Understanding the Role of Eye Rehab for Brain Health Transcript

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Introduction and Guest Background

Hi everyone, I'm Doctor Sanjeev and you're listening to the advanced Anti-Aging and Technology Summit. Today my guest is Doctor Karan Ramesh Kant Ramesh is a optometrist who purchased the Vision Care Center in 2007 and the Future Energy into our Vision Care Center.

She lives her life based on four main values love, connection, inspiration and empowerment. She connects with patients to better understand these goals and connects with industry leaders to better support our goals.

During school, Doctor Cameron struggle with paying attention, focusing and headaches until she discovered neuro visual training just changed her life and the lives of her patients.

She was trained by world renowned speakers, conversion therapy and now close friends Doctor Robert Stennett, Robert Little, Robin Lewis and Stefan Collier.

She Trenton supports patients that struggle is reading, learning and those who have suffered a concussion. Doctor Ramesh is a proud recipient of the 2019 Canada Best Eyecare Practice of the year.

She completed her Doctor of Optometry at the University of Waterloo in 2004. She served on the board of directors for Vision Therapy Canada and associate member of Clevedon College of Optometrists and Vision Development as a clinical associate of the Atomic Optometric Extension Program.

As a member of the aid of the 080 Ontario Association of Optometrists, just two beautiful daughters and husband that always make her smile. I'm sure you enjoyed today's talk with her.

Enjoy it. Take care. I know. So welcome. Karen. How are you? I'm good. Thank you for having me. I'm so excited to learn all about how the AI impacts our health.

How Optometry Led to Vision Therapy

So maybe just first, I'd love to understand. How did you even get into into this? Why did you choose the AI to, like, focus your your career on to help patients?

Okay. So in terms of optometry, I got into optometry because, you know, I, I loved working with patients. I always wanted to do something that was health related.

I thought I was going to do medicine, and I was having an eye exam, and I just had a brilliant time. So this guy had just graduated. I had so much fun with him.

And I realized what was great about it was it was the health aspect. But there was also a business aspect because there is the the glasses or retail part of it.

And I've always wanted to run a business, but I also wanted to make sure that I could do something where I had control of my life. I could make sure if I had children, if I got married, I wanted to be home, spend some time with the kids.

And so this was great because I thought, I can buy a practice, I can be a medical professional, but I can set my own hours. I can go home when I want, and that's how I got into optometry.

And then as I got into optometry, I used to, you know, help patients see and only help them see. And somehow I was going to expand my practice and I was looking into something called binocular vision.

And that's where we talk about this sort of rehabilitation. And, and I thought, okay, why don't I look into this? And, and if I do this, I'm, I've got a lot more space.

I'm going to expand my practice and when I bring this specialty into my practice. So I started taking some other courses, and that's when I realized that I wasn't really I was helping people see, but I was never actually helping them feel better.

And I wasn't really helping them with their vision. And I don't think people really understand what the difference between vision and sight actually is.

And as I got deeper into that field, I really started to specialize in it. And then one of my mandates was to go across Canada and actually teach people about what vision therapy is to other optometrists, because we're not taught it very well in school.

And it's a field that I think everyone needs to know about. Okay. So tell me, tell. I'm excited to learn what is what is vision therapy? I was waiting for you to ask that.

Yeah. I thought I'd let you say a couple words. So what is vision therapy? And what is vision versus sight? So sight is just what you see. So everyone knows that when they're looking at something they come out of the eye exam.

They go, yes, I got 2020. But 2020 actually means nothing because you may have 2020 sightings, but you might be seeing it in a way whether the letters are still kind of blurred or sometimes the letters are even reversed, sometimes they're up and down, sometimes they have, you know, they've got a little bit of movement to them.

That's your vision. So even though you might have 2020 sight, how you're perceiving, that is what we call vision.

Vision vs. Sight Explained

So it's how are you actually processing material. So what you take into your eyes is probably about 10%. But what you process is about 90%. Right. And your brain 60 to 80% of what it's doing is visual processing.

And so when when I started seeing people, all these people would come in, these kids would come in and they'd have 2020 sight, but then they'd struggle with reading and they'd have what we call dyslexia and or, you know, they'd suffer from headaches or I'd have patients that have had, concussions and they'd come in and they'd have severe headaches and, you know, they'd get a clearance from their optometrist saying, yeah, you see, well, so that's not the problem.

But the patients always feel like there's something wrong with their eyes. And there is it's because the brain and the eyes were not communicating properly.

So if I go through the nicest way, the best way is actually for me to give you demos on, on what it actually feels like. It'd be great if you were actually here because I'd be able to show you.

