Intro to Regenerative Medicine

I think it's a great conversation because I feel like when we use the word regenerative, we're probably overselling something. And I thing people hear that and they say, oh, were actually going to regenerate cells.

Well, maybe. Maybe at best. The way I like to explain it is we are using our own bodies, cells, tissues, blood products, fat products bone marrow, what have you, mesenchymal stem cells from our bodies.

We're injecting and we concentrate them and reinjecting them into places that might need a better healthier environment. When we take that platelet-rich plasma, PRP, and we spin it down and take what we need, reinject it into a knee, that knee environment for osteoarthritis was probably pretty darn inflammatory.

Calming down the bad inflammation and increasing the good inflammation actually helps things be a healthier environment. So that's the best way I describe it to patients.

Now, is there a small degree of regeneration? There can be in certain tissues, but that is not really the selling point I tell patients anymore. We're gonna get your pain controlled and increase your function.

And if we look at it like that, then we kind of take the word regenerative out and use that newer term of orthobiologics. Ortho coming from our musculoskeletal and biologcs meaning cellular tissues.

Welcome to My MD Unscripted, where healthcare gets personal and the script gets tossed. I'm Dr. Clint Carter, ER doctor turned to direct primary care freedom fighters on a mission to challenge how our healthcare system treats patients in America.

In every episode, my expert guests and I dive into real conversations about what's broken and how we can fix it by making healthcare about people, not just managing disease.

It's time to rethink what healthcare should be and Hey guys, welcome back to the My ND Unscripted podcast. I'm your host, Dr. Clint Carter. And today it is my privilege to be joined by Dr Nikhil Verma.

Dr Mikhil, thanks for being here man. This is going to fun. There's a lot of talk about regenerative medicine. Can't wait to pick your brain. So I am going do a quick little introduction so that everybody knows what's going on and then I will ask you a question and get this thing rolling.

So Dr. Nikhil is a board certified physical medicine and rehab physician. He's a pain doctor by training and the founder of Essential Sports and Spine Solutions in Columbus, Ohio.

Specializes in non-surgical solutions for spine and joint pains using interventional and regenerative medicine. We're going to hear a little bit about that today.

He's also the host of a podcast called Things I Didn't Learn in Med School, which is a great title because there's an infinite number of topics we weren't taught, where he explores the mindset and leadership and physicians and all the things we need beyond training.

Dr. McKeil, thanks for being here, man.

Why Cortisone and Surgery Dominate

And I guess my question to get us started is after, you know, 150 years of modern medicine, why is cortisone shots and surgery always seem to be the answer whenever someone has joint pain or something else going on?

Have we not evolved past that yet? So introduce yourself properly, my friend. Thanks for bein' here. Yeah, no, uh, Thanks again for having me on your podcast and the show.

It's a great show, I've listened to a few episodes and looking forward to listening to some more along the way. To answer your question, I think in the realm of trying to do what's best for the patient, doing things like cortisone injections or surgery seems like the next best step because that's what the insurance model wants.

That's the study that we have or based off of. Now, if we go back and look at, hey, what is actually the indication for corticosteroid injection for knee arthritis?

I feel like they just did it for pain control as the only measure and they forgot to measure life quality and all these other things down the road. And I think they do that with a lot of things.

They're just finding one measure that kind of hits the tick mark on and forget about all the other thing that could go into play. Even in the interventional pain world, I have a lots of colleagues that are doing these great advanced procedures.

For me, it looks a lot like what are we actually doing? Are we solving a problem or are just taking away pain and destroying other things just to kick the can down the road?

That's what we're actually seeing. We're seeing a lots of patients, especially when we do radio frequency ablation of the spine, that their spine gets worse and worse quicker.

and then down the road, now do they not only get the surgery, they get it at a much later state where they might already have signs of cardiovascular disease, dementia, etc.

There's always pros and cons to all these things. I don't wanna be absolutist about any of it, but I think there have to be better ways of what we're doing.

And for me and probably a lot of your listeners and yourself is we really gotta look at the whole picture. If we can help the patient in the picture, then maybe we don' need to do any these procedures down the road.

