



**Transcript – The Healing Powers of Stem Cells with
Dr. Harry Adelson - #332**



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Dave:

Hey it's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that your liver can safely process up to about eight pills or four grams of acetaminophen, also known as Tylenol, in a twenty-four hour period. That's at least the maximum it can do. I would say less is better. If you have more than that you can be at a really serious risk of poisoning and basically killing liver cells. Hundreds of people every year die especially if they take Tylenol with alcohol.

The reason this happens is because the Tylenol depletes glutathione in your liver. As soon as you run out of glutathione your liver starts to die. You've got to always have a reserve of that. You can build your own glutathione using things like vitamin C or you can take it endogenously. If you're going to be drinking alcohol you also deplete glutathione. Monitoring that reserve is pretty darn important.

If you're a regular listener of Bulletproof Radio you've already heard the list of the Top Ten Bulletproof Biohacks. Let's talk about number nine, fun hacks for the Bulletproof mind. Hanging upside-down, also known as inversion therapy, is a simple, natural way to enhance performance. Plus the inverted stretch, which is called decompression, is a really good way to keep your back in good shape. You can use an inversion table or you can use gravity boots but the only inversion equipment I recommend is from Teeter.

With my Teeter inversion table I can easily and securely invert for just a few minutes a day, getting that vital oxygen to my brain which is so essential for optimum focus, concentration, mental energy. That's not the only benefit. It makes my back feel great too. The Teeter gives a full body stretch using gravity and my own body weight to elongate my spine and to take the pressure off the discs so they can kind of 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 need a Teeter to invert every day to keep your back in great shape and moving at your best. For over thirty-five years Teeter has set the standard for quality inversion equipment. Designed with innovative features that let you get the most benefits for your time. They're giving an amazing offer just for 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 a hundred and thirty-eight bucks, you have to go to getteeter.com/bulletproof. You also get free shipping and a sixty day money back guarantee and free returns so there's absolutely no risk at all 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. That's getteeter.com/bulletproof. Check it out.

Today's guest is a really awesome guy. I've spent the last several days with him. You should log in and check this out on YouTube because we are in a ... You wouldn't quite call this an operating room, called a procedure room. I'm wearing a very sexy set of scrubs and a cool hat. Our guest today, who is Doctor Harry Adelson, is wearing his normal work uniform. Harry, welcome to the show.



Harry: Thanks very much, Dave.

Dave: For about the last six years Harry's done three thousand bone marrow and adipose, or fat-derived, stem cell procedures and spent, I think three days ago, most of the day doing stem cell procedures with me and my wife. I've had needles in all sorts of place I never thought needles would go. I came to Doctor Adelson because he's one of the most experienced in the world using stem cells for musculoskeletal pain. I've had three knee surgeries as a kid, and I've had problems with my right shoulder for quite a while, as well as just a bunch of other little aches and pains.

Part of being Bulletproof is just building maximum resiliency. I can wait til I'm eighty and I could go and try and address these things as they get worse and worse, after their calcified or I can stay on top of it. I decided I wanted to stay on top of it. After doing a good amount of research I'm like, you know, it's interesting there's two camps ... We're going to talk about this, but I wanted to not have to pick between fat-derived or bone marrow-derived stem cells. If you've listened to this show for a while you know I'm a little bit hardcore.

If you want to get a result you can be like, "Oh, maybe I'll do just one thing," and get the result or you can be like, "You know what? I'm just going to do all the things and probably get the result at the same time and I might not know exactly which one works but I got the result I wanted. Then we can go through and we can do some more research to figured out which one worked but meanwhile I feel amazing, and I have my energy back, and I'm thin, and things like that. That's important.

If your results oriented versus research oriented you just do different things. I value the research very much which is why I look at all the research before I pick all the things likely to make an impact. With Harry that is why I did that. Harry, your clinic is Docere? I probably say it wrong. I've the seen the sign many times.

Harry: It's a Latin word so I think you can pronounce it however you want. We say Docere but people say Docere. I've heard everything.

Dave: I was thinking it was Spanish. It's D-O-C-E-R-E; Docere.

Harry: Yeah. It's the Latin verb to teach.

Dave: Docere.

Harry: It's the root of the word doctor. The word doctor means teacher.

Dave: Okay.

Harry: It is the Latin verb to teach.

Dave: This is in Park City, Utah right across from the Olympic Ski Village. We're sitting by some amazing equipment and you used most of this stuff on me. What is this big device behind us?

Harry: This thing that's shaped like the letter C is a C-Arm. It's X-Ray that functions in three dimensions. What you can do is, you know, if you have a structure under here and you're looking at it in this orientation then you just throw this lever and then suddenly you switch to a completely different orientation. What it does is allows for three dimensional viewing of structures.

Dave: As they move too, right?

Harry: You can do still pictures and you can also do video analysis so you can use it for diagnostics to see if a body is slipping as you move your head side to side. But mostly what we use it for is either bone marrow aspiration and needle placement for the bone marrow aspiration and additionally for needle placement for injecting. We've seen all those bogus pictures online of a flashlight on somebody's abdomen. They're saying, "This walked into the emergency room." If you place a needle inches away this way, but look at it only in this orientation, it's going to look like it's in the right position.

Dave: But it's not. Okay.

Harry: You have to additionally look at it in two views. For instance when we're injecting an intervertebral disc, so we need to get the tip of the needle in a several square millimeter space in the deepest part of the body we have to be absolutely certain it's in the right place and that's where this really shines.

Dave: One of the reasons that I came here is that you have this equipment. A lot of people just place needles sort of, they know, but you're also looking at this. There's also radiation risk. I tried to minimize my X-Ray exposure. This is a digital X-Ray so you're not get a lot of radiation.

Harry: You know, I wear a little badge that tells me exactly how much radiation I get exposed to. You have to think, I'm standing in front of this thing all day, every day. This is a very low radiation device. In one year of being exposed to this it's about the equivalent of a round trip flight to Paris. For someone like you who does as much airline travel you're getting way more radiation exposure in an airplane than you are from this machine.

Dave: Got it, so it's within reasonable safety limits.

Harry: Absolutely.

Dave: My wife is an emergency room physician who, actually, years ago, did some stem cell culturally as part of her work. She was incredibly impressed with the needle placement because you're using the machine. You guys are going to see this when you see the blog post about stem cells and all. Harry, by the way, will be speaking at the Bulletproof Conference next year so if you want to check that out: bulletproofconference.com. We're going to talk about all the different ways you can upgrade the human body and stem cells are profound because not a lot of people have talked about this.

I know a few celebrity people get procedures but then they like hide. I'm like, "No, let's talk



about what works." You guys are going to see some videos and pictures along my spine and needles in all sorts of places where we're actually introducing stem cells. Why would a relatively healthy forty-three year old like me even considering doing stem cells. In your experience what are the reasons people come in?

Harry: What we treat here, primarily, is chronic musculoskeletal pain. We have sort of two main types, we have the bone on bone arthritis: hips, knees, ankles, shoulders, elbows, wrists, fingers.

Dave: Right.

Harry: That's about half our cases. The other half are spine. There the ages vary because a lot of times we'll get the people like a twenty-five year old, very healthy, very active person; swings the tennis racket wrong, gets a little fissure in their disc and then a couple week later it's completely dehydrated. That ranging onto ... We get a lot of Saskatchewan who've just worked their entire lives and their X-Rays are..

Dave: Arthritis.

Harry: Yeah, it's arthritis. Looks like World War III. I mean, it's unbelievable. What we have, one of the things that we've learned in recent years is that we have mes ... Mesenchymal stem cells, there's many types of stem cells, but mesenchymal stem cells are the ones that can ... I have a piece of this model right here.

