Introduction and Background

Hi, my name is Duncan Matt Cook. And, welcome to the Peptide Summit. I'm with Doctor Jeffrey Piccolo, and he's an orthopedic surgeon, with a lot of history that he's just been telling me about.

Surgery, and orthopedic surgery and all the amazing things that he's done. Which I'm fairly aware of because I'm an anesthesiologist. So this should be a good conversation.

A great conversation. Exactly. I've been looking forward to, he coaches, and trains and supports practice practices, teaching them how to do, things like peptides and PRP and, regenerative medicine.

So, it's an honor and I'm delighted to talk to you. So thanks for spending some time with us. Oh, well, thanks for inviting me. It's, I'm really looking forward to our conversation, especially now.

I didn't realize you were anesthesiologist. So, anesthesiologist played a a very big role in the beginning of of my regenerative, medicine career. Oh, tell me about that.

So I was, I was fortunate and I guess blessed. I guess, you know, God was looking down over me in 2002, and, one of the major orthopedic players, decided that they were going to get into, the PRP world.

And so in 2002, one of my reps rolled a centrifuge into my, into my operating room, which was probably five feet tall and about four feet square, much different than what we have now, but rolled into and, and said, hey, we have this new technology, and while you're doing surgery, we can draw blood and spin it.

And at the end of the case, you'll have a syringe that will have a fluid in it. And it's really high in BMP, which is bone morphogenetic protein. And you can add that to your bone graft.

And you know you're going to get better, better bone graft results, better fusion rates. And so anesthesiologist would draw 100 cc's of blood. And we would run it through the machine.

And then in the case they give me this yellow liquid and we'd mix it into our bone graft. And for spinal fusions, complex joint replacements, hard to help fractures.

We'd add this stuff. And from about 2002, 2005, we kind of watched what the bone graft was doing, and it was doing way better than what we were seeing before.

And so a few of us kind of started thinking outside the box and saying, hey, how else can we use this stuff? And so I started injecting like edges of my rotator cuff repairs and Achilles tendon repairs.

And sometimes if I didn't have anywhere to use it, I just work the edges edges of my skin incisions to see if they healed better, and we just started using it.

Early PRP Experience and Regenerative Medicine Origins

And then around 2007, I asked the company if they let me have a second centrifuge to put my office, and at that point I just started injecting everything.

If somebody came in with tennis elbow, I asked them if I could draw their blood, I'd spin it and we'd inject their tennis elbow, and I just give them the promise that I'll inject it.

And if it doesn't get better, I inject it with cortisone in three months for free. And we just started collecting data and

amazingly, you know, we were seeing people get better, better results than with steroids than we were, you know, using the PRP in 2000 and in 2008, I probably how some people would probably call it a midlife crisis, but, I got pissed off at my insurance companies.

I got an EOB back from the insurance for a knee replacement that I did, and they paid me $875. And, I decided I was done. I wasn't going to take it anymore.

I was sick and tired of dealing with insurance companies. So 2009, I went cash and, I had this PRP technology, and I decided I was going to try to use it and, just started injecting whatever we could.

And that's where we actually even started injecting joints for arthritis and keeping data and and that brings me now, 20 years after my first PRP case, and now I'm teaching, we have about 350 clinics around the country that we've installed our protocols.

And I came up with my own trademarked, protocol for PRP, which actually works with the patient for about a month before optimizing, their physiology. So they have higher platelet counts, higher margins and stem cells, to go to the healing areas and to get better overall results.

It's amazing what a perfect PRP. What what what kind of stuff do you do in that month beforehand? So, first of all, we find it's really, really important to, make sure that they're off all their anti-inflammatories.

You need an inflammatory response for PRP to work. So we counsel them to get off of any prescription NSAIDs, get off even things like fish oil, tumor procurement, to make sure that they still have a really hearty inflammatory response.

And then we want to do things to make sure that, they're going to marginal stem cells. I mean, if you understand the whole process of PRP, you understand that, it's not what we're injecting that's causing the healing.

What we're injecting is causing a signal to local tissue. The local tissue then releases a signal to the bone marrow. The bone marrow releases stem cells, and those stem cells go to the area and cause healing.

So you need that intact response. And so what we do is we do things like use nad, either in an IV form or in a precursor, like nicotinamide ribose tiger, you know, nicotinamide mono nucleotide to make sure that they, we can get stem cells margin ated.

And then we use things like peptides obviously peptide stomach. So we'll use a lot of times we use a small and just a small like 100 microgram injection four times a week for two weeks.

Prior to the injection, just stimulate growth hormone formation. To help the healing response. And then we've, jumped on to Victor Longo. That, is out in, at UCLA.

He came up with a diet called the proline diet. And if you look at that diet, if you're on, fat, if you fast or you're on a fasting mimicking diet, for five days prior to drawing PRP, they've proven in studies that you're marginalized stem cells.

