

Welcome to the Cutting Edge Health Podcast with Jane Rogers, where we discuss science to help prevent cognitive decline.

[00:00:00] Jane: Welcome to the *Cutting Edge Health - Preventing Cognitive Decline* podcast. I'm Jane Rogers. Over the last ten years, our guest today, Dr. David Hasse, has been pioneering a new approach to slow, halt, and even reverse cognitive decline. Main stage in this approach is therapeutic plasma exchange. It helps rid the body of the rusty proteins, the sticky molecules, and the signals of decay that cause our brain function to deteriorate. Dr. Hasse trained at Vanderbilt in Mayo, and his clinic is the Maxwell Clinic in Nashville, Tennessee. I would like to welcome you to the podcast today. Thank you so much for making the time.

[00:00:41] Dr. Hasse: Hey, it's a pleasure. Thank you for doing your work of getting the word out on this really important subject.

[00:00:46] Jane: It is important, isn't it? It's your life's work as well. You graduated, you're a Vanderbilt-trained, Mayo-trained MD. You have your own clinic in Nashville, Tennessee. Tell us a little bit about your clinic, and then I want to dive deep into one of the modalities you are seeing real efficacy in helping to reverse dementia.

[00:01:06] Dr. Hasse: Great. Awesome. Yes. We're the Maxwell Clinic, and we just celebrated our 20th year. We've been around a long time. One of the big challenges of individuals that are trying to forge their way, clinicians are trying to forge their way forward with a more rational way of providing health care. There's often not a structure in which to do that. We're very pleased we have nine clinicians here in our 12,000-square-foot center. We're really the largest integrative center here in Nashville. We were voted Best of Nashville for holistic care, and we just love helping people in a way that gives them an opportunity to discover, enjoy, and enable their best brain function. The brain has always been centerpiece to me in health care, because from the brain comes all of our joys and our laughter and our jests, but also all of our pains, sorrows, and griefs and symptoms. If we don't strongly put the brain at the center of all health care, we are going to miss the mark.

[00:02:17] Jane: Sadly, when you walk into a lot of doctors' offices, they are busy folks. They've got 15, 20 minutes with you, and it's very hard to take the measures in that time that are really going to ensure that you have brain health for the rest of your life.

[00:02:32] Dr. Hasse: It's really impossible. No, I shouldn't say it's impossible. I practiced inside the insurance networks for 16 years. I did everything possible to make advanced, functional, integrative care available. The problem is, the insurance companies squeeze you down so that you don't have enough time to do the work that needs to be done. It's really a time game. That's a terrible issue because, instead, if you think of health as an investment and recognize that, you can have a hugely decreased total cost of care for

your medical and health adventures in life if you're proactive. To be proactive means you need to understand the landscape for yourself.

You need to understand the multifactorial causation of your challenges, and you need to be able to address that multifactorial challenges with multifactorial treatments. While that sounds complex, and it is, it's very doable. It's doable. Our bodies are designed to heal. That's one of my core beliefs, and I've gotten to see that happen again and again. My patients have surprised me again and again because we're just designed to heal. Our job is to figure out what is keeping that person from maintaining the level of health that they desire.

[00:04:02] Jane: Well put. One of the things that you're doing in your clinic that just piqued my curiosity was therapeutic plasma exchange. That is new for these podcast listeners, at least we haven't talked about it yet. A, could you define it? B, what are you seeing with this modality?

[00:04:23] Dr. Hasse: I think it's a huge travesty that people have not heard of this. I'm not much of a conspiracy theorist, but I'm amazed at how quiet this technology has been. This remarkable study called the AMBAR study that came out in 2020 in the midst of COVID, and it showed that individuals, that it was a multinational, multicenter, randomized placebo-controlled trial that looked at the effect of advanced and mild Alzheimer's disease when treated with this plasma exchange. It showed that individuals with even advanced Alzheimer's disease had a 60% decrease in their rate of progression over 14 months compared to placebo—60...six zero...percent.

[00:05:15] Jane: That's huge. Huge.

[00:05:17] Dr. Hasse: It's huge. It's monstrous. It's three times better than the best drug that has been shown and with remarkably low side effects. In mild Alzheimer's disease, those individuals actually had improvement 14 months compared to their baseline at starting. They didn't just do better than placebo, they actually had improvement from their baseline after 14 months. In our experience, when we get to catch people in mild cognitive decline, in those individuals who have a precursor to dementia, they even have a better result because it's a very, very exciting therapy. This is a standard medical treatment. This is something that's done in every major medical center, but it's not made available for individuals with cognitive decline.