Dave: Yeah. Show me some stuff. Most people are listening in their cars or sitting at work, they're not on video. You have to describe what you're-

Harry: Okay.

Dave: That's okay. Just describe what you're showing so people who are listening only can get it. This is one of those one of those ones where you can just log into YouTube and check out the video.

Harry: Okay. I have these plush toys and this is are friend the mesenchymal stem cell. This guy has a little cataracts because my dog got at this one. A mesenchymal has the capacity to self-renew and turn into a new version of itself or it can turn into the skin cell, this fat cell, this bone cell, or this muscle cell. It turns into all the different musculoskeletal connected tissues types.

Dave: Or brain cells, right? You can grow new brain matter?

Harry: Those are neural stem cells.

Dave: Okay.

Harry: This is mesenchymal stem cells.

Dave: You can't get those from ... Okay, cool.

Harry: Yeah, those are neural stems cells which is another type of stem cell. The mesenchymal stem cells, we have them in all of the joints in our body; in our peripheral joints, our hips, knees, ankles, and shoulders, elbows, and wrists. We also have them in our spine. Their job is to keep the joint healthy. When you have just sort of normal wear and tear injury and you go through life and you have a little damage, first of all they release proteins that keep the inflammation under control.

It doesn't let the inflammation go out of control. Additionally they release proteins that signal the regeneration of damaged issue. When you have healing after an injury it's a stem cell mediated event. In a more extreme case where there's actual damage to the point that the cells have died, there's cell death, then those stem cells have the ability to turn into healthy versions of the damaged, killed cells.

The issue that you run into is as we age, as you get more severe injury, as you're constantly having ... If you're the type of person who just doesn't give your body the rest it needs or doesn't give your body the nutrition that it needs for the stem cells to repair the tissue and those stem cells are constantly shunting in that differentiation mode then they no longer have time to self renew and you deplete the population of stem cells in that joint or in that tissue.

That's when people say, "It was kind of bad, I was having problems with my knee, and then all of the sudden it seems like everything really went downhill." What were starting to understand is that it's because you not longer have stem cells in that joint to keep it healthy. What we do here is we take stem cells from another part of your body, take them out, put them right back in to the damaged joint thereby giving you the ability to self renew and heal yourself after injury.

Dave: Let's talk about the ways you get stem cells. There's sort of two camps. I did some research before deciding to do my procedure here. There's a group of people like, "You have to get them from fat," and a group of people, "You have to get them from bone marrow." It seems almost like there's a little bit of hate going on there. What are the strengths and weaknesses?

Harry: It's very emotional. It's sort of like there's four guys and they're Chevy guys and with this whole thing-

Dave: Which ones are more redneck?

Harry: That's right. Yeah. The two tissues that are the richest in stem cells that are the easiest to harvest ... Because we have stem cells in our tooth pulp, in our hair follicles ...

Dave: Yeah.

Harry: Everything, but it's not practical to harvest stem cells from those tissues. The two tissues that are easy to harvest and are abundant in stem cells are bone marrow and fat. What you run into is most clinics in the United States that do same day autologous stem cell procedures ... The word autologous means donor and recipient are the same person. Either they do stem cells from bone marrow or they do stem cells from fat. I mean, you would think that two Canadian teams are in Game 7 of the Stanley Cup. It's so emotional. There's so much misinformation

being slung back and forth between these two camps.

Bone marrow stem cell therapy has been around much longer. There's data on it. It's been used for things like avascular necrosis; there's a pretty good body of data on it. That's the upside. The downside is you don't get a lot of stem cells, you don't get a lot of mesenchymal stem cells from bone marrow. With fat there's a lot less data on it but you get a lot more stem cells.

It's easy to sort of fall into this thing that you have to do one and one is better. For me, I started out using bone marrow and I did it for years and I got very good results and I was very happy with it. Then when I decided to start isolating stem cells from fat and using it ... The thing about the adipose-derived stem cells is they're just stem cells on their own and you have to suspend them in a growth factor.

Dave: Okay.

Harry: In order for stem cells to get activated they need to come into a cytokine called platelet drive growth factor. You can get it either from platelet rich plasma ...

Dave: Which is basically a blood draw which is then spun.

Harry: Exactly. Or you can get it from bone marrow aspirate concentrate where you're going to take bone marrow and you spin it down similar to the way you do with blood.

Dave: By the way, we're going to post pictures of my bone marrow in a little vial here so bulletproofexec.com/youtube will take you right to the YouTube channel where you can find this show. The show is Doctor Harry Adelson if you need to Google for it. The whole show notes and all this stuff will be online but it's pretty neat to look at this stuff. Anyway, go ahead.

Harry: When I started doing the adipose-derived stem cells the woman, Kristen Kumela who you're going to meet soon, she came and taught use how to do it and she suggested how to suspended the adipose-derived stem cells and platelet rich plasma. My instinct was, because I had so much good experience with bone marrow aspirate concentrate, I thought, "I should just suspend it in bone marrow." Then I thought, "Well, you know, really I would like to see" ... "Maybe we don't need to do the bone marrow aspiration." You have all these people in the adipose camp saying that the bone marrow is unnecessary. I just want to find out for myself. I want to know.

Dave: Test it out.

Harry: What I did was for the first four months that I did adipose-derived stem cells people would come to me and I would say, "Okay, here's your options: either we do bone marrow aspirate concentrate with which I have" ... At that point it was four years experience. I've done many cases. I'm very happy with the results. We're going to get in the neighborhood of the tens of thousand of mesenchymal stem cells. "Or we can do adipose-derived stem cells suspended in platelet rich plasma ... There's a lot less data supporting it's use. I don't have much experience with it." At that point I didn't. I do now. "But we're going to get potentially in the millions of mesenchymal stem cells. Which do you want to do?" That way people would self select.



Dave: Yeah.

Harry: It's about split down the middle what people chose to do. When people were six months out to their procedure I phoned them. I just said, "If you had to pick a number percentage improvement from what you experienced from this treatment what would you pick?" It's not the strongest methodology but ...

Dave: It's actually pretty good.

Harry: I think it is. What better than the person's experience with the whole thing ...

Dave: Do you feel better? Like, We don't care how you feel.

Harry: Exactly.

Dave: Right.

Harry: Exactly. What I found was, as had been my experience for the years leading up to it, that bone marrow guys very consistently got good results. They were very happy with the outcomes. With the adipose suspended, adipose-derived stem cell suspended in platelet rich plasma, the ones who responded did better ... On average ten percent better improvement than the bone marrow guys but almost a full thirty percent of them didn't have any response at all.

Dave: Whoa.

Harry: I don't know why that is and I still haven't figured out why that is. Maybe the cells didn't survived the process, maybe the type of plasma I was using wasn't adequate. I really don't know.

Dave: It could be what they eat. It could be the alignment of the sun and stars for all we know. There are so many variables that have never been looked at.

Harry: In an ideal world we would know but the fact is I have people coming to me now who want results.

Dave: Yeah.

Harry: What happened at that point was my dad came to visit.

Dave: Okay.

Harry: He wanted treatment and I said, "What am I going to do with dad?" I thought, "I'm just going to do both." We did both and he had a great outcome. After that I think almost part of the Hippocratic oath could be, "Do unto patients as you would do unto dear old dad." I get asked all the time, "If I were your father what would you do?" Now I know what I would do with my father. After doing that with him I was like, "If I'm going to do that with my dad I have to do it

with everybody." From that point on everyone got both. When we were six months out from those guys I called them and what I found was that I got the consistency of the bone marrow with the augmented improvement of the fat. I have these results published in the Pain Practitioner which is the journal of the American Academy of Pain Management. It's on my website. I have links to the article.

