

Jake Steiner, talks about myopia and eye problems - How to Resolve Via Resolution of Root Causes. Find out more [@ihda.ie](https://ihda.ie) and TheFatEmperor.com

Ivor Cummins 00:00:39 Today I'm with Jake Steiner who is an expert in myopia, about the causes and the potential solutions, not necessarily the orthodox ones. I'm going to find this really interesting because it's a field I haven't really looked into at all and we might touch on some other eyesight problems as well. So, great to meet you Jake.

Jake Steiner 00:00:59 Greet to meet you! And I like that you started me right off with an orthodox.

Ivor 00:01:05 Yeah. I have been accused of being slightly unorthodox at times also.

Jake 00:01:11 Yeah, good! You're in good company.

Ivor 00:01:14 Exactly! I like your site, endmyopia.org because you repeatedly stressed this is based on published science. And at the bottom of many of your pages, there's the full list of published papers, which pertain to what you talked about, which is great, because I'm similar. It's all was back to published peer reviewed science, rather than beliefs or ideals.

Jake 00:01:39 Yeah, and I think in this topic, we're going to find out here shortly, this is incredibly important, because it is so far on the unorthodox side that I think it's incredibly important for people to have a way to establish a baseline of how does this make any sense?

Ivor 00:01:56 Excellent! Yeah. And again, this is for the layperson who might have not so much an inbuilt error of eyesight or a genetic problem or from birth. It's more for people who develop myopia during life and how they might mitigate or help that condition without allowing it to get much worse, which can happen when you go to other paths as we will discuss.

00:02:18 But first of all, probably the best thing is to describe myopia what it is, and then kind of move on to the causes, again, not genetic inborn errors but the causes that could drive a during life.

Jake 00:02:34 Yeah. And so myopia, I'm going to try to keep this in the short version, because there's a lot to be said, but just as a starting point. Myopia, shortsightedness when you have to wear glasses to see clearly at a distance is two things. First, it's a thing called pseudomyopia. And for those of your listeners who are not familiar with Google Scholar, my favorite website on the internet, scholar.google.com, if you type in

“pseudomyopia”, you'll see tens of thousands of results, discussing what's basically a focusing muscle spasm. Because your eye dynamically creates focus. When you look at something up close, that muscle is tight to shape the lens in your eye. And when you're looking at things far away, that muscle is relaxed. And when you spend too much time a close, that muscle spasms. And that is something in the literature referred to as pseudomyopia or also often called near induced transient myopia.

00:03:41 So when you first go to the optometrist, when your parents take you (usually this starts at a relatively young age) your distance vision is slightly blurry. There's nothing wrong with your eyes, it's just that that focusing muscle is just a little bit too tight so your eyes don't focus properly in the distance. And then the second part of myopia is called lens induced myopia. Again, Google Scholar is a great resource here, you type in “lens induced” you get tens of thousands of results. That is basically the minus lenses that are put in front of your eye, cause the myopia to get “worse.” So basically, your distance vision becomes more and more blurry over time as you continue wearing stronger and stronger glasses.

Ivor 00:04:26 Excellent. So there we have the two kinds of broad environmental causes - excessive short, focus, tensing that muscle causing transient myopia, if you will, and then using lenses even though they certainly help your eyes to function properly and see distances, they in some indirect way cause the eye to perhaps worsen over time more than it would have otherwise by creating an artificial situation.

Jake 00:05:02 Yeah, that's correct. And actually this isn't completely well known and it hasn't been completely well known for decades. The important distinction is retail optometry as I like to call it somewhat derisively ignores what clinical science and ophthalmology journals describe very, very clearly. I used to get a lot of flack from the retail optometry people, they've gotten quieter as we've grown larger, but basically, it's well known what the minus lenses, the glasses that you were due to your eyes. And there is a biological mechanism built in to your eyeball that controls what's called the axial length. So the actual length of your eyeball adjust based on refraction, based on where the back of the eyeball has the retina and the light is meant to focus exactly on the retina. And when it doesn't, your eyeball adjust in length to create that correct focus.

00:06:00 Now the short version is what minus lenses do is they move the light further back in your eye. And that biological mechanism in your eye that controls axial length, says, "Hey, my eye is too short," and it elongates the eyeball. And that's caused by something called, in part called by something called hyperopic to focus. Again, I highly recommend looking this stuff up in Google Scholar, just so you make the distinction between a lot of the unicorn farming that happens on the internet. And biologically known, I don't want to say facts really, but pretty strongly validated theories.

Ivor 00:06:37 Yeah, Jake. Well, that is and I know we mentioned at the start, you've repeatedly mentioned those, it's very important. Again, I have a personal pleasure in life that when I'm arguing with someone on Twitter, I quickly just reach out on my laptop and the beauty is I've given so many talks and lectures with literally hundreds of peer reviewed, published research, quoted and reference that I can reach out quickly and just send a few papers. Boom! And I quite enjoy that.