So your stem cells that are released from your bone marrow, are up about 600% in five days. So that's what you need to cause the healing. So now you know, you've done everything you can, in order to point to the right direction, to get a good response.

You've, you know, you've barged in stem cells using energy. You've used a fasting mimicking diet to margin more stem cells. You have increased growth hormone, from the peptides.

So now your body's ready. I'm. Your body is primed to heal. So now you put in, high quality, highly concentrated PRP, you know, at least 5 to 9 times concentration of whole blood.

And, you get a great response. We're getting responses higher than most of the protocols in the country. And then are you continuing with the growth hormone secreted after the injection?

Yeah. Usually we'll we'll do it at least 2 to 3 weeks. After the injection usually by three weeks. The, the whole cycle has, has completed and you're starting to get regeneration.

So we make sure that for a month before, and then up to three weeks after no anti-inflammatory medications. And then for two weeks before and 2 to 3 weeks after, we make sure that we keep the peptides going.

They keep growth hormone up and that are you for the for the geeks in the crowd. Are you into leukocyte retch or leukocyte for that? The. That's a great question.

So I'm into so if if you really look closely at the state and it depends on the patient, if you look at the studies, leukocyte poor is probably the way to go for almost everything, unless they have a really high grade osteoarthritis and you want to break down some, protein within the joint.

And you can use either a leukocyte rich PRP or you can even go to a higher thing like alpha two macro globulin, which is a protease inhibitor, which will bind the MMP 13 in the joint which is causing the, the destruction of the articular cartilage.

But you can even use a combination.

Optimizing PRP with Diet, NAD, and Peptides

You can use a to, follow that with, with leukocyte rich, get a lot of the degeneration stopped. Get a lot of the inflammation, get some inflammation started and then follow it up with a second leukocyte or, to increase your regenerative process.

Okay, great. So then this is relating to how much white blood cells are in the PRP. Correct. And then, and so the white blood cells tend to be more inflammatory.

Right. So we go ahead. Right. So then that's why it's nice if you can get away with not using a lot of white blood cells in there because they don't hurt quite as much.

Oh, and yeah. And so, you know, and it depends on your standard obviously to get the white blood cells out, you really need a double spin centrifuge. To be able to, to get the white cells up.

The stain that came out of Japan, it's 2016. So it's probably been almost six years ago, but they injected leukocyte rich PRP in the rabbit Achilles and the tendons fell apart.

I mean, literally just disintegrated. So like, so white cells can cause enough inflammation that they can destroy collagen. So I'm not 100% agree with everything.

And then interestingly there's another thing you can do. You can spin, you can take blood out and then you can spin it and get platelets. Or you can take blood out and run it through this kind of proprietary filter that sort of concentrates this other.

It's a protein called alpha two macro globulin. Yeah. And so then I just so people know that that is another thing that's kind of coming from yourself.

And yeah, it's actually you take you you take PRP. So you get your you get your PRP and then you run that through the filter. And then that gives you, essentially if you look at that alpha two macro globulin molecule, it almost looks like a Pac-Man.

So as it has doors and it has receptors inside and the MMP 13 protein that breaks down cartilage will bind on those

receptors and then the hemlocks and close up and get rid of them.

That is the that that developed that technology. Was interested in the fact that if we did an ACL reconstruction, even on a perfect beautiful a 16 year old volleyball player, her articular cartilage looks beautiful.

She tears her ACL. We know 20 to 30 years down the road she's going to develop osteoarthritis in that joint. Even if we do a perfect ACL reconstruction, everything is balanced.

Everything is strong. She's still going to develop okay. And we didn't know why. And he's the one that found that we have increased, amounts of MMP 13 in that joint.

And if we don't do something to bind that then they're going to develop that anyway. So it should actually be a protocol that if somebody has an ACL reconstruction 8 to 10 weeks after they get it, A2M injection to stop that process in the beginning.

But orthopedic surgeons aren't doing that at least most aren't. Right. And then I would 100% agree with that. And I also do a lot of at home. And I've I've had very similar experiences with that.

And it I think is a beautiful way to begin to regulate inflammation in that joint, there's no doubt about it. Know probably one of the best, especially if you if you say, you know, say you see a 40 year old female and all she has is, you know, primary grade 2OA and her right knee, you know, when that.

Oh, they're always coming from something that's destroying the pro especially she has at drama. There's something destroying the the articular cartilage.

And if you could do it assay there's nobody doing the assays. But if you aspirated that joint and looked at MMP 13 levels, you know they're going to be elevated. So right.

That's she's the perfect candidate to stop it. And it strikes. And you know I that's kind of interesting. Different people in different parts of the world.

And I'm in Silicon Valley, and I basically started drawing blood for surgeons to make PRP. It's about the same time as when you're there was probably, I think in 2002, there was probably about 30 of us.

That harvest put a centrifuge in our lives. Yeah. And I remember I remember that. And so then we were and, you know, that was I remember a data point because I remember those patients doing better.