Dave: Yeah, I will link to those as well. It's a bit of a maze to figure out what to do if ... In fact, for years I've been thinking, "I should do some kind of stem cells. Do I need to fly to Germany? Do I need to go to Chile?" You get all these different places where they're doing all sort of crazy stuff. These are relatively conservative because these are my stem cells versus fetile derived, sheep stem cells, all these other ways you can do it. What are the other sort of stem cell selections that people might consider and why do you go with the ones you go with?

Harry: Hear in the U.S. one of the things you're hearing more and more about is the amniotic membrane derived stem cells. This is being aggressively promoted by a number of clinics. It's very easy to do. It comes in a vial. They're are stem cells that are taken from the amniotic membrane which are similar to placental cells which are similar to umbilical chord cells. The problem is they're freeze dried and they're desiccated. The actual stem cells don't survive that process. When you are getting these stem cells they're not living stem cells. You are getting the growth factors that are contained within the stems cells. When you get an injection on amniotic membrane you're getting a burst of growth factors but my opinion is you can get that from platelet rich plasma.

Dave: I was just going to say. For people listening, platelet rich plasma is when they draw about a hundred milliliters of blood and Robyn Benson whose been on the show, did that for me. You thin the blood and you take out this very thin layer where you get these activating factors and you did this for a long time as well, right?

Harry: I did it for many years before I started stem cells. It's all I did. It was a hundred percent of my practice.

Dave: Okay. That's one way. You get growth factors but it's not the same as stem cells.

Harry: Right. If you have a situation where you have some damage to a structure but you still have your own population of stem cells it probably could be helpful.

Dave: Okay.

Harry: I personally would rather use platelet rich plasma in that situation.

Dave: Because it's your own stuff and you don't have to worry about it. It's coming from a person.

Harry: Not only is it coming to a person unknown to you, I would much rather have it coming from my own body. When you are in a situation were you have no stem cells left and you're using the amniotic membrane you're not re-population the cells with living stem cells.

- Dave: You just start making them in your marrow anymore. You have none left in the tissue or you have none left in your body basically?
- Harry: No, you have none left in that particular tissue. When you have none left in your body you die. That's what dying of old age is. When your stem cells are no longer functioning you die of old age.
- Dave: This is interesting. My plan is, seriously, to live to a hundred and eighty years and I'm willing to do all sorts of bizarre stuff that is probably going to work and I may die doing one of those which would really screw up my goal, but whatever, this is what I do. I've been doing a lot to grow my mitochondrial function and neuromitochondria in stem cells. I've been doing a lot of high fat for a long time and there's a lot of fat in stem cells as well; in your bone marrow and basically eating a lot of marrow and other things that affect your ability to make cells. What did you see when you looked at my bone marrow?
- Harry: Your bone marrow looked like a typical, healthy persons bone marrow. We're not looking at it under a microscope ...
- Dave: Of course.
- Harry: We're just looking at it. When you draw it out it looks like whole blood. When you spin it down there's fat at the top, there's serum, there's the buffy layer where the stem cells are, and then there's the red blood cells. Yours, you have way more fat than we're accustomed to seeing which is ...
- Dave: Your marrow should be full of fat, right?
- Harry: Your plasma, your serum, is crystal clear which means you don't have a lot of free, fatty acids and triglycerides and bad cholesterol in your serum. Because when I give people with bad cholesterol panels it's milky, it's not that-
- Dave: My cholesterol is about two twenty-five right now but it's high HDL. Okay.
- Harry: What was interesting with you though was your fat. Because when I took the fat ...
- Dave: This was the lipoaspirate.
- Harry: lipoaspirate sugar.
- Dave: This is a very small amount like fifty mils.
- Harry: We got close to a hundred.
- Dave: A hundred, okay.
- Harry: Yeah.

- Dave: It's not-
- Harry: About enough to fill a coffee cup.
- Dave: Okay.
- Harry: But when I took it out we take it into a syringe, we don't use a liposuction machine because those high suction machines will damage the cells.
- Dave: We'll put video of this. It's pretty creepy looking. Sticking a McDonald's straw ... Not quite that big but it's like a metal straw and ...
- Harry: Yeah, it's blunt tip. When it was in the syringe it was just unlike any fat I've ever seen. We're accustomed to seeing ... Like smokers' fat kind of looks like Cheetos and relatively healthy people it just looks like what you think fat would be. Yours was different. I don't really know how to describe it.
- Dave: Was it more like butter. But the number of stem cells you saw was also different, right? You saw larger-
- Harry: You had a very fat, nice, healthy fat ... After we processed it and spun it all the fat cells, the adipose cells, go to the top and the stem cells go to the bottom and you had a nice big pallet at the bottom.
- Dave: My hope there is that some of the practices I do, including some air pressure things that I'm going to be talking about more towards the Bulletproof Conference, they're designed to stimulate stem cell growth. I'm thinking that this is at least an evidence point that some of the things I'm doing seem to be working. We don't know whether having more fat in your bone marrow is good. I tend to find that grass fed animals have very healthy bone marrow which is very creamy and fatty versus unhealthy animals that ate a lot of grain. There's also a color difference. It's more yellow in a healthy animal versus more kind of white and watery in a grain fed animal but who knows. I don't think there's great evidence looking at fatty acid ratios and bone marrow correlated in those cells.
- Harry: Yours was more yellow, it looked like yak butter. When I was in Tibet and we ate that yak butter it was a lot more yellow-
- Dave: It was that same yellowish color.
- Harry: There's more yellow than I'm accustomed to and it was just greasy.
- Dave: Yeah. An outlier right?
- Harry: That's right.



- Dave: Cool. All right. What else do we want to talk about. Because we talked about the stem cells that you can get-
- Harry: Right. Okay. Yeah.
- Dave: All right.
- Harry: What I'm going to talk about at the Bulletproof Conference is ... Let me just tell you quickly about an experience I had. In 2011 when I was really getting as much knowledge as I could on stem cell medicine, what I did is about half the year I was at home doing cases and the other half I was traveling the world learning from the best.
- Dave: Cool.
- Harry: I had this phenomenal experience. I visited two clinics back to back. The first one I went to was a guy name Carlos Sicilia who, in South America is one of the best known stem cell doctors. He's in a small town in Venezuela and it was amazing. What this guy does, his clinic ... It looks like one of the old school chiropractor offices where he just has all these tables with just curtains in between them and he would have all these people in there and he would go from one to another. He'd take an eighteen gauge, one inch needle, put it into the sternum which is a flat bone ...
- Dave: Ouch.
- Harry: That's rich in stem cells. You place it in aspirates and bone marrow, go to the next one. He would do like forty a day. It was amazing. His material cost was probably three dollars. He charged very low. He would have everybody from illiterate farmers to the Chavez family. It was really an amazing experience. If there's any question as to my dedication to the field of stem cell medicine, I went and spent a week in Venezuela. I mean ...
- Dave: Wow. Doing that kind of work.
- Harry: Don't go to Venezuela.
- Dave: It's pretty rough.
- Harry: He had a video library of patient testimonials. Thousands of cases of all kinds of different things that he had treated. It was really impressive. What really stood out was how simple it was. He would just take the bone marrow and then run it through a filter as an IV. From there I went to Panama City and visited the Stem Cell Institute, which if anybody's researched stem cells you've probably come across it. They're one of the best known stem cell treatment centers in the world. They are the absolutely opposite end of the spectrum. This is a high tech, clean laboratory where they culture and expand cells. They take your stem cells, they grow them. I mean, this is a very expensive clinic and to get treated there is very, very expensive.
- Dave: How expensive is very expensive?



