

Dave Asprey:

If you're a regular listener you've heard me share my list of top 10 biohacks. Let's talk about number nine, fun hacks with a Bulletproof mind. It may sound weird but hanging upside down is a great way to hack your brain. Regularly inverting trains your brain capillaries making them stronger, more capable to bring oxygen to your brain. It's pretty straightforward. More oxygen in the brain means better performance.

I get my daily stretch and my dose of oxygen with my Teeter inversion table which is so essential for optimum focus, concentration and mental energy. That full body stretch elongates the spine and takes the pressure of the discs so they can plump back up. Less pressure means less pain. If you have back pain, even if you've been lucky enough to avoid it so far, you really want to teeter to invert every day to keep your back and joints feeling great.

For over 35 years Teeter has set the standard for quality inversion equipment you can trust. My friends over at Teeter have decided to show some love to Bulletproof listeners. For a limited time you can get the Teeter inversion table with bonus accessories and a free pair of gravity boots so you can invert at home or take the boots with you to the gym. To get this deal which is a savings of over 138 bucks, go to getteeter.com/bulletproof. You'll also get free shipping and a 60 day money back guarantee and free returns so there's absolutely no risk for you to try it out. Remember you can only get the Teeter with bonus accessories and a free pair of gravity boots by going to getteeter.com/bulletproof. G-E-T-T-E-E-T-E-R.com/bulletproof. Check it out.

Speaker 1:

Bulletproof radio a station of high performance.

Dave Asprey:

You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that of the 206 bones in your body, 106 of them are in your hands and feet. Today we are going to be talking about all sorts of orthopedic things but more importantly we're going to be talking about stem cells. In fact, just about everything you wanted to know about stem cells because today's guest is Dr. Harry Adelson.

Harry is a friend and he did some major stem cell work on me pretty much every site of injury about a year ago. He spoke at the Bulletproof conference about this in 2016. He'll be coming back to the stage in 2017 to share more. Harry's had a pretty tumultuous year because in addition to continuing to run his clinic, he had a major stroke and you would not know he had a major stroke. So we're going to talk about that. We're going to talk about radical healing. We're going to talk about new research that he's recently written. Just give you a good grounding in what are stem cells, what can they do for you, how much they're going to cost and help you understand why this is what I believe is to see change in your ability to make your body do what you wanted to do. So, Harry welcome back to Bulletproof Radio.

Harry Adelson: Thanks Dave. Thanks. I'm glad we had such a good outcome with you, with your low back pain and your knee pain and your shoulder.

Dave Asprey: Yeah. Let's talk about that for a minute.

Harry Adelson: Sure.

Dave Asprey: So I came in and I have these chronic injuries. I've had three knee surgeries before I was 23. I have a screw in my knee and lots of other injuries. I had a thing in my shoulder that had been bothering me for a long time. Some upper cervical like upper back pain that probably was even the beginning of arthritis that was largely caused by not knowing I was nightshade sensitive as well as just some injuries, low back pain. So Harry went through, took out stem cells from my bone marrow and from my fat and basically put them all over the place. It was like a full day of injections using a 3D x-ray machine to make sure the needles were there.

We're sitting in front of it. If you watch on YouTube bulletproof.com/YouTube you can see some of the stuff we're doing. We're wearing scrubs. We're looking all medical here. It's pretty interesting because even within a couple of days my pain levels were down. You also treated my wife, Lana, she had similar experiences. So that was definitely a really positive experience because I don't have pain in those areas anymore which is I think something that you would expect. You see this in a lot of your patients.

Harry Adelson: Yeah, that's great. You know there's the field of orthopedic medicine and in orthopedic medicine there are things wrong with your anatomy. So if you do an MRI, if you do an x-ray you can actually see stuff in the gross anatomy that's gone wrong. The issue is most of chronic pain happens on the microscopic level. When you move into the area ... so if you've ruptured your bicep for instance, obviously that's the problem and that needs to be surgically repaired. When you move into chronic low back pain, somebody has had back pain for 10, 20, 30 years, somebody has had pain anywhere in the body really, sometimes you'll find stuff wrong with the MRI but frequently you won't, and really where the pain is coming from is from the microscopic level.

There's two main things that happen. The collagen matrix becomes irregular so now the miracle fabric that is your connective tissue loses its miracle properties. Second of all, you grow these new blood vessels that are irregular and abnormal blood vessels. So even though you have a higher concentration of blood vessels and thereby every time you grow a new blood vessel, you grow a new sensory nerve, your ability to bring oxygen to the area and bring carbon dioxide away actually becomes diminished because there's all these little dead ends. So a lot of the pain, the chronic pain, is actually hypoxic pain.