00:07:08 But it's a very well taken point. So, to make a very simple analogy for people, and I'm just making this up on the spot, if you had a suit that assisted you to walk, for instance, your muscles would become slack over time. So a helpful thing which helps your functionality over time can indirectly allow your physiology to become a little worse. So it's not a conspiracy. It's just this crutch of these reading glasses have an indirect effect that your eye will worsen its natural function over time through the elongation you described.

Jake 00:07:46 Yeah. And actually, over the years I've been adjusting the terminology I used to be more precise because I used to talk about your eyesight getting worse, where functionally does because you can't see the distance but your eye is functioning perfectly healthfully. Which is why I sometimes get upset when I get into arguments with medical doctors. Because the first thing I always say, "This is not a medical condition." Telling people, or insinuating or suggesting that there's a condition here is just, "Show me the research" because what the research says is that the eye is healthy and because it's healthy, it makes this actual length adjustment. In a way, I liked your analogy. It's pretty close, though the eyes not getting weaker; it's just adopting in length because it doesn't know there's a lens in front of it. So it just goes... the focal plane is wrong. And the eyes correct because an artificial focal plane has been introduced and it's just trying to adjust to the correct length for the situation.

00:08:51 I don't get into Twitter arguments. I'm generally avoiding arguments. I've learned that there is no... I used to be really frustrated. I don't know about you, but I used to get really frustrated because I'm like, "Okay, we've got a lot of peer reviewed literature here that I look forward to having a debate about." Right? Because I'd love to hear the other side of this. But the debates never happened. It's always like, "You're not an ophthalmologist, you don't have a degree, you're a thing on the internet." And I'm like, "Can we just discuss this paper? And nobody will, or to a large degree, people in the industry refused to engage in this discussion.

Ivor 00:09:30 Yeah, and it's understandable and we have the same thing. I work for Irish Heart Disease Awareness (<https://IHDA.ie>) and we promote the calcification scan to save people's lives. The best scan really in the world, quick screening scan, to find out your level of heart disease; it sees the disease in the heart. But for various political and other reasons, the business of medicine is not too fond of it. So like that when I get an arguments and I share the peer reviewed papers and there are so many human studies, what I'm saying about the calcification scan value is irrefutable. But when I pile out the papers, people kind of go silent. They want to follow their bias, say against the scan, but when you push in their faces the actual data, then they tend to veer away. Which is frustrating because I'd love to have it out there but in the face of data, people with bias who are incorrect tend to fade away.

Jake 00:10:34 Yeah, yeah. I have to admit, for those of your listeners who are not familiar with Endmyopia, the site, I engage in a lot of ranting. Specifically, I have these two pieces, 1) is where I'm really serious about the science, and 2) I'm really not serious about myself. It's kind of part of my personal entertainment, but I also try to steer people away from this idea of trusting a person, because it's not about... like if your inclination when you see me, my face here having this discussion in myopia is, "Can I trust this guy?" I really try to move people away from this concept of personal trust and institutionalized trust in particular and towards the science that's now available. Right? Because when you find the thing on the internet, it might sound really tempting and it might be really well crafted and might have a lot of marketing and stuff to create trust where I... you've visited Endmyopia probably, I call myself "The last surviving eye guru" which is obviously not possible, right? But I'm trying to make it so people go, "Okay, let's look at the science." And I really hope that in the future or as we continue, as the internet keeps developing this whole new path, that more people will be more inclined to look at

science. You know? And that's why I like your podcast and your approach. I've really gone down the rabbit hole with new information here, because it's exactly what I love. Like we're just looking at science and then we're quantifying the pieces around it that tell the story.

Ivor 00:12:09 Yup. Integrating, if you will. All the data that's available, you'll never have a monopoly on the truth, you'll never have a 100% of the data. But often we have plenty of data to make good conclusions, and they may not agree with orthodox approaches, but that's just the way it is.

00:12:25 So if we curl back now, the two basic causes, again, just to recapitulate them, are the excessive short focus, causing tenseness in the muscle, causing the pseudomyopia, if you will, which you may then get glasses for, mistakenly, perhaps, and then the glasses over time will entrench the problem. So, how would you avoid getting the myopia in the first place in your 20s or 30s? What would be the best things to do to avoid getting myopia?

Jake 00:13:02 So the problem now and by now, I mean in the last... every year it's getting worse. And I get hundreds of emails a day and I have somebody who categorizes my email because I can't read it all. And one of the metrics is age ranges. And I'm getting more and more parents with younger and younger children that are being "diagnosed" as myopic. And the primary, primary, primary cause is screen use. Screen use is a huge problem, especially with young children, especially when parents are discovering that this is a great babysitting tool and giving a kid an iPad or smartphone. A two-year-old, a three-year-old, I see them in strollers, the arms are incredibly short and the screen is really close to their especially still developing eye. And this proximity creates the ciliary the pseudomyopia, and in some cases, it does appear it also already causes elevation of the eye.

