

Dave Asprey:

You are listening to the Human Upgrade with Dave Asprey. And this is one of my increasingly common episodes where I have people live at my studio in Austin, Texas, because it was hard to get them to come to my studio in Victoria, BC as often. We're going to talk stem cells in this episode. You might have heard some of my episodes about stem cells. In the past, I think I've probably done more stem cells than most people alive. I've been doing them actively for 10 years as part of my brain recovery, brain enhancement and overall, I want to live to 180 as a superhuman kind of protocol. And yes, Superhuman is the title of my anti-aging book. So I'm seen as a leader in longevity circles by some people, by other people. I make them very, very angry when I say I'm going to live longer than they are. Let's race guys.

So today's guests are a leader in this stem cell industry and a banker. Now, you might think this is some sort of venture capitalist scumbag trying to, no, not that kind of banker. This guy has my stem cells on deposit. Well, not like him personally, but his company does because that would be kind of weird, bone marrow and stuff like that.

Today I'm talking with Sean Berman. He's the director of research and operations for the Cell Surgical Network, which is the largest group of doctors working together to advance personal cell therapies for all of us. It's a really big mission and something that's made a really big difference for me in my own bio-hacking journey. Stem cells have mattered, but it's not just stem cells. There's other personalized things you can do there. Sean was actually a former quarterback, and he saw firsthand what happened with football players when they had concussions and how they really didn't have anything they could do about it.

He developed a new laboratory method for studying blast induced traumatic brain injuries in rats, which affects soldiers in particular. And he went on and studied in clinical studies that were published that you could treat brain injuries with IV adult adipose derived stem cells. Guys, I've had multiple brain injuries. I had mold toxin induced brain damage. I took a knee to the head while having fun, that had a brain bleed. I've passed out, hit my head on tile that also caused a very meaningful brain injury. In fact, after one of those, I sent Tim Ferriss a real angry email about something he didn't even do that I still feel kind of dumb about to this day.

So this has affected me and my brain works better than ever before. And sure I do neurofeedback and all, but cells, my own cells and intravenous stem cells were a meaningful part of me putting my brain back together. Sean's also developed IRB approved protocols for investigating how cell therapy could mitigate TBI and PTSD in soldiers. And in 2022, Sean and the Cell Surgical Network team successfully defended your right to use your own cells to cure yourself in federal court against the FDA and they won.

Sean Berman:

Good to be here with you, Dave.

Dave Asprey:

You're also a master's degree in cell biology and have spent years working with stem cells, right?

Sean Berman:

Yeah, I've been really lucky to work with a good team of doctors, get some good training, doing a lot of work with traumatic brain injury. One thing led to another and doing a lot of research in the clinic with stem cells for a number of different areas, whether it's orthopedic, neurology, autoimmune conditions. My partner's a leading urologist, so there's a lot of things that we're looking at and studying stem cells for right now.

Dave Asprey:

Did I hear you say that you put stem cells in penises?

Sean Berman:

No, well, maybe that's what you heard. That's not what I said, but my partner who's a urologist could probably help you out there.

Dave Asprey:

You heard him say this?

Kevin Ferber:

I have not seen this, but I cannot deny that either.

Dave Asprey:

Nice. Have you thought of politics? I mean, I like how you could say nothing but use your mouth.

Kevin Ferber:

Yeah, I wouldn't do well in politics.

Dave Asprey:

Yeah, me either. By the way, that was Kevin Ferber, who's the Chief Operating Officer for American Cell Technology, which is the largest personal stem cell bank in the United States. So it's possible now to take your stem cells at your current age and save them so you can use them later when you need them like I don't know, after you take a knee to the head at Burning Man, just saying.

Kevin got interested in stem cells 10 years ago, and he started shadowing some of the top global personal stem cell doctors. He leads collaborations with the top regenerative medicine practitioners across the country who use cells from American Cell Technology. And his company Vital Cells offers parents an honest stem cell bank so you can bank your kids' stem cells and get access to billions of personal lives stem cells that are as

young as they could possibly be. It's the only newborn bank offering that in the United States. And I wish that when my kids first started being born 16 years ago, I could have banked their cells because I would have.

Kevin Ferber:

Yeah, you're a happy customer. We're excited to have you bank with us. And I should do full disclosure, at one point I was a scumbag investment banker, but then moved over to the lighter side working with doctors and clinicians around the world in cell therapy.

Dave Asprey:

It turns out not all bankers or all VCs are working for a Sith Lord. Some of them actually are making the world a better place by investing in the right companies and being nice things like that. It happens. It really does. So apparently it didn't happen for you because you left the industry.

Kevin Ferber:

Yeah. I saw some really great opportunities here and seeing people cure themselves and get better through themselves, which has been fascinating to see firsthand.

Dave Asprey:

Okay, good deal. And I've been saying for a long time, if you're young, get your testosterone levels and your other sex hormones measured when you're healthy. So you know what they should look like when you're 100. You can peg them to what's natural for your body, because it could be that your testosterone levels naturally you feel great at 700 or at 1100, and if you don't know, you wait till you don't feel good, and then you have to guess. So the things you do when you're young, number one, do that. Number two, get your stem cells banked when you have enough financial success to do that. Because when you have your young stem cells, when you are twice your age, when you bank them, you can take your young cells and you can use them in your body and you can grow them and enhance them so that you'll have a source of those forever. And so I just wanted to have an open conversation because I get questions every day on DMs from people saying, what do I do about stem cells? So we're going to give you the stem cell 101 from a top expert, and I haven't talked much about banking because you really couldn't do banking very well until very recently, which is really cool. So I'm really happy, Sean, that you helped to make that happen.

Sean Berman:

Yeah. This is an existential phenomenon right here. Being able to have your own cells heal you naturally as opposed to relying on a major surgical intervention or a lifetime of drugs. I mean, this is what mother nature intended. So we've been doing this in the clinic since 2010, taking a little bit of fat from you, isolating the stem cells that are associated with it, giving them back, and we work with a multidisciplinary team. So you've got leading experts, taking care of your head, taking care of your bones, et cetera. These stem cells have been really profound and really amazing. But the FDA

came in and said, "You know what? Those cells, what you're doing by isolating them and giving them back, that's drug manufacture." We said, "What? How?" So said, "Yeah, yeah, you're making a drug in here. So they need to be regulated as such."

So we were stupid enough, naive enough to go to court with them and argue that these aren't a drug. And it took a five-year period in order to get our arguments heard and get this across. But in doing so, we were able to prove that we were compliant with the FDA regulations, as is. And that not only that, but we could send ourselves to somebody like Kevin who could take them, amplify them in number, and then on the clinical side, we could take those and give them back to our patients to basically take what we were originally doing, which maybe we were meeting our patients a certain way, and now we could get them across the finish line. And that was really, really exciting. So that just happened the end of last year, and I was able to share it at your conference literally weeks after it happened. So that was really fun.

Dave Asprey:

Yeah. You were on stage at the Biocon Conference and cutting edge stuff there, like getting to announce that thing. How much did you spend fighting the FDA?

Sean Berman:

It was about \$7 million. I don't like to talk about it.

Dave Asprey:

\$7 million. No one does. I mean, I've been the victim of frivolous lawsuits. I've had people try to steal stuff from me. I may be going through something like that right now. And the bottom line is you just got to bring it.

Sean Berman:

Well, when it's the government though, everyone assumes that the government's right and we're the small guy, and you're wrong.

Dave Asprey:

No one assumes the government's right anymore. Are you kidding?

Sean Berman:

Maybe in your-

Dave Asprey:

After the last three years, is there any human alive that doesn't have a brain injury that thinks the government's always, or even halfway right?

Sean Berman:

There's some people don't know you'd like to be able to trust your government, right?

Kevin Ferber:

No.

Dave Asprey:

You should never do that unless you're stupid. All of human history proves that.

Sean Berman:

I agree. I agree with you. But people want to be trusting. I want to trust you. I want to trust that what you're offering up is right. And the whole goal, the FDA, is to prevent the transmission of communicable disease. I like that. That's a great thing. We love that.

Dave Asprey:

And in fact, food safety has gone up a lot under the FDA. It's not like any one regulatory agency is all evil. It's when they overreach and start, well, hey, if we can just take more control, we could have a bigger budget. And then they just keep growing. Now, my stem cells are mine. You try and think you control my stem cells. I don't care who you are. That is an act of war against me as an autonomous human. This is my cells, your hands off. I don't care who you are.