And so then because we would I was helping with follow up with those patients, I'd see them. And then that was like this first. And they say you have to hear an idea seven times, right.

And so then it was like, just like you, I'm hearing that idea, hearing that idea. And I was like, you were lucky because you had patients and you were working in a clinic.

I was working in the hospital. Right. But then, systemically, as the if when I think about our health care system, I was like, I got had that same crisis moment, crisis of confidence at about the same time as you and I became a medical director of a surgery center.

But then I realized this whole system is broke and particularly total joint replacement. And then when you start to think about it, you realize all the stuff that you're doing to, you know, PRP, other regenerative things are and particularly for that person like you're talking about, I remember my surgeons almost callously, but with good hearts would be like, well, this is just we're going to do a knee arthroscopy, but this is just a staging procedure for a knee replacement, right.

And then they wouldn't do anything between it. Yeah. Well then obviously because the problem is, is it's not covered by insurance. So you're a surgeon.

You know, first of all, you're gonna have a hard time asking your patient for money to begin with. Because all they're used to paying is a co-pay. But second of all, you know, if you're if you're a hammer, everything looks like a nail.

So, if you're an orthopedic surgeon, you want to do joint replacements, so you scope them, clean them out. You know, there's some scuffing on the articular cartilage.

There's really nothing you can do about it. And you keep them on their anti-inflammatory medications, and eventually they're going to come and tell you that they need a knee replacement.

And that's just what you learn in residency, and that's what you do. And there's very few of us that have gotten away from that. But thankfully, I think more and more are getting away from it.

The problem is and and probably outside of this conversation, because we're supposed to be, you know, talking about peptides and how to use them and regeneration.

But the problem is, is our health care is is, for the most part, run run by big pharma. And, so big Pharma doesn't want you to come off your Celebrex.

Big Pharma want you to stay on Celebrex until you die and make that money. And so if there's something out there like HCM and PRP that can get you off your anti-inflammatory medications, it'll never become approved.

Approved by insurance because Big Pharma doesn't want it approved it. I well, it's not but this is like the great kind of conversations because I just it's interesting to kind of work our way through this is if I was to say moderate osteoarthritis that moderate to moderate to severe and then let's say by they would meet criteria in the hands of 90% of orthopedic surgeons that they would see for a knee replacement.

And then you and I both know exactly we've seen thousands of those people. Right.

Leukocyte Content, A2M, and Joint Degeneration

What percentage of those people do you think you can successfully delay for five years a knee replacement? I guess that question number so moderate to severe LA.

Yeah. Moderate grade three. Yeah. If you're going to grade it I think that you could delay. Depending on how aggressive you want to get. And I'll swing that in a second.

But I think that if you wanted to be really aggressive, you could delay 60 to 70%. I think that if you found people at grade two, which is just moderate, okay, it maybe as high as 80% because now there's technology where you can take very high concentrated PRP.

So taking 20 times concentration of whole blood. So starting out with starting out with say 120 ccs of whole blood and spreading it down to six. And, you can take and inject that into osseous.

So you can, you can give them mild to moderate sedation so you can give them oral versus, said Warren Bichette and some nitrous. And then under fluoroscopy using an MRI as your guide you can look for the lesions on the tibia and on the femoral condyle.

And you can go into the bone right underneath it and inject that with highly concentrated, with highly concentrated PRP and the, and doing all the other stuff, stopping your entire inflammatories putting them on, a, something like Somalian, doing nad gives the margin eight stem cells, but then you can inject right underneath there a lesion on the metaphase heel side, right under the articular cartilage.

And the studies that came out of, Chris and Tino's group were Gen X. They're showing a decrease in the need for knee replacement by up to 60%. So then I'm in 100% agree with that.

We do that. Also. And so then it's kind of interesting. I always I talk sometimes about this idea of different compartments of pain. And so then one would be like the nerve going to the joint, one would be the fascia.

One would be like the, the tendons. And ligaments, you know, around the joint, they can hurt. It could be a virus. But then sometimes what hurts is actually because you're you have bone marrow edema.

I've got about it. And so then correlate that on MRI. You can often see the bone marrow edema on the MRI. And correlate. That's exactly, you know, lights up and, you know, tibial side of the beagle compartment and you'll see bone marrow edema on the MRI.

That's exact. And they'll pinpoint, you know, ask, where does it hurt? And they'll pinpoint that's their generator. So then for people listening and I know this peptide, some of that.

But this is a crucial concept because then diagnostically 1.0 is going to be figure that out. And so okay which one of those compartments is that in. Because basically you can put all of the stem cells or PRP in the whole world into a knee joint.

And if they've got bone marrow edema, if the knee joint is like this, but they've got bone marrow edema in the basically where that is, it's basically in the bone marrow just below where the cartilage is, because I think that bummer edema, they're putting something into the joint not going to do anything.

No I yeah. And I think you have to attack it from both sides. I think that if you're really trying to if you're really trying to save somebody from having a joint replacement and I'm a surgeon, you know, I, I did conventional orthopedic surgery for 20 years prior to getting into the regenerative side.