So when you said you got injected all over, that's exactly right. When we're treating a low back, we're not just trying to identify the one single structure that

is the problem which is the trap that we fall into with conventional medicine. Really the problem is these entire tissue beds. So when we bring stem cells to the entire tissue beds, we grow healthy new blood vessels. We help grow nice even collagen fibers and restore health to the tissue.

Dave Asprey: You talked about hypoxic pain some people may not know what that means. That just means you're not getting enough oxygen there and in Head Strong I read about pseudo hypoxia which is something that happens when your mitochondria don't work very well. You actually get local pockets where there just is enough oxygen and then that makes the problem even worse which contributes to pain. So what's going on here is when you inject stem cells mitochondrial function improves. Is that a part of it because you have new cells with new mitochondria?

Harry Adelson: Everything improves. When you bring oxygen to the area, then everything improves. There's what's happening on the cellular level and then I focus mainly what's happening on the interstitial level which is the connective tissue between the cells so that's where most of my knowledge is.

Dave Asprey: That's probably mostly collagen and ...

Harry Adelson: Largely collagen.

Dave Asprey: Clearly I've been eating collagen for a long time because I manufacture the big grass-fed collagen product. Is eating collagen important for healing?

Harry Adelson: A balanced diet is critical of course. Absolutely.

Dave Asprey: What the heck is a balanced diet?

Harry Adelson: I think that for different people it means different things. I think everybody just has to experiment which what works for them. Let's have a brain. Diet soda, it needs to become banned. It is absolute poison. The whole concept of being diet. I mean that's just a travesty that they're even allowed to use that word because it's proven that diet soda makes you fat.

Dave Asprey: It's the best marketing ever. You sell something to someone that does the opposite of what it's supposed to do so they'll do it more and it's evil. Diet soda should be just take it off the market tomorrow. You can do things with stevia and all that. You can have zero sugar but it doesn't mean it's diet. It just means it has no sugar in it.

Harry Adelson: Yeah. So much of what I see with people with chronic pain is that they haven't even had that many injuries or that much overuse, it's just they put such poor nutrition into their body that their joints disintegrate. I treated your parents yesterday. I had very interesting conversation with your dad about pesticides. He has a lot of interest in that. Roundup needs to be banned.

Dave Asprey: Amen brother!

Harry Adelson: It's time.

Dave Asprey: Five billion pounds a year and it's a mitochondrial poison. I read a lot about that in Head Strong as well because you look at what it does. The gly part of glyphosate is glycine, and what's the number one amino acid in you collagen? Its glycine. This poison can actually go in when your body is trying to make healthy collagen. It'll make collagen that incorporates a pesticide instead of the right amino acid. No wonder you get a regular collagen. No wonder you get pain. It's just unacceptable. If there was a death penalty for a company, it's hard to kill companies but ...

Harry Adelson: Especially that one.

Dave Asprey: Yeah I know. That one needs a death penalty. We should literally seize all of their assets and use it to repair the damage they've done to the world. You hear that? We're looking at you. All right, let's get back to stem cells. Unless if you ever mix a little bit of Roundup in the stem cells just to piss them off if we inject them?

Harry Adelson: No, no one has ever pissed me off at all.

Dave Asprey: No, just to piss the stem cells so they'd be more aggressive.

Harry Adelson: That's not the kind of counter or take that we're looking for.

Dave Asprey: I'm totally kidding. It's one of those things where if your chronic pain comes from chemical exposure though where certainly a lot of mine did from toxic mold exposure and a lot of people with chronic fatigue syndrome and fibromyalgia that's the root cause is poisoning of the tissues. Does stem cells work for those kind of things?

Harry Adelson: I don't think that's ever been formally researched and I don't know the answer to that. I can tell you that every time we do a stem cell treatment ... So mostly what we do here as we discussed in the last podcast as we discussed at the conference we're going to discuss again at the conference, we take stem cells from your bone marrow, from your fat, combine them then inject them into whatever the damaged structure is. So whether it's intervertebral discs, whether it's a joint, whether it's a tendon, but additionally we take some of the stem cells from your fat and give it intravenously. Every single patient even if they're ...

Dave Asprey: Had some right here yesterday.

Harry Adelson: That's right. Even if you're just coming in for arthritis of the knees, we go ahead and give some intravenously. I have had people tell me all kinds of stuff that

they didn't even told me about. My exercise induced asthma is better. It's astounding to me what people come back to me and say has improved.