Sean Berman:

And the great thing is, it's your own DNA for your own body. That's how mother nature set it up. So by winning this lawsuit, when the lawsuit was going on and everyone assumed that we were guilty, everyone started traveling overseas to go exploring and see what they could find in terms of stem cells, wherever, whether it was in Thailand or South America or whatever. But now that we've got this solidified in the US, you can go to your doctor down the street who and trust and have a relationship with and use your own cells here, which is a much safer option.

Dave Asprey:

So this is actually the way the legal system is supposed to work. It might have taken more money, more time than it was supposed to, but now that the letter of the law is being followed, now innovation in the US around stem cells can happen at the same rates. This was slowing down innovation, and there's a lot of people who did choose to leave the US. So what can you do now that you couldn't do before because of the lawsuit that you won?

Sean Berman:

So in the lawsuit, they were seeking an injunction against what we were doing, so we were able to keep practicing the whole time. But when you're going up against the FDA, everyone pretty much assumes that you're guilty. Not everyone's as intelligent as you are or gets it. So what we do at our clinic is we'll isolate just a little bit of fat all under local anesthesia. That fat contains a boatload of stem cells, whether they're hematopoietic stem cells, mesenchymal stem cells, pericytes, preadipocytes. These are great regenerative cells, and we use them to try and heal naturally.

But what's also great is to send somebody like Kevin, a sample of fat, which contains a ton of mesenchymal stem cells in it, maybe 10 million in a small little tablespoon size, but he can take those and he can turn 10 million into 10 billion. So you've saved your youngest healthiest cells, and God forbid something happens in the future, maybe you can use them or maybe you tweak your knee while you're skiing and you want to come in and heal quicker. So it's been great opportunity for us in the clinic to really advance what we're we're trying to do.

Dave Asprey:

I'm feeling like I maybe wasn't that much of a futurist when I had my stem cells banked. I just went to see the right people. So I was a very early stem cell banking person, mostly because I liked the idea of take a small amount of cells, amplify them and use them versus pulling out 10 tablespoons of fat, which I have had done. And that hurts.

Sean Berman:

You don't have 10 tablespoons of fat anymore.

Dave Asprey:

No, not anymore. Yeah. When I had it done, I think it was Kristen in Florida, she said, "Dave, don't lose any more weight." And I had probably 15 pounds of body fat more than I do now. I'm 7.9% body fat. So if I was going to donate fat, you can have a tablespoon, but you can't find more than a tablespoon in one spot.

Sean Berman:

But here's the thing, you might be smaller, you have less fat cells, but your stem cell concentration will be higher. If you are massively overweight, you're going to have more fat cells, but you're going to have lower concentration of stem cells. So someone like LeBron James walks in, you're going to be able to get a boatload of stem cells off of him, even though his body fat is next to nothing.

Dave Asprey:

Interesting. I didn't realize that. So you have a higher concentration of stem cells if you're lean.

Sean Berman:

So think about it. Your fat is loaded with stem cells. Why? In the old days, we used to wake up in a cave. I'd say, are you going to go hunt the meat or am I going to hunt the meat when I do kill something and I bring it back, it's going to be big and we're going to eat really well. So your fat has stem cells in it so that you can store all the nutrients from that kill that you get because it's not going to happen. And we didn't have refrigeration back then either. So those stem cells in your fat really are just sitting there. Unless you're sitting on your couch eating Twinkies and donuts all day long, then they're working to make more fat cells to store all those nutrients. But otherwise, they're dormant. So if you're in your seventies and eighties, the stem cells in your fat are

actually really young and they have got long telomeres, and that's what makes them really potent for some of these anti-aging regenerative therapies that we're looking at, whether it's orthopedic conditions, neuro conditions, or you name it.

Dave Asprey:

I like that perspective a lot. So we got a lot of stem cells there. Let's teach listeners about the two major types of stem cells. You've got autologous and you've got allogenic. What are they and where do they come from?

Sean Berman:

Autologous means "your own", and allogenic means you're getting them from somebody else. So when you're getting stem cells from somebody else, you want to make sure that they're a perfect match. And if you think about oncology and cancer therapies, you look for a bone marrow match and you go through a significant screening process to get these. But right now, there's some people that are playing with stem cells that are just taking random stem cell off a shelf from a baby that didn't want to keep their stem cells and-

Dave Asprey:

Not from baby, from an umbilical cord.

Sean Berman:

Umbilical cord.

Dave Asprey:

These are not fetal cells. No one's doing that.

Sean Berman:

Right. Umbilical. So from a birth, right, birth tissue, and then they're plugging and playing them into your knee, your hip, wherever. And that's random DNA. That's not your DNA. Now, if you put them into a knee or a hip, it's a cartilage. So that's poorly vascularized. Not much exposure to immune system, probably not going to be a problem. But at our clinic, we're doing a lot of IV therapy because these cells can home to sites of inflammation. So we let them do what they do best naturally. And if we were to put a bunch of foreign DNA in your bloodstream, that's not a good idea.

Dave Asprey:

Have you ever seen a host graft response or people getting negative reactions?

Sean Berman:

So yeah, there has been some stuff out there, and there's not a ton of long-term follow, which is the concern. We're talking about a five to 10 year period down the road. And there there's now been some long-term follow-up post COVID because a lot of been people have been using allogenic MSCs for COVID. So we have some one and two

year follow-up data that's really showing, Hey, you use these allogenic cells. It can severely alter your immune system, make you susceptible to further disease. That's not a good thing. So autologous meaning your own means you can use your own stem cells. Where are the stem cells in your body? Everywhere. You've got stem cells in your fat, you got stem cells in your bone marrow. Those are the most common places. But you got them in your brain, you got them in your liver.

Your liver, unless you're just drinking booze all day, is going to have a ton of stem cells. I could cut half of it off and it would self-renew. But most of our patients, when they come in, you say, "Hey, you want take some stem cells from your liver and stick them in your knee?" And they're like, "No, let's not do that." But you say, "Hey, you want take some from your fat and put them in your knee?" "Yeah, that's that's better. I got plenty of fat to share." So we like pulling from the fat just because most of the time those stem cells are really young, meaning they've got long telomeres, they haven't been used. They're sitting there dormant. The stem cells in your bone marrow, they're your own, they're autologous. It's great. It's much better, in my opinion, than an allogenic cell because it's your own DNA for you.

The thing with your bone marrow is that's responsible for making all the cells in your immune system. So it's constantly working. I flew here to the airport to get to come see you. I was exposed to God knows what my bone marrow's working to make all my white blood cells that keep me healthy. And now I'm not coughing up a lung on your couch. So it's great, but they're working as opposed to my fat, which if I did stay in Austin long enough, probably would start working a little bit more. You got some good food around here.

Dave Asprey:

Yeah, enough barbecue. And actually barbecue doesn't make you fat. It's the macaroni and cheese that makes you fat.

Sean Berman:

Exactly.

Dave Asprey:

What is the craziest place stem cells have ever been injected that worked?

Sean Berman:

Probably nowhere. Your whole body is just a bag of cells.

Dave Asprey:

Yeah, I know but you can inject them in certain places. I mean like nostril stem cells, tear ducts, ear canals.

Sean Berman:



Well, no, that's the cool thing. The cool thing about stem cells is really, it's just a blank slate of your DNA. So it's really hard to put them in a bad place. Where can you put them?

Dave Asprey:

What's the weirdest place? I mean, you're dodging my question. I'm just going to keep you dangling until you answer it.

Sean Berman:

It's probably somewhere that you've put it that you're not telling us right now. You asked me some questions before we started recording.

Dave Asprey:

This is like nine out of 10 level question deflection.

Sean Berman:

I learned it from Kevin.

Dave Asprey:

You could go right to your business partner who's a well known neurologist in the space, I feel like that would be interesting.

Sean Berman:

That would be Elliot Lander. So my partner, Dr. Elliot Lander is a urologist. He works with erectile dysfunction to get some great results in that area.

Dave Asprey:

Certainly, I mean, I've had a video of me getting stem cells injected into my reproductive system. Actually, I shared it at the conference one year without seeing any X-rated stuff. Just you could see the gloved hand with the large needle coming down and seeing me cringing. So yeah, I've had that done. I'm I'm very public about that. But is that the weirdest place people with stem cells? Do people inject them into their kidneys or into an ovary or into their brain? Let's talk some cutting edge stuff that we're not recommending. We're just saying people have done it.

Sean Berman:

So I'll tell you one of the most exciting things that we work with. We work with the group out of Kunming China that does spinal cord injury.

Dave Asprey:

So now we're getting interesting.