Well, and I definitely, there's, I mean, to be honest, it's not like a big conspiracy. These procedures, those cortisone shots and the, you know, neurotomies and different things that they're doing, they are sold as delaying surgery, put off surgery longer, wait to get that knee replacement later.

And there is some value to that if you're getting quality of life along the way, but it doesn't take into account whether or not a steroid injection in the long run makes your knee worse faster or, you know, like it really, I mean, it feels better for that, You know.

I use it a lot on someone whose knee's acting up right before a European vacation. Like, yeah, dude, go for the fireworks shot. You need it to work right now.

Yeah. You know, we're making that trade together. Yeah, let's help you out. Let's get you outta your acute pain. Lets get back to your vacation or hey, want to see you over the hump for physical therapy and maybe right now is not the right time for regent and medicine options.

But yeah, We wanna get ya out now and I understand that. And we also have colleagues that say, no we need to never do steroid injections. I'm like kind of, well, there's definitely time and place, especially when patients are coming to us in this severe pain But yeah, we got to start exploring other options.

Well, and I love, so let's talk other option, that's the fun stuff. So, what is regenerative medicine at its base? You know, there's a lot of words out there and people hear stem cells or all the different things.

At its based, What is Regenerative Medicine and then what does that mean in real practice? Yeah, I think it's great

conversation because I feel like when we use the word regenerative, we're probably overselling something.

And I, think people hear that and they say, Oh, We're actually going to regenerate cells. Well, maybe, Maybe at best way I like to explain it is we are using our own bodies, cells, tissues, blood products, fat products bone marrow, what have you, mesenchymal stem cells from our own bodies.

And we're injecting and we are concentrating them and re-injecting them into places that might need a better, healthier environment.

What Orthobiologics Really Mean

When we take that platelet-rich plasma, PRP, and when we spin it down and take what we need and reinject it into a knee, that knee environment for osteoarthritis was probably pretty darn inflammatory.

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Now, is there a small degree of regeneration? There can be in certain tissues, but that is not really the selling point. I tell patients anymore, I say, we're going to get your pain controlled and increase your function.

And if we look at it like that, then we kind of take the word regenerative out and use that newer term of orthobiologics. ortho coming for our musculoskeletal and biologics meaning cellular tissues.

Yeah. And I like the fact that it, you know, most of these options out there are really just helping the body heal itself. To some degree, maybe at the very least slow down the damage that we're doing, but a lot of the times, heal up a little bit.

You're not going to regenerate a knee, let's heal it up so that it's a bit less angry and it can handle a more wear and tear that you would like to put on it because you're quite done playing tennis.

Absolutely. Yeah. And when we jump into the field of like mesenchymal stem cells, autologous meschymel stem cell, whether it takes from your bone marrow or fat, you know, we've in our practice have saved people from hip replacements and knee replacements.

I mean, it, takes a lot. It's not just the injection that does the trick. it's a whole process of taking them through what's your metabolic state at? What is your stress level at, what is you're sleep status at.

Are you going to continue to have gait patterns that can damage that joint even more in the long run? Ligament structures, what are your supplements? What's your diet?

So we take all this into account before even considering a procedure because we don't want someone that's metabolically inactive and has a morbid obesity, diabetes, high cholesterol.

They're not going function well with that procedure and they might make it worse, honestly. I mean, you're injecting into a space that's going to potentially get more inflamed just because you were there.

So your return on that investment definitely needs to be in the patient's favor. But you know, the use of these, I think, You know I liked that it's up and coming.

It's not ever on the insurance flow chart of next steps. And so it's hard, I think it is hard as a, you know, as potential consumer of these products as I continue to treat my body poorly.

I Think it kind of hard to know when to pull the trigger on it yourself. Like, do I wait until my surgeon's trying to tell me it about time to have surgery?

Do I get it the first, first time my knee does that little clicky thing? Because there's maybe points that are too late, but there is, how do you take care of your folks and walk them through that decision making process.

I mean, that's actually a fantastic question. And I'll admit to you, I don't know either what the best time is. We would imagine sometime early in the pathology would probably be the time because if we can calm it down early and read.

to re-correct those patterns and make that healthy environment, then maybe we're going to prevent any damage or any severe damage down the road. Now, most of the time, what ends up happening is we have patients that have tried everything, including neurotomies, physical therapy, chiropractic, NSAIDs, Tylenol, maybe even some opioids, creams, et cetera.