So I know the surgery side. But if you want to keep somebody out of the operating room, you've got to attack. You've got to attack literally everything.

You've got to make sure that their ligaments surround the joint are stable. And there's no pain generators in the ligaments. You've got to make sure that there's no bone marrow DMA.

And if you do, you need to inject them in or osseous. If they have an articular cartilage lesion, then you need to put some PRP into the joint or at least unload the joint with something like a, or a initially to unload it and then PRP on top of it, because the how often act as a scaffolding, for the PRP to work a little bit better.

So there's so many ways of attacking it. And one of my, one of my biggest pet peeves is the fact that everyone wants to jump on to this regenerative bandwagon and there are clinics out there that are offering PRP or, you know, prior to the prior to all the changes last June 1st and the FDA stem cell injections or amnion injections or exosome injections and things like that, they want to jump on to that bandwagon, but they don't follow the science.

They're not stopping anti-inflammatories. They're not trying to marginals. They're not trying to marginal the patient's own stem cells. They're people are walking and they're looking at an x ray.

They're giving them a shot and they're sending them out the door. And then the people don't get better. And the people say they don't get better because all this stuff doesn't work, you know, is kind of funny.

We've got parallel stories going on. I also, got involved and, you know, taking care of a lot of patients using NAD, and this happened 6 or 7 years ago, and that was in part because we were doing some addiction.

And then we just kind of got lucky with that. And then we found that when we were doing PRP or when we were doing it, or when we were doing really anything regenerative, if people did a couple days of nad and like you working on salvage cycle and looking at working on these other ways of supporting NAD, but then also IVs and also Subcu and all of that stuff seems to help.

Both, both before and after I think. Yeah, I think the reason is if you looked at the science, all we're doing, all we're

doing is we're we're increasing nitric oxide.

All we're doing is we're generating we're generating increased nitric oxide. And that's what's probably causing the whole thing. Same reason it works.

And, and erectile dysfunction. And then what? What did you say your timing is between A and PRP. How close with I think you can do them a week apart okay.

And which one do you like to do first. If it wasn't, if it wasn't for the FDA? Because, you know, the FDA says that if we mix them together, it becomes a new drug.

So we're not allowed to do that. So I think that if it wasn't for that role, you could homogenize, you could take 1.52 CCS of HRA, mix it with 2.5 to 3 cc's of PRP, go back and forth between two syringes, homogenize it and give it as one injection.

I think that would work, actually. Really, really well. But the FDA won't allow us to do that, so I think you could do them. You could even do them the same day.

You could do for and wait ten minutes or so, put PRP on top of it. I think you'd be fine. But typically, it expands the joint too much, and we know that the joint capsule is, is a pain generator.

So if you expand the joint too much, they had pain after the injection. And so a lot of times I'll wait a week, I'll put a full dose of and, and I'll bring it back in a week.

Delaying Knee Replacement with Multi-Modal Regeneration

And I'll put a full dose of PRP here. Okay. That's interesting. Yeah. When if you, you know, we talked about those white blood cells and inflammation.

If you get an injection into the knee and then it starts to swell. And I learned this. It's kind of interesting. Like, you know you have a lot of ideas that, you know, just clinically.

But then when I got an infusion and then the first thing I felt that pain in the back of my knee where basically it was pushing on that the back of that capsule.

And then I looked at it and next thing I know, I saw the fusion. So it's interesting. But then, my right knee had always been my bad knee, and now my right knee is my good knee.

And you hear that a lot with people. Oh, yeah. Yeah. There's, there's no doubt that the, the science if you follow the science it works. The problem is there's a lot of people out there that aren't following the science and, and you know, I, I retired from, retired from clinical medicine about five years ago.

And where I got into developing I wrote my two books and and developed protocols and really started working with other doctors, teaching them how to do it.

And then as I saw where the science was going, it really made me sad that people were jumping onto the bandwagon just to make money, which I guess I'm not surprised about.

But they weren't. They were doing something that I've been doing for 20 years and put all this time and effort and, and study into and they're just mutilating the science behind it.

And people aren't getting better and they're blaming the science. And that's not what it is. They're just people that are charlatans that are doing bad to bad technology.

Are you using any peptides or orthopedic any other than kind of the growth hormone secreted guys? Mostly just the

growth hormones, the creator gods? Okay.

What other what other peptides? Any other peptides you're using a lot clinically? The well, we talked a little bit earlier, the other one that I love to use clinically, but kind of outside the regenerative field, is, I really like to use oxytocin.

I use lactate, oxytocin as kind of a relaxant. In almost all of my clinics that I consult with, they have them at the front desk and the front desk. Girls, as soon as somebody walks in the office, gives them a little oxytocin trophy to put under their time, and it just puts them in that nice, relaxed state.

So once they do go back to have their injection done, there are a lot calmer. They're not worrying about the needle on having the blood drawn and and well, that's I'm glad you were telling me your your wife was using it.