Sean Berman:

Yeah. So they'll take patients, and this is a great thing to know about stem cells. So you have some people out there that are just kind of capitalizing on stem cell. It's a fancy exciting name. You can't just put them anywhere. And that's what we've learned by collecting data for five-year period and for five-year followups for all of our patients. But we've been collecting this data for 15 years almost now. So we know where they work, where they don't work, and what they don't work for is scar tissue. So if you look, think of a quadriplegic, they break their back, the spinal cord's like a rope. So that didn't break, but all the blood vessels around did. And it forms scar tissue.

So you think something and you try and send an electrical pulse to your arms or your feet or whatever, and it doesn't work. It's not because the electrical pulse isn't firing, it's because there's scar tissue preventing it from traveling there to get through. So our team that we work with in Kunming, China will go in, they'll open up the spinal column, stabilize it, and they will remove physically the scar tissue, and then they'll put stem cells on top. They'll close everything back up and in six months of rehab you can take people that can't wiggle a finger and they can get them walking again.

Dave Asprey:

On their hands.

Sean Berman:

Not walking on their hands.

Dave Asprey:

I was confused. Sorry.

Sean Berman:

They can't wiggle a finger, but they'll get them walking again. And it's a long tedious process and they'll work with people 10 years or sooner from their injury. But that is amazing. But that's what-

Dave Asprey:

It's mind blowing. This was impossible 10 years ago.

Sean Berman:

That's what it shows. You have to remove the scar tissue, and if you can't remove the scar tissue, what you should really be doing is getting stem cells to the side of injury as soon as possible is close to the acute injury. And the problem with what we went through with the FDA is it kind of scares everybody away from stem cells. So it's the last option. So you have an acute injury and you go through all your traditional methods first, and then they tell you, Hey, you got to get a knee replacement or hip replacement. And you're like, well, damn that's going to really alter my lifestyle. I don't want to do that. I'll try this crazy stem cell stuff. So we get the hardest patients first. If you could get to it early on, that's the easier time to recover and heal naturally. Not late down the road.

Dave Asprey:

Okay, got it. So soon after a spinal cord injury, but even not so soon after, you're seeing crazy results. And this is one of those holy grail things.

Sean Berman:

Well so spinal cord injury sure, but any kind of acute injury.

Dave Asprey:

Okay. Let's talk about brain injuries. So when people come through 40 years of Zen, this is my neuroscience company, brain upgrade, five day entrepreneur kind of people who come there and 90% of them have some evidence of brain injury, intellectual evidence. Maybe when they were two, they hit their head on whatever, their brother, whatever. So does it work for old injuries or is just after you get a recent hit? I took a pretty big hit a few years ago.

Sean Berman:

So yeah, we've seen it work for old injuries. You're talking about stroke or whatnot. We've had one of the doctors that we work with treated his father four years after a stroke. His father couldn't speak, he couldn't speak in English anymore, even though he grew up here, he could only speak his native tongue from where he was from. And after he got treated four years out, he was able to speak in English again so that they were blown away. That was great. If you can treat sooner where it's really better. My background is working with traumatic brain injury, and we basically showed in an animal model that if we were able to treat the animal right after its concussion, it showed no signs of motor skill deficit and no signs of memory loss. But if you waited 72 hours after, you could still get good results. And just by an IV infusion, the cells went home to the side of injury in the brain. But still we got better results if we treat it within the first 24 hours.

Dave Asprey:

That seems like a bit of an unfortunate situation because you'd have to take someone who just hit their head, you'd have to suck some fat out, spin it down, pull out the stem cells, and then inject it right away intravenously so we get into the brain.

Sean Berman:

Oh, you're talking about a 90-minute procedure. So that's not too hard to do.

Dave Asprey:

That's actually what you would do if you hit your head right now.

Sean Berman:

Or you would just send fat before to Kevin and have them ready to go whenever you want it.

Dave Asprey:

So that's what I do. So if I called you right now and said, "Dude, I really need stem cells. I just banged my head on something", how long would it take typically to get stem cells?

Kevin Ferber:

Yeah, traditionally right now it's a three-week notice, but we also have different plans where you can have your stem cells to you within 48 hours or less. So we have certain platforms where we can grow out your cells, have them ready to go at a moment's notice that you place an order with us, your medical practitioner approves it. And even if you're not in Austin, let's say you're out in Salt Lakes City, you're skiing, you tear your ACL, or you get a concussion and you need a doctor, and we could loop you in with one of our doctors across the country that could evaluate you. Maybe stem cell therapy could help your concussion, if you will, or your torn ACL. And we can get those cells flown out to you. And a medical practitioner can treat you right then and there. And to Sean's point, you can get in there, calm the sites of inflammation a lot more quickly and a lot more effectively to potentially help you recover from that injury more quickly.

Dave Asprey:

Okay. So right now you're storing the cells I had drawn about eight years ago. We have those stored, I don't know if I'm on that plan, but you would, if I called you, you'd say, "Well, it takes us a while to grow them." So you would grow a big crop and then you'd give those to me. Is it called a crop? What do they call those?

Kevin Ferber:

Well, I guess you could grow a murder batch or so yourselves, but we keep plenty of your cells ready to regrow. But as you can imagine, it costs a lot of money, takes a lot of manual labor in our lab with our lab techs in a clean room environment. But if you paid for that upfront, we would have your cells grown out and cryopreserved and ready to go. So if you did need it in a moment's notice, you could get it in order as needed.

Dave Asprey:

So we probably need to have my people call your people and then put me on the plan. So you have a batch. I'm going to call it a murder of cells. Like a murder of crows, a murder of cells. So we're going to have a murder of my cells out there cryopreserved so that if something unfortunate happens to me, I can just have them sent.

Kevin Ferber:

Yeah, we just need your stem cell financial advisor to call our office and then we'll just make sure you have your cells ready.

Dave Asprey:

You really do sound like a stem cell banker. Is there like stem cell family offices these days now?

Kevin Ferber:

Yeah, that's what we're hoping for. A little hub and spoke model. You can go into your nearest stem cell family office and they'll help you get situated.

Dave Asprey:

So what does it cost to bank your stem cells?

Kevin Ferber:

I think there's a big misconception of people going out of the country where it costs \$70,000 to \$100,000. Whereas here it's more you have to talk to your practitioner on their cost because we just have initial processing, but it's more in the fives of thousands than tens of thousands to get your cells and get them out. And people are not just getting their cells for these one-off treatments like you're seeing. But to Sean's point, we have people that have different autoimmune conditions that may need multiple treatments a year or people that are doing it for health and wellness purposes. But it really depends on how often you're getting your cells, whether it's just storing your cells for a rainy day in case you do get a concussion, or if you're trying to really cure or treat something that is more longer term.

Dave Asprey:

So for most people, we're going to go in and get stem cells because there's a knee, a shoulder or a brain injury, something that precipitates going to the doctor saying, "All right, fine. You can have some of my fat." And it's a little bit of work. And then when you do that, since they're already being extracted, you say, take a few extras and then send them off.

Kevin Ferber:

Yeah, exactly. Send it over to American Cell Technology. And then we have a clean room, FDA registered and inspected lab where our lab techs will isolate your stem cells from your fat, and then culture expanded. So feeding your stem cells, stem cell food or media, and then putting it in a nice environment for your cells to grow out. And then we'll cryogenically store your youngest stem cells in time for when you need them.

Dave Asprey:

So I'm a vegan. Is my stem cell media plant-based?

Kevin Ferber:

It is plant-based. So there is no animal factors in here. I thought you weren't vegan anymore.

Dave Asprey:

I was vegan a long time ago, and it made me sick. I was just being high maintenance. But it also, what is stem cell growth medium? I'm pretty sure it's not kale.

Kevin Ferber:

No, it's not kale by any means. There's a lot of stem cell media out in the market, but we do have a proprietary blending to ensure that we're getting the highest quality stem cells.

Dave Asprey:

They're all no animal factors in those growth factors?

Kevin Ferber:

Yeah, there's no animal.

Dave Asprey:

Bacterial fermentation base.

Kevin Ferber:

Yeah, we're not using any animal factors and growing your stem cells. And we're making sure we're only storing your pure mesenchymal stem cells, which I think is important to know exactly what you're getting back in your body are your pure stem cells that are live stem cell count with liabilities with your own DNA.

Dave Asprey:

I would've thought there'd be some albumin or something in there. So you guys are actually cleaner than fake meat.

Kevin Ferber:

I would assume so, but I don't know what's much dirtier than fake meat.

Dave Asprey:

Oh, that's a fair point. That's like I could go all sorts of places with that. We don't even have to go there. Just say fake meat, gross. Stem cell banking, awesome. Okay.