Maybe they've already talked to a surgeon. That's the kind that come and they're just frustrated. So I would like to see patients a little bit earlier and I'll give myself as an example.

I have a little bit of a ridiculous pain going down my right leg and it doesn't bother me to do anything. I'll feel it about once or twice a year. Hey, maybe it's about time I go talk to a regenerative medicine specialist to be like, Hey what would, what's the next steps?

And I know what I would do and I actually have the colleague that's going to to it for me. We're just kind of waiting until it gets a bit worse. Yeah.

And you know, cause there are times that if you wait late enough, there's your body's ability to heal itself is going be pretty limited. That's really what we're trying to get it to heal itself.

What are some of your favorite orthobiologics? What is some your favorites, you know, methodologies in your practice? Yeah, I think it's situational depending on the financial burden for people and also the degrees of what they're dealing with.

And we'll use arthritis because it is a little bit easier to talk about. When you're in that mild to moderate stage, PRP is just fine. I thing it does a really good job and can really support it.

Choosing the Right Treatment Timing

Once you get to that moderate to severe, we really need to start looking at some mesoconal stem cells, whether that be from bone marrow aspirate concentrate or micronized fat aspirates.

I tend to use fat more in my practice for severe arthritis, partially because of what was indoctrinated in me that the fat cells have more stem cells than the mechanical stem cell from bone marrow, but they both have a lot of other factors in there that can help.

So I kind of use the bone-marrow aspirate for younger people. Once you get over the age of 60, 65, I can kind hear more towards the fact. You know, other things that we use in our practice, prolotherapy for especially like ligaments, especially upper cervical ligament, maybe a facet joint, sacroiliac joint.

We also have an NLS laser, a multi-lock wave system laser that can help with pain and inflammation. And other thing my colleagues use are pulse magnetic waves and shock wave.

Those are two other regenerative therapies that are really popular right now. That's awesome. I think, yeah, I wondered if you were going to bring up, you know, any lasers or magnetic therapies, because we have access to some of those here at our practice as well.

Those are great. They're great, low level. Yeah, right. And then PRP, unfortunately is only as good as the host. You know, which I guess, so, you know but we still use PRP well into, it's still maybe the best option that I can offer even in, to a 75 year old.

But when you do stem cells, your always doing the patient's own stem cell. Correct. That's partially, mainly because of the legality with the FDA allows us now.

You know, you'll have a lot of reps coming out saying, Oh, well, did we have 361 HCTP certification? Well, You might have that and that's fine. But the FD says you cannot use us with orthobiologic procedures.

So you can say what you want, but that's what the FDA says. And we've asked, they bore the same question. They said, no, you cannot use these for orthobiologics, musculoskeletal conditions.

So I have no problem with using them if that is what they want to do. I just don't want press my license at this point. Well, you know, unfortunately, in that case, no one's got your back.

I mean, it's probably the argument can be made that some of those stem cells are even better than a 70 year old patient's own what's left of their stem cell.

However, until the government decides to get our back on that, yeah, your hands are a little bit tied. Let's talk about what you didn't learn in med school.

That's super fun for me. Yeah. What inspired you to start a podcast called What I Didn't Learn in Med School? I was, you know, sitting in my office one day, like going through the frustrations.

I started my practice straight out of fellowship and I always in tune to like how the practice was running and asking like higher level questions outside of medicine to my, my attendings, the fellowship directors.

So when I start my own practice right out fellowship, I kind of Getting a lot of questions and I had a lotta questions, so I started documenting my journey of, this is what this does, insurance, panels, how a physician gets paid.

And as I continued to go on, I was just kinda like, what are the questions that my friends and my family are asking me right now? What are med students and residents asking?

And then it just kind of kept evolving into healthcare, healthcare policy. And now I talk a lot about regenerative medicine and orthobiologics as well, but it's a combination of whatever is frustrating me because of what we see the inefficiencies of the system, as you know, and as, you talk about a long podcast, trying to get that information out there because people don't realize where we're at in the landscape of healthcare.