But if you think about, let's see how we can do this. If we actually if you think about how children walk around and they're always touching things and they're feeling things and people think about A. D. D.

and stuff, right? And your senses revisions not working and visions, your dominant sense, which is 80% of what you're what your body is processing. So visions your dominant sense it's not working.

Auditory starts to take over. Tactile starts to take over. So you get all these people that are sensitive to sounds. You get all these people that are moving around and touching things, and you see that a lot with like post-concussion and stuff, right?

They can't they can't tolerate sound. They're constantly like wanting to touch and feel stuff. They want to be in the dark. They're sensitive to light.

And that's just because of Vision's not functioning properly. Does that make them or is it just for for a viewer to understand what is the normal? How does information normally get processed, from coming in through the eye if you would just take them through that.

So normally whatever you take in goes up to your brain. Right. And everyone thinks it's just that one area in your brain, what we call the occipital lobe that's processing.

But it's not. There's about 35 different areas in your brain that's processing everything that's happening. And then that's what you're seeing. And so what we're looking at is how are your eyes actually focusing.

Meaning if you think about a camera that's going in and out of focus. So how are they focusing? How are they actually teaming together. So is there even like a micro misalignment in them.

Are they you know, if how are they tracking when you're moving and you're looking at things? Are they both, coordinated or is one lagging behind a little bit?

How does it process if if your eyes are moving, do you feel like you're background's moving or not, or does it feel like you know, the background still and our eyes are moving what we call vestibular.

So do you get carsick? Do you get motion sick. Ill. It will also check. So we've got tracking it mean we've got, depth perception. How how is space. So we'll process, you know. How far are you from me?

How far is this computer from me? How far is this person from me? So people that sometimes even have anxiety in social environments, in crowded spaces, a lot of times that's an actual vision problem.

How the Brain Processes Vision

It's not because they have anxiety, it's because they can interpret the space between them and the other person. The problem is people don't know this is how they're born or this is what they what they perceive.

So they don't know whether it's right or wrong. And so it's very hard for someone to convey that. And unless a doctor actually knows how to test for it properly, it goes missing.

So many times. So how is it that, you're saying these are things that one can do, like, exercises with the eyes or measurements of the eye? And how can we change the processing in the brain?

How does that happen? So processing, you know how the brain's neural plastic, I'm assuming you know that it's I mean, there's been a lot of studies out there about neuroplasticity, right?

So the brain's capable of so many different things. And so there's so many different pathways in the brain. And and this is what, I'll tend to show my patients.

I had, had one of my therapists make me a little wire. So these wires are all in different places, but sometimes they're just in the wrong place. And you're going through so many different pathways to get there.

And so all we do is we sort of take that wire out and put it into a new place by showing them new activity. So let's say you struggle with reading, for example, if you're going to a tutor and you're constantly reading, you'll get a little bit better at the skill, but you haven't learned a new way to perform that skill.

So we will do an exercise that's related to tracking. So watching your eyes move from word to word. But it's a novel exercise. It has nothing to do with reading.

So it might be following a ball. It might be, you know, following a pen and then understanding what your eyes are doing. And once your brain understands that skill, it can now take that and apply it to something else.

And that's where as soon as it understands that sometimes there's neurogenesis where you'll just create a brand new pathway and your brain understands and starts to use that new pathway.

You take me through, like you said, you've helped people who's had, concussions or post or stroke. What type of problems do you see? Like processing or the eyes that you can fix?

Yeah. Well, a lot of times. So concussion, stroke, I mean, the symptoms are usually pretty much the same. Right. People come in. I mean, we had a 30 year old that came in and she had fallen on ice and she had gone to so many different doctors and she was told she was never going to work again.

And really, it was like she was a teacher so she couldn't walk properly. She just felt like she was always imbalanced. She constantly had headaches. Even just some people like their their auditory is affected.

Like they feel like they're not hearing well. They look at things or constantly nauseous or constantly dizzy. And so when we're testing them, sometimes even what they perceive to there be their middle.

So this is the center. They'll have what we call a midline shift. So they'll perceive their center of vision off to the right or to the left. And so they're totally imbalanced.

And so we'll start to shift their perception with certain lenses on the eye and the lenses will just shift how they see the world and start to bring them back into center.

And then we should to saying like neglect and stuff like post stroke. So if you can't see it, you're side that's affected and maybe you can't rehab it.

I don't know as well there's, there is neglect on. Yeah. If it's, if it's you can't if you're, if it depends on if you're consciously suppressing it or if you're, or if there's an actual anatomical or physiological problem.

Concussion, Stroke, and Midline Shifts

Right. But if you're just suppressing it because of something that's happened, you can for sure shift your, your methodology and what you're seeing, shift your perception and then start to become aware of that area again.