At the world's biggest and oldest bio-hacking conference, which is my event put on every year now for a decade, it's in Orlando American Cell Technology, and I am working together to offer personal stem cell banking at the conference for attendees. It's a quick, simple procedure and you can get it done in under an hour. But before we get into all that, Kevin, walk listeners through the STM cell process, cryo-preservation and how you can retrieve stem cells so quickly.

Kevin Ferber:

Thanks, Dave. Absolutely. I mean, we're excited to offer this unique partnership with the Bio-hacking Conference this month in Orlando and giving your attendees the opportunity to bank their youngest personal stem cells. I think there's such a lack of clarity who can potentially benefit from stem cell banking, as we talked about a little bit earlier. It's not just for the super wealthy traveling overseas, we're professional athletes

looking to perform at the highest level. It's for the everyday weekend warrior. It's for your bio-hackers, and it is for the sickly individual that is looking to heal themselves from within. And that's why we're excited to offer this unique banking opportunity to your bio-hacking community. But Dave, let me answer your questions on the process now. The process is a simple outpatient procedure done in about 30 minutes under local anesthesia. The medical practitioner is simply going to take out a tablespoon of fat from your flank, and then you're free to go back to your day-to-day activity.

There may be some slight bruising, but they shouldn't impede you from going back to working out the next day or getting to listen in on lectures at the conference. And then in six weeks, you can come back and get your cells. From Sean's perspective at their clinics, they also do a same day stem cell procedure where they actually isolate the stem cells bedside and then reinsert the mesenchymal stem cells back into the joints or intravenously. And that procedure takes a little longer, and you might be in the clinical setting for a few hours, but for simple stem cell bankage, you should only be there for 30 minutes or maybe an hour, maybe a few hours if you're getting the same day stem cell procedure. But after that, once you go home, your medical professional will overnight your fat sample to us at ACT. We're located in South Florida outside of Fort Lauderdale, and then our lab techs in an FDA registered and inspected current good manufacturing practice facility will isolate your cells from that sample and as sterile clean room environment.

Then your personal stem cells are fed stem cell food, which will allow your stem cells to naturally self replicate through our proprietary culture expansion process. And then we'll perform your various bacteria, endotoxin and sterility testing to make sure that your cells are stored in a safe environment. And then as you asked about our cryo preservation process, once your cells are grown out to the desired amount, we cryopreserve your personal stem cells and liquid nitrogen at minus 190 degrees Celsius, and then storing your cells in this liquid nitrogen process, we can preserve the integrity and viability of your cells for the future, and you can have peace of mind knowing that your youngest personal cells are stored safely here with your own DNA.

After that, in the six weeks of the growing process, you can easily request your cells through ACT through our customer support ordering platform. As we discussed a little bit, we have different banking programs where you could potentially have billions of live mesenchymal stem cells available to you right on a moment's notice. The two best things about these programs are having access to your cells within 72 hours or less, as we talked about earlier, could potentially be the greatest asset you may have. And from a cell quantity perspective, now at a ACT we can more actively manage your cells to maximize both the quantity and quality that a client may have. Clinical applications and research continue to progress in personal stem cell therapy, and thus having access to more of your youngest personal stem cells throughout your life could be a complete game changer.

I know Dave, you've been an early adopter of stem cell therapy and stem cell banking, but even from when you initially banked a handful of years ago, the science has progressed quite drastically and successful clinical applications continue to increase. And I think we'll get into this a little bit, but on the clinical level, you're starting to see people both accessing their cells more frequently with larger quantities of cells per

treatment as the industry matures, and thus having access to more of your younger stem cells throughout your lifetime is only going to benefit your future health.

But I'm not the one here to make medical claims. You should definitely talk to your licensed practitioner. We're just here to handle your cells in the safest environment, and it's easy as that for your bio-hackers attending the conference this year in Orlando, we are actually able to partner with one of our regenerative clinics in Orlando to offer this to your attendees at the conference to bank their stem cells. And this can be done with only missing an hour of the conference, if anything, as it's a simple outpatient procedure as we discussed. Hopefully you can provide this link in your show notes. For those attending the conference and looking to bank their stem cells, they could simply go to [americancelltechnology.com/biohacking2023](http://americancelltechnology.com/biohacking2023), and they could simply fill out their name with the preferred date that they would like their cells harvest. And one of our representatives will reach out to confirm scheduling and answering any questions on the process.

Dave Asprey:

And I've had them injected in every joint in my body multiple times, and then face hair, reproductive organs, pretty much everywhere you can name. Is there something wrong with me for doing that?

Sean Berman:

No. I told you earlier, your stem cells, if they're yours, there's not really a bad place that you can inject them. Now you can waste them because you talked about eating them earlier.

Dave Asprey:

I was going to blend it in the coffee.

Sean Berman:

Yeah, I know it sounds nice, but if you digest them, then your stomach acid will just tear them apart. So I guess there are bad places that you could put them. The group that I work with, we have a huge network of doctors. We all feed into a uniform database so we can pool our data and see long-term outcomes quicker than you might do at a one-off clinic. So we've seen CSF injections, spinal fluid injections. Well, they don't perform as well as IV. So our stroke patients actually respond better to IV therapy as opposed to CSF. Because think about it, if you inject it into your spinal fluid and you stand up, where's it going to go? The stem cells are really small and really dense. They have a mass, so they're just going to go flow down and then probably get recirculated after that.

Dave Asprey:

I definitely know I was laying on my back for the first two days after I did that because spinal injections kind of make you feel a little bit not so good.

Kevin Ferber:



Well, Dave, to your point also, when you're saying stem cells, I think stem cells are saying the word food. So really me, even mesenchymal stem cells, if they're donor cells first, your own personal cells, the safety-

Dave Asprey:

I wouldn't inject donor cells in my spine.

Kevin Ferber:

Someone else's DNA is just risky there. So knowing that your body will never reject your own own stem cells with your DNA, I think is extremely important through this process.

Dave Asprey:

If I wanted to sell people access to my stem cells specifically, now that you can grow them in an almost unlimited number, can we let people bid in some sort of system on?

Kevin Ferber:

See, I think that's where you get into that's what becomes an FDA regulated drug. Because you're mass-producing one cell line, one product that's a drug.

Dave Asprey:

The FDA says I'm a drug? Because if they had a T-shirt that said that, I wouldn't be opposed to it.

Kevin Ferber:

But if you're taking one product and mass-producing it, then they're going to come in and regulate it versus they can never regulate your own personal DNA that you want.

Dave Asprey:

I want to be a drug. So this wouldn't be like mass-produced. It would be custom produced, so that wouldn't count.

Kevin Ferber:

Custom for yourself.

Dave Asprey:

No custom, but I just want to like under the table, kind of like being an off the record sperm donor.

Kevin Ferber:

You might have to go to a lobbyist, but I think you're going into politics. You'll probably figure out a solution.

Dave Asprey:

I'm not going to go into politics. I'm not that dirty.

Sean Berman:

All right. You guys should have this conversation off-air probably.

Dave Asprey:

You're like, "Actually, I know a guy." There is something to be said there. So in fact, I'm working on some opportunities to do mitochondrial alterations to myself. So I have some pretty kick ass mitochondria, but there's some skills and abilities that I don't think that they have that I would like to add to them. So that's part of my thing. There is no mitochondrial effect from stem cells, right?

Sean Berman:

Wrong.

Dave Asprey:

Because they have mitochondrial, I was going to say there must be, actually.

Sean Berman:

Yeah.

Dave Asprey:

So how does that work?

Sean Berman:

A really cool thing that stem cells have is if you have a degenerative cell and it's on the craps and it's about to die and become senescent or whatnot.

Dave Asprey:

So it's like a political party in the US. Okay, got it.

Sean Berman:

Yeah, probably. What's cool about a healthy stem cell is it can actually donate mitochondria.

Dave Asprey:

Oh, that's right.

Sean Berman:

Yeah. So the stem cell can actually come up to those dying, of course, borderline apoptotic cell. It can insert these old micro tubules. You can come up with an analogy you like and it can pass off healthy mitochondria.

Dave Asprey:

I remember this now.

Sean Berman:

So all of a sudden you pass off healthy mitochondria to a dying cell, instead of producing two ATP, it's producing 32 or 32 34 ATP. I'm forgetting the Krebs cycle right now. But 32. 32 ATP, and that lactic acid barrier, that kind of forms around the stem cell when it's unhealthy, goes away and now it can start participating in cell signaling and all this stuff again. So mitochondrial transfer is huge. And you can do that with stem cells.

