Can We Bank, Regrow & Eventually Clone Hair? Dr. Alan Bauman Explains | Ep. 182 Transcript

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Opening on Hair as a Longevity Marker

If your body's not right, your hair is not, right. It's just lifespan and health span that we're dealing with. We're talking about hair span. The amount of time that you get to be with your own living and growing hair.

A lot of younger people having a few issues that really didn't see in their early 20s. Hair loss being one of them. we are seeing a much younger healthy point of view podcast, top rated show, where we bring in experts from all over the world to talk about health, wellness, beauty, and mindset.

You got Dr. Alan Bowen. All right! You can lose 50% of your hair before anyone even notices. So how do you catch it in time? Here to tell us is Dr. Alan Bauman, board certified hair restoration surgeon and founder of Baumann Medical with more than 15,000 hair transplants.

When they go into an area of injury or trauma, they sense the area and they respond to that injury by sending out instructions. What we've realized, we can put stem cells in the laboratory and collect those messages, deploy them back into the scalp.

When it comes to these chemotherapy patients, what is available for them to get that hair start growing back? Engage with a board-certified hair restoration physician.

That's the first thing to do. There are treatments like minoxidil, which are simple and easy, either topical or oral, both available to men and women.

What would be the ideal age to actually bank these hair follicles? You know, right after puberty is probably when you want to bank them, you know? I think your hair is growing great and good at that point.

Is hair loss genetics? Most common types of hair lost that we see. Welcome to another episode of a Healthy Point of View podcast, your top rated show, where we're bringing experts from all over the world to talk about health, wellness, beauty, and mindset.

Today's episode, he's back here again in the studio. We're gonna be talking about hair again. Rehab the expert, the worlds leading expert in hair transplant.

But this is one thing, my question today is, Is your hair a true biomarker for longevity? What does time equal follicle truly mean? There's a bunch of things happening with hair.

People are getting younger and losing their hair at a younger age. Why is that? We're gonna get the answers today. Who do we have here today? Let's go.

Thanks guys, thanks Sam, great to be back with you. Absolutely, man, absolutely. I was not ready for that peanut gallery welcome. That was amazing. You know, not too many podcasts out there have that type of welcome, you know?

That's amazing special effects that you have, so congratulations on achieving that level. It's the real special effect here at A Healthy Port of View.

We always go to these biohacking conferences and there's a lot of crazy stuff that's out here. 100%. But one thing that we do know is When the energy is right, everything just starts flowing and everything starts to smooth.

So we like to start off with a good, powerful, good positive energy. And that's what we're doing today. Doc, man, I'm going to get straight into it. I want to ask you a question that everyone's been kind of wondering here.

Is your hair a potential or true biomarker for longevity? Well, there's no question that the hair follicle being one of the most highly metabolic cell populations in your body is very responsive to everything from nutrients and fuel, whole body inflammation, stress and cortisol, hormone health and balance.

So I think absolutely, if your bodies not right, your hair is not, right. And probably that's by design, evolutionarily, you know, to be a sign of your should be a sign of youth and vitality and health that we can see from the outside, like feathers on a bird, you know, plumage, if you will.

Right, right. You know when you look at hair, and we're talking about longevity, longevity is split into two different areas. It's health span and lifespan.

So when we look here as a biomarker of longevity what is some of that information that I can get when it relates to both the healthspan and the lifespan?

So, well, as I said, I think the hair follicle and especially male and female pattern hair loss is an obvious indicator of our age. Now, sometimes we lose our hair prematurely or earlier than we want to, and sometimes, we'll lose hair later on in life, maybe due to illness or other factors, stress, physiologic or mental stress and things like that.

Hair Follicles, Biomarkers, and Early Hair Loss

So how does it play into longevity? You know, we're not going to be measuring our lifespan, if you will, from our hair, but certainly our health span is something that we can modulate, as you know through lifestyle changes, diet, nutrition, certain other interventions that will talk about in the world of biohacking and such.

And I think we could modulated and help protect and enhance our head. And so I'll take it one step further for you. It's not just lifespan and health span that we're dealing with, but we are talking about hair span.

The amount of time that you get to be with your own living and growing hair and enjoy that thick, full, healthy head of hair. So hairspan is what we call it at the practice.

I love that. You know, I've seen, and I don't know if you know anything about this, But I have seen certain companies utilize it. And I remember back in the day when Dr.

Willix was still around, Just a few years before he passed, he was utilizing it too. It was like this little Tesla coil that you can pluck your hair and you put it on top of the Tesla Coil and it gave you all this information about your health.

Like it told you like toxins and bad frequencies that your exposed to and all of this other stuff. Have you ever seen anything like that? I've heard of that.

I'm not sure how accurate that is, but certainly because hair is produced by the body day in and day out, literally in the next hour that we're gonna be chatting potentially, the average person who has a healthy head of hair, is gonna grow about six feet of head on their head.

And the reason is because they have over 100,000, maybe even 200,00 hair follicles that are producing hair at about a third of a millimeter a day. So if you add all that up over time, you know, six feet of hair in an hour is basically what your body's producing.

So there's a high metabolic commitment to that. And we also know that hair gets deposited with toxins in the body. That's why hair is used for drug testing, you now, to see if you've been using illicit drugs, for example.

It deposits in your hair fiber. Of course, I think it's important to say, the follicle is alive. Its job is to produce the hair. The hair has dead tissue, right, keratinized tissue.

And so as the hair follicle goes through its cycling, it's going to be very, very responsive to, as we said before, nutrients and fuel and your overall health and inflammation health status.

Right. Doc, since the last time that you were here, What are some new things that you've seen in the hair industry? Well, probably one of the most exciting things we have, not to discount some of that technology in terms of testing, because, for example, we had genetic testing which I think we talked about last time, AI-powered hair density and hair caliber measurements.

We now have AI powered scalp analysis which looks at inflammation markers at the level of scalp. But the technology that we've available today really predicting the future of scalp health is unbelievable, but also the therapeutic possibilities that are coming down the line are just super exciting.

And this is the stuff that we, you know, get excited about seeing what's going to happen in the I would expect that within the next 10 years, 15 years we're going to have some kind of hair follicle cloning, some hair folicle multiplication.

I don't know. They've been telling us that that research has been going on for 20 years. And it's just five years away is the typical routine from the researchers.

