and it's probably doesn't cost anything for delivery and things like that. And I my own website is www.lightsmirrorsaction.com. And there you'll find also information about the book and extra resources and things.

Bill Gasiamis 1:18:14

Dr. Kenneth Monaghan. Thank you so much for joining me on the podcast. I really appreciate our conversation and you reaching out. I think your work is fantastic. And I know it's going to make a difference to a lot of people.

Bill Gasiamis 1:18:27

Thank you once again for joining us on today's episode. I hope you enjoyed my conversation with Dr. Monaghan, and found our discussion on stroke recovery and innovative therapies enlightening. If you're interested in my book about stroke recovery, you can get your copy on Amazon by entering my name Bill Gasiamis, or by visiting recoveryafterstroke.com/book.

Bill Gasiamis 1:18:53

To learn more about my guests, including links to their social media and to download a full interview transcript to head over to recoveryafterstroke.com/episodes. A massive heartfelt thanks to everyone who has left a review, whether it's for the book, or for the podcast. It means a lot to me. Reviews are essential for the success of the podcast and your feedback helps others discover this valuable content making their stroke recovery journey a little bit easier.

Bill Gasiamis 1:19:24

If you haven't left a review yet, please consider leaving a five star review and sharing what the show means to you on iTunes and Spotify. If you're watching on YouTube, remember to leave a comment below the episode, like the episode and

subscribe to the show on your preferred platform to get notifications of future episodes. If you are a stroke survivor with a story to share, now is the perfect time to join me on the show. The interviews are unscripted and require no preparation.

Bill Gasiamis 1:19:54

Just be yourself and share your experience to help others in similar situations. If you have a commercial product that supports stroke survivors in their recovery, you can join me on a sponsored episode of the show. Simply visit recoveryafterstroke.com/contact fill out the form, and I'll get back to you with details on how we can connect via zoom. Thanks again for being here and listening. I truly appreciate your support. See you on the next episode.

Intro 1:20:21

Importantly, we present many podcast designed to give you an insight and understanding into the experiences of other individuals opinions and treatments. Protocols discussed during any podcast are the individual's own experience and we do not necessarily share the same opinion nor do we recommend any treatment protocol discussed all content on this website at any linked blog, podcast or video material controlled this website or content is created and produced for informational purposes only and is largely based on the personal experience of Bill Gasiamis.

Intro 1:20:51

The content is intended to complement your medical treatment and support healing. It is not intended to be a substitute for professional medical advice and should not be relied on as health advice the information is general and may not be suitable for your personal injuries, circumstances or health objectives. Do not use our content as a standalone resource to diagnose treat, cure or prevent any disease for therapeutic purposes or as a substitute for the advice of a health professional.

Intro 1:21:16

Never delay seeking advice or disregard the advice of a medical professional, your doctor or your rehabilitation program based on our content if you have any questions or concerns about your health or medical condition, please seek guidance from a doctor or other medical professional if you are experiencing a health emergency or think you might be, call 000 if in Australia or your local emergency number immediately for emergency assistance or go to the nearest

hospital emergency department.

Intro 1:21:40

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