Announcer:

Bulletproof Radio: A state of high performance.

Dave Asprey:

You're listening to Bulletproof Radio with Dave Asprey. And today's guest is Dr. Harry Adelson, a friend and one of the early doctors of stem-cell therapy for chronic musculoskeletal pain. He's the founder of Docere Clinics in Park City, and you might have seen the video of me doing a six hands whole body's stem-cell make over, with him and his team. Where I've had stem cells put in my brain and other, parts of my body. He also just came out with a documentary about stem cells. But I asked him to come in for this special short podcast, because I wanted to talk specifically about immune function, and stem cells, and get thoughts from one of the leaders in the field on stem cells, and COVID, and viruses, and immunity. And not that he's using stem cells for it, but I want the thinking of a leader and long-term experienced person in the field. We're talking thousands and thousands of procedures, over the course of a long period of time. So Harry, welcome back to the show.

Dr. Harry Adelson:

Thank you so much David, it's a pleasure, thanks for having me.

Dave:

I've come in, I've had you and the team you work with, Amy Killen and Marcella come in... Marcella Madera, who's a Johns Hopkins neurosurgeon, and the three of you came together and put stuff together, for every part of me that could be upgraded. And a lot of it's around inflammation. Talk to me about your take on stem cells and inflammation from viruses specifically. Is there a role for stem cells or other things in stem cells, for those of us who want to be highly resilient?

Harry:

Well, Dave before I launch into a bunch of geeky science, I'd first like to just say, that I read a number of the pieces that you put out, on how to hopefully prevent, and possibly treat COVID, and they were very well researched and very well written.

Dave:

Thank you.

Harry:

I liked your focus on Interleukin 6. Interleukin 6, there's a number of what are called inflammatory cytokines that are, and interleukin 6 is probably the most famous, and the most important, and the most central. What interleukin 6 is, is it's imagine it's a fire alarm. Most cells in the body can produce interleukin 6. And a fire alarm is designed that even a fourth grader can trip the fire alarm. You don't need a fire man to trigger the fire alarm. You just need someone to trigger the fire alarm. And what that does, the release of interleukin 6, is it lets the body know that there is a foreign invader present onboard, that needs to be dealt with.

Harry:

The issue that you run into is when the levels of interleukin 6 get too high, and are too high for too long. That's when you get into auto immune disease. And that's where you get what we've heard a lot in the

news. This cytokine storm, now the most classic example, like when you're learning about cytokine storm, in naturopathic medical school or conventional medical school, the most classic example of cytokine storm is with graft versus host disease.

Harry:

The most classic example of cytokine storm is with graft versus host disease. That can be either from a bone marrow transfusion or from an organ transplant, where the body recognizes that there's a foreign invader, and then you just produce this enormous quantity of interleukin 6, and other inflammatory cytokines. Well, that's useful when it's within certain bounds. But now when it goes out of control, then you're in the realm of autoimmune disease. And that's kind of what's happening with COVID is, it's similar to graft versus host disease, where the immune system gets switched on, but it's unable to turn itself off. So when interleukin 6 is high... Let's do a little review of the immune system. The different types of cells. There's the T cells which are responsible for cell-mediated immunity. There's B cells, which are responsible for humoral immunity. That's like the production of antibodies.

Harry:

Then there's a number of other types of cells, like natural killer cells, which are largely responsible for suppressing the growth of cancer and macrophages, which do the cellular cleanup. But the most important in this conversation are the T cells. So when interleukin 6 is high, what it does is it stimulates the production of the T cells, because the T cells are the actual cells that attack the foreign invader. The issue that we run into with COVID, is people's interleukin 6 is so high that we just start way overproducing the T cells, and the T cells start attacking your entire body. That's why we see this multiple organ failure. It's not just the lungs, it's also the heart, it's the kidneys, it's the... It's all the organs in the body, just because everything is inflamed. Like if you've ever, ever had an infection on your finger or something, any kind of infection, you know it gets red, hot, painful, irritated, it releases exudate, it oozes, well, that's what's happening in your entire body.

Dave:

I have a question for you about that, Harry. Now, we know that these inflammatory cytokines, cytokine 6, it does cause inflammation everywhere, but something else happens with inflammation. You get a reduction in blood flow, which creates something called a pseudo hypoxia. Which is when you get these knots in your muscles and it's a condition where there is actually hypoxia in the cell, even though there is oxygen present, and there's also a lack of blood flow from all these inflammatory things floating around everywhere, which seems like it's also contributing to the cause of damage. So it's not just the cytokines, it's lack of oxygen in the cell, and it's a metabolic cascade that happens after the inflammation.