But I really believe with AI-powered research, we are going have that kind hair-folical multiplication available to us. But if we want that somewhere down the line and you have a hair issue or know that you're going to have hair issues, the cool thing is that there are ways to store and bank your hair follicles at that age right now, whatever age you are at, for the long run, basically stopping time on those hair folicles.

So, look, I don't want to be 70 years old and have to clone my 70 or 75 year old hairs. I want my 50 year-old hairs to cloned. That's why, you know, we can't go back in time, but years and years ago, i banked my hair follicles.

So hopefully those could be a source material. You know let's talk about that, about with age, because one thing that recently I've started noticing in the last I'd say about I mean I Ive been in a longevity space since I was 19. 20 years, right, so the last five to 10 years I started noticing a lot of younger people having a few issues that you really didn't see in your early 20s.

Hair loss being one of them. Hormone deficiencies being another one. So, and I think they're, I'll let you speak as an expert if they correlated between each other, but have you started seeing a lotta the younger have some of these issues?

Well, there's no question about it that we're seeing a much younger patient population today in the practice than we did 20 or 30 years ago when I first got started.

Now, is there more hair loss that's out there? Some people say yes. We don't have the data to prove that people are losing their hair younger, but it's an observation that you see people coming in.

I think part of that is that today we have preventative interventions, that people are more likely to talk about what kind of treatments, procedures, and things that you can do to help keep your hair.

So people coming in much more proactively than they ever were before. I have sons and daughters of patients who have had hair transplants who are in their early 20s, and they want to get their hair measured.

They want know their density issues. they wanna know they're genetics. Are they prone to early male or female pattern hair loss? And so we're doing all of those baseline measurements at a time when people wouldn't even come in.

That they had to take some action. Because remember, you can lose 50% of your hair without it being noticeable to the naked eye. But the microscope is gonna pick it up much more quickly.

So through those AI-powered evaluations, we're gonna be able to compare the more permanent zones to the weaker zones and really get them on some kind of program.

And it might just be something simple like, hey, tune up your lifestyle. Let's get stress management going along here. You know, let's tune-up your nutritional status.

But there are huge accelerants to hair loss today that we didn't see years ago. Like if we were having this conversation five or six years, ago we'd be talking about COVID.

Which was a huge accelerator for male and female pattern hair loss and many many other? Yeah, absolutely Many other hair lost conditions today hormone optimization therapy The use of GLP ones like ozempic and go V and so forth Manjaro for weight loss is causing nutritional deficiencies caloric restriction and that's impairing hair follicle metabolism, right?

That when you say time equals follicles We're talking about, and we're going to get into the stem cell banking and how that works, but you were talking us being young and being proactive, more on the prevention side and preparing for the future, because at the end of the day, we know we are going age.

So part of that, when you say time equals follicles, how would you define that? So I think the first thing to understand is that hair loss, if you're experiencing it, is a chronic and progressive condition.

AI Scalp Analysis and Preventive Hair Banking

Unless you are dealing with a sudden injury on your scalp and a scar tissue or something like that, If you have male or female pattern hair-loss, that's something that is going to get worse with time without treatment.

And so the best time to treat it first of all is before it's noticeable to the naked eye. As we said, you can lose a lot of hair before its noticeable, but if take action sooner, you're going to need less aggressive interventions later on.

So for example, if you can protect the hair that you have, then you are less likely to needs extensive hair transplantation to restore the her follicle density.

Is hair loss genetics? So primarily, so alopecia, there's hundreds of different alapecia conditions, essentially there are textbooks written about it.

The most common types of hair loss that we see are male and female pattern hair-loss. That is the vast majority of the patients that come into the practice, but there is autoimmune hairl loss, scarring hair lost, hair that's caused by nutrient deficiencies, injury, trauma, or surgery, burns, God forbid.

So there're a lot of reasons why hair can occur. But most of what we see in the practice is genetic genetic and sometimes you can have multiple conditions.

You could have a genetic hair loss situation and then you have traction alopecia from trying to hide the hair. Loss you're wearing a wig or a weave or something like that.

A lot of women use wigs and weaves to cover their hair lost situation, and it makes the her loss worse. So they may have already hereditary hair, loss, And then they have Traction alpecia on top of that from maybe even just styling braids.

Or scarring alopecia from perms and other chemical processes. You know, as we're talking about a different type of hair loss, what about what? Why do people lose their hair when they go through like radiation and chemotherapy?

So think about radiation and chemo. The idea is to kill off the cancer, right? Cancer, super highly metabolic, and so the chemotherapy is interrupting that metabolism in the most highly-metabolic cell populations.

And that's the idea. That's what you want. Unfortunately, our other highly metabolic-cell populations, like our gut lining, our bone marrow and our hair are also affected.

So most people undergoing chemotherapy have side effects that are related to their GI, right? Their digestion, absorption, their bone marrow, they could be anemic or their white blood cell count drops.

That could prevent them from having more chemo. And of course, hair loss. Right? So those highly metabolic cell populations are the ones that the chemotherapy is knocking out.

So that hair loss, when people go through like that chemotherapy, it's not a hair follicle issue? It's more of something metabolic inside of the body?

Yeah, the chemotherapy is actually the toxin. It is the poison that's interrupting the metabolism at the level of follicles. The follicule is supposed to produce that beautiful, healthy strand of hair.

Um, It needs nutrients. it needs fuel to do that. And when you interrupt that with chemotherapy the hair-follicle metabolism basically ceases and you get the shedding.

Right. Now, if you use cold caps, for example, a lot of people have very good success during their chemotherapy to preserve their hair with cold cap treatment.

What's a coldcap? So, coldcaps essentially is a freezing, literally freezing cold, cap that you wear during your chemotherapy infusion. Oh, really? If your oncologist allows it, some of them may, and some may not.

It basically shuts down the blood supply to the scalp. So the chemotherapy does not get to hair follicles. And it has a very interesting success rate.

Yeah, it can be very, very helpful to keep your hair during chemotherapy. It has to be used very, very carefully because, first of all, it's very uncomfortable.

People who've gone through it, they say, oh, It's cold. It hurts. You know, I've got a headache. I can't even eat potato chips. Can't read a book. can listen to music.

There's so much discomfort from the cold cap that they try to manipulate the old cap by putting either towels or whatever. But obviously that's interrupting the whole purpose of the cap.