Dave Asprey: My brother-in-law had intravenous stem cells and he had a life threatening heart valve issue that spontaneously reversed itself which has never happened. That doesn't happen. You have to have surgery. Like well you have no symptom of this anymore. Just healing that doesn't make any sense except it does.

Harry Adelson: I'm treating your brother-in-law in two weeks for his desiccated disc. He has a dehydrated lumbar disc which is very painful to him. He did it sheering sheep. Wasn't that it?

Dave Asprey: Was that how he did it?

Harry Adelson: It's a sheep herding injury.

Dave Asprey: He was a pro motorcycle racer too. He's been life-flighted out and things like that. So I'm sure that you're going to have lots of needles to stick in him in various places. Let's talk about disc because you just wrote a paper and post into research on specifically discs, right?

Harry Adelson: Yes. So I've been part of what we do is treating the low back pain and neck pain. Of the cases of low back pain, something that we see frequently here in this clinic is young people, starting in their early 20s on up but it can be young, healthy athletic people with midline pain worse bending forward. So they had a life time of athletics and then they do this one sort of ... a common one is the popular CrossFit exercise of deadlifts combined with box jumping and they do that and it puts them to the floor. Then that just totally changes their lives. Then we get an MRI and we look at the T2 weighing and we see their discs are white, white, white, black or dark gray.

Dave Asprey: Because it's just damaged.

Harry Adelson: Completely dehydrated. So the level of whiteness represents the level of hydration. So when it's black, it means that disc is dehydrated. Now what's interesting is when you look at the radiology report, if it's from Scripps or Mayo clinic or one of the real high end radiology centers, they mention that that disc is desiccated but more than half of the radiology reports that I see from the less than the most high end radiologist don't even bother mentioning it. It is so obvious it's like someone turned the Christmas tree off. It's that obvious. They don't even bother mentioning it. The reason is because most surgeons don't really care. It really doesn't really register into their thinking. So to me that is the single most important finding in an MRI.

I mean if their disc has exploded into the spinal canal, that's important too. But a black disc, a dehydrated disc is something that conventional medicine other than fusion has really nothing to offer and that is a condition for which stem

cells functions beautifully. So you mentioned the paper I published in the Pain Practitioner which is the publication of the American Academy of Pain Management and I did a survey. We took a period of time. We found 30 people that we had done disc injections with stem cells, this is bone marrow and adipose stem cells.

Dave Asprey: From the person with their own stem cells.

Harry Adelson: With their own stem cells. We injected them into the black disc, into the desiccated disc, the dehydrated disc. We would do epidurals. Put stem cells up into the spinal canal and then we would do all the ligaments of the back and the sacroiliac ligament, iliolumbar ligament. Of the 30 people we surveyed, we called them one year later so this is 12 months after the intervention. We have one person who didn't have any improvement at all. He wasn't any worse but he wasn't any better. So that's 0.3%. I'm sorry, no 3%.

Then we had five people who had 50% improvement. We had four people who had 100% improvement and then everyone else fell somewhere in between the average improvement with 77.5%. So this is not a major publication. This is not a major journal. It didn't not have an IRB approval. There were certain things that we didn't do but it's my clinical experience and we're having good success.

Dave Asprey: There are seven different kinds of evidence. The highest form of evidence is not a double blind trial. That's only if you're a science troll. The highest form of evidence and in clinical practice and this works and it works reliably most of the time. You will see more as a physician and knowing thousands of physicians like they are the people doing the cutting edge stuff and every time someone says that can't work because there's no double blind trial, they're actually making humanity weaker.

Harry Adelson: Just because it hasn't been scientifically proven doesn't mean it's been disproven.

Dave Asprey: Exactly, right. So I hear people apart from frustrated physicians saying this works. I've studied it for 40 years. It's changed thousands of lives but nobody believes it works and they're just at their wit's end. In this case ...

Harry Adelson: Contempt prior to investigation condemns you to eternal ignorance. So there you go.

Dave Asprey: Great quote. Now you noticed this is a fact and you've been focusing on treating pain and treating joints and all this and certainly my knee is tighter than it was. I think the stem cells is works better.

Harry Adelson: Meaning more stable.

Dave Asprey: Yeah more stable. Not tight in a bad way but just my knee caps were hypermobile and 13 years of soccer when you're obese will do that to you. I had PRP injected in it before and it had a moderate effect from that but the stem cells were much stronger. When you're dealing with patients doing stem cells and you do them intravenously, what else happens with an intravenous infusion?