Harry:

Right, and especially with COVID, because we don't even really understand the pathophysiology, We don't know what's happening and what's going wrong. One of the theories that I've seen, is that it's actually a disease of the hemoglobin. Where the hemoglobin loses the iron molecule, the iron molecule is what's responsible for binding the oxygen to it. It's what allows hemoglobin to carry oxygen to the rest of the body. So if you lose that iron molecule, two things are happening. Your cells lose the ability to bind to oxygen, which is why you're unable to oxygenate your tissue, and also now you have all this free floating iron. Talk about oxidation, your body's actually rusting. You have all this free ferritin. All this free iron, which is extremely damaging, and irritating.

Harry:

And that theory has not been completely demonstrated yet, but it's one of the theories out there that I've read. The first scientific article on it came out of China. But when you hear these recent reports of young people having strokes, it really does make you question whether or not this is a disease of the blood.

Dave:

The only theory that matches all of the symptoms that we've seen is that theory. And there's now three different proof points for that theory of using three different molecular, genetic, and other measurement tools. I think that's what's going on. And lots of free iron, and a lack of oxygen because your hemoglobin is damaged, would definitely trigger one mother of a cytokine storm.

Harry:

Oh yeah. Oh yeah. Because your body is literally rusting. It's, awful. So this is where stem-cell therapy comes in, because of the modalities that are being studied, stem-cell therapy actually potentially shows the most promise.

Dave:

Okay. That's a big statement. The most promise. So how would you apply stem-cell therapy, if you had it? You have access to stem cells and everything else. How would you apply it to healing Dr. Harry?

Harry:

I'll first mention what's out there, and why I feel like it shows such promise. The first case reported came out of China. It was just a single case. It was a 65 year old woman who was on a ventilator. Now the thing to remember about if you get on a ventilator from COVID, your chance of survival is 12%. 88% of people who go on a ventilator never come off. They die. So it's practically a death sentence to go on a ventilator. It's awful. There are some people who survive, but it's rare. So we need to keep that in mind when we're talking about these small studies. So this first case reported was a 65 year old woman, this is out of China who successfully got off a ventilator.

Harry:

Then there were a number of small informal trials out of China that didn't save everybody, but it sort of flipped that. It became 80% survival and 20% non-survival, as opposed to the other way around. There were. That I'm aware of I think there were five small trials that have been completed already, and now there's I think... With stem cells, with mesenchymal stem cells, mostly umbilical cord culture, expanded on umbilical cord stem cells. Now there's currently six studies underway in China, and there's one study in the U.S., and one study in Israel that's happening. The one in Israel is a drug company called Pluristem, that they released a sort of a pilot, some preliminary cases, I think it was seven cases and six out of the seven cases, had significant improvement. The other company is an Australian and American company called Mesoblast. And they had one pilot study that I think was 12 people on ventilators. 10 of them got off. So they were able to successfully get 10 out of 12 people off ventilators.

Dave:

By intravenously infusing cultured umbilical cells-

Harry:

Yes.

Dave:

... which are not legal in the U.S.?

Harry:

Which are not legal in the U.S., but they're under review currently.

Dave:

That makes me feel safer. They could save my life, but they're under review.

Harry:

Well because it's also new, like-

Dave:

Heaven forbid we get access to new stuff. That is our own choice.

Harry:

... Well, Mesoderm currently has... They're in the pathway for FDA approval, for treating, as we were talking about graft versus host disease, which is really very similar to COVID. So this is a short step. Now in periods like this where there's this clause of compassionate care, where you can try these experimental methods on people. So, there's Mesoderm. They've got like a 20 center trial going on, and it'll take a while to see that, but with everything that I've been reading about, I'm very happy to say that my own field of stem cell medicine, is what I've seen that shows the most promise.

Dave:

Okay. So you're really excited about this. What about things that are available in the U.S., like exosomes. And I like to call this in Super Human, [inaudible 00:11:35] book, your work with me was featured there, but we talked about exosomes, which I call stem cell juice. There are the growth factors from it. Do you think exosomes have a role to play, when people are dealing with assumptions of COVID?

Harry:

I think it's certainly worth a try. What exosomes are is exosomes are the vesicles filled with growth factors, that are the actual active ingredient for the stem cells. So what stem cells do in order to decrease inflammation, and decrease levels of this interleukin 6, is they actually donate, the mesenchymal stem cells, donate their mitochondria to the T cells, and cause the T cells to differentiate into regulatory T cells. So the T cells that we've been talking about, the aggressive ones that kill invaders are called cytotoxic T cells. Well, the stem cells donates their mitochondria to these cytotoxic T cells, causes them to differentiate into regulatory T cells. Regulatory T cells are the one that suppress autoimmune disease. They actually decrease inflammation. So one way to do it is to administer mesenchymal stem cells. The other way to do it is just to administer exosomes, which are the active ingredient of stem cells.