And then the chemotherapy is getting through. No, but it can be helpful. So as we're on that topic, chemotherapy, I want to make sure that people understand, you know, chemo therapy, most people think that the hair is going to go away and then come back.

And that's usually the case, but it's not always the. There are chemotherapy treatments like taxotere, for example, which caused permanent loss of hair in very young women.

You know women who are in their 30s and 40s are treated for breast cancer. They were never alerted that that permanent hair loss could occur from these chemotherapy And that was something that came out unexpectedly, if you will, here in the United States.

Yeah, I think this is a really good topic. And the reason why I bring it up, it was actually not even part of my notes to talk about this, but my sister has been battling stage three cervical cancer for the past year and a half or so.

She went through chemotherapy, lost all her hair. Yesterday I got the phone call from her that they did the follow-ups and everything. She has zero signs of cancer now.

So it was a very exciting moment for the family and stuff. I haven't heard my sister with this type of excitement in her voice for a long time. Yesterday she's taking these proactive approaches for her health now, you know.

So now one of the things that I know she wants to do is kind of get her hair back. So when it comes to these chemotherapy patients, what is it that they should focus on, or what what, is available for them to get that hair start growing back?

Yeah well the first thing they need is a true evaluation. We should look with the microscope to see is the follicle density, the anatomy still there, are there weaker wispier hairs if you will that could be enhanced or protected through treatments.

So I would say engage with a board-certified hair restoration physician. That's the 1st thing to do. There are many treatments both chemical and non-chemical, that could stimulate hair growth in that recovery phase.

So there are treatments like minoxidil, which are simple and easy, either topical or oral, both available for men and women. Obviously, compounded oral low-dose minuxidils have been a game changer for many men or women with hair loss.

That would be something I would recommend. Low-level laser light therapy, nonchemical noninvasive, no side effect treatment. Get a good quality, high-powered, medical-grade, low level laser therapy device for home use.

and then engage in regenerative treatments, maybe even a PRP or exosome therapy or treatments like TED, which we can get into, trans epidermal delivery.

But these are treatments to stimulate the follicle to wake up and get going. Now, obviously we don't have to use hormonal therapy because we know the insult was the toxin.

We know in those cases with chemotherapy, we knew it was a chemotherapy. So it's a non-hormonal approach and maybe, even mostly nonchemical. except for perhaps minoxidil.

Absolutely. Yeah, so she should come in. We'll take a look at her and see if we can help her grow her hair back. It'd be my pleasure to help or do that.

Many, many years ago, we had patients that were coming in post-chemo. And this was at a time before we have at-home lasers. So we add huge in-office laser devices, and we were using those devices to regrow hair for those post chemotherapy patients.

I had a pro bono foundation and a group of women, actually, who would come in on the regular three times a week to the office. And we would set aside an hour in the clinic for them with our multiple devices.

They would sit around and they would just gather and we used to do that as an adjunct to local oncology clinics and such here in Boca Raton. I can only imagine because you know the chemotherapy industry is so big.

I mean so many people fighting cancer that I could only Imagine the amount of people that are dealing with hair loss that is looking for those answers.

So now one of the most popular reasons for people not to elect to have chemotherapy is because they're afraid to lose their hair. Right. And don't forget also, I mean, aside from that, if you did lose your hair, we also have cranial prosthetics.

So those are like medical grade hair systems, and we can also use those. Sometimes in advance, someone will come in and get their scalp anatomy scanned, 3D scanned and they'll be prepared for their chemotherapy.

If, God forbid, they lose their hair with a cranio prosthetic, ready to rock and roll, So think of it like a medical-grade hair system. There's two components.

Like a wig? Yeah, it's like medical wig, essentially. So the system is called CNC, Capelli Naturalio Contacto, made in Bologna, Italy. It's the Ferrari of hair systems.

We scan the scalp. That 3D image is printed in the factory in And then what they do is they create a second skin that looks and feels just like your skin.

And they apply literally strand by strand over a course of 250 hours and like almost 40 steps to create what looks like a completely full head of hair.

But it's obviously not living and growing.

Genetics, Aging, and Causes of Hair Loss

It's implanted into that second's skin and then it sent to us. So it is virgin unprocessed hair and it made specifically 3D printed for the patient. And then you wear it like a wig?

Yeah, we apply it and then it stays on for four weeks at a time. So you can, here in Florida, you could swim with it, be out on the boat, out in the sun, play tennis, golf, whatever, and have a normal life.

And nobody even has to know that you've lost your hair due to chemotherapy. It's a you blew it on base. It says surgical adhesive that that sticks. I mean it sticks hard So it's not coming off.

You know you could jump out of a plane with that thing. He's coming up But it doesn't need to be pro it does need be serviced every four weeks I tell you, I got a buddy of mine.

I don't think it's this process that he goes through, but he gets something where they put it. It's an adhesive, you know, and the barber like actually fades it into his hair on the side.

Yeah. And you would never know. He goes swimming. How you said, he go swimming with it? I mean, it just like incredible the way it looks. Obviously, that's not hair restoration, which is a medical thing, has improved a lot.

I mean, the technology and hair replacement in the industry, you know, it's not hair club for men anymore. You know? It's some garbage hair piece that you toss out.

These things are, first of all, they're high quality. They look amazing. they feel great if they are made with real human hair that's been unprocessed and not like some boar's hair or some other crazy stuff that they do in China.

You know, the stuff, it can look really, really good. And so we have patients that will, if they don't have enough donor hair, for example, they'll get transplants in the front and they may wear a hair system in back and it looks seamless.

It looks great. A lot of actors and folks in The Public Eye use that kind of a combination, especially if their going to be in film. Well, I think for what we're talking about today, that's almost like last result, right?

We want to talk about how we can get their actual hair. So I want dive into this whole hair stem cells, creating hair, stem, cells and exosomes from your actual here follicle, because I.

Think this is important. I just did mine with on the for the Acorn podcast that we did. And I went through the process and plucked about 50 follicles.

It was an experience. And, I'm excited to have them banked, you know, especially now that I am hitting 40. What took you so long? I did mine, like, almost five years ago.

I know. You know what I mean? So, um, learning. Um, starting to see. See you at the conferences with Dave Asprey and doing his, his stuff as well too.