- Harry: I think it's sixty thousand to walk in the door.
- Dave: Holy Moses.
- Harry: I mean, just to get started. You are getting the highest tech This is it.
- Dave: Okay.
- Harry: It doesn't get any more high tech.
- Dave: This family or something of ...
- Harry: What I found was I didn't really see a whole lot of difference in the outcomes. I saw the extreme opposites back to back, the simplest you can come up with and the most complex that is in existence and it looked like the outcomes were about the same. I realize that's a very unscientific statement because I was just getting thin slices, I was in each clinic for a week. You know, I started thinking about this whole thing of how in the west, in the United States, we are just sucked into this idea that the more complex something is the better it is necessarily. The other thing is that we're so enamored with this idea that there's one right way to do something.
- Dave: That's a big problem in medicine, yeah.
- Harry: I sort of think ... I've just finished reading all of Malcolm Gladwell books where too big of a class is no good and too small of a class is no good and there's sort of this one sweet spot. I think with stem cell medicine there's multiple sweet spots and it really depends on the patient. It depends on what your condition is, it depends on your personality. Payton Manning went to Germany to have the most high tech stem cell procedure available in the world. Dave Asprey, I'd like to point out, came to me.
- Dave: I'm not done yet, I'm going to go everywhere. No. I like the idea of doing multiple angles at one time. That's what made it really interesting here. What would be different had I gone to Germany and taken out a mortgage in order to pay for it?
- Harry: Abroad you can get ... You're asking about the different types of stem cells.
- Dave: What's so good about that?
- Harry: First and foremost there's autologous which is what we do. Same day, we take it out of you, we put it back in. If you want to go abroad, if you want to go to South America, if you want to go to Europe then you can start using umbilical chord stem cells, embryonic stem cells.
- Dave: Okay.
- Harry: You know, the famous embryonic stem cells.

Dave: What happens, what's the benefit of using those versus ...

Harry: There's good and there's bad. The good news is it's the most primitive stem cell and they're the most robust.

Dave: Because they're young, right?

Harry: Because they're young. Exactly. That's good. The downside is it's from a different organism. We don't totally know what that means.

Dave: Yeah.

Harry: We do know that once you put stem cells from another organism into your body they're in their forever. You can put them in but you can never take them out. They go in, they just infiltrate your entire system and they are now apart of you forever.

Dave: Right.

Harry: We don't know.

Dave: If you believe in a reductionist view of people we're basically meat robots. Those are just replacement parts. If you read any of the books from people who have done organ transplants and retired, there's famous cases ... One is a cowboy, an old guy, gets a heart from a young woman and goes home and starts taking scented bubble baths. People who have replacement parts from other people often times report that they took on something from the person they got.

This is actually scientific. I've read a couple books about this. Most of the people who write the books wait til they're retired because they're afraid they'll be called crazy but they're like, "I see this in my patients all the time, someone should say something." I have no idea what the affect of that would be. One thing that might be really interesting is we all inherent mitochondrial DNA, this is the power plants in ourselves for people listening.

All of us inherent weaknesses and strengths; different methylation cycles, different ways that we can be made stronger or weaker. Part of me is like, "Maybe I should have forty-two different embryonic stem cells or, I don't know, umbilical stem cells." I haven't dug in on this or looked at all of the reasons you would or wouldn't do one of those things. If you have all of these things you'd have a huge mix of mitochondrial DNA throughout your issues which means you'd be way more resilient and that'd be kind of cool because we did not evolve to have more than one type of mitochondrial DNA. There would be huge advantages to living in a world with a lot more toxins, and a lot more EMFs, a lot more of the crap if you basically had a redundant array of types of mitochondrial DNA. There's no science at all about that, right?

Harry: This is a conversation you should have with Kristen Cavella who is a cellular biologist and a scientist. I mean, I'm a clinician so I don't know. I would say just ... About embryonic stem cells, about placental stem cells, you have to bring into the picture the risk benefit ratio. I think if I had



ALS, if I had Parkinson's; if you have some hideous neurologic disease that's definitely going to kill you, yeah, you bet.

Dave: Go big.

Harry: Go to Bogotá, Columbia, go visit my friend Carolina Lucena. I mean, yeah, definitely then you should ... I would be going straight for that.

Dave: Right.

Harry: If you're talking more about anti-aging, I wouldn't risk it because you just don't know what you're going to end up with in the long run. When we're talking about musculoskeletal pain I just haven't found it to be necessary.

Dave: For what you're working with it doesn't seem like it would be.

Harry: We just use your own stuff, it works fine. I've treated eighty-eight year olds. Some of them do well and some of them don't do so well. We don't help everyone but we help a lot more people than we don't help.

Dave: Some really interesting things happened. My wife's frozen shoulder ... We're now three days after the procedures. The procedure is relatively rough, it's a lot of injections. It takes some resolve to do it.

Harry: Yeah. I'd like to just interject here that I encouraged both of these guys ... With as much injections as we did I encouraged them both to go under sedation to have our anesthetist here and have them sleep through it. But, of course, they wanted to experience the whole thing.

Dave: That was rough but that's cool. What Lana just told me this morning, she's like, "This is amazing." She's had a frozen shoulder. She fell, when she was a kid, out of a tree from thirty feet up and her shoulders been frozen pretty much ever since. She's had acupuncture, and adjustments, and functional; all kinds of stuff. Nothing did much for it. Three days after getting stem cells she's like, "My range of motion is bigger than it's ever been. Same thing with her neck range of motion. She had whiplash from a similar fall as a child. These are forty year problems that in three days are better than they ever have been. All right, this is pretty profound stuff. My shoulder hurts like hell today. You put a lot of needles into the shoulder here. But my knee doesn't hurt at all.

Harry: It really takes two, sometimes three, months to get ...

Dave: Full results.

Harry: Not the full, most of the result.

Dave: Okay.

- Harry: It takes six months before we really get to what I call full results. This is the opposite of a steroid injection. You do a steroid injection. The pain goes completely away for two months, if you're lucky two months, and then it comes completely back. This, sometimes it takes two months to really work. Originally we had scheduled this podcast for six weeks out because I wanted to be able to talk about your outcomes but we wanted to do it here while we were together.
- Dave: In about six months that's when the conference is. It's going to be in September, October. Bulletproofconference.com. One of many speakers there about the latest stuff but I want to talk to someone who's in the trenches doing stem cells this is a way to learn more now and also at the conference. By then we should be able to talk about the full results.
- Harry: You bet.
- Dave: I'm pretty excited because this has been on my list of things that would be worth doing. Let's talk though about cost. There's people who are in school and people who are working who are listening to this. If someone has a chronic musculoskeletal pain or they ... We took the leftovers after you did all my joints and stuck them in my face so I'm expecting to look like a teenager by the Conference just to be clear. What is the normal cost for treating a musculoskeletal injury. Just give me a range.
- Harry: There's what I charge and then what sort of the industry ...
- Dave: You can talk about the industry, you can talk about what you charge.
- Harry: I mean, there's a vast, vast spectrum of price around the country or around the ... if we're talking about in the United States ... This is something else I want to talk about at the Conference, it has to do with the complexity of the procedure but it additionally has to do with the overhead of the doctors clinic. If it's a doctor who has very expensive marketing campaigns, if it's a doctor who's in a lot of lawsuits, if it's a doctor that's transitioned over from an insurance-based practice where they have this big clinic with lots of staff accustomed to processing all sorts of insurance-
- Dave: You sort of half your staff just to cover the insurance.
- Harry: Right.
- Dave: Now they transitioned over to a cash paid practice but they still have this tremendous overhead.
- Harry: I'm very fortunate because I've always been ... I started out as a prolotherapist. my first four years I just did prolotherapy. The next four years I just did platelet rich plasma. The last six years we've been doing stem cells. I've always had a very low overhead of my clinic, very simple. As the spectrum goes I'm definitely on the lower end. It's not because I'm making less, it's because I'm charging less because I can because I have a simpler overhead.
- Dave: That's a factor for people. It's not like anyone listening wants to go write a check for twenty thousand dollars if it's possible to get ...