I like that story. Yeah, I'll relay that. My wife's a school nurse and and prior to Covid elementary school. And so prior to Covid, she loved her job.

And she just loves kids and loves what she does and has been doing it for a long time. And once Covid hit, the parents kind of just turned on her. And so, you know, she get a call from the principal and, you know, they'd say, yeah, oh, little Kimmy in kindergarten came down positive for Covid.

So, you know, we've got to quarantine her whole class. And so now my wife's on the phone calling these parents of 20 kids and, the parents of tests, the parents are like, now I have to take two weeks off work to stay on with my kid.

Well, you know, and this is all a hoax, and the government's behind it, and they're screaming at her and swearing, and she's got stressed out. And so we gave her a little, oxytocin nasal spray.

And, now, you know, she would just give her herself a little squirt and calm her down a little bit. And she didn't care so much if the parents were screaming at her.

It's funny. You know, I, I always thought, oh, that would be a sweet job. Be like a school nurse. And I never haven't had a it was always a, like an idea in the back of my mind that, that the type of person as a school nurse would be a lovely, generally happy human being.

And then when you said, oh, my wife's a school nurse, I thought that it was the first time I'd heard that since Covid. And I thought, oh my God, that would be a super stressful job.

Yeah, I've had it since Covid hit. It completely changed. And, and then, 141 is that when something you guys are you. Yeah. So 141 so, you know, on the other side though, obviously orthopedics, is where this all started for me.

But over the last five years, Doctor Charles Runnels and I have become best of friends to almost every day. I, I go to all his workshops and spin PRP and talk about PRP and, and so he's doing more on the esthetics and sexual health world, of PRP.

And he developed vampire facial, which is what made him famous because Kim Kardashian had it. And, actually got in your area if you had it in South Beach in a hotel room.

But, she, he also developed the o-shot and the shot. So the o-shot, is for increasing orgasm in women, and for, decreasing urinary stress incontinence.

And then the shot for shot is for ed, and so, PG 141 is a perfect combination. To add to that, because, you know, it's increasing the sex drive and, and so using a combination of PG 141 and, and, supplementing it with a PRP injection, it's a, home ride and people that are struggling and those injections are, you know, it's it's amazing because when I first, when I first thought about it, first started going and work doing some work with him, I had a couple doctors that wanted to go to his training.

And one thing he offers is if you bring a doctor to the training, you can go, you can attend the training with, and so, I went with a couple doctors and I started listening to this and it really brings families back together.

I mean, because if you think, think about it. God played a little trick on us because, you know, for men, especially for those of us that have been married for a long time, you know, we have a we have a wife that's had a couple babies and as men, all the the girth and the size of their penis goes down.

And so now the vagina is getting bigger, the penis is getting smaller. And so the sex life that we knew 20 years ago is different than it is now. There's a mismatch.

And with these injections that changes because now we get, you know, it'll help tighten up the vagina. It'll help increase the girth of the penis. And now everything is working better, helps with E. D., helps with, helps increase height and orgasm.

So now you can take somebody that you've been married to for 20 years, and now you're, you know, your sex organs are are rejuvenated, and now you're back the way you were when you first met.

And so and then adding PT 141 to that is I mean it's a home, right? It just it really changes. It really changes people's lives. It really brings people back together.

I also took his courses and went through the teacher training that he has. And I was about to quote, when you talked about bandwagon. I was about to make a, I was about to quote a Bob Dylan quote, and I love going to his favorite.

That's what that's what it is. That's one of his favorites. When he when you go to the class he's playing, it was they were playing Desolation Row. Which if you if people haven't listened to it using a racket on a record player.

Yeah. And then off because he only played five. Right, right. And so then and basically I, you could argue that Desolation Row might be the greatest Dylan song.

Yeah. From I don't know, from a certain perspective. I actually was I actually want to I'm going to do a podcast where I'm going to take basically an hour, and then I'm going to explain Desolation Row from the biblical and, and what that means.

But basically I went in there and I met him and I was like, oh my God, I'm going to love you for the rest of my life. Like, I really, really like him.

And then that is just. Yeah, I just I just came back yesterday. Oh, really? Yeah. I talked with him. I talked with him Thursday and Friday.

Shockwave, Pain Generators, and Failed Joint Replacements

We did a workshop in Fairhope and. Oh, no, you flew back. I flew back yesterday. I was down there for Mardi Gras. So that was kind of interesting. But, you know, that's psychology.

He that he has is very great. And I think he's really good at taking couples and bringing them back together. He really does. I mean, it's amazing how I mean, and he really cares about that.

I mean, really, truly in his soul cares about that relationship. And and you know, he gets he gets some bad. He gets some bad press because, you know, he's the sex doctor.

And, especially from sex therapist, the female sex therapist hate him because, you know, their complaint is, you know, he's just making vaginas a better place to put a penis.