So, I mean, I can use myself as an example, which I didn't want to, but, I know so so what's happened recently in the last year or so? I hit my head a couple, two, three times.

I didn't think much of it. But in this last little while, I was just noticing that I was struggling with, you know, just reading was uncomfortable and I was getting really confused with my rights and my lefts.

And so when I was seeing patients and it was telling them to look with their right hand or move their right eyes, sorry. I was getting confused at what was what was happening.

And so I went and I thought, okay, you know what? Something's definitely happened. Like I'm just not perceiving things properly and and getting frustrated.

I'm getting when I'm focusing and I'm trying to read. I don't want to. I feel like my eyes are darting all over the place. So I tested myself and my midline.

So what I consider to be my center is off to my left. I can't feel my right side of my eyes, so when I'm moving and stretching my eyes, I can feel my left eye moving, but I can't feel my right eye moving.

And so once you start to bring that awareness, once you start to teach a patient how to feel that I again, it's like every other muscle in your body, you can control it.

And so then once you learn how to control it and the two eyes are aligned properly again, all of a sudden your brain

processes things properly. So I have here a pair of red green glasses that I actually wear for my home training.

And what this does is some patients, when the two eyes are not working together and you put this on, if only my right eye was working, I would only be seeing red.

If only my left eye was working. I'd only be seeing green when the two eyes are working together. I'm seeing a little bit of a kind of yellowish. Right.

And so when I put these on, I know it's feedback for me to tell me that both my eyes are working together and when my eyes are working together. Right.

So when I'm working, my eyes are working together and I have to do an activity where I have to do my writes and laughs, I can do it like this. As soon as I take these off, because of my little slight head injury and my midline shift, my two eyes aren't working together very well right now.

And so if you asked me to do the same activity to tell you what was right and left, I get flustered and I struggle on how to do it. So part of my training is to keep my glasses on and do the activity with the glasses.

So I have the feedback on what it feels like, on what position my eyes should stay in. Wow, that's pretty exciting. Very interesting. I didn't even know what to.

Yeah, it's exciting and it's mind blowing kisses. And I'll just show you the activity I have to do because it's I was shocked even when I did it. So it's just this I mean, all I have to say is whether something's facing the right or if it's facing the left, and if it's at the top, it's my right hand or a left hand, and if it's at the bottom, it's my left foot or right foot that I have to hit.

At the same time as my eyes are working together. Easy peasy. I'm curious that as people get older, do you find that their ability to take in information through their eyes gets less like the maybe the peripheral vision gets worse?

They're unable to process or people process the same. Like with aging. What happens to their musculature? Like, you know, we shouldn't, right? It's just like sight. Nothing should happen.

As long as you take care of yourself, your processing should be fine. Unless there's any sort of disease or anything.

Personal Recovery and Eye Alignment Training

The only time that the processing actually does go down is if you've had some sort of head injury. If you're under a traumatic, like a lot of stress, that can also shut down.

So what happens is we have two different types of vision. We have your central vision, and then we have your peripheral vision. And these two need to speak together for you to feel comfortable in the world.

When we go under stress we go very central. Right. So if I asked you, I'm like, Sanjeev, we need to go. You need to hurry up and get your car keys. And we're in a rush.

And you open a drawer and you're saying, I can't find my car keys? And I come over and I tell you, car keys are right there. They're right there in front of you.

And that's because you're in stress mode right now, and you've cut off your peripheral vision. And so the only time when you cut that off, a lot of your processing will go down.

So if you're not aware of your periphery and a lot of these post-concussion patients, when they're driving, they're very uncomfortable driving because they've shut off their periphery, they've collapsed it and they're very uncomfortable knowing who's around them, what cars around them.

So part of what we do as well is with all the lenses, we'll open up their peripheral vision and we'll help them become aware of everything that's around them.

And then they get trained on how to keep that system open. And even when it's stressed, how to consciously open it up again. Are very interesting. I remember my dad used to say about the eye exercises like, you know, this is yoga, I exercise.

Do you think that like this keeps, you know, eye health for just, you know, improves processing? I mean, I'm taking information like, is there any value to this type of thing?

Well, yeah, because I mean, all of the eye eye exercises are working on a specific skill, right? Whether it's eye tracking or having the two eyes work together.

So by doing those stretches, it's giving you an awareness. It's like it's like how I'm using these glasses. It's feedback for me to know that my eyes are working together.

So when you're stretching your eyes, you're giving yourself feedback to feel your eyes so you know what position your eye is in. And so when you have that feedback, you're going to try and always keep your eyes in the correct position.