I felt morally outraged by that. I'd already been doing plasma exchange because I'm researching its utility in reversing aging. Because this is actually our most important and most likely successful therapy for reducing biological aging. Then when we're going like, the data is very clear that it not only has positive effects for cognitive functions, functional outcomes, it had SPECT scans done before and after comparing the placebo to plasma exchange, and there was less brain death in the group that got plasma exchange. There

were also markers of neurodegeneration, such as amyloid beta and phosphorylated tau, and those markers also went in a favorable direction.

We're looking at a biological outcome, a metabolic outcome, a functional outcome, a cognitive outcome, all showing positivity. One of the primary measures that didn't meet statistical significance by a tiny, tiny smidge, and everything else did. That was the reason that people have given to say, well, they didn't meet all of its primary endpoints. This is the largest study that's ever been done in the field of apheresis, which is plasma exchange. It was blazingly successful by my standards.

[00:07:33] Jane: How many people were in the study?

[00:07:34] Dr. Hasse: There's nearly 500 enrolled.

[00:07:35] Jane: That's big.

[00:07:36] Dr. Hasse: This was done in the United States and Spain. This is multi-academic institutions. It was an incredibly difficult study to do, incredibly expensive to pull off. It's utilizing raw materials that are basically generic products. Some of the main treatments are albumin, which is the major protein that is inside your bloodstream, is our main replacement fluid. Now we've got a whole bunch of tricks that we have developed to improve our outcomes alongside of that. However, it's going to be very, very difficult to get another study like this funded because there's not some blockbuster drug that is going to make some group of shareholders a lot of money.

Just because it's hard doesn't mean we shouldn't do it. When you're looking at a disease such as Alzheimer's disease and the devastation that it causes, you've got to put the pedal to the metal on these things.

[00:08:36] Jane: The epidemic proportions of it that we're going to be seeing in the coming decades.

[00:08:40] Dr. Hasse: Oh, yes. Interestingly enough, we also use therapeutic plasma exchange to treat long COVID. That has shown real promise as well. I'd love to go into some of the science behind this. How nerdy is your audience?

[00:08:55] Jane: We're nerdy.

[00:08:55] Dr. Hasse: Okay. You're nerdy. I just want to say, don't feel bad if I talk over you here, okay? Sometimes it's impolite to go into too deep a science in some of these podcasts, but it's so magical. It's the magic of healing that gets me excited. I got into studying this process with one of my deep dive patients, he's a Silicon Valley C-level employee. I asked him when we first started working together, "What do you want to

accomplish by working together?" It was about seven years ago, eight years ago now. He said, "I want to live forever."

[00:09:26] Jane: Oh.

[00:09:27] Dr. Hasse: I was just shocked. I was like, "I can't believe somebody said that." Then I went, "Well, okay, what would it be like if I assumed that was possible? What would be the therapies that actually would make the biggest difference to longevity?" I took several months and dug deep into all of the technologies, gene editing, stem cell therapies, small molecule therapies focused on apoptosis. I came upon the study of parabiosis. Have you ever heard the term "parabiosis" before?

[00:10:01] Jane: No, enlighten me. What is it?

[00:10:03] Dr. Hasse: Parabiosis. Now, this is a crazy set of interesting studies that have been done at multiple universities. This is solid science, where they took a young mouse and an old mouse that are clones of each other and they sewed them together.

[00:10:19] Jane: I have heard of this.

[00:10:20] Dr. Hasse: Over a course of...and then those two little mice that are sewn together with a little flap of skin on the side, run around the cage together. After about a week, an amazing thing starts to happen. That old mouse starts to turn young. Its muscles regenerate faster, become resistant to injury. Its osteoporosis starts to reverse, its cardiac function improves, its T-cell and B-cell immune function start to revert that to a younger mouse. The hair starts growing in more thick and full and fatty liver reversed. Most remarkable is new neurogenesis started, new brain cells started sprouting in that old mouse's brain. Then you separate the two mice.

The young mouse is fine, lives to its normal expected lifespan, and the old mouse lives closer to the lifespan of the young mouse.