Harry Adelson: Well I've never looked formally but I can tell you that I've had lots of people tell us ... I mean theoretically I can tell you it gives you a systemic boost. The way stem cells function we have stem cells in every connective tissue in our body. Their job is to maintain the health of their micro environment. When they're in their normal resting state, they're just in this inactive state wrapped around blood vessels and when they activate they detach from the blood vessel and signal the micro environment to go into healing mode.

So when you give a burst intravenously, you essentially trick the body into thinking that there's been an injury and you go to into hyper healing mode. There is a very interesting mouse study and I remember the woman who quoted the study. I heard her give it at a meeting. She had this very high voice. On top of it she was kind of pretty and young which made it all even weirder. She was talking about this mouse study where they took these mice and they injured ... they essentially induced a macular degeneration by injecting chemicals into their eye.

Dave Asprey: Sucks to be a mouse today.

Harry Adelson: This is really a bummer if you're a mouse. So then they did these biopsies and showed the vascular damage. Then they burned the mice. This woman was telling the story and we're all just sitting there going "Ugh!" by burning the mice they waited a period of a month after the burn and then they did another biopsy of the eye and found that their macular degeneration had improved.

Dave Asprey: Because of the burn?

Harry Adelson: Exactly.

Dave Asprey: Truth be told just to disclose this. They do anesthetize the mice before they burn them so they don't feel the burn.

Harry Adelson: True. Better but still have to burn.

Dave Asprey: Still sucks.

Harry Adelson: Still sucks for the mouse.

Dave Asprey: There's lot of people are like horrified. They're like, "Oh at least they're minimizing suffering." I got to give them points for that.

Harry Adelson: So theoretically by giving stem cells intravenously what we're doing is tricking your body into thinking that you had this sort of systemic insult without actually having been injured and you get all the benefit of a healing response without actually having been injured.

Dave Asprey: Okay that's pretty profound. One of the things that I've been doing lately is I've been exercising with compression bands on a device called the Vasper so you're in ice and I did a podcast with the Vasper creator recently. One of the things it does is it tricks the body into thinking that you have done several hours of exercise by creating a big pulse of lactic acid. So you've exercised for 20 minutes but you get the lactic acid of two and a half hours of exercise. So, the body is like better make growth hormone, better up regulate hormone production and this reminds me of that same approach where we're sending these signals in. Do you do anything else or can people listening to anything else do either create a signal like that at home or to amplify the signal as stem cells? Any thoughts come to mind?

Harry Adelson: I believe in the four pillars of health which is good sleep, good diet, getting your emotional needs met and then exercise. I think if you're getting a B or a B plus in those four areas, you're doing good. I think you can get real fancy with all of this and for most people in the world and most people listening if you just hit all four of those things and shoot for B in all of them, then you're going to get an exponential effect in your overall health.

Dave Asprey: Let's switch gears a bit. I got a text message a few months ago from a mutual friend saying, "Dave, Harry is in the hospital. He had a massive stroke." I was like, "Oh no! You're one of the more forward thinking stem cell guys." There was concern about whether you'd ever be functional again. What happened?

Harry Adelson: So after my record year, all this good stuff happening in my life. Docere Clinics had a record 2016 largely thanks to you and largely thanks for speaking at the Bulletproof Conference and everything. It was Christmas Eve at home with my wife. We're leaving for New York the next day, long awaited vacation. My wife asked me a question and I went to make a smartass remark and I couldn't remember words.

Dave Asprey: Wow that's kind of scary.

Harry Adelson: It was very scary. So we went to the hospital here in Park City. They transported me to the big hospital. I kept having strokes. I'd sort of get better and then it will get worse. They couldn't ...

Dave Asprey: You're having more than one stroke basically.

Harry Adelson: It was lots of little strokes. I had two periods where I completely lost the ability to speak for a couple of hours. I'll tell you it is a very unpleasant sensation. So on day three, the surgeon comes in, sits down on my bed and says, "Well, good

news is we figured out why you keep having strokes. The best news is you have a bacterial infection of your heart and you got to have a valve replacement, open heart surgery in two weeks.” I said, “Excuse me.” So two weeks later I had a seven hour open heart surgery on the cardiac bypass machine for seven hours. I lost 20 pounds in muscle. When we did this podcast a little over a year ago you were 30 pounds lighter and I was 20 pounds heavier. It switched.

Dave Asprey: Yeah I put on a little muscle since then.

Harry Adelson: Yeah. I asked these guys from the infectious disease specialists to the cardiologist to the cardiothoracic surgeons, they all just said, “One in 100,000 you’ve hit the lucky jackpot.”

Dave Asprey: No idea how you got it.

