Exosomes: The Future of Brain & Body Repair Transcript

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Podcast Intro and Episode Overview

Hey there, welcome to the Recharged Biomedical Podcast. I'm Dr. Edward Park, and if you're curious about regenerative medicine, you've come to the right place.

We're diving into the latest breakthroughs in telomerase activation, stem cell exosomes, and all the cutting edge science that's shaping the future of healing and longevity.

Let's get started. Hi everybody, this is Dr. Ed Park and welcome to another episode of the Recharged Biomedical Podcast. These are our monthly AMA or asking anything webinars for providers.

So let's get started. Who am I? Most of you know, but I am a medical doctor trained at Harvard undergrad, Columbia for public health and medical, and then back to Beth Israel at Harvard for OB-GYN.

In 2016, I was consulting for a high net worth individual who wanted to cure aging using exosomes. And then a couple of years later, I heard a neurologist colleague of mine talk about his motorcycle accident and sneaking exosomes in, and his healing was quite remarkable.

So then over the years I've practiced, I've created an online training course we'll talk about later. And I do onsite training for providers as well. Uh, one of the doctors we were talking about, I went up to her clinic in Sacramento and trained her and her nurse and treated three of her family members.

And she's inviting us back.

Dr. Park Background and Clinical Experience

I'm licensed in California, New York, Florida, Texas, Hawaii, and Utah. And I wrote a book called Exosome Songs of Healing. This is me a couple of years ago at Mark Hyman's IH.

So this hasn't been updated, but it's pretty recent. Eight years, 689 patients, 1,300 encounters, about 3,400 procedures. And you can see here that actually nasal is the number one because we count both sides, right?

So left nostril, right nostril, followed by IV and then digits and then knees, shoulders, musculoligament, tendon, fascia, nerves. This is kind of the descending histogram.

But it's like spackle for the body and the complications are rare. Basal bagel episodes happened just the other day. You just got to have your smelling salts ready and make sure you get them safely to the ground, horizontal.

I've seen twice non-phlebitic vein swarming, which was transient and unexplained. And of course people can have HSV activation because it will decrease antibody production.

In fact, I've had sort of a lingering URI for about two weeks, and I've wanted to take a nasal shot, but can't because I need the antibodies to fight the cold.

So here we are. Let's see what an exosome is. Well, down at the right is hydrogen atom, up the left the giant sequoia, and right about the size of coronavirus is 100 nanometers.

And that's because they're made by the same mechanism through the Golgi apparatus. These tiny 100 nanometer invisible spheres are packed with mRNA, mostly microRNA, and their phospholipid bilairs.

And in the past, you can see right next to me, for almost 100 years, they've had electron microscopy. When they

saw this, they assumed that it was poop.

But now, about 20 years ago, they thought, what if it's not? They analyzed them by melting them and discovered, oh my God, all plants and animals communicate with exosomes.

We better learn more about that. And so they're at the root of cell communication. It turns out that the stem cells don't just go there and graft. They mainly work by secreting exosomes.

And that's why I wrote my book. exosomes songs of healing. So we can see above that if the baby is the cell, the bath water contains the exosomes. So you take these flasks and every couple days you change the food and then you filter them for size exclusion and presumably size inclusion.

So anything between a 50 to 160-ish nanometer is going to come out as invisible particles, and many of those particles will be exosomes. And if you ever thought an exosome bio, and it's not totally clear, then you know you have something above 200 nanometers, which is the limit of light detection.

So again, to reiterate, when you get a paper cut or hit by a truck, your body's going to create inflammation, send stem cells there, and then it'll secrete exosomes, and the exosomes will cause the local stem cells in that niche to de-differentiate, proliferate, and there are other downstream effects such as changing the immune phenotype to TH2, It grows extracellular matrix.

It grows new vessels. It changes the macrophage phenotype to regenerative and anti-inflammatory. So we really don't want the PRP anymore. We don't want the inflammation.

That's just complicated matters. When I went to the conference in Melbourne two years ago, I asked the question, well, what's in the larger vesicles? Because there's many vesicles that are larger than 200 nanometers.

The canonical size goes up to about 150. what's in them.

What Exosomes Are and How They Work

And she said, well, it's kind of the same, actually. So it's like the difference between belching and vomiting, I guess, from a cell's point of view. But you go to these conferences, and they're very humble about what they don't know.

I went to another one in Vienna last year. And then I went to the Stem Cell Conference International one in Hong Kong. And surprisingly, there was only about 5% of the posters even mentioned exosomes, despite that.