Harry: Unnecessarily.

Dave: Yeah.

Harry: Unnecessarily. I mean, the greatest advancement in medicine doesn't do anybody any good if nobody can afford it.

Dave: Yeah.

Harry: I try to keep my prices affordable also because I like working with farmers, I like working with the people and I don't want to cater to rich folks because they tend to be very difficult to deal with. For a simple hip, knee, if we're doing bone marrow and adipose-derived stem cells it's about five thousand.

Dave: Okay.

Harry: If we're doing a bunch of spine then it's closer to seven or eight thousand. If we're doing a lot of intervertebral discs and they're being sedated we have the anesthetist her to sedate then it can be up to ten thousand. I think the most we ever charge somebody was twelve thousand.

Dave: Okay. That's if they're kind of doing everything.

Harry: Yeah. Usually we get to where we want to be with one treatment.

Dave: Yeah.

Harry: What we do is one treatment then we wait six months. At six months we have one of three conversations. People either say to me, "I've had seventy-five percent improvement, I'm perfectly happy with this. No reason to do another on." At that point two to six years later I might here from them again. It might start keeping back on them and we might want to do a tune up. Maybe not the whole thing, maybe something simpler, maybe just PRP. We just see at that point. The second conversation is, "I've had forty percent improvement, I'd like a little more." At that point we can talk about doing a second treatment. Maybe just bone marrow, maybe platelet rich plasma. Again, it just depends on how far the persons come, how much further they want to go, and their particular situation.

Dave: That's a clinical judgement thing. You're going to look at them and decide.

Harry: Yeah. Ultimately it's their decision.

Dave: Right.

Harry: I try to offer them the options. Same thing, after that second treatment we usually get them where they want to be. Two to six years later I'm probably going to hear from them again because it's starting to creep back. The third conversation which I don't have that often, fewer



than ten percent of my patients I have this conversation, I just didn't help them at all. I mean, it was just a dud. These were people usually who are the smokers, the diabetics ...

Dave: The lifestyle.

Harry: High blood pressure, negative outlook on life. These are the people who I'm putting the stem cells where they need to be ... I'm not trying to blame the patient but if their stem cells aren't functioning properly than it's not going to do them any good.

Dave: There's nothing like a little bit of carbon monoxide to make stem cells work really well, right?

Harry: Unfortunately there is a way to screen for stem cell function but it's vastly expensive. I don't have that sort of technology.

Dave: Yeah. Then you add another four thousand dollars to the cost of treatment.

Harry: Right.

Dave: Help ten percent or less of patients.

Harry: Exactly.

Dave: It wouldn't make sense. In the overall scheme of expensiveness ... That's a factor for me for sure, right? You could mortgage your house and go out there and do all these biohacks. I've spent more than I would like over the years, like hundreds of thousands of dollars because I was pretty screwed up biologically and then toxic mold exposure, chronic fatigue, lyme disease, fibromyalgia, and arthritis in my knees since I was fourteen. All kinds of bad stuff going on.

I spent a lot of money that I would have like to have no spent and what I'm finding out is that some of the most advanced things are ... We know that they work but they're priced out of availability for most people. The reason for that is because there's very little demand for them mostly because they haven't been acknowledged. I seek out people who are doing things like this and shine a spotlight on it, say, "Look, this is how it works, this is the kind of results people are having which, increases demand, which drops price dramatically.

My whole goal is to make the stuff that I should have been able to get when I was sixteen years old, and obese, and having all these problems, it should have cost three thousand dollars and taken me six months to completely not have a body covered in stretch marks and not have this crap that I spent almost twenty years working on. I feel like that's a responsibility there. One of the things that I do appreciate about that is that this is within the realm of possibility.

Even if your job is waiting tables and you're saving tips for a year, if you have chronic pain in a part of your body and it's been affecting you ... I know there's chronic pain, I didn't know you were suppose to walk without pain until I was twenty three. Every time I walked anywhere it just always hurt in my legs. To get rid of that is worth saving three or five thousand dollars. It just is. If you can get your insurance to cover it that's even better. Do you even work with



insurance companies?

Harry: No, this is all considered experimental.

Dave: Cool.

Harry: Insurance does not cover any of it. I honestly, the insurance companies are doing everything they can to pay for fewer things.

Dave: Yeah.

Harry: I don't see any time in the near future any of this is going to be covered because who wants a knee replacement. Most people don't want to rush out and have a knee replacement unless they absolutely need it. Who wants a steroid injection unless they absolutely need it. If suddenly insurance started paying for stem cell therapy they would be lining up around the block. You probably remember back when Viagra came out, Kaiser Permanente almost went out of business because they covered it at first. It cost them millions of dollars in a seasonal month. I don't know. Hopefully that day will come but I doubt it.

Dave: Also, expecting your insurance company to pay for things like this ... Very few of the practitioners that I work with and very few of the people that have been guests on the show take insurance anymore. The people who are breaking ground, insurance companies fight them tooth and nail.

Harry: Yeah.

Dave: They end up spending most of their time and most of their staff time fighting bureaucrats.

Harry: They're unhappy. MedScape just published ... Every year they do a huge survey on physician burnout and it's staggering, Dave. Doctors are burned out and the number one reason is just all the bureaucratic stuff they have to go through billing insurance. The upside of going to a doctor that you're paying for is now you're coming to me, I work for you. Otherwise I'm working for this other entity and you're just sort of the product and I'm much more focused on them whereas if you're coming to me you're my client and I'm working for you. We have this nice, happy relationship. I'm happy to help you with your problems. I don't know, people call it a broken system but it's not even a system ...

Dave: It's bad. I buy health insurance for all of my employees at Bulletproof. It's Blue Cross Blue something. Whatever. I don't use it that often. I needed to get a prescription filled after this. I went to the pharmacy for a twelve dollar prescription, "Oh, this plan number. Blah, blah, blah." I'm like, "You know what, here. Here's twelve dollars and let's not even mess with the insurance company because it's going to take them an hour of calling some bureaucrat to give me a twelve dollar prescription.

You know what? It's just not worth your life. If you have a hundred thousand dollar open heart surgery or something insurance companies are kind of useful, but if you're expecting preventive

maintenance or you're expecting the smaller procedures to be covered you're probably going to get what you pay for which is a ten dollar copay and all the rest of it gets absorbed by the physician and the staff. I don't see great usefulness unless you're in a car accident or you have major trauma in which case it's incredibly important, but this kind of stuff? The insurance companies are never going to want this to happen.

Harry: Our biggest demographic, our patient base ... We have more farmers and ranchers than anything.

Dave: But you're in Utah, right?

Harry: But they come from all over the place.

Dave: Stem cells are illegal in Canada so people come here.

Harry: Also, I sort of view it as these are people who depend on their bodies for their livelihood.

Dave: Right.

Harry: They get it. If your truck needs something then you pay for it. They need their bodies in order to work and they understand that. For them it's an investment to get back to work.