Dave Asprey:

Of course. And if you got enough of them in there.

Sean Berman:

That's the point.

Dave Asprey:

What's the right amount of stem cells to do intravenously for the average person?

Sean Berman:

You really have to ask your doctor. Right now what's popular is 1 million cells per kilogram body weight between one and 3 million cells per kilogram body weight is kind of the popular thing in the scientific literature right now.

Dave Asprey:

So I don't care about popular. If it was you and you're a trillionaire and you could buy Elon Musk for lunch, how many stem cells would you get intravenously?

Sean Berman:

About 100 million.

Dave Asprey:

Okay, good deal. You wouldn't go above that.

Sean Berman:

No. Where's some wood to knock on? I feel fairly healthy and I'm young, and so I'm just on a proactive regimen at this point.

Dave Asprey:

You could launch your own sports car into space and you only want 100 million stem cells.

Sean Berman:

Could I drive it into space? If I launch it into space and I'm not there? What's the point? That sounds like a waste.

Kevin Ferber:  
I'm surprised.

Dave Asprey:  
I would've thought you would say like 500 million or something just to make sure they're in there doing their fusion stuff. Don't you want to be running at the best thing you can do?

Sean Berman:  
I used to play football. I don't want to run ever again. I'm cool with jump roping.

Kevin Ferber:  
And I think also though what he's saying, or also pure mess mesenchymal stem cells, when you're getting a total nucleated cell counter people just hearing stem cell therapy, then we're getting 100 billion total nucleated cells, and that could be majority dead when you're seeing donor cells.

Dave Asprey:  
Well, let's talk about that because if you get a vial full of dead cells, and I've talked with various people who are saying sometimes it's only 60% alive when you're getting other people's stem cells anyway.

Kevin Ferber:  
Yeah. That's a great point. And it's kind of disheartening, but sometimes when I'm speaking to different regenerative medicine doctors that are using allogenic products, they'll first thing, they'll come to me and they'll say, how many milliliters of stem cells will you send me? And that's not even the right metric.

Dave Asprey:  
You want to that extra saline you can.

Kevin Ferber:  
Yeah, exactly. So you want to really know how many live stem cells are you getting? And so anyone who's working in stem cells, and you'll see any of our cryo vials that comes in, comes with 10 million live mesenchymal stem cells. It comes in two milliliter cryo vial, and the stem cells themselves are a negligible pellet. So you really want to know how many live cells, so when the people are getting these donor products, they may be 30 to 50% viable. And I've looked at some of the top websites and called some of the top sales reps. They can't tell you that's a live stem cell count, but more those growth factors in these donor cells.

Dave Asprey:

And the growth factors are called exosomes that you could get anyway, right?

Kevin Ferber:

Potentially. But I also see that there is a benefit to a personal exosome process as well.

Dave Asprey:

Okay, got it. So for listeners, we've talked about your own stem cells from your own body, mesenchymal or fat, and then there's bone marrow cells as well, and then there's cells that are from other people. My general preference is to use my own cells, except some people believe that I'm aging. My lab tests seem to show that I'm 39, but the calendar with which I do not identify, it thinks I'm a little older than 39. So I have my cells banked, so maybe I'm okay on that front.

Kevin Ferber:

Yeah. And you had yourselves banked about seven to 10 years ago. So now you have cells that are seven to 10 years younger. But what's really neat is that we've done a study internally at our lab that should be published relatively soon on different samples of our own cells of client's banks. So we have cord blood, cord tissue samples, adipose bone marrow, even a family lineage of a son, a father and a grandmother of their adipose cells. And as a whole, we saw that to Sean's point earlier, the adipose cells have long telomere lengths, which your end caps and your DNA, that's really the only way we can tell about cell health in general. And even we saw the grandmother had longer telomere lengths than her grandson saying that she had younger cells. So that leads me to, my unpopular opinion is yes, I agree that your personal core blood, core tissue cells were the youngest cells you ever had. But who's to say that some random donor baby stem cells that could have been grown out thousands of times from their cord tissue are healthier and more viable than your own personal cells.

Dave Asprey:

Maybe some aliens genetically engineered us 5,000 years ago. I've had at least one guest on this show who I'm pretty sure believes that. And we're actually getting, so we die sooner with each successive generation so that we can't actually grow to take over the universe. You think that's likely?

Sean Berman:

No. I think science says that's wrong.

Dave Asprey:

Oh, you used to speak for science now?

Sean Berman:

Yeah.

Dave Asprey:

How many masks does science say I wear?

Sean Berman:

24 and a half.

Dave Asprey:

Okay, nice.

Sean Berman:

No, but look at it. You just get married at 13 and die at 30. Right?

Dave Asprey:

Exactly.

Sean Berman:

And now you get married at, yeah, I don't know, at 30, whatever.

Dave Asprey:

There is evidence that people did live substantially longer if they didn't die of childbirth or disease.

Sean Berman:

Moses was like 400, right?

Dave Asprey:

Well, I mean, they do say that. Maybe they counted years differently back then. But if you look at old writings from a lot of different places, it looks like people, if they didn't die of the common things, war and infection, that they were living a meaningfully long time many generations ago. And we can't be certain of that. I mean, who the heck knows? But I always wonder what you're saying is if your grandparents could have longer telomeres when they're 70 than you do when you're 20, either our telomere science is complete garbage. I don't think it is, but I don't think it's as good what people say it is. So then maybe every successive generation is getting less good at managing telomeres. I have no idea if this is true.

Kevin Ferber:

Or maybe their son was in poor antibiotic health or who's to say?

Dave Asprey:

Marinated in glyphosate in the womb. I mean, who would ever imagine that that could have a problem? But let's say guys don't pay attention to glyphosate or atrazine. Pay

attention to carbon dioxide because you're bad at science. Anyway. Sorry. Fix the glyphosate, fix the pesticides, and then talk me about carbon dioxide.

Sean Berman:

Tree food.

Dave Asprey:

Yeah, exactly.

Kevin Ferber:

Hopefully you got your cells stored before you went vegan, and then they're probably a lot healthier for us to get.

Dave Asprey:

Sadly, it was as I was recovering from being a vegan, that made me really ill. And I always pick on vegans, and there's a lot of vegans who listen to the show actually. And I'm hoping by now that they know that I stand for the same things they do. It's like I don't want to make animals suffer, and I want to be really healthy and I want to keep our environment, actually want to make it better than it's today. And that's why you eat grass-fed animals. So shared values, different behavior set. So anyway, I tease you guys, but you know that we're actually working on the same team except for kale, f\*\*k kale. I'm sorry. I try not to drop F-bombs on my own show, but kale, kale has really wronged me.

So here's a question for you. Stem cells and kidney function, if I get kidney stones from eating kale with oxalic acid and I do stem cells, will they help me with kidney stones caused by kale and spinach and being vegan?

Sean Berman:

I really don't know. We haven't had that particular patient come into our clinic yet looking for that solution.

Dave Asprey:

I've never heard of that. But probably after you get your stem cells ultrasonically broken up in your kidneys and you pee them out in an incredibly painful process, stem cells would help your kidneys heal from the trauma of your vegan diet?

Sean Berman:

Stem cells are really good at clearing bad cells out and initiating autophagy. So maybe it helps there, but I don't know if they're going to clear your kidney stones by any means.

Kevin Ferber:

And Dave, I think you made a great point. Where we are today is the most archaic place we'll be in stem cell therapy. So who's to say what your stem cells can do in 100 years

from now? And different studies are coming out and working together and collaborating on different studies.

Dave Asprey:

Do you think there's any electrical activation of stem cells, vibrational sound, chanting with sound balls, hitting with lasers or I don't know, radioactive spiders? What can we do to our stem cells before we put them back in where they don't quite become drugs, but they're better than they were before?

Sean Berman:

That's a good question. So if you actually give stem cells a different frequency, you can promote them down different pathways.

Dave Asprey:

The frequency of sound, heat, what are you talking about?

Sean Berman:

Energy. So if you put them on a vibrational plate, you can turn them into cardiomyocytes. So you can promote them down certain pathways, which with different kind of energy.

Dave Asprey:

Wow.

Sean Berman:

Our thinking clinically at least is mother nature's a lot smarter than we are. The doctors I work with are brilliant. They're really, really smart people. But mother nature's been working at this for millennia. All we're doing is harnessing mother nature. Mother nature designed a stem cell for you with your own DNA, worked at it for a long time. And all we're doing is isolating that, giving it back to you right away in the clinic or sending it to Kevin who's allowing them to just naturally self replicate, not changing anything about them and then reintroducing them into the body, letting the body tell the stem cells what to do. So we don't really want to put too big of a thumbprint on it. Also too, in a lot of the work I did, the more heavy-handed you were in trying to intervene with the stem cells, the less well they performed when you introduced them back clinically.