Every one of those stem cell scientists will tell you this is how cells communicate, especially stem cells. So what's the disconnect? Well, people are in their own silos, aren't they?

And so that's part of the problem advancing science. These are some of the indications that we've done in the past. Above you see me and Dave Asprey, famous biohacker.

He's gotten three nasal treatments and he seems to really, really like it. Some people, I have another friend who's a real estate coach and he stands up in front of 5,000 people.

Interesting, these extroverts tend to be activated, whereas most people get very sleepy after exosomes. Some people, their vision clears up right away.

I had one lady who had a horrible brain trauma earlier in her life and her double vision cleared up. We've had tinnitus improve, stroke rehab, amazing results in that, even face blindness.

And next to me, you'll see a picture taken last year. A medical doctor friend of mine had terrible trigeminal neuralgia triggered by the use of a harmonic scalpel during surgery.

She's an OB-GYN surgeon. And for a year and a half, she had terrible pain. Her nurse practitioner came to my lecture at A4M and said, Hey, do you know this guy?

She goes, I do know that guy. I bought him dinner long, many years ago, 10 years ago. So we met up, she got one nasal injection. And since then, over two years now, her trigeminal neuralgia is gone.

So why do we do nasal? Well, as you can see here, the olfactory nerves are throughout that sinus area and they perforate the cribriform plate or the base of the skull that supports the brain.

And that gets up to the brain, presumably. And this is justified or vindicated by this Israeli study, Dr. Daniel Offen. He showed that when you radiolabel exosomes and just give them IV, they don't really get to the brain.

But if you do an intranasal spray, they do. And so that is the reason I will do intraspinal if I feel that's necessary. And that's where the pathology is.

And there are also some doctors who are using a low intensity focused ultrasound, even TMS or magnetic stimulation to increase the permeability. Indeed, they published a study showing that in mice you increase the permeability of the regions treated and the stickiness, which is overall a good thing for delivery.

I want to share what happened to me. Eight years ago, I did my right torn meniscus and that got better. So I was heartened. And so I said, well, why don't I use this technique?

I took Joy Kong stem cell course, allogeneic stem cell course, and she taught the technique of a nasal injection. It's interesting. Last year we were lecturing together in Cancun.

And I asked her, she said, oh, I don't do that technique anymore, but it's become my most popular treatment and thanks to her teaching me. So I decided, well, what would happen if I did this to myself?

And I did this to myself eight years ago. At one hour, it felt like a catecholamine rush, like you're at the top of a roller coaster about to go down.

And in exactly two hours, my hair stood up on end, and I found that I had voluntary pile erection. To this day, I can make my hair stand up on end anytime.

In the past, that would happen as is normal for some reason. You know, when I saw the little twin girls from The Shining, that would give me the heebie-jeebies, or if someone says something very profound or touching, you'll get what the French call frisson.

But apparently this is not something that is acquired in life typically. There's only one paper I found on the voluntary control of pile erection and that's kind of strange.

So you might say, well, why didn't you keep on doing it? Well, my dad actually had glioblastoma and passed from that. So I was kind of like, maybe I shouldn't mess with my brain too much.

But I was in a hotel and this young girl was kind of scared and she had a lot of CNS problems. So I wanted to show it wasn't that big a deal. So I went and injected myself.

Uh, a year ago, November, and I became so hyper productive after that. I decided to do a weekly webinars again for providers. It just, I went on Duolingo.

I started learning like five, six languages.

Clinical Uses, Nasal Delivery, and Personal Results

It got really productive. But then, you know, be careful what you wish for. I had an apartment fire. You could see

here the fireman came in. I was outside checking my emails and I was like, what's going on?

Is this a false alarm? I turned around and the entire apartment was filled with smoke. Sprinklers were ringing out. I couldn't see. In the aftermath, you can see in front of my piano is a puddle of soot.

And every wall, every surface, square centimeter was covered with soot from this fire. I guess a bag of cashews had caught fire next to the stove. And this had happened multiple times in the building.

The stoves were recalled, but anyway, long story. So I decided to mitigate the smoke and soot. There were two HEPA filter blowers and I thought, well, I'll try and clean it out.

And that was a big mistake because I inhaled a lot of soot and ended up getting what I think is some brain damage. This is me with my brain damage. My sons and I went to Australia, Bali, and Taiwan.

And they're like, what's wrong with you dad? And I was, I had lost my passport. I had lost my computer, my jewelry, my cell phone, and my executive function was just horrible.