00:14:02 So, the short answer is less screen time. Screen time is the problem. If you're spending an hour in front of a screen and you keep some distance... the closer the screen is, the tighter the muscle gets. So the more distance you get, the better off you are, and then alternating that screen use with distance vision, because you don't want the muscle to stay tense so long that it just gets locked up. You want it to relax. And really the only fix there is less close up time, which makes my approach not that popular because most people that are casually exposed to this are like, "Okay, that's not my lifestyle." Like, people go to work and then they sit in front of a screen all

day and the way they relax is Netflix and Instagram and Facebook and just more screen time.

00:14:49 So, short answer to your question would be less close up would be very helpful.

Ivor 00:14:55 Right! But there are kind of potential paths forward. So you could still do quite a lot of screen time. But as you say, a larger screen further away, wherever possible will at least alleviate part of the driver here.

Jake 00:15:11 Yeah. And the bigger philosophical thing here that I sometimes get into, I hesitate to but I really see no great way around it is, at some point you have to evaluate your life, like how much of it is consumption in front of a screen. Like how much of that time is necessary, versus how much of the time could be spent somewhere where you actually see the world. Because myopia happens because the close of time, which if you sit in front of a screen for eight hours a day because that's your job, that's fine. But then there's a lot more hours that most of us are now spending in front of screens. And that creates a problem and the reason that this isn't a conspiracy and the reason that I'm not incredibly popular compared to optometry is because most people accept this quick fix. They're like, "Sure, I wear the glasses," because that fixes the symptom and the screen addiction. The real problem kind of gets pushed aside.

Ivor 00:16:11 Yeah, it is a challenge. And again, I'm in the situation like yourself where I've a lot of screen time because I do a lot of desk work, video editing, etc. Now I do, I'm just looking across my office at the moment, I have two large screens, like maybe 27, 28 inch screens beside each other. And I probably stay back, I don't know, probably around two feet from the screens. So, is that particularly bad? And a secondary question as an adult with perfect 20/20 vision, pristine vision at long distance, am I perhaps more resistant now to this problem than perhaps a very young person in a growing phase stuck in a phone.

Jake 00:16:57 Absolutely, for sure. And the thing is that the eye continues this process of adapting, but for whatever reason your lifestyle is such that your eyesight is fine. So, if your vision is stable, it's stable, like there's no great risk there. And that two feet distance is really nice. If you go and spend a whole weekend bingeing on Netflix on an iPad at this distance, if you print out an eye chart and do it before and after, the after you'll notice, you'll absolutely notice that your vision is

blurrier after that whole weekend at this distance than before. That's your sillier muscle just being locked up temporarily.

Ivor 00:17:42 Yeah. And what you're illustrating there was maybe the kind of one foot nominal distance rather than two and a half probably what I mostly have.

Jake 00:17:53 Yeah. And again, like the thing is, once the vision is stable, when there's no either progressive myopia or you're seeing perfectly well and you've seen perfectly well for an extended period of time and you have no lifestyle changes, I'm not aware of any reason that you should be concerned about your vision at that point.

Ivor 00:18:13 Right. And just to touch on reading, so you could call reading in an evolutionary sense, a relatively new thing also, but reading with good eyes, for periods of a few hours a day at a foot, a foot and a half away, that's probably not too bad. But I guess if you read constantly and you find yourself going closer to the page, you would have a similar potential problem?

Jake 00:18:44 Yeah. And actually, the interesting thing is glasses. The glasses we wear today are, it's debated, but it's commonly said it's a 16th century invention. And it was invented because monks spent a lot of times reading and writing and they were the only ones. And they did it very close. They did it in non-ideal lighting condition. And that was kind of the first real appearance of this whole phenomenon of myopia. And that's when the treatment was also discovered.

00:19:14 So reading absolutely is... the excessive amount of close up that causes the muscle to lock up is the only issue.

Ivor 00:19:24 Yeah. So you can't escape, as you say, the mechanism. I mean, once you're up close and you're appearing at a close object for long periods of time, you're kind of in that problematic zone. And I guess, my eyesight, just to make a distinction, when we get to middle age, we can still have absolutely fantastic long-distance clear vision, even after 80s and 90s, but when we get to middle-age, most people have a difficulty of actually looking and focusing up close. So I found with a book, I had to move it further from my eyes steadily over the last seven or eight years until it's quite far away. Now I can still read quite far away because my vision is very good. But that's different than myopia. That's the opposite almost.