Harry Adelson: No idea and they all said, “Quit trying to play junior detective because you will never know.” There’s no dental disease. My next door neighbor is an orthodontist. He’s done CAT scan of my teeth. I had no gingivitis. I had none of the risk factors. It was just crazy luck.

Dave Asprey: Did you have permanent brain damage from that or any kind of brain damage?

Harry Adelson: No. the good news about the types of strokes because what it is, is you get these accumulations of bacteria on your aortic valve and then they break off. So it’s just debris. It’s these little ...

Dave Asprey: Blood clots. Okay, good.

Harry Adelson: Yeah. It wasn’t a massive stroke. It was hundreds of tiny little strokes. I still am having a little trouble speaking but I’m only three months out. So at six months they said I should be completely recovered. I’ll tell you I mean it was a very frightening experience because it really made me realize how random the universe can be. So the upside is in recovery. So I’m the hospital all messed up. My wife gave me Vishen Lakhiani’s book *The Code of the Extraordinary Mind*.

Dave Asprey: Good book, yeah. By the way, you guys should read that book. I recommend and interviewed Vishen for it but read it because what happened when you read it?

Harry Adelson: So I got into the part where he was talking about a period in his career where he’s being very successful but he realized that a small key point of attention in his life had shifted where he was no longer working for his passion but instead he was working just to prove to himself. It was this small little psychic shift that occurred and I read that. I realized that over the last year I had become very comfortable in my little world. I had a great year.

We did 500 stem cell procedures here in this clinic and we helped a lot of people at a deep level. I had sort of created this little emotional and psychic

chorale for myself. I need to break that. So, what we'll talk about at the conference is my commitment to Bulletproof and to Dave Asprey and to you the listeners out there is my goal is to bring stem cell medicine to the people at an affordable price and create a self-sustaining system to provide at least platelet rich plasma and stem cell procedures at no cost to the medically underserved. We'll talk more about that when the time is appropriate.

Dave Asprey: One of the things that just drives me nuts. I'm a professional biohacker at this point. Like I fly around and do interesting procedures and I invest money in my quest to live to 180. People are saying, "When is this ever going to be accessible?" The first cellphones were \$50,000 and took a whole trunk of your car and they were \$10 a minute. Now they're almost free. The first sequence of the human genome, Craig Venter \$100 million in over 10 years. I remember I helped one of the companies, had a whole floor of the data center just to store his genome.

Now you can store your genome on your iPhone probably anyway. You can certainly get it done for 1500 bucks. So this happens over the course of 20 years. What you can do with this is you can take something that today runs about five grand and make it much, much more affordable so that people who have arthritis and are on fixed income there's no reason they should have arthritis. Like we can fix that.

Harry Adelson: The number one leading cause of disability worldwide is musculoskeletal pain.

Dave Asprey: You've got a hack for that. It's just slightly too expensive.

Harry Adelson: You got to make it accessible and affordable.

Dave Asprey: It's not \$50,000 like I'm sure ... in fact, you know what the total bill was for the procedures they did to save your life. It must have been half a million dollars at least open surgery.

Harry Adelson: It was close to that.

Dave Asprey: So you look at those numbers which is something that a lot of people spend when they have their federally mandated insurance and all that. Then you look at an expenditure of \$5000 that's not insurable right now and that's wrong. It should be covered by insurance. If it's not, if you can give them the \$500 and you're going to relieve yourself of pain so you can go back to work or you can go back to whatever is important to you, I think that's a pretty damn important mission Harry. It's a good one.

Harry Adelson: Yeah thanks. I thank you Vishen Lakhiani if you're listening to this.

Dave Asprey: Yeah I'll text him this afterwards. I'll make sure. Vishen and I got to be friends, he did [inaudible 00:26:53] and he's a fantastic human being. It's refreshing to

hear when one guest on Bulletproof Radio ends up affecting another one. Just the universe kind of aligns up that way sometimes. What did you do to speed your own healing?

Harry Adelson: Oh gosh! Well reading Vishen's book was a big part of it. That was calming my mind down because the most dramatic part of it was psychic. It was terrifying.

Dave Asprey: Of course fear of death, right?

Harry Adelson: There was a little medical mistake. They had to have me lay perfectly flat in the bed. That's part of it is because if you sit up, then that stuff rushes. That debris rushes into your brain. Well they had a little goof up where the physical therapist came in and didn't read the chart and had me stand up. I thought she was giving me instructions from the neurologist. I stood up. That was the biggest stroke that I had. My wife was watching. I mean it was really awful. It was really just a very terrifying experience. I would say getting through it and doing everything that I could to hold on to the positivity and turn it into a positive experience rather than focus on the negativity because it was a very, very scary thing.