Dave:

I'm looking at the treatments that I've done where there's bone marrow aspirate, there's exosomes. If someone was... how do I put this? If someone was dealing with a lot of inflammation, and lung issues, probably from COVID, and they said, "All right, I want to immediately do everything that you can think of, with stem cells." Let's say it's on a mythical boat in the ocean, not subject to anything other than common sense. Would you give them intravenous exosomes? Would you have them breathe exosomes? How would they do it? Would you take bone marrow stem cells? Culture cells? Is this all intravenous? How do you administer it? How would you go about this, if you weren't worried about, money and you weren't worried about regulatory, you were just worried about the patient?

Harry:

Sure. So there's two issues here. One is what type of stem cells or stem cell product would you use? And then the second is the route of administration. So as far as here what I do, and we do discuss this in Superhuman, and we've done past podcasts on this.

Dave:

It's in your documentary. You just did the Stem Cell Solution. In fact, the last trip I was on before the lockdown was for the release of the... What do you call that? The red carpet premiere of the Stem Cell Solution, and that's probably available online right now for people?

Harry:

Yeah. The documentary film that we produced is called Stem Cell Solution, and the URL is very simply stemcellsolutionfilm.com. And it's a 60-minute documentary that you're in, that [Dr.] Mark Hyman is in, that we've got Jim Kwik, we've got Vishen [Lakhiani].

in there, we've got a bunch of the-

Dave:

A lot of friends of Bulletproof, and personal friends of both of us, just talking about why they matter. So I guess I'm getting a little bit off track there, but I'm just thinking about all the different questions I'm asking you that, some of them we've addressed here and addressed there, but I've never asked you to straight up, the gloves come off, no one's going to judge you regulatorily, because now you're in international waters, you're on a space station or something. You have all the tools you can think of at your disposal. What would you do? Like I'm asking from Harry, Harry Adelson unleashed. That's it.

Harry:

I would do what I do it in my clinic every day, which is the kitchen sink approach. Take stem cells from your bone marrow, take stem cells from your fat, supplement that with exosomes. So what makes my stem cells 51 year old STEM cells, is as we age, our own stem cell loses the ability to manufacture the vesicles filled with growth factors, the exosomes that are the actual active ingredient. So what we do is we take these very young, robust placental derived stem cells, that have been separated from the other person's cell. So there's no genetic material at all. The membrane of these exosomes, is identical to the membrane of your stem cells. So what we think happens is your stem cell absorbs them into themselves, thereby making them a stem cell of a younger person.

Harry:

So, that's what I would do. And yes, I would administer it intravenously, because when you do give stem cells intravenously, the actual stem cell size, is larger than the blood vessels in the lungs. So the stem cells get caught up in the lungs and dump all their growth factors in the lungs, which is where you need it the most.

Dave:

So you would do what you're doing now. Now when I came in, you injected all the joints in the body. I'm guessing you would skip that, you would go straight for intravenous if someone's in the throes of an inflammatory situation?

Harry:

You underwent a full body stem cell makeover, and what full body stem cell makeover, which we talk about in stem cell solution, is the injection of stem cells into the entire musculoskeletal system. All the moving parts in the body, in a single sitting. So the entire spine and both shoulders, both elbows, both wrists and thumbs, both hips, both knees, both ankles and great toes. The nice thing about giving it that way, is your own body is acting like a time-release system. They're still going to make their way into systemic circulation, but you're getting them to where you don't have very good blood flow in the joint surfaces, and so forth. So I don't know. I think if somebody, if we're on our magical boat in the space station, probably I'd still do IV. If a person is sick with COVID, I'd still want to do IV, because I'd want them all to go to the lungs. But I think when you're doing a full-body stem cell makeover, the systemic effect is really... it can be quite profound.

Dave:

The systemic anti-inflammatory effect.

Harry:

Yes.

Dave:

Okay. Got it. So you would start with intravenous, but I guess you would still be willing to have someone sedated, and all of that to go in, all the different joint things. I was out for like four hours.

Harry:

Yeah. We sedate everybody. We put everybody to sleep because I don't need your help.

Dave:

But wouldn't you want to wait till I was done with the virus before you would do something like that, or you think that they actually would go well together?