Jake 00:20:18 Yeah, that's a different cause. What happens is the lens that the focus is the light is a flexible lens. And the lens is surrounded by a muscle called the ciliary muscle that focuses the lens. And the closer you look, the more that lens is shaped by that muscle. The lens hardens with age. So as the lens hardens, the ciliary muscle can no longer shape it to the same degree as it could when you're younger. So what you're experiencing here is, as it's losing its ability to be reshaped to the same degree, you can't get as close as you could in the past. Presbyopia it's called and that's an age-related thing that I'm not aware of any fixed for. The only thing is I've been in this for well over a decade and I haven't had anyone that's participated that I keep in touch with, or that I hear from, mentioned that they have presbyopia symptoms currently. And I think the understanding of how they combated their myopia helps them with presbyopia, because I believe and this unlike myopia is highly anecdotal and I'm just anecdotal only, basically. But if you push that distance a little bit, like if you don't completely give into, "I need to be this far to be perfectly clear," it appears that you can push back some of that symptom for some period of time. But that's just anecdotal.

Ivor 00:21:47 Oh no, I love the way you clarify anecdotal versus established. That's really, really good. Mechanistically actually it makes a lot of sense because I was broadly aware it's just this, shall we say more natural hardening of the lens, which limits its closed focus, as you described with the muscle. But it would make sense that if you exercise that, you potentially may squeeze the lens a little more than done otherwise would be the case with time. So it makes mechanistic sense that you might be able to impact a little, by pushing the lens a little. But it doesn't really matter, I guess, because that problem we just discussed, it's not really a big one to be quite honest compared to real myopia.

Jake 00:22:33 Yeah. The reason and when I say anecdotal, it's also, I spend a lot of time in countries and places that are far removed from retail optometry. Like I kitesurfing in Vietnam half the time and I spent a lot of time in Myanmar and a lot of places where people are just not living next to optic shops. Call it part of my curious hobby; I observe older people and sometimes and I get looked at silly, I asked them to read me tiny things on bottles. Not all the time, but happens often enough to where, curiously, I've yet to encounter anybody, for example, in Vietnam and again, highly anecdotal, that was unable to read a small thing for me up close.

00:23:18 And again, as you said, this is not a big problem and this is kind of peripheral. But I'm really fascinated by this idea, especially the more we get into the West, the more we are really keen on, on managing all these symptoms. Especially as I'm personally getting older, I'm trying to resist this whole story that age related, you have to give up on yourself. You know what I mean?

Ivor 00:23:42 Oh yeah, I know what you mean. These are the modern workarounds, if you will, and they are, they are treating the symptoms. They're certainly not treating the root cause. And we see this across all the modern chronic diseases, for instance. It's mostly symptom treatment and very little root cause because root cause doesn't involve any medications and e-commerce. It just involves information. So I understand. And it is an interesting point, Jake, that I don't know the prevalence of myopia around the world. And you could also say that the poorer countries simply don't have access to getting diagnosed and getting the optics or the glasses. But as you say, the only way you'd really find out the prevalence is to test randomly in different countries and then get the data. Is there any published on that, the baseline level of myopia?

Jake 00:24:37 Yes, there's quite a bit of it and it's frightening. Especially Singapore and Hong Kong, because I spent a fair bit of time in both places, have a quoted incidence rate of myopia in school aged children in excess of 90%. And Singapore, the Singaporean government actually declared it as one of the three main health things that they want to address. Even though every time I've tried to contact anyone in that region of the government, they've been very unresponsive. But they are recognizing that this is a very significant problem, as it basically affects the complete majority of all school aged children.

Ivor 00:25:23 Wow! Now, just to tease that one out, okay. 90%. That means either we're doing something seriously wrong in the modern world, whatever it is, we can argue, or the only other alternative is that evolution is an idiot, and spend a few million years designing [a crap system].

Jake 00:25:46 I'm sorry, I'm interrupting you because now you're pushing my buttons. Because when people start this thing of genetic condition, I'm like, "How is that remotely possible?" Like, even a basic understanding of how genetics work, make your company completely unfeasible that this is a problem, that's the curve that it's happening on, you can measure it in years and decades at most, and population wide.

Ivor 00:26:13 Exactly. I often kind of quote in terms of diabetes and heart disease and everything else. It exploded in the last century. And obesity exploded essentially in 30 years. Nominally, it takes around 10,000 to 15,000 years for real genetic adaptation to occur. And yet, everyone's talking about genetics - for cancer, for heart disease, for obesity. And now we see myopia. 90% of young people in Singapore, I presume 200 years ago, it might be a few percent or something, perhaps, at a guess.

Jake 00:26:50 I don't know about data going that far back. But absolutely. I would be willing to stake that that's the case. Because again, it's a closeup issue. And the big thing and dogma and commerce and established beliefs play a big role. But it really bothers me because I've had debates with people with medical degrees giving me this idea. They are saying it's genetic. And I'm like, "Where did you go to school?" Like, "How much do you understand about basic genetics saying that this happened in the last 20, 30 years" It doesn't go back much further. And the more screen time is involved, the more dramatic the increase in the myopias.