And so he gets a lot of of bad press from the sex therapist, but he really. That he really cares about making families

love each other again. Making a husband and wife closed again.

And he'll tell stories about. He does a lot of work with like and sclerosis. And for those of you there listening to this like. And sclerosis is a autoimmune disease that, attacks the vagina, attacks the labia, the clitoral hood.

And these women have sores that crack, and and the opening of the vagina gets really small and and almost makes it impossible for them to have intercourse with their, with their husband or loved one.

And, and he's on some private forums and he'll get, he'll get messages from women that that will say, I was sitting on the couch last night, and my husband reached over to hold my hand while we're watching a show, and I pulled away because I didn't want him to get excited with me holding his hand because I knew there was nothing I could do about it.

Well, that and so then that just goes to show, it's kind of interesting that similar, to the orthopedic experience, if you put PRP, if you got a tennis elbow and then you put up even superficially over that common accessory tendon, but if there's a tear into that common extensor tendon, it's going to start to heal that the fascia and the nerves and the tendon there.

And if somebody has like an sclerosis, it's it's also doing the same thing in the thing. Hey, it works. PRP works beautifully on things like lichen sclerosis.

There actually, some doctors, doctor Alex Runnels, same last name with two ends in, San Antonio, San Antonio, Texas. Who actually is Charles Reynolds fiancee now?

Which is kind of bizarre that they have the same last name, but they're not related. They checked it on the DNA studies, but, she's an ObGyn and she's actually microneedling PRP into these lichen sclerosis areas and just changing women's lives.

I mean, just doing some amazing, amazing stuff with it. Yeah. That's amazing. But I would say, you know, the you know, another thing that happens is so many women in their 50s, but especially 60s and 70s and 80s will have urinary tract infections.

But with, intercourse. And so then what happens is, is basically that o-shot is you're basically putting a needle in between the vagina and the bladder and starting to heal that fascial plane, just like what we would do if we were trying to heal a facial plane, basically.

And somewhere we're going to like a rotator cuff, you know, like between, you know, the two bones in the shoulder. We inject that rotator cuff and it heals and makes it thick and strong again, takes the pain away.

Same thing can happen in the vagina. And then basically my sort of perspective is going to be and this it maybe just for the future. But then fundamentally peptides are going to be an analogy to PRP and then are going to be functional and helpful and sort of all of those places.

I agree with that. I agree, I think there's ways of using them more and more. I've had some docs experimenting using them inter articular and I think there's probably, there's probably some use.

I think it needs to be studied more. I'm only using them, you know, subcutaneously. Because I try to stimulate it more of it over the body overall than just in the joint.

I think there's more more receptors in the in the fat and in the subcutaneous tissue than there actually is in joint capsule. So I think we can get a better response for what I'm looking for.

But I think there's probably, there's probably some research that needs to be done and seeing what we can do, with intra articular peptide injections.

Yeah. I think there is going to be definitely that's going to be a very good direction. And that's something we have some experience with. The other thing about the, the, the P shot, is, you know, what what I found is there's certain problems basically, there's not any one cure.

Cure. And the treatment is a combination of 4 or 5 things. I think you're absolutely right. And then, you know, the for the male erectile function, that's can be a big one.

That's a multimodal thing. And the interesting thing is that TW 141 is acting centrally in the brain to cause a reaction, and it will increase, female arousal as well.

So it's kind of like a two way thing. And so then when you begin to think about now okay, so we have a peptide, that can impact, blood flow and arousal and stuff like that.

And then we have regenerative things that we can do. And so then start to add one plus one is for, you know, and it also, you know, the other thing that you can and I brought this up, we were talking about my protocol for, for jointing and musculoskeletal injections.

I do a lot of shockwave therapy okay. Because that also will increase. It increases locally. It increases nitric oxide. So, it works locally to increase nitric oxide, which will help mobilize, the bone marrow stem cells to the area.

And also and it also causes some inflammation. And so it helps, using it the first 2 or 3 weeks prior to your regenerative injections in the penis, were there gains that developed the gains wave protocol in the penis kind of works the same way.

Increases nitric oxide in the penis. And we know that nitric oxide is important for erection. So it helps with that. But it also will break up any, small, intravascular occlusions.

So we'll increase blood flow to the penis. And so, you know, kind of works both ways there. So if you're doing that, if you're breaking up, if you're breaking up any little occlusions, you're increasing nitric oxide with the shockwave.

You're using RT 141 centrally. You're putting PRP into the corpus cavernous, to once again, you know, we know it PRP is very high. And, VEGF vascular endothelial growth factor.

So now you're developing new blood vessels which are going to engorged the corpora, make the erections harder. So now you're attacking it from four different ways.

You know, you're increasing nitric oxide. You're breaking up. You're breaking up. Any little occlusions. You're PCA 40 ones work and centrally PRP is increasing blood flow.

So now you've got, you know, four sided attack. Way better than giving somebody the little blue pill. I'm, I'm 100%, what when you do shockwave before PRP and the knee and, how many times will you do it?