Dave: That's a really good way of looking at it. I don't know if that applies just to farmers. Back when I was about twenty-five, twenty-six, I made six million dollars and I lost it when I was twenty-eight so I was briefly wealthy, very good times on some ways. I having really serious cognitive problems and my brain wasn't functioning. One of the reason that I ended up spending all this money biohacking is I'm like, "I make money as an entrepreneur. I make money with my brain. When that goes ... That's the best investment I could make."

I'm living in a not so nice house and I'm spending a couple thousand dollars a month that could have been a house payment on my brain. This is how I earn a living. It's a very similar way of doing it and what I learned was that to support my brain you also have to have the body working. I think that would go so far as stem cells because if you don't have muscle your brain atrophies.

Harry: I think that's why I love my work because we get such great people in here. We get motivated people who want to get better. We don't get drug seekers, we don't get people who their pain has become part of how they define themselves. They're people who want their lives back and want to get back to enjoying life.

Dave: What's the craziest stem cell procedure you wished you were allowed to do that you're not allowed to do?

Harry: Gosh, I don't know. I think culture expansion would be great if we were able to do that. That would be ... It's not so crazy or weird but that would be where we take your stem cells, send them to a laboratory, grow them, and then put them back in you. Instead of from adipose we



get a mi ... Now we're in the tens of millions of stem cells. I mean, again, for the types of things I'm treating we do just fine like this. If I were treating other things. If I was treating neurologic conditions then that would be much more of a concern. Because in those cases then you really do need those huge numbers of stem cells.

Dave: Say I wanted to have more mass in my brain using stem cells, is that even achievable? I know the-

Harry: I don't know the answer to that.

Dave: Okay. Cool.

Harry: Yeah. I don't know the answer to that.

Dave: I'm going to have to find out the answer to that.

Harry: Yeah. I mean, I do know that there has been a lot of work done with stroke, when you're treating people with stroke. The results are very promising. In the University of South Florida there's more and more work being done with traumatic brain injuries from our vets, the vets who have traumatic brain injury from the roadside explosives that ring a bell, and doing intravenous stem cells.

We discussed this yesterday, what you do for the chronic injuries is first you give intravenously something called mannitol which is a sugar that's use in an emergency room for people who have increased inter-cranial pressure. Whether they've had a stroke, whether they've had a closed head injury and there's pressure inside their brain, when you give mannitol it temporarily renders permeable the blood brain barrier. First you give this IV of mannitol, then you give IV stem cells, now the grow factors from the stem cells are able to actually penetrate into the brain. That's something that you should talk to Kristen [inaudible 00:48:14] about.

Dave: All right. I'll talk to her about that.

Harry: She has experience with all of that.

Dave: We did IV stem cells but I didn't do the mannitol thing with you because there's many stem cells as we can manage.

Harry: We save a little bit, just a very small amount to push. The stem cells actually get caught in your lungs because the blood vessels in your lungs are just big enough for the largest white blood cells to go through.

Dave: Okay.

Harry: The stem cells actually stick in your lungs and dump all the growth factors and your whole body gets just a huge burst of growth factors from stem cells.

- Dave: That's stuff would just cause regeneration throughout.
- Harry: It's tricking your body into think that you've had a new injury and you go into hyper healing mode. Boy, I took American Academy Anti-Aging Stem Cell Fellowship. They had all these scientists telling these terrible things they do to mice. I mean really just dastardly things. One of them was ... What did they do they injected a chemical into a mouses eye to cause macular degeneration. Then they did a biopsy, you could see the macular .. I mean, this is so awful. You can see the macular degeneration, then they burned these mice; you know, exposed them to a burn and then tested their eyes again at a later date. The burn actually caused the stem cells to release systemically and it improved their macular degeneration.
- Dave: Wow.
- Harry: I remember walking out of that meeting and I was with one of the doctors from the Stem Cell Institute in Panama and he just turned to me and said, "One day the mice will take over." We were all kind of pissed ...
- Dave: Brutal experiment.
- Harry: It was this real pretty, young woman scientists with this very high voice like this and she was telling us about ... We're just going, "Oh my!"
- Dave: She's like, "Then we hit them with hammers."
- Harry: "Oh my God." Yeah. You get this burst of growth factors and your body goes into hyper healing mode. I can't point to any human literature on that but that's what we think is happening.
- Dave: A recent guest on Bulletproof Radio and I talked about the role of larger parasites in stimulating something similar. I'm about to start ... [inaudible 00:50:28]. I do everything I think is going to work at once. We might not be able to separate out all of the effects of stem cells but I'm about to start using HDCs which are basically rat tapeworms that you take that are not able to reproduce in humans but they cause a huge shift in our immune function.
- Harry: Sounds lovely.
- Dave: It's delicious. This big, long ... They're tiny little eggs in salt water. This is more around GI and immune system affects but the reason that this whole line of therapy came about was because a father of an autistic kid about ten, fifteen years ago, noticed when his son got chiggers. They're a type of mosquito but they burrow in you skin and then they lay eggs there. It's disgusting. You have chiggers in Utah, don't you?
- Harry: In Georgia.
- Dave: In Georgia.
- Harry: My mom is from Georgia. I know what they are.

- Dave: I grew up with them in New Mexico. They weren't that common but in Colorado you can get them sometimes. He noticed the symptoms would go away, then the chiggers would go and the symptoms would come back. They looked at using pig worms and all these things. One of the big theories about why these have these huge modulating effects is they're essentially causing little injuries. They also have their own compounds they're secreting. Having things like that can cause healing in a way that I think a lot of medicine hasn't recognized historically, right?
- Harry: The system that we have currently is you create a molecule and then you patent that molecule. If it's a natural substance it's not patent-able and no one can make any money off of it. I mean, this is the whole problem with why there's so much heat on bio-identical hormones is because nobody is going to get rich over it. It's unfortunate.
- Dave: Yeah.
- Harry: I didn't go into naturopathic medicine because I was cynical about conventional medicine but, boy, the more I've learned about it I'm just like ...
- Dave: Do you use bio-identical hormones?
- Harry: I don't so much. Amy, who did the cosmetic portion of your stem cell therapy, who's an emergency medicine physician turned anti-aging who we work with. She's come in and she's doing ... We were having so many people asking for cosmetic stem cells. Amy has a lot of experience using platelet rich plasma in the skin and the face, also does the empire face lift, and she also does the O shot and the P shot which is injections in women in the vagina and me in the penis for sexual optimization for women who have pain during sex, for men who have erectile dysfunction or any number of things. She had a lot of experience with that so I nearly taught her how to lipoaspirate and isolate stem cells from fat. She still does a lot of platelet rich plasma. She also does platelet rich plasma with stem cells for the more cosmetic and sexual function type things. She does the hormone prescribing. She's an ex-hormone-
- Dave: In the clinic you work with that.
- Harry: Right.
- Dave: Do you personally take them? Are you willing to talk about that?
- Harry: Yeah. I started supplementing with testosterone just bio-identical, physiological level testosterone since I turned forty I think.
- Dave: How old are you now?
- Harry: Forty-seven.
- Dave: Forty-seven. Isn't that cheating taking testosterone, doesn't it make you a bad person?