Ivor 00:28:10 Wow! Now I'm going to go a little off to one side for a moment. And it might be something you have or have not looked into much and I don't know much about it, but just for a little break from myopia and then we'll come back again, deemed age related macular degeneration. I saw a lecture a year or two ago an ancestral health symposium from Chris Knobbe, M.D. and he has specialized for 20 or 30 years. Now that one he puts down to, like what most modern chronic disease, refined carbohydrates and vegetable oils and he goes through all the mechanisms, but that's one where the physiology is impacted by contaminants, bad foods, insulin resistance, etc, etc. So it's quite different. It appears that myopia is very much more of a mechanical type thing as you've described, whereas the age-related macular degeneration is more a kind of a physiological damage type scenario, do you think?

Jake 00:29:11 Yeah, and it seems that way that is not in no way my specialty. I don't know more about it than most people. Degeneration is a correct descriptor there. Whereas in myopia, what I always like to repeat, if the eyes' fundamentally perfectly healthy, it's simply responding to the stimulus. A big part of my approach is "What do we do with this now?" And I try to save these on endmyopia.org whenever I'm able, the improvement reports from people which number and they're

many thousands at this point, you can reverse the myopia simply by reversing the stimulus. So you gradually reduce the strength of the glasses, the amount of focal plane change and the eye just adjust the axial length back to where it should.

00:30:02 Then I get arguments from people saying that that's not possible, that I only elongates in one direction. But then I point them to papers that clearly show studies on the human eye responding to focal plane change with axial change that can be measured in as little time as hours. So the mechanism, the eye is healthy and there's an established, observed mechanism that controls this whole thing.

Ivor 00:30:29 I love that, Jake, and we'll leave macular degeneration behind. But exactly, that's the degeneration thing to draw a contrast. That was a great reminder as well, that this myopia problem is more, the eye is perfectly healthy, but it's just training itself in the wrong direction, essentially.

00:30:53 And you're talking about fixes now, so we're going from root cause to fixes. The primary fix then or mitigation of the problem is to slowly weaken the glasses you have for myopia in a phased way, I'm guessing, and just allow the eyeball then to read re-correct back more in the positive direction to start resolving.

Jake 00:31:18 Correct. And that's the basic mechanism. For tiny bit more detail, we address the close-up distance. So we reduce the diopter notably for close up to where you only see clearly to your screen distance. Because one of the big contributors to this axial elongation is something called hyperopic-to-focus, where the light focus is too far back behind the retina. And a lot of that happens is when you wear glasses intended for distance vision during close up, where that happens more than when you just use the glasses for distance. So, we reduce the lens correction more for close up and then a little bit for distance.

00:32:00 Basically just to a point where you're introducing a tiny little bit of blur at the further end, and then teaching people to challenge that blur. Like, "Read the license plate or the ad across the street or the street sign." It has a little bit of blur in it, and try to get it to clear up. We build a little bit of an "habituated stimulus" that works incredibly effectively to reverse myopia.

Ivor 00:32:26 Excellent. So you're letting the eye exercise, if you will, by reducing the strength. It's stretching towards more correct function. You're putting in a proper feedback control.

Jake 00:32:42 And just today actually, we have a forum. We have a quite active forum I'm happy to report, and some of the members are incredibly inclined towards quantifying these things. And then there's one guy that actually bought the machine that ophthalmologists used to test the axial length of your eye and he's following his own progress of improving his vision with the charts made by the machine showing the axial length actually reducing in his eye. It's a fascinating thread and it's live and going on and it's in progress, and they were doubts at some point and then you see the curve going in the right direction. This is one of the things that I'm fascinated by because lens manufacturing is a \$100,000,000,000 industry. It's massive. LASIK is a few billion, but if you look up the LASIK statistics, there's a fair amount of excitement how LASIK is growing. More advanced therapies to slow myopia progression are making a lot of money. So, this is an incredibly, incredibly, profitable thing. I actually invest in some stock related to this just because it's... I'm kind of an investor by trade. So I see some of the trends and I'm like, "Man, this is heading in a great direction for an investor." But, the actual answer is so simple and so not involving any invasive procedures or ongoing, forever symptom treatments that it's just very unpopular. I'm not loved. I can say that.

Ivor 00:34:17 The parallels here with a lot of my world are obviously quite striking. I'm guessing if you've seen some of my stuff, you've obviously seen the massive parallels for the resolutions, the fixes, the mitigating. Resolution of root causes in chronic disease are relatively simple. Now, it's actually even more a parallel of what you're talking about, Jake, because they may be simple, but they're not necessarily really easy to do, and to change your habits, but they are essentially simple enough, and they do conflict massively with enormous industries, food and pharma and medical device. So there's a tension there. It's not a conspiracy. There's a natural tension with big businesses that has the answer to Wall Street. And this is just we live in a modern capitalist society, that's just the way it is. No conspiracy.