Dave Asprey: That's what gratitude is for.

Harry Adelson: Uh-hmm (affirmative).

Dave Asprey: I'm the middle of the book tour for Head Strong so I've been traveling around and giving talks in seven cities to several hundred people just about mitochondria and all this. One of the guys came up to me and he had tears in his eyes and he's like, "Dave when I talk to you about two years ago on a coaching call, one of my family members was dying of cancer and you told me that I had to learn to be grateful for the cancer." He's like, "I thought you were such an asshole at the time." He goes, "But actually I did have to do that.

Like I work through it. Now even though I did lose my family member but my emotions about it are very different. So yeah being able to shift this to the point you did it's so important for healing and it's something that I don't know that they teach in medical school. Having not gone to medical school but the power gratitude is massive." As soon as you're out, did you gather your stem cells and infused the hell out of them? Did you inject your heart scars? You've got more ability to hack yourself than most humans.

Harry Adelson: That's true I did and I made a decision to not micromanage the cardiothoracic surgeons or try to outguess them. In a rare instance of self-control, I decided to just follow ... in that instance to follow medical advice and not mess with it too much because I figure there was a weird stuff happening. I didn't want to throw anything else at it.

Dave Asprey: That's not what I thought you were going to say.

Harry Adelson: Yeah. I did do a little bone marrow drive stem cells into my sternum because I was having a little trouble with a nonunion and actually when we ... I am getting a stem cell treatment in the next couple of days intravenously.

Dave Asprey: I would have like hitting that every week.

Harry Adelson: The trouble is I don't have a lot of fat.

Dave Asprey: Got it. Okay.

Harry Adelson: Sure I will be doing things.

Dave Asprey: Let's talk about this not having very much fat. I'm sure everyone interested here is looking for that. One of my happy moments was when I was ... I think I was in Florida getting fat taken for the second time. He's like, "You don't have very much left." I'm like, "Yes I'm winning." Being formerly obese person. It is possible and in a lot of the world you get your fat taken once and then they culture your stem cells and they can grow them and amplify them so you just have them banked. I do have my stem cells banked and it's a gray zone. What's your take on banking stem cells on the regulatory environment? Should we be allowed to do it? Should people leave the country to do it? Let's talk about that because it seems important.

Harry Adelson: So let me tell you about two things. I'm going to tell you about banking your cells to answer your question and then I want to tell you about umbilical cord stem cells.

Dave Asprey: Oh yeah this other source of stem cells. Thanks, yeah.

Harry Adelson: Sure. It is possible to bank your cells. It is possible to bank your cells in the US. The part that's difficult is there's a very small window of spectrums where it's legal to actually use them. So currently it is very much a gray area. There are small number of laboratories that will culture expand your cells and will deliver them to you. I'm not getting involved with that at this point because my goal is to stay on the cutting edge and stay off the bleeding edge. At this point that's not permitted. Also because I work with musculoskeletal pain conditions, I haven't found it to be necessary.

I used to work closely with a stem cell laboratory in Bogota, Colombia so for my patients that wanted culture expansion we would go to Bogota. You meet them in Bogota. We do the treatments there. I just found for musculoskeletal pain conditions, it's just not necessary. You don't need to make the trip. It's too expensive. We're just doing the same day autologous stem cells from yourself seems to work just fine. If you have something, if you have a really hideous disease, if you have Parkinson's, if you have kids with profound autism and you want to do this embryonic stem cells or all these other things, yes by all means

there are a number of good outfits outside of the country most notably the stem cell institute in Panama City in Panama.

Umbilical cord stem cells are now available in the US. I have just started working with a laboratory here in Salt Lake City. What they do is they very rigorously screen these healthy pregnant women. They put them through a very detailed interview process. They buy the umbilical cord from them then once they have the umbilical cord, then they run it through laboratory test and screen it for every imaginable communicable disease as well as diseases of the DNA. Once it's been cleared, they make them available to doctors for sale.

Dave Asprey: The stem cells not the umbilical cords, right?

Harry Adelson: This is mesenchymal stem cells from umbilical cord. So this is not from an embryo. This is from a normal baby that's been delivered and is healthy and the umbilical cord goes to the laboratory and the stem cells are isolated from the umbilical cord and sold to doctors. I got them in because what I found is that I get consistently good results using people's own stem cells until people hit about 75 years old. Then I have about half the people do well and the other half it just completely drops of. So, there's two types of people that I generally offer umbilical cord stem cells to be used along with their bone marrow and fat stem cells, people 75 and older and the Bulletproof crowd because Dave you want to try and basically ...