And I'll do it 2 to 3 times a week for three weeks. And where and how? And do you do it for, for if you're going to go into articular or are you doing like attachment muscles or where do you go to attachment muscles.

Sexual Health, PRP, and Peptide Therapies

And I'm doing joint capsule and ligament structures okay I've got media collateral lateral collateral patellar tendon joint capsule usually hamstring insertions quadricep insertion at the super pull the patella.

And so then if we we go back to that idea that we were talking about these different compartments of pain. And then, you know, my philosophy is that you have to address if you don't address where the pain is and what the actual generator is, then you're not going to get better.

And then somebody, somebody may have a problem in their joint. But that part of that problem in the joint may be

because like just the last thing that you said, if they have a quadriceps, a pain at the quadriceps where it attaches to the patella and then they have dysfunction movement there, then that may or may not.

I mean, I look at it. So if you're VM, if you're a VMO attachment on the superior medial side of or superior lateral superior medial side of your patella is dysfunction.

And now your VMO is not firing. Now your patella is going to start tracking laterally as your patella tracks laterally it's going to start taking off articular cartilage.

The lateral facade. And so now you'll hold dysfunctions there. So if you don't treat the original problem which is tendinitis at the insertion of the VMO, then you're not going to you're not going to solve the overall problem.

Even if you put PRP into the joint. Okay. So then I'm going to be 100% with you on all of that. And then even if you're not into yeah, the idea of peptides in the joint.

But then one thing that I have found just very kind of maybe the most amazing thing that I've found is then using peptide subcutaneously in essentially every area that you just mentioned and that that makes sense.

And then you put those and think, think of anti-inflammatory kind of regenerative peptides subcutaneously. And then I found that to be very center, just that with, with everything that you said.

Because what's your favorite one to use in there. So then yeah, people will use a lot of BPC one, five, seven people will use. The traditional thing was to use a 2 to 1 ratio of thymus and beta for two BPC 157.

Then, you know, people will use fragments of thymus and beta for the kind of the probably for musculoskeletal. The classic one would be the fragment that where the people called TB 500, which was the 17, the 23 fragment and using those the some people will use k, some people will use KP.

It kind of for, for pain. Some times you there's some other another fragment 1 to 4 fragment of TB for and so then all of those I find to be fairly, fairly helpful and, and then, you know, the thing that I like about it is, is this low cost and it's something supportive and synergistic.

And then I might not have a patient inject over an MCL, but I'd sure feel comfortable having them inject subcutaneously at the distal, you know, quadriceps.

And so then now there's I think I think in Glasgow on a medicine, then people should be thinking about everything that you said about the PRP and all of that stuff, relatively cost effective.

And you know, when the thing that people don't think about is total knee replacement, a significant percentage of people will end up with long term pain.

And so then people have this idea, okay. I mean, I guess for a knee replacement and then and interestingly, the the if you are now let me ask you a question.

Let's say somebody had a, failed total knee replacement. And, they are in pain, but let's say it's a plus. It's a, it's there's pain, but it's not totally failed.

And so they're thinking about getting another total knee replacement. Would you ever put PRP in that joint. Oh, yeah. Absolutely. So, I think you have to figure out where the pain generator is coming from.

So obviously when people put PRP in joints prior to knee replacements, they're trying to grow articular cartilage. To take care of the pain. That's not always where the pain generator is.

So I think it's important to look at what where their pain is coming from. And I think localized injections, it might not even be inter articular. I mean they could have some inter articular inflammation.

So putting some obviously making sure that you're very, very sterile when you do it. Obviously you don't want to inject get bacteria into a knee replacement because that's a totally different story.

But being very careful, with your sterile technique. But then find where the generator is because the pain, the pain generator on that failed total knee could be nerve tissue.

So, a lot of times you'll get nerve entrapment around that, around that knee replacement, either from the incision or from the capsular, you know, capsular reefing to balance the knee prior to the implants going in.

So you got to find out where that generator is. And if you inject those generators with PRP, a lot of times you'll do very well. You got to make sure that the knee ligaments are balanced.

If they're not balanced, then putting PRP into an area that might be stretched a little bit or weakened a little bit, you can change that balance, even slightly and help with those pain generators.

So I think there's ways, ways of salvaging, what looks like maybe a, failed knee replacement, by just working with the pain generators and finding out where those pain generators are coming from.

Okay, so then once again, I'm going to 100% agree with everything you just said. And it's interesting. I agree with that. And then that that concept is like one that like a lot of people are not totally aware of.

And so actually the the whole way that I got into what I do, I'm as an anesthesiologist, I basically in like 2002 started doing ultrasound guided nerve blocks.

And so then we use an ultrasound and go in and try to relieve that nerve entrapment. And then, you know, it's funny. They come in waves, you know, but but, I also find either nerve or ligament has issues.

And so then we'll use peptides for, for those treatments. But then we'll and which are great treatments for nerve pain. PRP works great. Platelet poor plasma works great.