Jake 00:35:11 No, no conspiracy. And beyond that, one of the things I realized, and this took me a while to realize is that I'm unpopular on both sides. Retail optometry hates my guts, but then people also do. Because the reason that this is

such a big industry is because people not all people, obviously, unfortunately, but a lot of people want the quick fix. A lot of my friends, like I stopped talking to my friends about this because they're like, "Okay, can just put on glasses and that works too?" Nevermind, right, because the demand is there. And even as I'm talking about this stuff, there's so many people are like, "Well, I see what you're saying. I see I could fix it the right way. But I can also just pop in contacts and be done with it." That's why there's no conspiracy because the industry supplying this stuff, yes, they're lying. Yes, they're hiding the truth, and yes, a lot of people would probably shy away from that. But I think just like McDonald's is fine after all the big documentaries came out, I think people would still buy this stuff, because they love their screens.

Ivor 00:36:12 Yes. And again, the parallels are quite striking. Because my primary role to get the message out in the calcium scan around the world is to save people from heart disease by letting them know they have big disease, even though their blood work looks okay. They're slim, they're not smokers, but they can have huge disease only the scan can see. Yet the same problem is there that there are a large number of people, perhaps the majority who don't really care. And we always acknowledge in Heart Disease Awareness (<https://www.IHDA.ie>) that we're targeted at the people who would take action if they could only know. But we're not going to try and help the people who are going to drink Coca Cola and eat burgers and chips all day, and who don't care. If you've got 2 billion people in the Western world or I don't know what, okay, let's say three quarters of them don't care if they have heart disease and don't care about fixing it. Fine. You're still left with 500 million. So there's still a huge audience that can benefit even if you only limit yourself to the people who really do care. But they need to be informed. Just like this issue, they need to know there is a way, not completely simple to apply, but that there is a path forward that allows them to enhance their eye function and avoid further degeneration. They need to know.

Jake 00:37:43 Yeah, for sure. And the thing is, and then there's a few there... initially, it's no big deal. But the problem, there are many problems actually, one on the real basic level, children that get glasses, their peripheral vision is no longer functioning correctly. So the visual cortex which is a huge part of the cortex is in a permanent alert state of, I don't know what's going to eat me, that there's a certain evolutionary component. And I can't get into this nearly as much as myopia because it's not my specialty. But I see this a lot, that anxiety levels are higher, social development seems to not function

correctly with this, where you're literally like this is your view of the world. So there's childhood development issues that I'm sure somebody could expand on significantly. Adult, the quality of life. The things that you don't engage in, because you automatically rule them out because of the glasses or the contacts. Sports you might not do, adventures you might not have, general reticence about life. I'm saying this because again, a little bit anecdotal, but I've seen so many people go through these amazing transformations as they get rid of their glasses in their lifestyle, that become way more active and way, way more engaged and way more not screen consuming but involved in their lives.

00:39:04 And then there's the more pressing issues of your retinal detachment risk goes up significantly with increasing myopia. Because the retina is attached to the eyeball, and it's not meant to be attached an eyeball that as it elongates, it becomes football shaped. So the attachment of the retina gets stressed and that leads to lattice degeneration - I'm not a doctor, I'm not giving medical advice - I'm just quoting what's out there. Lattice degeneration, which a lot of times expresses in "floaters", retinal detachment which will lead to blindness if it's not addressed very quickly. Macular degeneration, there seems to be a connected role there. IntraOcular Pressure...and there's just a huge list of medical issues that one may encounter especially later in life, especially with high myopia.

00:39:56 So, while myopia in itself is no big deal, you just put on glasses, the periphery of your quality of life can be very much affected by ignoring.

Ivor 00:40:06 Yeah, that's a very integrated approach. Yeah, there's a lot of knock on effects.

Jake 00:40:12 And a lot of money, a lot of money. Just the surgery procedure for fixing the retinal detachment, something I'm investing in, because I'm... as people ignore me and don't listen to me, I'm like, "At least I'm making money," right? It's kind of a weird place to be in, but I'm like, "Okay, that's fine," because these procedures are making a ton of money, they continue increasing, the incidence rates are going up. And as an industry that's very profitable.

Ivor 00:40:41 Yeah. It's great that you're candid about that. But I think it's very fair. On the one hand, you're spending a lot of effort to let people know how it really works. But at the same time, you're hedging and investing in the industry because

you know most people won't listen. I don't see that as an ethically conflicted whatsoever. Yeah, it's kind of a fair cop.