It's, it's a spiraling, I just, It just every year it is worse than it was the year before. I don't know when it going to sort of like hit the bottom of that spiralling deaths, you know, path that it on, but.

Yeah. You know paying more for insurance every and getting less for it. It can't last forever and. Correct. And you it not that like, so I practice direct primary care, which means membership based medicine, and that's not the only answer to the problem, You know, folks like you doing cash-based procedures that are better for the patients than the insurance would provide is amazing, but it's also, it has put a burden on you to go out on your own and figure it out and take those chances and teach yourself above and beyond what you were taught in residency and fellowship, right?

Yeah. Yeah, absolutely. And I think that, I mean, as part of the fun of it all, uh, don't know what else I'd be doing with my time. I know I couldn't be just a needle jockey for an orthopedic center.

Don't want to work for a hospital right now either. It's similar concepts. So yeah, it's fun to learn and you. You learn something every, every week, everyday, and keep learning Yoda conferences, but also, you know, do you find ways to make ends meet?

PRP, Stem Cells, and Other Modalities

We'll say, You know? I still do locums to help. make extra money to make sure that I'm not suffering and why am I

doing this? Pulling my hair out. Cause it was like that for the first few years where it's like paycheck.

So you have all these steps, but yeah, it, It's fun. And hence like why I started that, the YouTube channel was, Hey, I, you're not the only one going through this journey.

We're all going though it. I think it is important to have the independent doctors working together and helping each other out Well, I love it. I mean, amongst the other things that you're having to teach yourself that they did not teach us is leadership, how to lead a team, God forbid you have employees.

When I burned out in ER, that was a family medicine residency, looked at those clinic jobs and was like, no, thank you. And then went to the ER because, you know, it's fun.

You're off on a random Tuesday, whatever. I don't have to manage a team. But then I lost my agenda. At some point I'm just like in the machine, just half-ass getting people out of the E. R.

who weren't having emergencies anyway. And just, there's just so, my purpose, why, I asked my wife at one point. Is it a job if they, if it steals your soul every shift?

Like, is that really, cause we're getting well paid, but I just can't anymore. And it's not that I have anything against any of my colleagues that are in the machine, making it work, taking really good care of people with limited time and resources inside and outside of the ER.

But you know, just all these things that when they train us, they don't, They're not saying, hey, you might want to go start your own clinic. Here's some entrepreneurship.

Hey, here's how you properly communicate to lead your team. None of those pieces, because number one, we have a limited amount of time. And number two, the assumption is you're going to work for the man and you are only going do things that insurance pays for, so why would we waste our time?

Right? Exactly. Right. Oh yeah, I love what you're doing. I loved the name of the YouTube channel. That's, that's I'm totally, totally tuning into that.

Yeah. It's just kind of who I am a little tongue in cheek when I talk about things like this too. And, um, you know, maybe I mean, not necessarily trouble in the past, but I know doctors have not liked it.

But it's also, yeah. When you, again, like you I have no problem with any of my colleagues that are in the system, in those, but when you're indoctrinated into that system and you don't see anything else and can't even realize the poison you are drinking, I think that's a big problem.

And I, think a lot of more of our colleagues are starting to wake up to that, as you said, over the past few years. It's really fun. Like I went to a doctor for my own medical problem.

This guy, like, I had never even actually met him. He's a generation older than me. And I walk in, or he walks into the room after I've been waiting for a while, because that's how that game is played.

and, um, and he was like. Oh man. Yeah. Hey, how's it going? Like, Um, what'd he say? What was his exact word? He was, uh, Is it, is it as good as it sounds like it is?

And I'm like, are you talking about my neurologic thing? Are you, you know, like you skip right to, hey, your doing direct primary care. Is is as awesome as sounds?

Yeah, I mean, the medical part for sure. Running a practice is. challenging and fun and all those things. And I've learned God sort of put the right people in my path to learn about being a leader and how to run a practice.

Like you, when we started, I just had two jobs and I'm just did this one and the other full-time job. Then watched the

bank account and prayed that it had enough in it to cover payroll.

Yeah. Eventually started to learning how run the business a little bit, which has been really a blessing. I think that's the thing. A lot of people are afraid to start.