- Harry: It makes you a happy person. It makes you a physiologic younger person. Sure, if you're juicing and you're doing big, synthetic-
- Dave: Yeah.
- Harry: You're doing all that stuff, there's all kinds of problems that can cause. You know, you're talking about to just getting back the physiologic levels when you were a younger person and there is a mountain of data showing that it is safe.
- Dave: It's huge.
- Harry: If you already have heart disease, you have advanced heart disease, then, yeah, it might be a problem but if you're a relatively healthy person ... I've taking up the Neil's course and he's excellent. I don't know if you know him but he's fantastic.
- Dave: I know him from something.
- Harry: He's an emergency medicine doctor turned hormone doctor. He's the hormone doctor to the hormone doctors.
- Dave: Cool.
- Harry: This guy, I mean he has read every single study that has ever come out on testosterone replacement, mostly hormone replacement, bit you just cannot convince me that there's any problem with it.
- Dave: It changed my life in my mid twenties. I'm like, "Wait, my mom has more testosterone than I do? This is a problem and I'm not just going to sit here and go, 'Oh, this is a problem. I guess it would be wrong for me to supplement.'" I took bio-identical for years. With all the nutritional stuff and exercise things that I do, without the supplementation my levels are where they ought to be. They're like high normal which is awesome. I've been off for about three and a half years after eight years of taking it. I consider it a key part of anti-aging for sure. Let's talk about sexual function for a minute here. Can you tell me about the P shot or do they inject ... I just want to say guys, look at the size of these feet. This is three days after my P shot injection.
- Harry: He use to have a size eight.
- Dave: Nice. For the record I've always had a size sixteen feet. This is not a change. I did get the P shot. In fact I'm going to post the video for you guys.
- Harry: Godzilla!
- Dave: I'm not going to post the porno version, that would be very popular for our German followers. Just kidding, I love Germany.
- Harry: Probably Tokyo too.

- Dave: Fair point. You'll actually just sort of see the needle go down below the blanket and hear me scream like a girl. Not really, it wasn't that bad. But I think you'll like it. Why did I do that? Because I had stem cells floating around everywhere. I don't know, that's my personality. I put them everywhere they could possibly go. We shall see if it does actually result in increases or changes in function there because we're already super high functioning. There's only so much room for improvement, right?
- Harry: This is something I've found because when we do get people in for anti-aging if there's not a whole lot wrong with you to begin with you don't really notice a whole lot of benefit. I'm so much more accustomed to dealing with people who are in severe pain.
- Dave: Yeah.
- Harry: If we get them fifty percent better or seventy percent better they are really aware of it. Yeah, that's a good point you bring up. If there's not really a problem to begin with then ...
- Dave: There's also the idea of preventive maintenance. I'd rather have an excess of stem cells doing their things because it's so much easier to not get old than it is to get young. It's so much easier to not get sick than it is to get well. I learned that because I was basically old when I was young. Try having arthritis when you're a teenage. I don't want to get back to that. I'm going to continue assuring up every system in my body with every technology that I can find. I'll talk about all of them and hopefully the ones that work really well will become more commonplace.
- That's part of my mission. Bulletproof is like, "Yes, you can do things to your body with lights that no one knows about." I've used an infrared light on my brain in the late nineties that had a profound affect. Now, fifteen years later, people are starting to talk about it. Why does it take twenty years for these new technologies to get out? I think the speed of innovation has increased but also the speed of people learning about it has increased which is why you're on the show. Prolotherapy was hot a while ago. Tell me about what prolotherapy is.
- Harry: I started out as a prolotherapist. In the stem cell camp a good portion of the guys who are doing it started out as prolotherapists. More recently it's the pain management guys and the surgeons who are getting interested in it.
- Dave: Okay.
- Harry: But the regenerative medicine guys like myself.
- Dave: What is it? A lot of people seem to not know.
- Harry: Prolotherapy has been around since the 1940s. Really it started in the nineteen thirties but then it was first being mentioned in medical news in the forties and fifties. It was a Doctor George Hackett who was an occupational medicine doctor. He was in charge of this huge factory and all these guys had low back pain. He postulated that low back pain was caused by damaged ligaments. He started injecting irritants into ligaments with the idea that it would trigger healing.



You can cause a controlled injury, not enough to cause permanent damage, but enough to trick your body into thinking there's been a new injury and thereby launch a healing cascade. You get all the benefits of a healing response without actually having been injured. He was getting great results with low back pain injecting, primarily, the sacrospinous ligament and lumbar ligaments. The concept with prolo is simply that. The most common solution used is a dextro solution. It's sugar water. I think that's what's part of what kept it in the shadows for so long because as soon as you say sugar water people think sugar pill, placebo, and their eyes glaze over.

When I was in naturopathic school I tore my labrum and my shoulder rock climbing. I was a high level rock climber. I was getting read for my dream trip to France and I had this labrum tear. I saw a surgeon and he said, "Well, you know, we can snip out the torn piece. It might help, it might not really. It's going to give you arthritis later." He said, "I would suggest you get prolotherapy."

Dave: Okay. That's an advance surgeon in that time.

Harry: It's in Portland, Oregon. There's a lot of hippies there.

Dave: There you go.

Harry: I found Rick Marinelli who was the first Natropath to really start doing prolotherapy seriously and he became my mentor and great friend. He injected me with prolotherapy and it cured it. That's what got me on this whole path is I said, "Man, this is what I want to do." For my first four years I just did simple prolotherapy injections.

During my residency actually what I did in order to just gain experiences, I volunteered, I'd be in the hospital all day and then I'd go to this homeless shelter, this fifty bed homeless shelter in Bridgeport, Connecticut. Here are all of these guys who all have musculoskeletal pain and they can't take drugs because they're basically in a halfway house in the shelter and so I did prolotherapy on them. They got better. It's amazing. When I opened practice here in Utah in 2002 I'd already done a bunch of cases.

My first four years I just did prolotherapy injections and we weren't using any imaging then because nobody really did. Then platelet rich plasma came along and that was a little more high tech so then we got interested in using ultrasound. If you're going to go through the process of preparing platelet rich plasma you want to make sure you're injecting it in the right place.

Dave: Yeah. It just costs like a thousand dollars for a kit to do that.

Harry: Back when we used kits. A lot of people don't use kits anymore.

Dave: Cool.

Harry: The kits were expensive.



Dave: Right.

Harry: For four years I did ultrasound guided injection PRP. Yeah, I'm very fortunate that by the time I started with stem cells I already had my 10,000 hours.

Dave: Cool.

Harry: I had a lot of foundation in regenerative medicine. Now, with stem cells because it's kind of hot and hip and there's a lot of interest there's now this new breed of pain internationalists who are very experienced with needles but they don't really have the background in regenerative medicine and the concepts that there can be more than one pain generator. When you're doing an insurance-based pain management practice, the insurance is only going to pay for one injection. There's this whole culture of coming up with the exact diagnosis of the one injection that's going to completely clear up the entire problem. When you're dealing with a farmer who's lifted heavy objects their entire lives and they've had thirty years of low back pain it's not one injection that's going to help that. When you're doing regenerative medicine injections you got to do a lot of pokes. Sometimes for those guys it's hard for them to make that transition.

Dave: Yeah. This is a problem in a lot of research as well. They say well, "The core assumption," that is not even stated is that there is one thing ... We're complex systems and the idea of, "Well, I have a thumbtack in this thumb and I have a nail in this thumb." If you take it down to that level it's like, "Well, we pulled the thumbtack out. The pain didn't resolve so we put it back in. We pulled the nail out, the pain didn't resolve so we put it back in." Obviously it's neither one of those but okay, maybe you should just look at everything that might be causing pain and just deal with it all at the same time. That perspective is missing from double blind studies. That's why we have empirical evidence which is as important if not more important than the double blind evidence. You need both to be fully there. If the double blind says it works, and you can't feel it, and it doesn't feel like it's working, it's actually not working. That's okay.