[00:11:19] Jane: Really?

[00:11:20] Dr. Hasse: Now there's not been a lot of studies done on the age extension part of this. This in rat study, some rabbit study. When you're trying to think about this, well, this is amazing science. It taught us that our plasma, the liquid part of our blood carries a lot of information to all of our cells. It doesn't just carry nutrients and carry away toxins. It carries information in the form of molecular signals. These molecular signals constantly are telling our cells how to behave. When they did the study, they found out that if you could remove the signals that built up in old—I think old is toxic—it sends a toxic message.

If you remove those old signals, and even if you just replace it with clean plasma like albumin, not the young plasma, then the cells in the body as a whole actually start behaving young. That's an amazing recognition that it is our cellular habitat that determines the health of our cellular function. A lot of people think that, "Well, there's nothing I can do about Alzheimer's and aging, et cetera." We know that if you eat clean, you exercise, you breathe clean air, you drink clean water, if you have cleaner plasma that makes for healthier cells. Well, what plasma exchange does.

When we take that study of parabiosis to the human, and we have now just completed one of the most extensive studies of plasma exchange and its effect on longevity that's ever been done in the world, we have data sets that are absolutely incredible, and I'll be talking more about that when our data is released, but it's very positive. The modifications on how you do plasma exchange does matter. What is plasma exchange? People are going to be like, "Well, you keep saying this." What we do, we call it actually H.O.P.E., which is habitat-optimizing plasma exchange.

It means you put a big IV in one arm and a big IV in the other arm and blood comes out one side, It goes into a machine and your red blood cells and your white blood cells and all those solid pieces of what's in the blood gets separated from the liquid part of the blood, which we call plasma. We throw out the old plasma and we replace it with a pharmaceutically clean albumin, which is a liquid that has the main protein that is in the plasma. That's what is in the replacement fluid that gets mixed back with your cells. That goes in the other IV back into the arm. That's the plasma exchange part.

We have measured beforehand, what are the things we can add in to make this the safest environment possible for the cells. How can we optimize the cellular habitat using plasma exchange and augmentation products and fluids? It's a highly individualized therapy, but you're essentially decluttering the blood. You're getting an oil change for the bloodstream. That goes on until we remove anywhere up to about three and a half liters of plasma. We essentially remove the same amount of plasma that your body started with. At the end of that, your plasma is very clean, your blood is very clean, and the cells recognize that a clean environment is a young environment.

All the genes that are associated with youth—I shouldn't say all the genes, but many—many genes in many different tissues believe that they are in a young body, and they start acting young again, which turns on many of the factors for regeneration, for rejuvenation. This is a true cellular therapy at the very foundation. What's interesting is the AMBAR study has already proven this works for Alzheimer's disease. I can talk all day long about all the fancy science, which I'm very interested in because this is a direct therapy for longevity, and I want to know why it works so that we can keep making that therapy better. Habitat-optimizing plasma exchange is an absolute game changer.

[00:16:10] Jane: It's very exciting because if you think about preventing cognitive decline, if you can slow aging, cognitive decline is a disease of aging. If you can slow that, if you

can create a longevity-focused protocol that's going to reverse your biological age, you're not going to get heart disease, cancer, dementia at the same rate you would've without this intervention.

[00:16:31] Dr. Hasse: That is what we do believe is going to happen. For instance, we know that we turn down the expression of oncogenes when we do plasma exchange. One of the markers are some of the genes that turn on cancer calm down. It's been fascinating. One of our patients with a blood cancer has been getting better as we've been treating everything about his habitat. The habitat, when you treat the habitat, of course, that's what are you doing with your diet. What are you doing with your supplements?

I'm not including all of that in this data. The data I'm looking at is just a straight habitat-optimizing plasma exchange. To get the most return on your investment of time, money, energy, and focus that it does require for doing this, then you should be looking at all of those other factors as well. Making sure that you're not over-polluting your plasma again. How are you bringing the optimized nourishment in at that time?

[00:17:28] Jane: Someone comes to Nashville for this, they stay a day, they stay a month. How many sessions do you do with a person optimally?