So that's what started making me ask questions about this. He was one of the first. In the world. To have his hair follicle stem cells bank. Well, we did his transplant, obviously.

at Bauman Medical but in the years following we banked his hair follicle stem cells and he was one of the first to get what you're talking about, the stem cell banking and then the cultured secretome treatment.

So that's the next step. We don't have hair cloning yet but we can create a treatment from those bank hair folicles and the follicles stemcells that are in there.

guide me through this process of what's happening, because this was very new to me about creating the exosomes. We're typically used to hearing about exotomes from placenta, from cord blood, some cells from bone marrow, or from adipose fat tissue.

So this is way different than what we're talking about when it comes to exo zones. Correct, correct. If we think about how cell therapy has worked over the course of many, many years, We've used, at Bauman Medical, adipose-derived stem cells directly into the scalp in the form of SVF and other things when those things were not frowned upon by the state of Florida and when things where able to be done in that way.

But stem cell therapy We've kind of hopscotch over the stem cells. And what do I mean by that? Stem cells, when they go into an area of injury or trauma, they sense the area and they respond to that injury by sending out instructions.

So what are those instructions? Well, maybe it's increased blood flow. Maybe it is ramp up the inflammation or decreasing inflammation. Or maybe ramp-up the fibroblasts for healing and wounds and skin.

It just depends on what you're doing with those stem-cells. What we've realized is that we can put stem cells in the laboratory under a very specific type of environment and collect those messages and then deploy them back into the scalp or the skin for those purposes.

So we don't actually need the stem cell being put back in to the body. That's where exosomes come from. And so exosomes are a very exciting technology.

Obviously, there's a zillion different types of exasome companies and different source material, as you just mentioned. And, so, we have to be very, very careful where we're getting exososomes from and what we are doing with them.

I want to very clear, that there is no FDA-approved exosion therapy for anything. So, you have talk carefully with your doctor how that's being topically applied.

That's really, really important. Exosome therapy, exciting technology. We completed a pilot study where we pushed exosomes through the skin using ultrasound system, and we saw some amazing hair growth from that.

Now again, it's a small study. It's in the process of being published. There are some limitations to that study, but we the signal in that noise. That improvement.

And that's pretty exciting. But what we're talking about now is what if, because remember you said those stem cell derived exosomes that we are getting from, let's say a laboratory, they're coming from umbilical cord or placental tissue and so forth.

People are uncomfortable. They don't want somebody else's tissue making that exasomes. What if you could make your own treatment from your cells? That's the exciting product that Acorn Biolabs now has available to us.

So what we've done, when you've had it done you had plucked hair follicle stem cells, those were sent over to Acorne, and now you can create from those hair-follicle-stem cells your own secretome.

What is secretomes? Secretome includes the exosomes, but it also includes these matrix molecules, cytokines, other messages that are coming off of the cells for tissue regeneration and repair.

And they're specifically from your own cells. And then they can be deployed back onto the skin for rejuvenation or supportive hair growth, you know, hopefully decreasing inflammation for a number of different things in the, in, the clinic that we have available today, not only just skin and hair, but maybe in future other things too, orthopedic conditions and so forth.

That's exciting. Now, Doc. Does that make sense? So secretome is not like a secret, that's not the entomology of the word. Secretome comes from the secretions of hair follicle cells.

So when we say that those cells are being amplified or multiplied, I want to be very clear, we're not multiplying the hair folicle. The follicle is an entire organ.

It's made up of, you know, 100,000 cells and 30 different cell types. We're not duplicating the follicles yet. That's a hope and a wish. As the cloning, that's their cloney.

Right. But what we are getting is the secretome from the hair follic stem cells. And that it's think of it like making soup out of a, some chicken bones.

You put the chicken, bones in the pot, boil it, and there's secretions from those chicken. Bones that give the soup the flavor at the end. You take the bones out and you have the soup.

That's the secret home. Okay. So we're concentrating the Secret Home. Uh, it's like a bullion cube, actually you reconstitute it and then we can deploy it back into the scale.

It gives it the flavor. You get your electrolytes out of all of those minerals and stuff that's in there. Exciting technology that we did not have just a couple of years ago.

And you know, we've heard you talk before about doing platelet rich plasma, the pure P right. I want you to talk about the difference between PRP, which is something that we actively still use in the industry, versus what you're talking about right now with the exosomes that come from hair follicles.

Yeah, so PRB is the workhorse of regenerative medicine, specifically my practice for hair regrowth. We use PRT every single day. I have a room in my office only for PR.

Every single day we've done over 15,000 PRP treatments over 20 years. Now, our recipe today is different than what we did 20 year ago, but the bottom line is why do we go after the platelets?

Why do concentrate them? Well, we want the growth factors. So using your body's own pharmacy, if you will, right, the grow factors, maybe platelet-derived growth factor, PDGRF, those are the ones that are in the Platelets.

We want those to release into the scalp and stimulate hair growth. And we know the concentration that's required. Different than a little single tube gel separator.

You know, this is not just skin PRP. This is a very fine-tuned dual spin process where we're preserving monocytes which are in the blood and also getting that high concentration of platelets to get the effect at the level of the hair follicle.

So, but PRB is limited. It's limited by what? How much blood you can take and how many platelet are that sample. And also it's limited potentially by how your body responds to those growth factors.

So as we age, we know we don't respond as well. And as age we maybe have the same platelet concentration. It's like when you hear about professional athletes, they're usually in a youthful category.

They get an injury or trauma, get PRP in the knee or tendon. Like in six weeks they are healed, great, back on the field. For the rest of us it would probably take a little bit longer.

Chemo Hair Loss and Recovery Options

But here's the thing, so if we feel like we're limited by your PRP, either you have a low platelet count or maybe your growth factor concentration is low, or perhaps you're not responding as well to that kind of a therapy, what the secretome that we just discussed enables us to do is actually amplify your grow factors, meaning there's actually no physical limit.

We can multiply those cells, we can boil that stock, right, the soup, Instead of an hour, we can boil it for two hours or three hours and create more flavor in the broth, right?

Same idea. In the laboratory, they can continue to multiply and expand those stem cells and they expand by the millions literally within weeks. So there's a lot of stuff that comes off of those cells.

And it's, We know now the characterization of that material is in some cases up to 30 times more powerful than PRP. Now, what does that translate to in the patient?

We're working on that. That's the cutting edge research that's going on right now. But at least we have the characterization. We know exactly what the level of exosomes are.

we know the matrix molecule concentrations, we the concentrations compared to PRP, and that what I'll be presenting in Rio coming up in this next couple of weeks.