Dave Asprey: I had the thing you put in an IV, right?

Harry Adelson: Uh-hmm (affirmative).

Dave Asprey: Yeah. That's yesterday.

Harry Adelson: Yeah. The people who think like you do and follow your show and go to the conference, they are interested in experimenting on themselves. This is something that as far as we know for the literature that does exist, it does appear to be safe.

Dave Asprey: Yeah my parents got these too.

Harry Adelson: That's right.

Dave Asprey: So to record this episode we're here in Park city. For Christmas I got my parents stem cell procedures. So we flew out to get them treated here with Dr. Harry. The idea there is my dad is having some cognitive dysfunction. He went on blood pressure medication that I suggested that he might not want to go on but hey he's my dad. He'd do what he's going to do. It turns out he just didn't have enough blood flow in his vein which is very common on older people. It caused some calcification in his brain which is not a good thing. So he got vertigo and some other problems like that that really were affecting him and I got him a

hyperbaric chamber and some infrared lights and some things like that that were managing his symptoms perfectly.

So if he did that every day, he doesn't have any symptoms. But let's get him younger and I would like him and my mom who's had some complications from brain surgery years ago, I'd like to keep them around for a very long time. So I think this is a wise investment and honestly if it keeps them out of needing a nurse or something like that 20 years from now, cool. It is actually a meaningful investment as well as investment in quality of life for them. So I was happy that you were able to deliver the cutting edge stuff Harry so it's important.

Harry Adelson: They're lovely. By the way, they're very, very pleasant people.

Dave Asprey: Yeah they're good parents. I just think so. The embryonic stem cells are different than the umbilical cord stem cells though.

Harry Adelson: Yeah. There's a lot of misconception about people who are against embryonic stem cells. So when people mistakenly throw around terms like aborted fetuses or aborted babies or that sort of thing. So the controversial stem cell is embryonic stem cell. There are people who as soon as they say they're just against that.

Dave Asprey: Yeah it creates an emotional response. They stop thinking when you say those words.

Harry Adelson: Which is fine. However, I think those people should really understand what an embryonic stem cell is. So a woman is unable to conceive so she goes to an in vitro fertilization doctor. That's a specialist in fertility and it's a surgical procedure where they give the woman some medication so they grow extra eggs. Then the surgeon removes those eggs. Then he has the male donate sperm, puts the sperm and the eggs in a petri dish and creates an embryo. An embryo is eight cells. It's a ball of eight cells. That's it. It's an eight cell of these stem cells. The surgeon then picks the four or five best looking ones, the ones that look the healthiest and they put them back in the woman.

Dave Asprey: Best looking embryos, not cells.

Harry Adelson: The embryos that look the healthiest. The remaining embryos, balls of eight cells, go into a freezer for time in memoriam, to kingdom come. They go in that freezer and they never come out. They're never used for anything else. Those are the ones when we talk about embryonic stem cells that's what we use. So if you're a frozen embryo from an IVF lab you can either be in a freezer forever or you could potentially become a lifesaving stem cell for some form of research or some form of treatment. That's it. That is where when we talk about embryonic research, that's where they come from.

Dave Asprey: Are they using these to treat people or these using these for research and understanding ...?

Harry Adelson: Well mostly they're used for research when they're used at all. This is the one that's so controversial.

Dave Asprey: That's pretty unusual.

Harry Adelson: I like to point out that if you're against stem cell research or use of embryonic stem cells, you really should be against in vitro fertilization because ...

Dave Asprey: Because you have all these little embryos that are frozen forever.

Harry Adelson: Sitting in the freezer forever. They're never going to go anywhere. They just can't be disposed of because disposing of them is controversial also.

Dave Asprey: Got it. Because that will be the same as ...

Harry Adelson: But somehow sticking them in a freezer until the end of time, then that seems okay.

Dave Asprey: Kind of like the life imprisonment sentence.

Harry Adelson: Uh-hmm (affirmative).

Dave Asprey: Okay. So we have the embryonic stem cells that are used research but those aren't used for treating people. We have the umbilical cord which frankly most people end up throwing them away. They get incinerated so these are wasted and a few people bank their cord blood. Is it a good idea to bank your kid's cord blood?

Harry Adelson: Absolutely.

Dave Asprey: Okay, got it. Now if you decide not to bank your kid's cord blood, you could either donate or sell your umbilical cord? What's the going rate for umbilical cords?

Harry Adelson: I don't know. I don't pay for them.

Dave Asprey: No idea? All right. No one knows.