Jake 00:41:06 Well, it makes me I found for one because again, I invest in a lot of things and I saw these opportunities. I mean, I've been in this like 10 years, there's really been some big gains in various markets there. And it immunizes me from the trolling and the hate because whenever people are doing that, I'm just thinking, "I'm making money on you because you're buying my glasses, you're going to have more of these procedures. So while you're not listening to me, and arguing, you're becoming a customer that I'm connected to through these companies." So, "Whatever."

Ivor 00:41:41 There's kind of a, I don't know if it's the right term, but a poetic justice of sorts there. In a roundabout way. Fascinating. I don't think I quite start investing in insulin manufacturers just yet. Because the death and suffering related to diabetes and heart disease probably does make it difficult. But in your case, in fairness, myopia eyesight. You know, it's not like amputation of limbs and diabetic, issues and heart attacks, for sure.

00:42:12 So I wonder, is there any other... so we really have gone through the simplified core root causes. And perhaps we could talk a little then about people who do not conform to this description we've gone through, that really have myopic issues more related to genetics or from birth, just to contrast from this modern problem to people who really have an issue who won't get much benefit by what we're talking about.

Jake 00:42:44 Yeah. That's a good that's a good point. It's comparatively rare. Astigmatism comes to mind. Astigmatism is when you have a directional blur, and it's very common I see in lens correction. That's made to be very common. So astigmatism exists from genetic defects or other causes, sometimes, but rarely, so does myopia. The easiest way to tell that I found is if the myopia has always been the same, if it's not like, you have a history of your lens "prescriptions," if the thing didn't start at minus one or minus two, somewhere in that range and then was going up, that's the sign of lens induced media because you started with nothing and they get a little bit and then it kept getting higher and higher. That's something that a lot of times seems is possible to be addressed with reduced lens use.

00:43:40 If the myopia has always been the same, especially from a very young age, then there's very possibly other causes. In general, I always recommend, go see ophthalmologist, get a checkup. Many other conditions exist where, especially on the internet, I see all kinds of crazy talk where I generally recommend, "It's a good idea to see a doctor." Like if it's not lens-induced myopia, I haven't found a lot of other great answers other than what... this is one of those cases where modern medicine a lot of times seems to make sense when there is a medical condition with the eye.

Ivor 00:44:15 An actual pre-existing condition to use the insurance term. Yeah, a pre-existing genuine genetic or inborn error. My son, my son actually has one eye from when he was a kid, five or six, it was noted it was really poor and we had a patch and all that stuff which he kind of use but it was hard to get them to use. And one eye is really poor and the other eye is perfect. So I guess that's another clue if you have one really crappy eye when you're young and the other is perfect, it's not just, you know, bad practices slowly making our eyes get worse one specific defect. And I must look it up now and investigate further after this discussion and look more into that. What is wrong with that eye and could it be exercised or improved, possibly.

Jake 00:45:10 Yeah. And I'm very careful to stay away from potential medical issues because I'm already not... there's many in that arena that are not fans of me. So I steer very clear of... whenever it could be medical, I just bow out for obvious reasons.

Ivor 00:45:27 That's a great strategy. Specialize in the phenomenon that you have specialized and researched. Absolutely! I find it hard to resist going out and all tendrils of myriad different diseases but I'm kind of in a different space.

00:45:44 So, are there any other than nuggets of information, because we have described the causes, you have eloquently gone through the basic ways to address it in as best you can, any other things to note about this condition? I'm going to put all the links you mentioned on this podcast when I send it out.

Jake 00:46:05 I think we covered it fairly well. I think it's an incredibly fascinating thing that you can do for yourself. When I tried to get people to follow the rabbit hole, I always suggest, "You measure your eyesight." Because diopters, the strength of your glasses is just an expression of a distance to where the blur starts for you. And you can measure the distance

just with a measuring tape. Hold one extra eye, the other an extra ool or screen and see where the blur starts. And from that there's a simple calculation, it's also on my website, that you can determine the diopters of your glasses. And then you can measure in different lighting conditions, like indoor natural light versus indoor artificial light. After you eat a bunch of carbs, which of course your audience hopefully doesn't. After you spend a bunch of time binging on Netflix, and you can make a log that charts how much your eyesight varies depending on your habits and external factors.

00:47:07 That's something people tell me a lot is taking that step of measuring eyesight, gets them actually interested in how they can affect it. Because it's one of the things on your body that you're not sick, you're not broken, and you can tweak it and improve it. I get a lot of this feedback that it's extremely satisfying as a process and a project to kind of take on.

Ivor 00:47:30 Yeah, that sounds great and engaging. Engaging in something properly with your own feedback loops is motivational. My favorite phrase around 25 years now is from the engineering world, "If you don't measure it, it don't get fixed." And that's essentially it. There's another version, "If you don't measure it, you can't understand it." Slight twist on that, but I agree totally. And a lot of people in the low carb world are measuring their macros, I don't, but they find by measuring their macros and tracking progress carefully, you know, like you say, with the myopia issue, it motivates them and gives them a sense of getting feedback and being engaged with their own journey, which is fantastic.