And so you're going to process things a lot better. Right. So yeah I mean there is truth to that. There's also other lenses that I want to just let you know about.

There's something called a neuro lens, which is new on the market in Canada. There's probably only, I think maybe ten clinics across Canada that have it, which is a specifically designed lens for a lot of these patients that sometimes have suffered severe headaches.

And a lot of times I'll go to neurologists and, and we have a clip of a neurologist telling us how, you know, 80% of her high headache patients have received success, success from this actual lens.

And all it does is it just shifts your perception to realign the eyes. Because what happens is when your eyes are slightly out of, out of alignment, your trigeminal nerve.

So your facial nerve here gets triggered. And when that gets triggered, it starts to cause pain along here along your head, which goes down to your neck and to your shoulders.

Your eyes want have to feel like they're really, really dry.

Peripheral Vision, Stress, and Eye Exercises

And so then people will say, my eyes are really, really dry and I feel like I have a headache from the eyes, but it's really the facial nerve that's triggering all of this.

And so this lens you put it on, it'll just cause the alignment, but it contours down. And so it's what we call a prism. A prism shifts what direction you're going to see stuff in.

And so the prism changes as you're looking at something that's far away. And then you're looking at something up close. And when you're looking at something closer up, you need you need your eyes need to be closer together. So it gives you more prism.

And all of a sudden these people, their headaches are starting to like, completely disappear, which is great. You think that people like everybody could benefit from doing eye exercises or like let's say athletes or people are in performance work.

If you think that, this, this is something that they can do. Yeah. This is so it's an eye hand coordination thing. Right.

So one way, if you have absolutely no problems it's going to enhance your skills, especially with sports.

So we have athletes that do, do do the vision therapy or vision training. There's professional athletes that do it. A lot of them don't want to ever mention that they do it because it's it's kind of nice to have that little edge on someone else.

Right? We have a lot of amateur athletes that come in and do it. It just it really enhances your coordination and it helps you understand your depth perception in all levels.

So if someone, for example, was a basketball player, we would do a lot of their training looking upwards versus looking straight ahead, because we want to make sure they're going to get the ball in the hoop, right.

If someone was playing hockey, we're going to do a lot more training downwards, so we will do different eye coordination exercises depending on what area they're working in.

Right. And we also want them to understand how to coordinate and do their eye therapy while there's motion, while there's auditory feedback so that they're not distracted by what else is happening.

So it enhances a lot of skills in terms of sports, for sure, in terms of just general people doing this and enhances your visual skills. So, you know, if you're a slow reader, it makes you a faster reader.

It just it helps your processing. It just helps you really function at a completely different level. Okay. What do you recommend the viewers should do?

As, like a, as a daily routine or what? What do you recommend the patients, your patients to do. You know what as a daily for their eyes. Like what should they do.

Okay. Well to take care of your eyes, I mean, you need to have an eye exam every year to make sure your eyes are healthy. That's the one thing, right?

In terms of vision therapy. I think what viewers need to do, because once you've actually done the therapy you've now integrated into your body, you don't actually need to do anything in terms of maintenance.

But I think what people need to know is what are some of the symptoms and when do you actually need to go seek out help, and how do you actually get the help?

And that's the problem is a lot of people don't actually know about it.

Who Can Benefit and Where to Learn More

So if you know anyone that's having headaches or have had a concussion or a motor vehicle accident, or you feel like you're, you know, you're constantly dizzy or you're struggling when you read and it's, you know, you're having to constantly go back and forth when you're reading or your child confuses letters versus letters.

If you just feel uncomfortable and you feel like you should be functioning at a higher level than what you want to do is seek out an optometrist that actually does vision training.

So you go to a place. Vision Therapy canada.com has a list of all of the doctors that actually provide training and also provide the diagnosis. And unfortunately, sometimes when we go to your regular optometrist, they are not always trained to actually test for some of this stuff.

We're hoping we don't want to make sure that everyone does get trained, but a lot of times it does go missing. And then from there, yeah, book a consultation and it's different.

It's different than a regular eye exam. It's called a neuro visual evaluation or vision therapy evaluation. And that's

where we test all of your skills.

So we'll check to see how do you perceive things. How do you process material. How do your eyes actually team together. How do they focus together. How do they move.

And then based on that we tell you what you need to do. It's amazing. Where should our viewers go? For more information to learn about new visual, training and to learn about your work.

So there's Vision Therapy canada.com, and then there's Vision Care Center AKA is where I work. And then there is information on neuro visual optometry.

There. There's information on the neuro lens as well. And then, yeah, you can reach out to me and I can let you know what, what kind of support we can provide for you.

Perfect. Thank you so much, Karen. Really appreciate it.