What would you ever mix PRP with exosomes together? So, well, PRT, we're injecting. So but but exisomes are typically deployed at the surface level of the scalp.

OK. Can you combine those therapies together. Absolutely. You can deploy the exusomes into the skin, as I said, with sonophoresis. That's a non injectable way to get this to, get them through the scan.

Microneedling is another way we do some of that with growth factors and exesomes as well. Nice, nice. Doug, if you were to say in the last five years, what are the biggest advancements that you've seen in hair restoration industry itself?

Well, gosh, five years, a lot of things have changed. So let's start with just our knowledge about what affects the hair follicle, right? Five years ago, we were in the midst of COVID.

A lot folks didn't even realize that high fever from infection or even just the stress of being locked down or not being able to exercise or walk on the beach or chat with your friends or attend a family function, all of that weighs very heavily mentally and physically on body, and that accelerate a lotta hair loss.

A lot of folks didn't realize that. Some of us in the hair world, we knew back from the research that was done during the Spanish flu that there was a post-febrile alopecia described in literature.

That means hair loss and shedding that were occurring from a high fever. And so I think that's one of the first things we didn't know how badly either the COVID infection or even the vaccinations were going to affect people.

We had a reactivation of many patients who had autoimmune alopecias when they underwent vaccination, people who have been quiescent or basically in remission for many, many years from their auto immune conditions.

all of a sudden got stimulated. And I'm sure dermatologists have seen that too in the skin, not just at the level of the scalp. So that's one thing that dates back five or six years that we just didn't know about.

The other thing are the effects that, or I should say the things that were used to diagnose the hair loss process in practice. AI-powered microscopes looking at hair density and hair caliber.

Literally down to the micron and seeing how the distribution of hair density and hair quality is at the level of the

scalp With that that really specialized high-powered magnification and having the AI behind that.

That's super exciting today We can actually go so far as doing a digital tattoo. So what does that mean? That means we can look at same area of scalp Without having to do a physical tattoo on the skin, the computer will remember the location of all the hairs in that particular location.

You've got to get back pretty close with the scope. So you have to make some notes on that. But you rotate the scopes around and it will find every hair in the zone.

And it numbers all the hair, so it tells you, oh, number 432 is missing, or hey, there's a new hair 765 has reappeared. So there are really interesting ways to track every single hair on your head.

That's pretty cool. We didn't have DNA testing years ago, looking at metabolic risk factors that would guide us as to what therapies or treatments might be helpful.

Should someone be on a stronger antiandrogen than finasteride, for example? And so there's genetic indicators for that. Are you more prone to be nutritionally deficient in B vitamins and other things?

Are your prone deficients in iron or minerals or other thing? So some of that can be elucidated through genetic testing. And then of course the therapies, moving from low-powered PRP to the treatments that we have today, like we talked about with the exosomes, the secretome therapy that's been cultured and then reapplied, hair follicle stem cell banking, and even just the way that do transplants today.

Most people think of hair transplant, you've got to shave your whole head and it's like a whole big process that takes a lot of downtime. Today we can take the individual follicles without shaving.

So for those who are searching for the most discreet type of hair transplant surgery, that's pretty exciting. A minimally invasive style. You're back in the gym in a couple of days and no change to your hairstyle, essentially.

That's amazing, man. Talking about the exosomes and the secretomes, when we're talking about actually going through that process and banking them, We know as we start aging, people are told, hey, you need to bank your eggs or your sperm cells, because we know that there's a biological clock that's ticking.

Is there a biologic clock ticking when it comes to banking your hair follicles? Well, let me ask you this question, is your head as thick and as full, and is the hair caliber the same today as it was five or ten years ago?

For most people, the answer would be no. And in fact, they're seeing changes in texture and color, specifically. People are going gray, even at, we think, maybe a much earlier age than they used to.

So for sure, time equals follicles. The longer you wait, more those hair follicle stem cells age. We know there's senescent cells that are in and around the hair folicle.

Those are like rotten apple cells. they give off messages that could disrupt hair follicle function and make it difficult for that environment to be optimized for good quality hair production.

We know today that there are stem cell escape, meaning that stem cells that used to being the hair folicle a couple of years ago are now exiting the air follicles and hanging around in the dermal layer and not contributing, by the way, to hair fiber production, and that's one of the reasons why we think That hair quality decreases with time as well, so it's not just genetics, but its age as Well and time what would be the ideal age?

Gap to actually make these hair follicles Well, I don't think we know the optimum age yet But I would imagine that you know right after puberty is probably when you want to bank them You know that's I think your hair is growing great and good at that point And it's all downhill from there for some of us.

So I would say the earlier, the better for sure. We always typically wait till after puberty to do the measurements to

get baseline evaluations, because obviously the scalp and the skin is evolving and growing.

The body is changing and, and and. And growing in size. In order to to those numbers really on point, I think it is important to be kind of through or at least most of the way through your growth phase.

Yeah, you know earlier you alluded to potentially in the future, utilizing some of those exosomes, the secretomes to maybe treat other things, right? Because like in a world of exasomes you're seeing people doing joint injections, they're doing PRP facials, with those Exosome as well too.

They're doin' all kinds of stuff. There's some clinics that are doin it intravenously for anti-aging purposes. So what you're alluding to is the fact that the hair follicle has probably the most accessible population of mesenchymal stem cells in the body.

You know, you've got mesenchymel stem cell in your bone marrow, but you gotta drill the bone to get it. Right. Yeah, mesencymil stemcells in you adipose.

But we'd have to do a little bit of lipo for that. Mesenchymyl stemcels in dental pulp. We'd need to have a tooth extraction to go to those. Hair follicles right at the surface of the skin and that's why the hair follicle is such an incredible source of research material for regenerative medicine, just in general.

Easily accessible, cycles on and off, contains mesenchymal stem cells, degenerates and regenerates over time. And it's also very highly metabolic, so as we said, we can multiply those cells by the millions in just weeks.

Right. But here's the thing, so if you have mesenchymal stem cells, and this is important, mesenchymel stem cell are like the primordial goo that other cells are made out of.