Like the boys were planning everything. So I was like, okay, I got a problem here. So I came back and in February I redid it and it bounced me back. So I do think it's kind of like, it can be like a limitless drug.

So I added eight languages. Now I'm up to 14 languages, but I can tell now that my brain is falling again. Probably because of not the greatest lifestyle, but I couldn't take exosomes last two weeks because I've been fighting a cold again.

So I've also treated my sons. The older one has had two, three treatments and the younger one has had one and my mom has had at least eight. So they all report good changes.

I think my son's personality actually changed after that. He became much less anxious, which was great. Towards the end here, we're just going to talk about AASD or autism spectrum disorders.

They used to call it PDD. I guess there's a component of neuroinflammation involved. And podcast 16, we're now at 40, was with Jody Repco, who's one of the great attendees of the online course when we were creating it.

And she wanted for her son, Michael, and indeed it improved his social phobia, his fine motor skills. He's still nonverbal, but incredibly brilliant, like the kind of Brilliant that you can multiply five-digit numbers by five-digit numbers.

Brilliant. So it's kind of funny. She called me to complain two weeks later. She's like, I didn't say how great it was and how much it's helped, because she was so worried about overselling it.

But it did help her, and she has a practice where she treats autistic kids. Dr. Niko Goshen also took my course, and he orders through us. And we're thinking about partnering to expand this to the MAPS community.

So that's a mental something pediatric symposium. And anyway, they have a lot of kids that are in need. And his quote is, exosomes have changed my practice.

I mostly see ASD kids, and this treatment has been a game changer for my patients. I've done around 30 treatments, much more since then, and every kid has improved.

That's 100% response in 25 years of practice. There's no other intervention which I've given my autistic kiddos that I could say that about. And I'm trying to perfect the treatment approach.

I'm hoping to see even better results. So happy we found the course. So what is the course? The course is 20 lessons. It's 12 hours online at your pace learning.

We go through things like, does this work, which brand, how much should I charge? And then the different areas, when to use ultrasound, knees, shoulders, hips, facial rejuvenation, hair loss, general health.

And we go into a lot of the different themes and lessons. Also, of course, you can download these customizable forms for consent, for aftercare, microneedling, demographics, detailed intake forms.

And every procedure has a video. I still have to do the IV video. It shows a video demo which you can watch over and over again and a one-page cheat sheet for your medical assistant to set up the supplies and you can review the steps along with the video.

So to learn more go to rechargebiomedical.com slash courses and every dollar you spend on the course is credited back to you as an excellent purchase which you can also do from within the course.

So I'll take questions. If you type them into the Q&A or the chat, every time we have a webinar like this, you can submit an AMA question. And this week's question comes from Neil Nymark, who writes, I saw data from curves by a nose device showing targeted upper nasal deposition of tracer-confirmed nose-to-brain delivery.

Again, that Daniel often experiments. It's been incorporated in several FDA trials. Why do you prefer intranasal submucosal injection rather than a device?

Well, I mean, I'm kind of under thinking it maybe, but to me, if you inject something either with a spinocath, which I've heard good things about, or nasal deposition, you still have to be absorbed into the mucosa.

If you inject submucosally, that's just one less step to be absorbed. So intuitively, you would think that the delivery is going to be 100% submucosally.

And that's the simple answer to that. I've spent years studying how cells age and why we age and about cell communication. Exosomes are now changing the way we understand cell communication and providing an opportunity for us to reverse some of these problems.

Pick up a copy of Exosomes, Songs of Healing, and in simple English, I explain how this is working and why this is the future of medicine. go to www.rechargebiomedical.com, subscribe to my sub stack at d-r-e-d-p-a-r-k, and watch my YouTube channel at drpark65.

Thanks so much. Okay. Oh, we got a question. Mark Holtermann wants to speak. Dr. Park, can you hear me? Yes, sir. Okay. Mark Holtermann calling from Chicago.

I'm embarrassed to say I just got on a call because I had a couple of clinic patients and I couldn't get rid of some or I couldn't finish with some. I just wanted to ask the question about exosomes and is anybody using them for autism?

Yes. In fact, when you watch the rebroadcast, you'll see that Dr. Arman is having great results. Jody Repco is having great results.

Autism and Neuroinflammation Applications

So it does seem to help with the neuroinflammation. Absolutely. Great. Again, I apologize. It's just repetitive. uses Alzheimer's or any kind of MS lesions or Parkinson's, anything like that.