Harry Adelson: We'd have to ask. The company that I've been using they're called Predictive Biotech. Their website is predbiotech, P-R-E-D biotech and they list their products on there. We were carrying them now. In addition to using stem cells from fat with bone marrow, we will additionally use if people want to. It's not for everybody and it's not appropriate for everybody but we will use these umbilical cord stem cells.

Dave Asprey: Now you put some of that in my face yesterday, right?

Harry Adelson: Well yeah Dr. Amy did. Dr. Amy is sitting in here. She injected them into your face.

Dave Asprey: So I had the umbilical stem cells and I had my own fat derived stem cells put in and we'll see if I look even younger. I did all of my hair and then we did the IV. I was bummed. I'm here like I don't have any pain and no injury. I have nothing that needs your skillset. I wasn't really that bummed by that but it's a good thing that the treatment we did a year ago was really effective. So I'm functionally stronger than I was before.

Harry Adelson: That's great.

Dave Asprey: What other technologies in stem cells are exciting to you?

Harry Adelson: The biggest thing that we've just started employing now is umbilical cord stem cells. I think the next step is going to be culture expansion which hopefully over the next few years will become ... right now it's very much a gray area. I'm not doing it. We have some stance on whether or not it's acceptable to do that then that's the next thing. I'd like to start doing it with people.

Dave Asprey: That's one of the nastier things that happens in innovation around hacking the human body. It's that things aren't illegal but they aren't legal. That is the biggest just ... you want to stick a spoke in someone's bicycle wheel. You do that. No one knows if they're allowed to do stuff so then most people won't do it because if you have 12 years of investment in medical school and all that and your license is at risk and you don't know what's allowed. The cool thing is for people like me who experiment on ourselves, well what are you going to do take away my biohacker license to manage my own biology?

If you try and do that you're now stepping on inalienable rights. That is a constitutional issue which is cool. That means that if someone like me wants to say culture expand my stem cells, I don't generally have the knowledge and skills or technology and equipment to do that. if I wanted to do that, there's probably a million dollars in crap I'd have to somehow figure out how to afford and then learn and then I'd stop recording podcast and that's just not going to happen. So then we end up taking professional athletes and billionaires. I work with a good number of very wealthy people who are doing everything they can to live forever and more importantly to feel really good right now like that's a big part of it.

They're fine to take their private gets to other countries and all that. It's just not fair that they get to do it and the rest of us don't. It's not fair that we could do it for much cheaper here but it's blocked. It's not blocked because people ... because doctors are unwilling to do it or because it's unsafe. It's blocked because of regulatory stuff. One of my goals for Bulletproof is just to get people

aware of what's really happening because when there is demand, the supply will manifest itself and the regulations will shift more quickly. When there's 100,000 people who hear this show in the first week and they're like calling around going "I really, really want some stem cells because I have this knee or this back or this pain and whether they come out here to Park City or not, all the people are saying couldn't fit in your clinic a year."

What will happen though is they'll change demand and then people will hear that and then that will make the regulatory people that I guess we should allow it. When that happens the cost drops through the floor. When you do what you're doing and some of the stuff you're going to talk about at the Bulletproof conference around just pushing the price of stem cells really far down. I think that's also a game changer. It's accessibility. It's affordability. You got to have biohackers to lead the edge there because you can't take our license.

Harry Adelson: That's right.

Dave Asprey: Awesome. Anything else on the stem cell frontier that we should talk about any exciting to you?

Harry Adelson: I think that's it. I hope that everyone listening I hope to see at the Bulletproof conference in Pasadena October 13th through the 15th.

Dave Asprey: Yeah I'm really looking forward to your talk. It's going to be a lot of fun. Harry, thanks for being on Bulletproof Radio.

Harry Adelson: Thanks again Dave.

Dave Asprey: Thanks for treating my parents too. That's really cool. I'm looking forward to seeing them stronger and more youthful. It's very cool.

Harry Adelson: I think they're going to do great.

Dave Asprey: if you enjoyed today's show, you know what to do. A couple of things, you can always leave a review for the show. I'm happy to see that. You can head on over to the Bulletproof website and you can pick up your latest subscription for brain octane oil which is a source of exogenous ketones that makes your brain feel amazing. Turns of cravings. Goes in Bulletproof coffee, goes on every meal that I eat. I just sprinkle some on there especially when I travel. If you haven't read Head Strong, it's time to read it.

There's really cutting edge stuff in there. I write about stem cells a little bit and a lot about this power plant in your body because when your mitochondria are working, you have more energy and that energy goes towards doing better things and the more energy you have, the nicer you are to everyone else. So read the book, share with your friends and please leave a review on Amazon. It makes a huge difference. Thank you.