I get it. You're used to that paycheck. But I think there's always somewhere to start. And you can start small one day a week or half day week. Like you said, you work two jobs for a few years or a couple of months or however long it takes and you build your business skills up.

Build your practice up and the next thing you know, leave that other system behind and do great things. Freedom in choices, man. You don't have to leave the other job if you're loving it, but you have the freedom to do so.

I actually have a colleague, he transferred out of clinical medicine. He worked at a hospital. Wow.

Building a Practice and Learning Beyond Med School

You know, the C-suite, and then he's just like, you know this just isn't me. So he went back to working for the system only three days a week. He does physician coaching one day a, week and he does the free clinic half day week, And he was like the biggest joy I do is go to that free Clinic half-day a Week and helping physicians out.

But I know my obligation to my patients if I can't just walk away from the three-days-a-week at the hospital system. So I said, no, that's great that you have a good balance now.

He's like, he's, I'm 10 times happier than you can ever imagine. So. Yeah. You know, most of us got into medicine because we really do enjoy the process of problem solving in a way that helps other people.

It's some combination of that, right? We like to know the answer. We liked helping people, one thing that I burned out in the ER is it was like it, was everybody's worst day and then there was no sort of like patient-doctor relationship, certainly not a ton of gratitude.

They were either, if you did something great, they were probably intubated, but I don't know, you got down with them. That first year that I had a clinic, Christmas came around and the gifts and cards started flowing in and I was like, Wait, people send their doctor Christmas cards and stuff and like food.

Like in the ER, if someone brought food, you didn't eat it. They were probably trying to poison you because you. Right. But you know what I like about, so much about kind of your whole setup, man, is you kind saw the light coming right out of residency fellowship.

You were willing to put in the work and then you started documenting all the lessons along the way. And then along in way comes all of the regenerative medicine stuff that, that is literally changing, should be more than it is, but will eventually completely change orthopedics.

pain medicine, all of our sort of, you know, that, muscles and bones side of things, and then beyond, way, beyond just for the beautiful painful things.

But I really look forward to what the next, I don't know man, things move so fast within a decade. Yeah, probably the 10 years. What we don' have the ability to do here in the US quite yet is to take our autologous stem cells, bone marrow or fat and expand them.

But I think that'll happen in the U. S. in next 10 years. I'm very bullish on the idea of peptides. We're going to see how they work in combination with things.

Yeah. as we get older because our testosterone and women's estrogen goes down, I think we're starting to realize how that affects musculoskeletal health.

So we are going to start getting really scientific on all of this and we gonna like have someone that's really well versed in the hormone peptide world.

Hey, we going add on your orthobiologist from this provider who's been trained to do visual guidance and all the good stuff and were going really make a difference in people's overall health status.

I'm really excited about it. You and I make a nice combo because we do all of the, obviously the hormone, peptide, weight loss, just wellness, longevity, walk with our patients, hour long visits, 24-7 access, really just, we're just a part of them.

living their best life for the next half a million decades. But along the way, this ability to heal their body as we wear it down, doing the fun things and the accidents and those things, yeah, that's going to be a nice combination.

Plus whatever else, stem cells and to what extent is that going be the answer to liver failure or heart failure. There's really good data on lungs right now.

Yeah. So yeah, definitely. The heart and lungs are the ones that the studies in Japan are going on right. Now that are probably going to make a big difference.

And we know the liver's ability to regenerate already. It just seems like a national carryover. You're a hundred percent right on all that. Well, man, so let's say I'm listening to this podcast, my orthopedic or my spine guy is saying that I am headed fast for surgery, but still got pretty good function and a decent amount of pain.

What's the next best step? What should they do? How, what should, they look for? Yeah. So obviously I think there are physicians like you that can provide that PRP in office for generic stuff.

And I would never take a patient away from that, but there's always going to be a level up, right? So a lot of times patients will be like, Oh, my, doctor did PR P or stem cells.

Well, My doctor works in an orthopedic center and their orthopaedics make the most of their money by doing orthopedia surgeries. I make most my money.

Not that it's all about money, but my revenue and the thing that I spend every day reading about and talking to colleagues about is regenerative medicine.