Dave Asprey:

Can we get a little bit, woo?

Sean Berman:

Sure.

Dave Asprey:



All right. I'm 100% convinced that there is a separate consciousness inside every mitochondria, every bacteria on the planet has its own consciousness. It's a pretty stupid consciousness with a small sphere of awareness and very simple decision making. But every bacteria, everything that's alive, probably not viruses, they have rudimentary environmental sensors and then they respond in a certain way using what essentially as a compute framework. If, then kind of things like if scary secrete, sure. The polysaccharides if safe, replicate. Basic stuff. And they weren't built on a foundation of those, that's a distributed intelligence inside our body. So it actually has to work in that way that each little stem cell has its own consciousness and it's a collective consciousness with all the other stem cells. Because we know they vote with each other, right?

It's called quorum sensing. And bacteria do it in colonies and stem cells do it. They vote with each other. And so it looks scarily like crypto algorithms in order to decide what they're going to do as a group consciousness and all this happens before we can think it's really, really cool stuff. What that means though is that they're paying attention to, we'll call it the information field of your body or the morphogenic field as some people would call it, because something has to tell them what to do. And some of it's chemical sensing, but a lot of the stem cell people I've worked with will tell you when no one's looking, "Hey, do you want to hold your cells for a minute and just like tell them what to do?" What do you think about that?

Sean Berman:

I've got no idea. But I do like what you said about mitochondria because essentially before we were humans, mitochondria were another species. And then our cells kind of teamed up with mitochondria to produce energy in a symbiotic relationship. They have their own DNA, so sure, they probably think on their own wavelength. You just got to figure out how to communicate with them.

Dave Asprey:

Yeah. I think our cells also do that as well.

Sean Berman:

They do do that. We know they do that. We know there's cell signaling that occurs all the time. Is it you talking to the cell that's going to make it do what it needs to do? If that makes you feel better, that's fine.

Dave Asprey:

Maybe if you're on acid, not in a normal state of consciousness.

Sean Berman:

The talking that we want is from whatever injury that you have. And that's what the amazing thing about the body and what we're just trying to take advantage of naturally, is if you have an injury, we call it a cytokine signal, that injury will be giving out signals all the time. And when we put cells in and there's a loud cytokine signal, the cells

respond and do a much better job in promoting healing in a quick time. So when I was talking about my traumatic brain injury study saying, Hey, when we gave these animals stem cells right by the injury, and within 24 hours they got a much better result. Why? Because the cytokine signal was much louder. And that's injured cells talking to the stem cells, telling them what they need, telling them what to do. The longer you wait, the quieter that cytokine signal gets so there's less of a signal telling the stem cells, "Hey, come this way, come help me out, do anything."

And that's where some of these other energy interventions to amplify the cytokine signal externally, other energy sources will actually help the ultimate stem cell response. So you could use acoustic shockwave maybe to stimulate parts of the body, increase the cytokine signal and get-

Dave Asprey:

A what?

Sean Berman:

I don't know. You've got a certain interest. I'm sure you, but no. So, okay. My partner, Dr. Lander-

Dave Asprey:

Acoustic shockwave, by the way, it is for tendonitis. That's what I was thinking.

Sean Berman:

That's what it started for. But you've been asking a lot of questions about downstairs. So Dr. Elliot Lander's a urologist, so he was using acoustic shockwave device for erectile dysfunction and he'd get about 50% response rate.

Dave Asprey:

Actually, I did a whole show where I did a video of me getting it. So yeah, yeah. Shockwave therapy works on your tendonitis and anywhere else you might have that tendon.

Sean Berman:

So anyway, he would do that, but then he'd also try stem cells and he'd get about a 50% response rate. But then when he combined the two, he'd bump it up to a 75% response rate. And he is published on this stuff. But that's the whole point. You want to increase the cytokine signal at the injury that you're trying to treat. When you're young and just trying to promote health and wellness, we'll just rely on the natural cytokine signals that we have in our body and let the stem cells be directed naturally. I don't really want to tell them what to do. I want them to go do what they need to do.

Dave Asprey:

This will sound super, super weird, but I'll share with listeners and with you guys what I do. So my assumption here, I've got a whole crowd of relatively stupid, relatively fast

dumb consciousness things. So I will tell them to the best I can. And there's energetic field stuff. I've studied esoteric stuff all over the planet. So I'll be like, all right guys, some of you're going to go somewhere for a while, don't worry. You're not going to die. Because there's actually a cell death process and a cell stress on individual cells. I'm like, let's minimize that. So, it's okay. And then when they're coming back in I'm actually telling the cells in my body, "This is native, welcome it back in and use it."

And then telling them when they're coming in, whatever you can do by looking at them and thinking good thoughts that basically come in and this is a safe place so that there's maybe less of a stress response from the cells and maybe less quorum sensing that has to happen when the body's like, wait, is this part of my mitochondrial network or is this an old one? Because I know there's intelligence in the distributed system and I have a degree in distributed systems.

Sean Berman:

No, there's a lot of people that have done studies like that. Yeah, I mean the guys at Penn did a study on TBI. So they get take a group who gets a traumatic brain injury and they divide them up into natural pessimists or optimists, and they actually see that the pessimists use less of their brain after their TBI, whereas the optimists actually use more of their brain after their TBI.

Dave Asprey:

Oh, wow.

Sean Berman:

So it's kind of like the optimists are like, well, crap, this part is out of commission right now, so I better use other parts of my brain to kick into gear right here and blood flow will be seen in areas of the brain that you wouldn't have seen otherwise. So there's definitely something to the power of thinking.

Dave Asprey:

And guys, I'm not telling you that you need to do that. I'm not telling you that I know it works because I don't know if it works. It logically follows that if I can get that signal through using all of the different energetic things that I know about that it certainly is unlikely to cause harm. And at worst it probably does nothing. And possibly it does better. And the people I know who are really good medical intuitives who can sort of get a sense of what's going on with you, and you walk in the room, they're like, "Why is your back hurting?" You're like, "What do you mean?" But they just know anyone like that. These are advanced healers.

Sean Berman:

Yeah, no, I think a lot of older doctors are like that and it's because they've been around for a long time. The new wave of medicine is very anti-litigious, so they want to cover their basis so that they don't get sued. But if you've been around the block for a long time, you might be more comfortable to say, "Hey, I really want to figure out what's

wrong with you." And I'm not saying that young docs aren't good. There are tons of great young doctors and there are tons of bad old doctors. But I just think if you've been around the block a little bit longer, you're going to say, "Hey, what's wrong with you? I'm really going to take a deep dive to figure it out", and use whatever means you can to go down that pathway there.

Dave Asprey:

There's a knowingness in doctors who've had 20 or 30 years of clinical practice, "Look, I have a real strong sense that this is what's going on, so we're going to run that lab test." "How did you know?" "I just knew." And sometimes they won't even tell you unless you're friends and they're like, "Look, I just know because I can. I see it. I sense can smell it." Yeah, they can smell it. And it's not that there's a logical connection there, but it's just pattern matching through unconscious parts of our consciousness. And it's magic when that happens.

Sean Berman:

Well, I've had a lot of doctors tell me that they can actually smell disease from a patient's breath and they can know, hey, you might have cancer or something like that. And you think about dogs can probably sniff out half of this stuff too. So sure, a well-trained doctor probably can as well.

Dave Asprey:

Cancer trained dogs now can sniff out cancer. I know a doctor who is like, oh, I can smell an alcoholic. Usually if they haven't had a drink in three days, they all smell the same, it's a classic, they walk in the room, they're like, "Alcoholic."

Sean Berman:

What the heck? Crazy.

Dave Asprey:

So that's real. So I don't discount human experience in clinical experience at all. And when I talk with people like that, in fact one time I had both my marrow and my fat cells injected at the same time. And one of these, I will say advanced healers, was like, oh, that's weird. There's kind of two different signals I'm picking up. That's creepy.

Sean Berman:

Did you tell them to play nice?

Dave Asprey:

Actually, at the time I didn't know to do it with him, but this is actually a person who was trained to actually interface with cellular tissues. It's one of those people who could be like, "Look, your knee doesn't know how to talk to your hip." So it's different than functional movement. It's a weird skillset of interacting with the local stupid intelligence of the appropriate receptors in a joint, accessing that system and then hacking it. And

look, I can't tell you with certainty all this stuff works. All I know is I moved a lot differently after those sessions. Maybe it's all placebo. I just don't think so. So those are the cutting edges of bio. How do we get into the invisible parts of our body? And stem cells are a fundamental invisible part that's very powerful. That's why I'm interested.