Yes, we've treated all of the above with mixed results. You know, you can never predict what one person will do. A while ago, I think in the AMA nerve one, we talked to a physician who had really a dramatic reversal of most of his Parkinsonian symptoms.

And that was in conjunction with low intensity focused ultrasound. The results are variable. And I was speaking with a colleague yesterday who's just totally blown away by nasal exosomes.

He was a skeptic. But his measurement of real-time heart rate variability in his mind proved without a doubt that it's definitely doing something. So we'll sometimes have this interesting thing where people say, my vision is so clear like minutes later.

And I think that has to do with neuroinflammation possibly in the occipital cortex. So yeah, we do have it. The theory, as you'll learn in the course if you take it, is that it reduces inflammation, it can create new vasculature, and it can also trigger these blockers of de-differentiation and blockers of myelination so that the nerves can actually grow new neurites and remyelinate.

That seems to be one of the potential mechanisms. So it's required to demyelinate before the nerves will grow, the neurites will grow? Well, it's a mixed bag really.

It's, you know, you have this ability to turn back at the clock on local stem cells, local, you know, Schwann cells or oligodendrocytes and sometimes it can be…

Astrocytes? Yes, astrocytes. Astrocytes are key in that, so that's so wonderful. Yeah, I mean, we did a webinar with the TB 005 people, the Galactin 3 antibody, and that was promising for some.

So yeah, there are many routes to neuroinflammation. And so it seems to be a potential cure or help, at least in down-regulating that for a time. And then he had, as a former trauma surgeon, a traumatic brain injury or concussions, that kind of thing.

Yeah, all of the above. I mean, if it's a ligament in your toe or cartilage in your knee or stuff in your brain, it seems to be universally good at signaling some kind of repair.

And that's why Mother Nature uses it all the time against FDA approval. When you get injured, you're going to send MSC exosomes and they're going to release simulac, although not as potent exosomes.

And that's how you try and repair. Yeah. So a question from Sandra Visser. She says, I'm in Chicago stem cell therapy and Dr. Zaki Anwar has been doing IV exosomes for ASD with great results.

Yeah. Great. Well, IV is good. You know, there is a blood brain barrier. Exosomes are small enough that they can penetrate at some low level. But as that often study showed in mice, it's still pretty tight in most cases.

If you have ongoing neuroinflammation, perhaps it's leakier. But from my point of view, the highest delivery arguably is interspinal, intrathecal.

Provider Training Course and Resources

My colleague Dr. Jordan feels that's not the case, but I feel like if it's sloshing around the CSF, it's got to get to the brain in some way. Probably low intensity focused ultrasound.

coupled with IV or nasal, and then nasal inhaled, and then IV is probably the range of dosage. Great questions. Any other questions? How many applications hearing loss?

Hearing loss, you know, I've done about 12, trans, tympanic. It can help. Doesn't always. And that's kind of a hairy procedure if you're not an ENT. Anosmia.

I tried to help my ex-wife's anosmia, but didn't help her. She had a fracture of the curbiform plate from falling. But some of the anosmia maybe from long COVID perhaps could be helped as it's more of a CNS origin olfactory nerves.

Good. So I encourage you if you're a provider or know someone that's a provider to sign up for the course. You have a never expiring credit. You have all the forms to get you started.

All the silly questions that you want to ask are answered there. What do I charge? How do I consent people? What about the FDA? How do I stay out of trouble?

It's really kind of a turnkey kit for you to start your ex-sum practice. And in doing so, you'll help a lot of people. And if you only want to do it for your friends and family and stay off the radar and not have to get malpractice, that's also good.

Because you'll be a real hero to a lot of people in your life. Okay. Any other question? Dr. Park, are there certain parts of the country where it's a little less contentious to do these kinds of things?

Stem cells in Florida and Texas and Utah. Yeah. I mean, you're quite right. What Dr. Holtzman is alluding to is that they passed a broad law last year, which seems to include stem cells and some of their extracts or secretions.

Utah has always been friendly. Texas from the previous governor had a lot of pro-stem cell treatment. Really, I mean, I would say New England and the Northeast has been a little more hostile.

AMA: Delivery Methods, Conditions, and Safety

And so the environment is less positive, but I think it really comes down to whether you advertise, whether you promote, whether colleagues have competing modalities that they want to report you to the med board for.

You know, if you keep it kind of on the download, just trusted friends and family, manage expectations. You know, I had a patient come in the other day who's had some success with his treatments and he said, well, why can't you guarantee my hair will regrow?