What does that mean? It means that mesencymels stemcells, when cared for correctly and signaled correctly, they can turn into other types of tissue. So what you're suggesting is what they've already proven at Acorn Biolabs is that they can take hair follicle stem cells and through a series of manipulation, if you will, induce pluripotential stem cell pathways, which is basically a way to tell the cells what to do, they turn those hair-follicle mesenchymal stem-cells into cartilage.

They can turn them into tissue that behaves and looks like brain or neural tissue. They've turned them successfully into pancreatic tissue. So think about the potential for insulin resistant folks or people who are diabetic to be able to repopulate islet cells.

Hair Follicle Stem Cells and Secretome Therapy

Maybe you could do that from the hair follicle stem cells, cartilage for injuries and joints, bone if you're depleted or have low bone density. There's a huge wide open field here that eventually, oh, and for sure, they've already done the studies on natural killer cells for cancer.

So they showed that they could take the natural killers, that could induce potential stem cells from the hair follicle stem cell, create natural kill cells that prevent certain types of cancer cells Multiplying hmm.

So who knows this could be your natural body's defense system that now we're banking and also perhaps your spare parts supply it's like your Home Depot of of Organ replacement and tissue replacement could Be your hair follicle stem cells.

That's why it so super excited. It's a very excited What would would you say that's the most exciting thing that you're looking at and then for the near future?

I Absolutely. This is the cutting edge research right now. Now, the research, yes, has to be continued to done. We still have to figure out how well this stuff works, what are the proper protocols, but already we're seeing hair follicle support, improvements in hair regrowth from these treatment interventions.

Uh, we've gotten reports from the clinical studies that are being done in Los Angeles which are even more invasive than what we're doing that's being done under a very specific control IRB and all of that as a new drug application to try to get the secretome stimulating hair follicle stem cells.

And that a double blind study. So we are excited to see that complete within the next couple of months and get some preliminary information from that.

It's a brave new world out there. If you want a personalized autologous regenerative treatment for your hair. This is the only play in town. I mean this is a state of the art.

You know I've heard many other doctors in the longevity space say that longevity science is 25 years ahead of actual medical practice. What are your thoughts about that?

Well, being a member of the American Academy of Anti-Aging for almost 30 years, I can tell you absolutely there were things that were discussed decades ago in those conferences.

Not every lecture, not every presentation, certainly not at every expo booth. There are things that were discussed decades ago that are just now becoming, well, let's just call popular.

Maybe not mainstream, but more popular and it's exciting to have been exposed to that and to see it have the perspective of over decades and many of those things come to fruition.

So I agree. Some of it is biohackers or longevity buffs. Are they self-experimenting? Maybe they are. But I think that's kind of the human, I guess human nature to try things.

And I know that you're interested in wearables, me too, or wearing for six years, more than six, try to figure out how to get more sleep, better sleep.

More efficient sleep and we track so many different things that way to optimize our performance, our ability. So it's just gonna continue to enhance. our lives.

And I think you're absolutely right that the longevity space is that leading, bleeding edge. Look, there's gonna be some missteps. There's going to be mistakes.

But there are mistakes when we try to get to the moon, you know? But it's human nature to kind of push that envelope. It's an exciting place to, it is the new frontier.

Do you think that we're gonna hit an escape velocity, a longevity escape philosophy within a certain period of time? Do know what I mean by that? What do you mean by that?

Well escape velocity of aging is that we're gonna live so long that interventions will be available for us so that we can extend our lifespan, uh, continually, you know, whether it be organ or tissue replacement.

And a lot of people talk about the escape velocity being, um, not too far away in the 2030s. So in, so as if you could make it into the 20 thirties, let's say 20, 35, if can make to that age, we're going to have technology to extend your life indefinitely.

Yeah, I think so much has happened just within like a 10 year period with technology, just in general, that I I, think a lot of the research in in us having the ability to get to that escape velocity that you're talking about is going to be accelerated in the next, let's say, 10 or 15 years.

We'll definitely have something. It's either that or it's gonna probably put us completely ass-backwards. So we're just scared. Pulling back to the Stone Age.

Right. Hopefully not. Yeah, it'll be, we'll land into the matrix. You know, the rise of the robots, you know. It could

happen, Terminator 2, I mean, these things can happen.

But I think AI is that, um, ya know it is the Prometheus fire, its the fire that we have to learn to tame, and use it for good, hopefully it won't be used against us for evil.

That's you know, I think the AI specifically for research and even in my own practice to track what's working for patients. It's so it's been it has been incredibly helpful.

And accelerates the process. You know when you do all of these comprehensive specialty tests where you're running all these biomarkers instead of you having to go little by little into the literature.

I mean, it seems like when when he first went to medical school, You know, you didn't have access to the Internet the way it is today. You used to actually have to go to, the library and go read things and you go into the literature.

Now you just prompt the system what it. Is it pulls everything up for you from around the world? 100 percent. And just to get even more granular, just let's say we're looking at your scalp health.

whether it's hair density or inflammation at the level of the scalp, these devices now score you against your age population for all the folks they have data on.

It's hundreds of thousands of people already. that are in the database, so it's scoring you against that. So I think it is just going to be able to enhance what we do and how we it.

Because what learned today is that people are 100% unique, and that what works for you, for your optimization, it may not work for someone else. And same thing for hair.

There's no recipe. There is no one playbook. It's not 1999 where we had Rogaine and Propecia and that was the end of the story. No, there's many dozens of different interventions that have so many different intricacies and how they interact together and so may different conditions now that we're aware of, especially on the scalp, that it requires this gathering of information and then feedback, right?

So we're watching and we are measuring and tracking and adjusting and pivoting and modulating as we go along to get the best result. You know, when you look at a lot of other doctors, they'll go into their office, take what they've learned going through medical school and they will do that for 20 to 30 years.

On the other hand, You're always trying new things. You always researching stuff. There's a level of motivation that you have that many other physicians don't have.

What motivates you? What is that fire, that fuel that's inside of you that makes you do what you're doing? I've noticed that, because even in the world of hair transplantation, when we first kind of brought to fruition, and I certainly didn't invent minimally invasive surgery, but I was a proponent of it over 20 years ago and probably one of maybe six or eight people around the world who were basically trying it every single day to try to make it work so that we could get hair follicles out of the scalp without cutting a big strip, right?

And so the blowback and the resistance within the industry was unbelievable. But I knew in my heart that this is what was better for the patients. There had to be a better way to do this.