A lot of other things work great, but it's it's encouraging to hear you hear you basically we're we're thinking, exactly the same. I think we need to teach that class.

Oh, yeah, I be we, we teach that all the time. I'd love to help you. Yeah, I think it'd be a fun class to bring in what I'm doing, what you're doing, and.

Yeah, that sounds great. See, this is a win. Yeah. And, Well, that's amazing. Any other sort of, any other highlights to tell me about in terms of your experience?

No, I, I think that we, I think we've pretty much covered probably that and more of what we did. I mean, I tell you, I'll tell you where, one of the first stories, that got me to the point where I thought, you know, we're really on to something.

This was probably 2005, 2006, but I had a patient come in that had a motor vehicle accident. I had a distal third humerus fracture and had Kate presented to the E. R.

with a radial nerve injury. So we had a restaurant.

Peripheral Neuropathy and Future Regenerative Approaches

And, so I knew that the where the radial nerve wraps around the distal third of the humerus, I knew that he had probably nicked part of the radial nerve.

And so I brought him to surgery, put a rod down, put a rod down in his humerus, made a little incision so I could get a finger in there and make sure the nerve wasn't entrapped in the fracture site.

Could see the nerve and could see just a tiny little neck in it, enough that I knew that was causing his his his radial nerve palsy. So I spun some PRP and I put like one little tiny stitch in the nerve and injected it with PRP.

And they tell you that from where the nerve injury is to where that loss of sensation is, it takes 60 days plus one day for every millimeter from the injury site to where it regenerate.

And so I was, you know, looking and I'm thinking, you know, this is going to be close to nine months to a year. He had full sensation back at like five and a half months.

Oh, really? And it was like when you did that. Were on to something. You know, this is a game changer. So that's where that was kind of where this in my mind, where it all began, like thinking this is like just changing everything.

It's changing the whole paradigm of how we're treating people. So the aisle will often right there where that radial nerve wraps around there will do nerve hydro dissection with ultrasound, because you can see the nerve in the artery and kind of go by it.

The, I, I remember I was in medical school to University of Washington and this guy, he, I, he like sat me down and he goes, I'm going to tell you what you need to do.

And then I was like, oh. And he was like, amazing. He goes, what you're going to do is you're going to walk around and he goes, but you don't realize yet, as everything you see here is totally screwed up and it needs to be done in a better way.

And he goes, you just he goes for your first ten years. He goes just watch and try to understand what's wrong. And then he goes, try to do something that's different for your next 20 years.

And, you know, and interestingly, we both had almost a very similar experience of of really I love orthopedic medicine. Yeah. I mean because this is probably we're interested in sports and and you know and so then it's awesome that we both sort of figure it out almost exactly the same type of stuff and doing it in a new way that, I think there's this is it's kind of changed the world and changed medicine.

Yeah. I think you're right. We just started I have some podiatrists now that are using PRP technology to treat diabetic peripheral neuropathy. So they're doing kind of what you were doing with your dissection of nerves.

But what they're doing is they're going into the lower extremity and they're isolating essentially the three big neurovascular bundles that they're doing, posterior tibial, anterior tibial and peroneal nerves, and they're injecting the nerve sheaths with PRP, and then using shockwave therapy, in addition to it, to help increase blood flow, and to break up any micro calcifications, because we know all the, you know, it's mostly micro calcifications in the small vessels that aren't feeding the nerves anymore.

That's causing the peripheral neuropathy, especially in diabetics. And so they're using that combination now to, treat diabetic peripheral neuropathy.

And we're seeing some great we're seeing some great outcomes using that. And then they're using I. V. alpha lipoic acid to help with nerve regeneration as well.

So that that combination, they're getting some great results, with peripheral neuropathy, we, if you said, what is the thing that I think is I'm most interested in would potentially be peripheral neuropathy, infection, small fiber diabetic.

Yeah. And, and then we will do a high dissection of the tibial nerve. Just, anterior to the Achilles. We'll do a dissection of the tarsal tunnel kind of down by the medial malleolus.

We'll do the central nerve, and then we'll do the superficial and deep peroneal nerves, and then we'll do shockwave fundamentally to all of those. Sometimes we'll have to dissect the common peroneal nerve behind the knee, and then we'll do the sciatic nerve.

And then sometimes we'll do a caudal epidural. And so then you have sort of all of that stuff. And then alpha lipoic acid helps. And then probably everything on kind of the mitochondrial front.

And there's a whole host of peptides that I found that are helpful for that. And then PRP is helpful. And so that topic is going to be I think that's probably my most passionate topic. Hi.

Very cool. It's kind of interesting. Well, listen, it's, amazing to talk to you and yeah, was great conversation. When I come down to Florida, I'm going to, look you up and we'll get together and yeah, we'll get together off to have dinner or something.

Okay. Awesome. Thank you. All right. Well, thanks so much. Thanks for inviting me. Yeah. You're welcome.