Kevin Ferber:

And to your point also, the placebo effect is really real. There's some doctors out there in this space where it's a cash pay and they want to take patients that are willing and open to the potential stem cell therapy where they might go through a headache if there's someone that's really cursing it out saying a nonbeliever in it, then it really might not be the best idea for them because there could be a part of that placebo effect.

Dave Asprey:

That's true. And in fact, they're also almost certainly are people who have gone to a stem cell clinic somewhere on the planet and got salt water and thought it cured them. It has to happen.

Sean Berman:

Yeah, it's unfortunate because a lot of people are, this is a really, really exciting field and it's my art passion we've been working on. And people take advantage of the name stem cell because it's exciting. It's sexy, it's cool. It's promising.

Dave Asprey:

Did you see my new stem cell coffee?

Sean Berman:

No, but we should drink it.

Dave Asprey:

I don't have a new stem cell coffee. But that's the kind of thing that's happening.

Sean Berman:

And that's what it used to be. I think before FDA lawsuit there was stem cell, everything, stem cell, face cream, toilet paper, everything in between. And then when the FDA lawsuit was going on, people kind of pivoted to exosomes and then now you see exosome, everything. It's kind of like the new stem cell. And I'm really excited for the future because now that we've got autologous stem cell therapy back and kind of free of this FDA thing, we'll figure out the deal with exosomes and hopefully get them there too. There's a lot of really exciting potential for regenerative medicine coming up. And it's not about getting these major surgeries. It's about healing your body naturally, the way it's designed to heal and just promoting it from a minor clinical intervention.

Kevin Ferber:

And what's been fun is working with Sean's clinics and some other partner clinics there is that there's room for everyone in this industry and collaborating and putting out actual research and seeing where patients are getting better. That's the only way you kind of push forward this industry is checking the safety and checking the efficacy of your different studies.

Dave Asprey:

And speaking of Sean's clinics, [Californiastemcelltreatmentcenter.com](http://Californiastemcelltreatmentcenter.com) is, do you have a smaller URL? Is that California Stem cell Treatment Center.

Sean Berman:

So I told you we work with really, really good doctors. We're not great at marketing or all that stuff. So yeah, [Californiastemcelltreatmentcenter.com](http://Californiastemcelltreatmentcenter.com) is where you can find us.

Dave Asprey:

Okay. And this is your network of clinics or is this how you work with other doctors? I'm not really clear on that.

Sean Berman:

So I work with California Stem Cell Treatment Center, which is a clinic in Beverly Hills and one in Rancho Mirage. Originally founded by my father and his partner, Dr. Elliot Lander. And they started doing this stuff and collecting data together under IRB approved protocols. And Elliot's a very prominent physician down in Palm Springs area. My dad was a president of National Academy and started sharing it with their peers and their colleagues and there's people saying, Hey, we want to start doing this work with you. How can we get involved? And that's where it was formed as network we call Cell Surgical Network where these doctors around the country and around the world started doing these procedures. But we required everybody to enter their patient data into an online database so that we could track patients for every three months out to five years collecting long-term safety and efficacy outcomes.

So we can know what works and what doesn't work. If the clinic can treat 100 patients in a year, great. And it's going to be across the board. Because we've got cardiologists, urologists, orthopedic surgeons, neurosurgeons working with us, but if we could pull a team of international doctors together on this database, we're going to get way more data way quicker and we can make much better decisions about what works and what doesn't work. So that was the goal and that's how we set it up and all started at California Stem Cell Treatment Center.

Dave Asprey:

Absolutely love it. And then people interested in stem cell banking, you want to call your local banker [americancelltechnology.com](http://americancelltechnology.com)?

Kevin Ferber:

Yeah, absolutely. And we also work with clinics all over the country, so if you drop into our site or reach out to us, we can partner you with one of our clinics nearby as well to put you in touch.

Dave Asprey:

So americancelltechnology.com is just basically a way to find someone who can bank your cells for you?

Kevin Ferber:

We don't have a clinical setting, so we are sort of simply the bank or the custodian of your personal cells, but we'll partner you with one of our clinics that we work with.

Dave Asprey:

One of the things I've found over the years is that there are a large number of exceptionally successful people listening to the Human Upgrade because when you hit a certain level of career success, oh my God, the thing that matters most isn't a Maserati. It's am I comfortable? Does my brain work? This is the big focus. So guys, if you're in that socioeconomic bracket, you've gone to 40 years of Zen and you're just all in on living a long time, you're crazy to not bank your stem cells. It makes so much sense and the same thing goes newborn stem cells. Talk to me about that.

Kevin Ferber:

So we recently launched our newborn stem cell brand Vital Cells and been revolutionizing really a very archaic cord blood core tissue banking process that's been around for 30 years and I know you've talked about it quite a bit and there's been severe limitations of those offerings until now with our Vital Cells brand.

Dave Asprey:

So with Vital Cells, you're collecting umbilical cells and cord blood cells and purifying them and using them.

Kevin Ferber:

Yeah, we're doing the same processing technique we do from a mini liposuction or fat, but we're taking your child's cord blood and cord tissue sample, isolating those mesenchymal stem cells and then culture expanding those and storing those in time so we could potentially have billions of cells for your child in the future.

Dave Asprey:

That is also remarkably powerful. So I wish I had banked my kids blood that was 16 years ago and there was nothing you could do with it and it was really expensive back then. I'm like, this is not worth it. So far they've never had a need for it, but today, if you were to bank your cells around birth or your kids' cells around birth and culture expand them so that they're waiting. Then if your head kid hits their head in football or there's a

car accident or something like that, you've got the ability to get the cells there within 24 hours.

Kevin Ferber:

Yeah. I joke with one of my friends I bank their son's stem cells, and I said, it's going to be funny when after a football game your son's friend's going to be getting McDonald's and your son's going to be getting stem cell therapy.

Dave Asprey:

And it's one of those things I sure wish I'd had that. I've had three knee surgeries before I was 23 because my knee was falling apart. It probably would've been helpful to have some extra stem cells around.

Kevin Ferber:

And to your point, it wouldn't have been worth your time banking your kids' cells 16 years ago or the cord blood because natively available in the core blood, cord tissue, there's only a couple hundred thousand to 3 million live mesenchymal stem cells. So to Sean's earlier point, if people are doing treatments on a million cells per kilogram body weight or Sean wants 100 million cells, what's really 300,000 cells going to do throughout your lifetime?

Dave Asprey:

Nothing. You'd have to culture expand it. Okay, awesome. What is stem cell therapy going to look like 10 years from now? What's going to be different?

Kevin Ferber:

I think from our perspective, one thing we're trying to do is really partner with insurance companies where you think it's the future of medicine. We already partner with some self-insured companies that are seeing the benefits of stem cell therapy, both on reducing overall costs and potentially getting their employees back to work in a healthier lifestyle. I know Sean mentioned is one example of potentially avoiding a total knee replacement. It's very expensive. The traditional American consumer will just get a total knee replacement because covered by insurance versus out of pocket cost. But how many people have you met that had a total knee replacement with 100% success?

Dave Asprey:

It's very rare.

Kevin Ferber:

And so with still therapy, there have been studies where people have avoided total knee replacement and potentially totally felt better and reduced any sort of injury they had at their knee and was able to live a more healthy lifestyle.

Dave Asprey:



That would've been fantastic to have access to that.

Sean Berman:

One thing I told you, we had this database so we can look at the average age when we started, it was high sixties and you look at it now, the average age has dropped to mid-fifties. So people are learning if I get stem cell therapy, this is an actual option for some conditions and I can do it earlier so that I can prolong my active lifestyle. My mom was my dad's second patient, she was supposed to get a hip replacement in 2010 and she was a marathon runner, ran six miles every day.

Dave Asprey:

No wonder she needed a hip replacement.

Sean Berman:

So she got injected 2010, patient number two and she hasn't had a hip replacement since. And she's a Soul Cycle, Peloton, all that stuff every day.

Dave Asprey:

Does she not learn from experience?

Sean Berman:

No. She gets stem cells. She's doing well. We want live these active fun lifestyles.

Dave Asprey:

Cardio isn't fun, it just sucks.

Sean Berman:

Yeah I agree with you. That's why I don't do it, but it's her thing.

Dave Asprey:

Full respect.

Sean Berman:

I don't want to take it away from here.

Dave Asprey:

I'm just teasing.