I know from my surgical training in general surgery that there were surgeons who would much rather cut you open, fillet you up and down, and open the belly up with a 24 inch long incision than to go in through your belly button with the scope and a pair of tweezers or whatever and try to take your gallbladder out through that laparoscopic process.

So I new that was like this dichotomy, people who were good at what they did using the technology and techniques that they had before, and then there was another group that was like pushing the envelope.

And it was mostly, I mean the younger I would say video game generation, at least when I was in surgery, that were at the dexterity required to look at video screen and work on laparoscopic gallbladder removal.

And you know, my team had the notoriety of being like the fastest skin to skin with the least amount of complications. And we were better than the attendings, we're better then the people who were supposed to be teaching us.

So what I learned through that, I applied in the world of hair restoration. I've always been a tinkerer. tools and You know my my team, you know, don't open that door.

It's got all dr Bowman's, you know stuff in it anyway So it's just a closet filled with retired devices or things that that maybe worked that we tried and didn't work and things That we've used and then there are now outdated and that's okay I vote that has always been a part of what we do.

I was dedicate some time effort and energy whether it be out of the office or in the Office to try some new things and figure out what's what works And so you know I don't know what percentage of time that is I was talking to somebody the other day They said that if you don' t spend 20% of your time like in Experiments like not play time, but experimental time you're never going to grow as a human or as business and And I don't remember who said it, but I just, it was a podcast.

But that was, I listened to a short portion of it. That was the take home message that you have to dedicate. And then I look back at myself and I'm like, oh I think I kinda did that.

like I did that over the past 30 years, I dedicated time out of the office to learn and to share what my knowledge was, to interact with folks, whether it be the American Academy of Methodic Aging or Age Management Medicine Group or other stem cell conferences at a time when it was not super popular and the classes in the conferences were very small.

Before we had Longevity Fest with seven or 8,000 attendees, we were in a stem-cell fellowship and there was like 20 people in there. And that was it. Anyway, so surrounding myself with people who are like-minded and keeping the focus on patient-first outcomes.

That we're not gonna do anything that's gonna hurt the patient and we are certainly gonna to do whatever we can to get exceptional results for each and every patient through the door, whatever that might mean.

And I think that is the key to our success. Just trying to change people's lives in that way. And I appreciate that, because I do feel like we need more physicians that think the way that you do.

You have to put in as much work and time to be able to advance medicine, right? Now, one thing is advancing medicine. And you're doing all of this research and working with a lot of these other doctors.

It will come to a certain time where you say, hey, I have to put my coat up on the hanger, right? I don't know about that. Well, you're retiring me already.

I got more than half a tank of gas left. There will. Come a time.

PRP, Exosomes, and New Restoration Advances

And the reason why I say this is. My mentor, Dr. Willicks. We'll have to look back and see if Sam predicted my retirement. You know, my mentor Dr Willick, he passed away at the age of 80 right before COVID.

World renowned longevity doctor. And one of the things that I remember him telling me about two years before he pass away, He was telling he was like, man, you know I've done all this research, I have come up with all of this stuff, and I taught thousands of doctors around the world through all these big platforms.

but I don't necessarily have that successor who could just take everything from where I left it and run with it. And I'm talking to him and he kinda mentions this, you know, everything that I've done from becoming a shaman and understanding energy medicine, from me being a thoracic heart surgeon and putting all this stuff together.

I never met too many thoraxic surgeons that were shamen, by the way. So he was a very unusual and unique person, for sure. He definitely was. And you know, Dr.

Willicks, his exact words were like, what I don't want, Sam, is for someone to have to start all over again from where I started. I need someone take the baton and run with it.

So my question to you is, everything that you're doing, all the effort that your putting into it, What are you doing to be able to pass that batons? Yeah, so that's a great question.

I can't tell you that it's been easy to try to find that person. So what does that personal look like? A person would be motivated like I am to learn new things, maybe not necessarily set in their ways in terms of surgery.

They want to be part of a team, let's just say a brand, a practice that has an international reputation that needs to maintained. Somebody with an open mind, great heart, and excellent hands.

So if there's someone within the sound of my voice, And that's resonating with you. Please drop me a line. I think I'm a pretty good teacher. And I've taught many, many surgeons these techniques over the years.

None of them have stayed within the practice and have thought of themselves as an adjunct in that way for the long term. That's something that we are looking for.

Absolutely. Neither of my children went into medicine. They didn't go to medical school. I'm very proud of both of them. Their incredible humans. And my new COO is my oldest son, Ross, and he's taking the bull by the horns and really working in the practice amazingly well.

But he will never be a surgeon. He's not going to a medical to learn how to do this kind of hair transplant work. He may continue to build the practice, but we're going to need other talented people.

And when we're talking about- So how am I gonna find that person? We're gonna- You're going to push that word out? You know, what ends up happening is the universe has a certain way where it works, where as long as we put the right intention out there, right, one day that persons just gonna fall on your lap, and it's gonna be in the most random moment where you're just going know this is this the person.

Now we have to be an opportunist. You gotta have your eyes open and look at that opportunity when it comes. But you know, legacy is important and I know you're working on a book.

So can we talk a little bit about that? Sure, sure. Yeah, the book is exciting. It's the culmination really of this 30-year journey. And I wouldn't say a culminate like it's end, but it is the sum total of everything that I've learned through the practice.

Seeing how we treat patients from the get-go and how that's evolved over time. Much of what we talked about today has to do with early intervention. Time equals follicles.

early intervention, time equals follicles, getting to the hair follicle before it starts to wither and die from whatever the causes are, aging, hereditary, and other things.

And so we talked about how both of us have been involved in the longevity space. We talked life span, health span. So this book is about hair span It's the amount of time that you get a chance to be with your own living and growing hair and enjoying a full head of hair lifelong for as long as you want.

So it also talks a little bit about my background and my journey through general surgery as we discussed previously

and into the world of Hair Transplants.

My journey though medicine and through the practice. Some of the struggles that we had early on and how we overcame them. But most importantly, it gives people a playbook.

It's not a cookbook, but it give you a playlist and understanding of the hair follicle and why certain interventions are going to work. And it will enable you to look at future interventions and measure that and say, does this really make sense?

Is rosemary oil really going grow my hair back? No. No. But how to evaluate new therapies and new treatments. And so I think it's going to be super helpful, not only for folks who are out there who have been in the practice and are on their journey already, but people who're just starting their in hair loss and hair restoration.