Finding the Right Specialist and Future Directions

So I really implore people to look into a regenerated medicine specialist, not just an orthopedic doctor or sports medicine doctor that does regenerate medicine on this high, because that's what I see the most failures of regenerating medicine, then it gives the whole field a bad name.

Yeah. You have a chiropractor who hires an NP one day a week to do PRP in the spine, and they're just barely getting the pair of spinal muscles. Yeah.

They're not even close. So that's a big difference in my book. I would really implore them to look for a regenerative medicine specialist. The AI and Google search for regenerate medicine specialists in that area, they've become very good at identifying that because we're the people that are putting out blog posts, talking about it every day on our platforms.

Um, and then outside of that, I think just getting that second opinion, it might be worth it. It's definitely not for everybody. Just last week I had to turn someone away.

I told her, uh, don't think I can help you. Really do think you need surgery. Yes. That's the honest truth. And she still was willing to pay me. So I said, in good, conscious do this because I don' think your going to get the benefit of 50 to 70% that I'm looking for in my patients.

Yeah. It's not free what these things are doing. Yeah, it's covered by insurance and it is not for free, but there is vast amounts of value to be had in the right patient getting the, right, regenerative procedure at the time, Right?

Exactly right. But it can just be money spent by someone who was maybe a little less upfront than you were with her going, yeah, stem cells may help. Let's give it a shot.

Yep. Yeah. Do you do any work outside of the Columbus, Ohio area? Do any, any virtual reach or any? I don't have any virtual, which I'm always happy to do a console or take a look at someone's case.

And typically what I do in that situation, and I try to refer to them, someone in their area or someone that might be advanced in certain things. There are surgeons out there that will combine their rotator cuff repair with PRP or stem cells.

Um, in there doing a good job, or there's someone who might do this certain specific procedure. upper cervical instability in their region, I'll refer to that.

But if they're, you know, adamant about working with me, although I'm happy to take a look over online, read their case. And if there's someone I want to work with, and we can set up a consult and get them in my office and go from there.

Yeah, man. I mean, there's flights in and out of Ohio every day. Yeah. Thankfully my office is only 10 minutes from the airport too. Makes it easy. You set up your next office in the Airport.

Don't even have to leave. That's the future. It can help a lot more people, I think. Well, McKeel, thanks for coming on. How can people reach you if they do want to maybe get your opinion and expertise?

Yeah, that's a great question. So my website is EssentialSportsSpine.com. You can find me on pretty much all social media platforms, Substack, Nico Verma MD.

My Substacks called Essentials of Healing. As we know, my YouTube channel, Things I Didn't Learn in Med School. you can me find on Instagram, Dr. or DRNV Sports Spine, and that is also my X handle.

And then there is my practice handle on Instragram, Essential Sports spine. Dude, you got me beaten like 17 different ways. That was awesome. Uh, but we'll get all that in the show notes so they can just click on the one that works for them and they reach out.

But dude, I mean, love everything about what you're doing. I think it was very forward thinking of you to, to make that leak right out of residency. And I know that maybe, maybe that sounds like a.

Uh, for a lot of the listeners, like, well, of course you did that right out of residency. Like now in the residency, they, and fellows, if they assume that you're going to go work with a man for awhile and then maybe burn out and maybe take that chance.

So it's actually quite forward thinking to do that. Right out at the gate and, brave, I commend you for it. It's really fun what you are doing, the YouTube and all the social stuff makes it even more fun.

Yeah. Well, I appreciate that. It means a lot coming from someone that's been doing his way for a while, so it means the lot. Thanks, man. I had to learn the hard way.

Finally, it hit my head against the wall enough times it started to hurt. But thanks for coming on and I look forward to hearing from you in the future as things grow and you need to get us updated.

In the meantime, we can't wait to follow you on YouTube and figure out what else I didn't learn in med school. Cool, take care. Thank you so much, everyone.

Take care. Thanks for joining me today on My MD Unscripted. I hope today's conversation opened your mind and inspired you to imagine a better path for your health and therefore life.

If you found value in this episode, be sure to subscribe, leave a review and share it with someone passionate about transforming healthcare. Real change starts with real conversation.

So let's keep them going until next time. Stay well, stay curious and never stop pushing for better.