Harry:

Well, based on these initial case reports that are coming out of China, and Israel, and then this recent one in the U.S., no, I would want treatment as soon as I got, before you get on a ventilator.

Dave:

Yeah. But the treatment would be whole body stem-cell makeover if you could do it, not just intravenous.

Harry:

Yeah. That might be a little heavy just because it's a little intense. Probably it's better to just do IV. It's probably better to do IV, and I don't even know that I would want to do the bone marrow, and the fat aspiration, because even that's kind of intense. So I would probably just stick with exosomes and ozone. You've written a bunch about ozone. We're getting a new ozone unit in which is actual blood dialysis, which filters the blood, ozonates the blood, and passes it through ultraviolet blood irradiation.

Dave:

I just had a couple of those things done with Matt Cook, and so I think this is-

Harry:

Yeah. [crosstalk 00:19:12].

Dave:

[inaudible] …"very good. It's very cutting edge stuff, and I think we're going to see a lot of people benefit. In fact, if hospitals had ozone dialysis units, instead of ventilators. You can directly filter the inflammatory molecules and proteins out of the blood, and all of that, as well as sterilize the blood. So I would love to have one of those in my house if I could during a time like a pandemic, but even then, I think ozone is going to be one of the ways we treat all viruses, as we evolve into the coming years. Are you as bullish on ozone as I am?

Harry:

Yeah, I absolutely agree with you. That's why I'm getting this unit, and the unit we're getting in is the same that Matt has.

Dave:

Are you going to be combining ozone with stem cells? You can do Prolozone injections into joints. Have you ever done stem cells and ozone at the same time?

Harry:

Well, we ozonate the bone marrow. Like when you had your full-body stem cell make-over, we ozonated the bone marrow.

Dave:

Oh, I didn't know that. That's cool.

Harry:

Oh yeah.

Dave:

All right. What else would you think as a naturopath, someone who's really dug deep on inflammation, and stem cells for a huge amount of your career, what else should people know from your perspective? Knowing there's some stuff we don't know, but we're talking about your best judgment with the facts you've seen?

Harry:

I think your article really laid it out very well. I think you hit all the high points, and I'd say probably the most important thing is daily exercise. Not extreme CrossFit, go till you're completely exhausted, because that actually suppresses your immune system, but daily exercise is the thing that increases the circulation. You're circulating stem cells more than anything. So I think daily exercise is probably the single most... which is hard to do if you're quarantined and at home. But you've just got to figure out a prison workout and make it happen.

Dave:

Prison workout. There you go. Well the good news is now there's lots of technologies and ways to do that. I think there's so many people offering free classes and whatnot. Any thoughts on saunas or cold showers during COVID?

Harry:

I think that's all great. I think all that stuff is terrific.

Dave:

All right, Harry, thank you for a quick hit podcast where we could just talk about specifically, are people doing this? Does it make sense? The short version is that if you're living in the U.S. right now, unless you're near a doctor like Dr. Harry, your availability of exosomes, or stem cells is probably limited. Because a lot of elective procedures are banned right now. My argument would be that we need to immediately allow elective procedures. In part, because the ones like this are resilient, but also let's look at net suffering and net deaths. The number of people who have cancer, or have heart disease, and need to go in for treatments that are currently unavailable, it's frightening. Also, you wouldn't know this unless you're reading a lot, the number of hospitals who are laying off people right now is very substantial.

Dave:

Revenues have gone through the floor in hospitals, and why? Because no one's come in because they want to leave space for sick people. And so what that means is people who are having heart attacks, or having symptoms won't come in. And it also means that when people need a recurring care that requires a hospital, things like chemo and whatnot is simply unavailable. And this has affected people in my family, it's affected millions of other people. So look, elective medical procedures are not really elective for most of them. And I would say if you're sick and you have COVID, and you have a physician near you who can give you exosomes, it's not an elective. It's life-saving and it's your call, whether it's elective, not some random legislator who doesn't even have a medical degree. So. So thanks for pointing that out Harry. And if you'd like, today's episode, it is a quick and mini episode.

Dave:

I would love to get your feedback, whether you'd like these shorter interviews, you'd like some longer ones. I'm continuing with the one-hour format twice a week, sometimes more when I've got something

topical, and useful for you. And thank you for listening. Thank you for tuning in, and the full transcript as always, as well as all of the writing I've done on COVID will be on daveasprey.com. If you'd like to know more about Dr. Harry and his work, including the whole body STEM cell makeover that he did on me. It's got a lot of writing up there and the documentary and everything. Docere Clinic's, D-O-C-E-R-E clinics.com. Thanks, Dr. Harry.

Harry:

Thank you Dave.