And the folks that work together with us, whether they be other surgeons, medical practitioners, mid-level practitioners PAs, NPs, even medical assistants and estheticians, people in med spas, or even beauty professionals, licensed cosmetologists, how can they discuss the hair loss process better with their clients?

So that's what hairspan is all about. That's amazing. So if you'd like to get on that early release list, please follow the links. I'm sure we'll put them up in the in in.

The podcast notes or just visit the the website, and I am sure you'll be directed to how to. Get your copy as soon as it hits the shelves. Oh, so I. Am super excited about it.

Um, excited for you, but I love that. It's that's going to be an exciting moment once that book releases and publishes. Doc, we're gonna have a little fun here really quick.

One word answer. We're going to do this quick, one word to answer, I'm gonna go through a few different biohackers and whatever is the first thing that comes to mind, you just say it.

Is this gonna get me in trouble? That's up to you. Okay, all right, i'm ready. Dave Asprey. Hair transplant patient. Gary Brekka. The ultimate longevity human.

Joe Dispenza. Going against the grain, but I have a lot of respect for Joe. He's helped a lotta people. Dr. Patrick Porter. Love my brain tap.

Longevity, Legacy, and the Future of Hair Medicine

Peter Attia. The author of Outlive, and happy to say that I was one of his original podcast guests, That's all. Ben Greenfield. I've met him once. Not sure I agree with a lot of his hair loss advice, but certainly he can invite me on the podcast.

We can chat about it. Dr. Bob Goldman. The founder of A4M who I've known for about 30 years. A true mensch. The OG, right? The O. G. All right, last one here.

R. F. K. Jr. Make America healthy again. make your hair great again I like that, awesome, thank you for that. We're also gonna have a little bit more fun here.

I got these cool conversation cards from the diary of a CEO, Stephen Barlet. You go ahead and grab that you'll take that sleeve off. Your gonna pick two random cards, from anywhere in there.

Two random card. Once you have the two cards you read it out loud and answer it. What's the hardest thing you've ever done in your life? Well, aside from switching my trajectory from plastic surgery into hair transplant surgery, probably the hard thing I've done is learn how to do public speaking.

Really? Yeah, because I was certainly not born and raised as a public speaker. I very much an introvert and it was

a very, very I would say it was a difficult thing to overcome, fear of public speaking, and some would like my wife that I've maybe overcompensated, but I worked at it hard and I knew that as a small business owner back in the 1990s that had to get my message out to people and the way to do that is to communicate.

I had to get over it. And there was like, you know, just like starting my practice from zero, there is no room for failure. This was something I have to do.

I've had learn. It was through repetition and practice. They say that being brave and faking bravery is actually the same thing, and I totally agree with that.

So if you have a fear of public speaking, work at it, it can be overcome. And you've done a heck of a job because I think most people who don't know that about you would have never thought that you had any kind of fear of public speaking because you're so good at it.

I have horrible memories of being in, I don' know if it was high school, doing some kind presentation in front of the class or even in the early days of some of work that I did with the Boca Chamber of Commerce.

in small networking groups where, you know, everybody's pretty friendly and it's not a huge amount of people that had, really horrible memories of the fear of public speaking that I had during that time and had to really overcome it.

Even presenting as a surgical resident, I was not, good at it, didn't like it I didn' want to do it or do anything to get out of it and I knew that i had overcome that and that was probably one of hardest things I've ever done.

All right, that's a good one. What's a common misconception people have about you, and how does it make you feel? I think people will have the misconception that what we do, for example, in the practice, we make it look very simple and easy because it's fluid.

There's video of it. We're talking about it, they can see the results from a hair transplant, and they think that it is a simple process. And we try to make simple for the patient.

But that's the front end of the business. The back end I wouldn't say it's chaos, but there's a lot of action and activity that goes on to make it smooth and simple for the patient.

And I think the misconception is that because hair transplant looks simple, that you can see on a TikTok video, the before and the after or Instagram video that it is just a simple process that anybody could do and you could fly here or there and just get it done at a nickel on the dollar and it would be fine.

That's certainly not the case. So I don't know if that's necessarily a misconception about me or my field, but I think it's one and the same, that the harder we work, the easier it looks.

And it just, it, hair transplant, I always say, is a symphony of detail. That's the thing that we've mastered over 30 years, and treating over 30000 patients and 15000 surgeries, You know we make it look and feel simple when you're in that chair But what people don't realize is they what they've misperception about is what went into that process on the back end The hard work the sweat Now guys we wrap up here if there's one person that's listening to this podcast who really resonates with today's message What is that last thing you can leave?

I think we touched on my favorite message which is time equals follicles. And that's if you happen to be on the wrong path, which means either no path at all, or you're doing some kind of therapy or treatment that is not getting the job done, you might be wasting time.

And when I say time equals follicles, that means that when a follicle is dead and gone, it's dead an gone. It's beyond repair. We don't have a way to resurrect that follacle.

All we can do today is move follacles from one place to another. Thankfully, we're pretty good at that. Maybe someday we'll have way of duplicating the follicals.

But for right now, time equals follicles is an urgent call to action for someone who is out there who's noticing thinning, receding, changes to their hair texture, volume, or coverage, and wants to even just stop that loss.

If they're seeing shedding in the shower or whatever, you want to stop at situation, this is your sign that you've got to take action and connect with a board certified hair restoration physician.

It's not me, then someone else who has a similar kind of attitude and proclivity. And Doug, if people want to find you, where can they find me? So we're physically located at our mothership, If you will, in Boca Raton, Florida, satellite office in New York.

But most commonly, patients will start their journey at BaumanMedical.com, B-A-U-M-N, medical. com. Now it was a pleasure having you on the podcast again.

You know, it's always great bringing your expertise and listening to the new things that are happening in the hair industry, longevity industry. So again, I appreciate it.

Thank you. Truly my pleasure. Great to be with you and you have an amazing show and also all the greatest success to you, amazing, guys, you heard doc time equals follicle.

Don't wait. It's time to take that step. There's new technologies in place that will help you prevent this from happening down in the future. I banked my hair follicles, I got my exosomes, my secretomes that are gonna be ready to go.

This is your opportunity to do it. So make sure you go on the website, go check them out. Make sure subscribe, like, do all that fun stuff. Share this with your friends and family, and we'll see you for the next one.