Jake 00:48:15 Yeah. It's a great tool. Like I generally recommend keeping a log, because myopia improves at a rate of about one diopter per year. What I found, is very, very common – that's just mean, median, and average, one diopter a year is kind of where it's at. So it's a slow process. So you're adjusting your lifestyle, you're adjusting some habits. They're not eye exercises. There's nothing that strains your day. But that's kind of the improvement rate. So if you keep a log for a while, it's incredibly helpful to see where you're dropping off because improvement and not improvement, they're very slow. It's like a tanker ship. It moves very slowly and it changes direction very slowly. I was never a fan of logging for myself. For anybody who may stray from the direction, it's a great thing to have just a simple little notebook to look back at where they were six months or a year ago.

Ivor 00:49:13 And it also creates a habit of sorts and habits are really powerful to sustain especially long slow, like you say, the oil tanker type phenomena. You really need to have a habit form to keep you with it, because there isn't instant gratification. It's like weight loss. You know, it's not instant, so you need to be steady as you go. I like it, Jake.

00:49:37 So any last thoughts and it just occurs to me, I'm certainly going to put the link to that engineer sounding guy who bought the optometrists' equipment. That sounds like a great link to illustrate to people what progress you can get by someone who's really being data centric.

Jake 00:49:55 Yeah. I love it. Our community is fantastic. I call myself, sometimes a librarian of all these ideas because I've invented nothing. Right? Like I've reversed my diopters of myopia the hard way because there wasn't all this internet resources back then. I figured it out the long and hard way. But then the current system that is so simple and straightforward, in comparison, is created by thousands of people and the feedback and the ideas. And now that we're more internet focused just the last few years, having this community come together and contribute these things, is amazing to me.

00:50:35 When I call myself the "eye guru" on the website and all this kind of sarcastic stuff, I'm always also trying to point back to this is very much a community fueled thing. I love that guy. By the way, I can't believe he bought that thing. That is not a cheap piece of equipment.

Ivor 00:50:50 I love it! And I know people who like... there's one guy Dave Feldman, who's bought his own cholesterol measuring kits and all this kind of stuff, so there's the equivalent over in the low carb world in heart disease focus world, people buying substantial equipment. I will just say one little anecdote, one of the most brilliant man. He's a doctor, Dr. Bernstein (and his book is "Diabetes Solution.") And he around 60 years ago, he's in his 80's now. As a guy in his 20's with Type 1 diabetes was getting massive sugar crashes, and injecting insulin, obviously, and his life was terrible. And what he did was he was an engineer - so he actually purchased through his company, a blood glucose meter. And back then it was the size of a fridge and it cost a lot of money. And he began to use those and hey presto, within a couple of weeks, he discovered he could totally control his blood glucose and lower his insulin injections through the floor by simply not eating carbohydrates. So it seems like a stupid, this simple solution, but he spent the

Jake Steiner, talks about myopia and eye problems - How to Resolve Via Resolution of Root Causes. Find out more [@ihda.ie](https://www.ihda.ie) and [TheFatEmperor.com](https://www.TheFatEmperor.com)

next 60 years and got an MD degree at the became a doctor to try and get the medical world to realize this. And he's still working 60 years later.

Jake 00:52:07 Here's the thing, and I am envious of the position you're in because myopia is not there. Like, we are the largest resource online when it comes to this idea of natural myopia control, which I'm not happy about, because, for one, it paints a big target on my back, right? Like, I'm the guy. But also there isn't this idea that there is an alternative. We're not even at that point where we're saying, "Well, I'm eating bad because I want to." The awareness level isn't there yet.

00:52:40 That doesn't make me super happy. We're still this far behind when it comes to myopia.

Ivor 00:52:46 Yeah, and I agree, Jake. The reality is, even though I've fingers in a lot of pies relating to physiology and disease, myopia is one I've never touched upon. And also I would almost have assumed was one of those things you couldn't do more chip out on like macular degeneration. So this is really interesting for the audience out there. And it's fantastic. Really appreciate it, Jake. Just to let people know, there's no conspiracy, there's no magic cures, but the reality is myopia is somewhat or to a very large extent, a caused condition by the modern environment broadly, as you discussed, and that there are ways to mitigate it by removing the root causes. And that's what it's all about. So end myopia.org, yeah?

Jake 00:53:39 Yup, that's right.

Ivor 00:53:41 Excellent! So thanks so much, Jake. And we might come back. We'll talk again in a while when things have progressed.

Jake 00:53:48 That'd be awesome. I'd love it. Thanks for having me on. I really appreciate it.

Ivor 00:53:51 Not at all. Great stuff, Jake. Goodbye now.

Jake 00:53:55 Thank you.