These guys say it will grow 30%. And I said to him, well, I'm not charging very much of a margin. If you want me to double the margin, I can give you a money back guarantee.

But what they mean to say is 30% of the time it'll get better, not that every person will get 30% improvement, right? So you just need to manage expectations.

And I go back by my experience. If I've had a lot of success with one particular condition, I'll say, yeah, I've had success with municipal terrorists.

But if someone comes to me and says, well, MS, I'll be like, not so much success yet. So, you know, you just gotta be honest. It's the practice of medicine, right?

It's not the attainment of perfection. Okay. Good stuff. Yeah. Question? Yeah, I guess the idea would be people who have good success with MS often use stem cells.

You think if they give a lot more exosomes, they would still have good success? Or is it just something with the homing capacity of stem cells? Right.

No, I don't know. They're kind of rhyming modalities, right? So if you ask a stem cell scientist, they will admit that the exosomes are the mediators of the effects.

But, you know, if you put someone else's stem cells in yourself, within three days, an incompetent immune system will destroy them. But during those three days, they will, you know, possibly hone and possibly secrete exosomes.

So it's not that they don't work. In my opinion, exosomes are a little more predictable. They're more affordable and they don't involve that immune reaction where you have to destroy them at a low level.

But certainly they are a popular modality and they do work as well. Dr. Park, you mentioned malpractice. Is there some malpractice group that you would recommend?

I can refer you to a broker that has covered. So I guess it's sort of like a carve out in regenerative medicine, but it is something that I think is prudent to have.

Sure. But again, people always ask, well, is this legal? How can you do this? You know, in the consent, it's this very strong language indicating it not being standard of care, not being FDA approved, although there are about a dozen FDA trials ongoing.

So the landscape could shift in the future for off-label use, but I think a patient has a right to try if they're very sick, but more than that, they have bodily autonomy.

And it's very important to respect that as part of our medical ethics, you know, never oversell. and ever over promise. And they should be fully informed that, you know, a lot of people play fast and loose with FDA, master file, IND, yada, yada.

None of it matters until the approval is had. So it's all just marketing. And the, uh, I know, uh, Kamara has, uh, some FDA trials going and that was, uh, that's completed now or where, where is that stand?

Do you know? I don't that's above my pay grade marks, but you know, they have some trials as to other vendors and manufacturers. So we'll see what happens.

But you know, when I go to these conferences and talk about the clinical use of exosomes, everyone is very skeptical. Although they are completely. believers when it comes to mice or using human exomes in mice, they'll sit there until the cows come home and tell you why it works and why it's great.

But scientists are a very conservative bunch, so I'm sort of persona non grata when I go there. People studying want to take a copy of my book. Yeah, a lot of people have used exosomes that weren't very high quality exosomes with bad, uncertain or bad results.

So there's been a number of people who have had their minds poisoned to the expense that didn't. Oh, yeah. It's been out of the 30 companies, probably 15 of them got under and, you know, maybe half of the ones remaining are white labels.

So they have no control over manufacturing. You know, a patient told me last year in Japan, someone used contaminated exosomes and there were deaths. And so that kind of killed the enthusiasm in that country.

So there's no substitute for high quality. And so I stuck with the Chimera brand thus far, although. pretty much everyone else has approached me, but if you're not willing to actually admit what you don't know and what the limitations are, then it's kind of a red flag.

I mean, the first time I met the founder of Chimera, I asked some questions like, well, don't you have to… melt the exosomes to know what's in them.

He goes, yes, you do. And I didn't realize that at first. So, you know, there's just layers and layers of not knowing even within the scientific community and even their methods of extraction have evolved.

Most people do not do centrifugation anymore and they instead use tangential flow filtration. Anyway, this is getting in the nitty gritty.

Closing Remarks and Call to Action

Are there any other questions? No, no, you're fine. Any other questions? I think we're good. All right. So I'm open to suggestions for next month's AMA.

And thank you everyone for joining. I hope this was helpful. Again, the bottom line is if you want a mental upgrade, it seems to have helped me the times I've been able to do it.

And I can't wait to do another one because right now my Duolingo is just one lesson of Portuguese and I'm ignoring Arabic and Hindi and Chinese and Japanese and everything else.

Alright everybody, thanks for joining. We'll see you next time. You can grab it in paperback, ebook, or audiobook, whatever works for you. Now head over to www.rechargebiomedical.com to check it out.

And don't forget to like and subscribe so you never miss another episode. See you next time.