Harry: My practice grows entirely from word of mouth and I get all these guys who, "You treated my neighbor and he didn't walk with a cane anymore. There's something to be said for that. I think that, yeah, in order ... The whole concept of scientific study is to isolate one mechanism and when you're talking about something as complex as low back pain it's very difficult to do that.

Dave: Do you ever worry about the orthopedic surgeons guild taking out a hit on you?

Harry: What can they do?

Dave: I'm just kidding.

Harry: Taking out a hit. I guess that would be a problem.

Dave: I was like, "What can they do?"

Harry: If they took a hit out on me that would be a problem.

- Dave: The reason I'm asking that is you are disrupting a field of medicine. Surgical knee replacement, hip replacements, there will always be a need for some of that, at least until we learn how to grow new things that are biological.
- Harry: Yeah. I detached my bicep two months ago and I had to have it surgically repaired.
- Dave: Yeah.
- Harry: All the stem cells in the world aren't going to reattach that.
- Dave: Right. There's a need for that stuff but it seems like maybe we're doing a lot of that. Some of what we're doing is preventative and an order of magnitude cheaper. Those are what cause disruptions in industries.
- Harry: In twenty four Medicare paid something like 15 billion dollars in knee and hip replacements. If this were to even impact that ten percent that's a 1.5 billion dollar industry. I've caught a lot of flack. I have some friends out there in the medical community. There's a lot of people who just ... I've quit trying to be loved by doctors and I just focus on being loved by my patients.
- Dave: Got it. I find that that there's two kinds of physicians out there, there's the curious ones who are keeping themselves current and are willing to challenge their assumptions and there are ones who went to medical school, got their drug and text book, and they're going to do what they've always done. I saw one of those very early on when I ... I actually had an inkling that I had a problem with fungus because I was living in a moldy house, but I had a lot of symptoms with candida.
- I went to my family practitioner in the Bay Area, this was twenty years ago. I'm like, "I have all these weird symptoms. I feel like I've been poisoned, something's wrong." He basically said, "If you had a problem with candida you'd be in the hospital. It's not possible." I struck it off my list for four or five years. This is one of those guys who just didn't stay on top of what was going on. It turns out if I had found the right kind of practitioner ... There was a whole universe of practitioners who were aware of this kind of thing.
- Why there's that division between ... I don't even know what to call both sides, between western medicine and functional medicine. I just don't get it but it's time for it to break. If you see someone who is super alternative they might do something really well, they might also just not have the knowledge of a western physician. If you go to your western physician and they're saying stem cells are for witch doctors, you got to start wondering whose record is that guy playing because it's probably not his own. An open minded person is going to say, "You got to look at all possible things and you should make an informed decision."
- Harry: We've all heard about arthroscopic surgery for knee arthritis. That's where we're going to go in and clean things-
- Dave: I've had it three times.



- Harry: It's been proven to be no more effective than placebo.
- Dave: Yeah.
- Harry: Two major studies in The New England Journal of Medicine and one in the British Medical Journal that show that it is no better than placebo. Do you think that slowed down arthroscopic surgery for arthroscopic debris meant for knee arthritis? Not at all. At the same time they are the same guys who are saying that stem cells is complete quackery and you're wasting your money and it's blah, blah, blah. It's contempt prior to investigation is what we call it.
- Dave: It's funny. All right. I have no idea the answer to this... Have you been listed on QuackWatch?
- Harry: God, no. I have not. Thank God.
- Dave: One of my goals is I want to be listen on there.
- Harry: I do not.
- Dave: I'm not a doctor so if that was me I'm like, "Woo! Woo!" You're saying I'm a doctor now. But I would say for three quarters of the physicians I most respect have been attacked by that, basically tool, of the pharmaceutical industry.
- Harry: I suppose that day will come.
- Dave: They were sued into oblivion.
- Harry: I think they've slowed down. That guy was an Air Force psychiatrist.
- Dave: He's not a doctor.
- Harry: He's an MD, he's a psychiatrist. But, yeah, the Air Force psychiatrist. Keep that in mind.
- Dave: Yeah. It's funny though because I find the people who are innovating are always, always the target of basically these trade groups like QuackWatch. It's interesting. Hopefully you don't mind that I brought that up.
- Harry: Not at all.
- Dave: I would say literally some of my very favorite, most impactful practitioners have a rating on their. I just consider it as a mark of excellence. If someone is listed on there I'm like, "Okay, they're probably pissing off some drug companies." That's just one of my bars for do I want to talk to this guy? Yes, I probably do. Is there anything else you want to say about stem cells?
- Harry: No. We've covered a lot of stuff. We've been all over the map.
- Dave: One more question for you. This is a question that's in every episode of Bulletproof Radio. If



someone came to you tomorrow and said, "Look, I want to kick ass at everything I do." Take everything you know, not just from your practice, but just your life what are the three most important things I should know?

Harry: Adequate sleep, getting your emotional needs filled, and good diet. I'd put in exercise. I need four. Those are the cornerstones of health are ...

Dave: Cool.

Harry: Sleep, diet, exercise, and getting your emotional needs met.

Dave: Love it.

Harry: Yeah.

Dave: Beautiful. Doctor Harry Adelson, thank you so much for being on Bulletproof Radio. Where can people find out more about your work?

Harry: At our website Docereclinics.com. D-O-C-E-R-E clinics.com.

Dave: If you enjoyed today's episode download the transcript. It's there for free on the Bulletproof website. Everything we talked about including all the strange spellings of those things will be there. They'll be links to Doctor Harry's website. You also should pick up some Brain Octane Oil. I don't talk about this enough on the show because I kind of assume that everyone who is listening already knows, but when you make Bulletproof Coffee you've got the beans that are lab tested and produced differently in the grain coffee processing.

They're not washed beans. They're actually a different continuous flow process that we pioneered. Then you need Brain Octane Oil and grass fed butter. Brain Octane Oil is fundamentally different than coconut oil and it's fundamentally different than MCT oil. We had a lot of problems with disaster pans from MCT oil. This is because MCT oil causes ... Because of the way it's manufactured and because of the way it's components, it can cause a lot of gastric distress. In other words, you poop on yourself.

Brain Octane Oil makes ketones more than MCT oil. Ketones are one of the things that affect your hunger levels dramatically. That's why it's in the recipe, that's why we make it in the United States with triple distillation. If you are just putting butter in regular coffee you're actually not having Bulletproof coffee, you are not experiencing the kind of benefits I'm talking about. If you don't believe me go to the Bulletproof Coffee Shop in Santa Monica if that's within reach.

Try it made right one time and you'll be like, "Oh, I thought it was pretty good with butter. It's a totally different animal when I make really Bulletproof Coffee with the right ingredients." Check it out and I'll send you a Bulletproof Coffee Kit if you like. It's really important. You can also go into Whole Foods now and in most of the country now they're carrying Brain Octane Oil which is pretty profound.



Bulletproof Radio Dr. Harry Adelson #332

I prefer it if you buy it from me of course because then I can send you emails and things like that but if it's more convenient for you go into Whole Foods, I love Whole Foods, and I shop myself there whenever I'm traveling. You can pick it up there and in a lot of other grocery stores as well. I'm working to make this stuff built into our society and I appreciate your support, I appreciate you listening to the show. Doctor Harry, I appreciate you being here.

Harry: Thanks so much, Dave.

Dave: Have a great day. Thanks for watching. Don't miss out. To keep getting great videos like this that help you kick more ass at life, subscribe to the Bulletproof YouTube channel at bulletproofexec.com/youtube. Thanks for watching and stay Bulletproof.