Kevin Ferber:

And Dave, to your exact point being out here and speaking to you and your listeners and reeducating that stem cell therapy isn't your line of last defense and having in that potential of having your cells bank to ready to go when you do need them, whether it's for general health and wellness or when you're injured out there, because I think people

get stem cell therapy out of the country or go to Sean's clinic and they say, "Hey, this is what I need for my lower back pain now." But then what are you going to do the next 20 years? What's going to happen? Are you going to sit down or are you going to be out surfing, golfing, being active, whatever it may be. You may slip and fall. The science is limitless as long as everyone keeps collaborating together and pushing the industry forward.

Dave Asprey:

Amen. Go out 20 years, I'm not getting the science fiction stuff I'm looking for guys. Come on.

Sean Berman:

20 years, take off the gloves. 20 years out there I think your own stem cells are the best thing for you. They're your own DNA. It's the way that you were made, I don't know if it's 20 years or I don't know if it's 100 years out there, but maybe you have some designer cells. So I always joke about it is going to a smoothie bar. I want some Michael Jordan for my hamstrings and my knees. I want some Mozart and some Einstein for my brain who's got good lungs? Michael Phelps probably has good lungs. I'll get some Michael Phelps from my lungs, but we're not there yet. And maybe that's even not the answer. A lot of people are looking into that CRISPR technology so they can do the gene editing and whatnot.

Dave Asprey:

I'm getting close.

Sean Berman:

But the gene editing's popular because then if I edit your genes and change them up, I can patent that and I can own it. And with what we're doing with personal cells, we can't own anything. You're the owner of your cells. So there's a big difference there.

Dave Asprey:

If I hack my own cells, I still own them.

Sean Berman:

Well yeah, you got to do that. Yeah. You're probably one of the few people capable of doing that.

Kevin Ferber:

It's really access to them too. Understanding the potential benefits of it and having access to them is really the long game for everybody. If you could just have a better quality of life while you're living to 180.

Dave Asprey:

I want to engineer bioluminescence into my cells so that I glow in the dark.

Sean Berman:

Can't you just crack open one of those glow sticks and drink it?

Dave Asprey:

I probably could. In all seriousness there are people who've done this to CAT but they're doing with CRISPR, how big of an upgrade can I do with stem cells?

Sean Berman:

For bioluminescence?

Dave Asprey:

Yeah. I don't think you can use stem cells for that kind of stuff, can you?

Kevin Ferber:

I think it's a small market.

Sean Berman:

I got to talk to Kevin off there and get back to you.

Kevin Ferber:

I think that's a small market.

Dave Asprey:

So I'm trying to figure out how many superpowers you can pack into stem cells and also we haven't talked about de-aging stem cells, which you could probably do. So you might be able to get my stem cells culture, expand them and say, I want them to be three years old and then look at them sideways and whatever the tech is for that.

Sean Berman:

So that that's absolutely something that you can do. The only problem is once I start more than minimally manipulating your cell or engineering it in some kind of way, that's when you start to head down the drug pathway.

Dave Asprey:

Oh, then just do it out of the US. That's no problem.

Sean Berman:

Well, and there are people that are doing it out of the US and doing some really exciting stuff with that work.

Dave Asprey:

What happens if your cells culture expanded here in the US and they get shipped out of the US and then they get radioactive spider bites and then you use them and you bring them back into the US?

Kevin Ferber:

Well, what we could do potentially is down the road is looking for those technologies you're talking about and reversing the aging. But then we'd go through the proper processes with the FDA to regulate for your cells to get yours back as a drug.

Sean Berman:

Then you can be sure that they're safe.

Dave Asprey:

So it would be like 100 times expensive in the US and then all of the people who would spend money in the US would want to go to, I don't know, Thailand or Mexico.

Sean Berman:

But that's like the rest of the US healthcare system. So what do you care?

Dave Asprey:

It's so funny because living in Canada, we all go to the US when we have urgent needs, but actually not urgent needs, we have chronic needs. If you break your leg, it's free in Canada, but then if you just need a test, you come to the US and then Americans are like, I can't afford anything here. And I spend two grand a month on forced healthcare buys for healthcare companies, half owned by government employees. So then Americans, we all go down to Central America to get our dental work done because you can't afford it in the US and it's becoming a little bit of a global market. Do you think the US is competitive now that you've won your lawsuit? Are we back to being competitive with global markets for stem cells?

Sean Berman:

I absolutely think so. I think so.

Kevin Ferber:

No question about it.

Dave Asprey:

It's a big win because now you don't have to leave the US and frankly things are safer here. There's more regulation. I'm not saying any one clinic isn't perfectly safe overseas. I'm just saying that the regulatory oversight here is, well, it's burdensome and insane, which means, well, a side effect of that is that it's probably safer even if it innovates a little less quickly.

Sean Berman:

Disregard that your doctor knows you. You live close to your doctor.

Dave Asprey:

That's fair point.

Sean Berman:

You can see them multiple times without having to book a plane trip to wherever you got to go. Having that personal relationship is huge and that's what medicine should be about. And the sad thing about medicine right now is it's turned into a 10-minute relationship where they shake your hand, write your prescription and see you later. Because it's about how many people can I see, get through the day, maximize it bill insurance for \$50,000, get \$50 and go home to wife and kids. That's not what it should be. It should be a personal relationship that you have with your doctor or doctors.

Kevin Ferber:

And what's interesting is that no one was trained in medical school to be a stem cell doctor. So you're starting to see these practitioners pop up and seeing some fantastic results and getting involved in other practices like your business partner Sean, who's a urologist, he does a lot of stem cell therapy on orthopedics. And so if they can be trained to being stem cell doctors, they can be potentially more of a holistic practitioner to Sean's point and helps service their patients through different conditions, whether it's orthopedics, auto autoimmune, or also push them out to other people in the regenerative medicine space where they specialize.

Dave Asprey:

Love it.

Sean Berman:

So just to correct you real quick, Elliot doesn't do the Dr. Lander who I work with, he doesn't do orthopedic cases, but he'll team up with an orthopedic surgeon or a orthopedic specialist to do orthopedic cases, and that's how you get the best care for your patient. Stem cells are just a tool in doctor's pockets. You still want a neurosurgeon working on your brain and your spine. You want orthopod working on your joints and you want a urologist working on whatever urologist works on. I'm sure you know.

Dave Asprey:

All right guys, thanks for going to the future of stem cells with me and just thinking outside the box. And also thanks for being, I think you were the first stem cell banking clinic in the US.

Sean Berman:

Yeah, we're definitely the largest stem cell bank in the US.

Dave Asprey:

Got it. So very, very early adopter. And so the guys who have my stem cells and just eternal thanks for showing legally that my cells are my cells and they are not subject to regulatory oversight by people who actually hate humans. I'm not saying which agency that is. I'm just saying that the behavior pattern I see there is not one that's compatible with me being in my full power. So thank you for preventing tyranny over our medical freedom and you put \$7 million in five years of your life on the line for that, and that is seriously meaningful work and genuinely appreciate it.

Sean Berman:

Well, it's bigger than us and thank you for sharing the word with your audience.

Dave Asprey:

You got it. So guys, if you're saying, where do I find all this stuff? Okay, stem cell banking is [americancelltechnology.com](http://americancelltechnology.com). You go there, you can find a doctor who will bank your cells, add it to your list of one-time health upgrades to do so you have them available. Whoever banks, your cells is also likely to be able to put those stem cells wherever you want. I highly suggest you get them intravenously at least. And then if you'd like to do this in California and learn about all of the other stuff that's happening, it's [Californiastemcelltreatmentcenter.com](http://Californiastemcelltreatmentcenter.com). So those are your two URLs. And seriously, you got to get a-

Sean Berman:

We'll work on it.

Dave Asprey:

California Stem Cell Treatment Center. It's only five words you can do.

Sean Berman:

Dot com.

Dave Asprey:

Dot com. There you go. Six words. Seven. Seven. Yeah. Dot's a word, geez. Anyway, we'll have links in the show notes for you and things have changed. It is now safe and effective to do stem cells in the US and you can have your stem cells on ice ready to ship to you anywhere in the US and probably anywhere on the planet depending on regulatory stuff when you need them, if you're in a car accident or if something traumatic happens. And you can also have them for less cost available with three weeks notice. If you have a chronic problem you need to get fixed. This is worth doing, I think it is, to the point I did a long time ago. I'll see you all on the next episode, and I hope you're joining me on the quest to upgrade humanity and upgrade yourself. That includes living longer, having better stem cells, better brain, better eyes, better urology area. See you all later.