[00:17:37] Dr. Hasse: At Maxwell Clinic, we actually have a cognitive health evaluation program. Some people are familiar with the Bredesen protocol. We've been doing this longer than that. This is a much more extensive evaluation that takes a look at multiple different factors. What are your perpetuating factors? I think it's very important for us to always customize therapy for an individual so that you're getting the most benefit for the investment of your resources. In our belief is that multiple rapid plasma exchanges, so doing one plasma exchange a week for six weeks, sometimes 12 weeks, is very important because we get a huge amount of response in that initial time, especially if we can be aggressive with our optimizing factors.

How do we turn on the cellular programming in addition to cleaning out the dysfunctional signaling that's going on in the body? We have people that travel here from all across the United States. We also have a condensed method where people fly in, they'll do one plasma exchange on a Monday day off on a Tuesday, other plasma exchange on a Wednesday, fly home, come back two weeks later, and then we do another one, two, come back two weeks later, do another one, two. We believe we get almost the exact same effect from doing that.

It was very clear in the AMBAR trial that when the most response happened is when we are doing plasma changes more frequently, then you're basically going to get to a point where you're changing cellular behavior, you're changing genetic expression, and then you slow up on your frequency. Then you maybe do it just once a month. As people continue to get better, we stretch it out every two months. One of our patients who came in with early Alzheimer's disease, they were taking the business and somebody else was

running the whole thing. He was angry, irritable, memory was a mess. Family was in disarray. He said, "Doc, do everything you can."

That was what part of the genesis was of thinking, "Well, what are all the things that we could put to align this person to be well." We did six sessions, and he was already noting a very positive response in his mood, in his memory. Then we said, let's continue that on for 12. At the end of 12, his wife came in and she said, his memory is better now than I've known him in the last 12 years. He went back to completely running his company and he has more joy and ease in his life than he says he's ever had. He continued to do once a month. That was over two and a half years ago we started that process. This is a persistent...it's a persistent problem. It requires a persistent solution. Are we all looking for the one-and-done therapy? Absolutely. This is what we have now. It's incredibly exciting.

[00:20:44] Jane: I can tell.

[00:20:45] Dr. Hasse: We've already finished one clinical trial, and we have another three clinical trials going in different aspects of cognitive disease. We're testing new Alzheimer's diagnostics. We're doing more work in understanding the impact of plasma exchange on the transcriptome. I'm dedicated to helping build the science around this. We're a clinical and research center. We provide those therapies to people. We don't have a particular study to sign up for a large-scale plasma exchange program but we're doing the research. We're actually looking to be a site for this. This has to be studied because we have to get more data to convince the conventional world that this should be the standard of care. I believe strongly this should be our standard of care of individuals with cognitive decline but that's not going to happen until we can beat down the doors with more published data.

[00:21:43] Jane: With that data, then maybe insurance companies will maybe at some point in the future come through.

[00:21:49] Dr. Hasse: Absolutely. It's expensive. Oh gosh. You think of memory care, what does a year living in memory care cost?

[00:21:56] Jane: My mother did it. It was \$12,000.

[00:21:59] Dr. Hasse: A month, right? A month, yes. Luckily she had insurance. It was still 12,000.

[00:22:03] Jane: Yes.

[00:22:04] Dr. Hasse: When we start looking at the cost of Alzheimer's disease and we're going like, okay, we have a \$12,000 per month bill coming should this disease keep coming down the road. How about we invest less than that to keep ourselves from going that direction? It's a hard decision, okay? I take economic issues very seriously. The only

way the cost is going to come down for this is volumes, having more centers doing this, bringing it down. Honestly, your mind is worth it. If you can do this, I think that it has huge hope for changing this trajectory. It emotionally affects me.

As we get clinicians coming here and we have more discussions with my more conventional colleagues and we go through the data, they go like, "Yes, that data's really good, especially when you realize the side effect profile." The way we do it here, we have probably one of the lowest side effect profiles of anywhere because of certain practices that we have adopted. Anyway, I think it's important for us to take the biology of dementia seriously. The people who are still listening now have already overcome the biggest problem for dementia that exists. That biggest problem is denial. Denial, I believe, is the most toxic substance that there is when dealing with cognitive decline.

If you're already listening to this, they're probably dealing with somebody that has denial. Denial comes about, I believe, because up until now, I don't think it's been reasonable to think that we have this much hope that we can make a difference, right? Podcasts like yours are getting the word out that people should have hope. It's rational to have hope. The other thing is that it's very important to protect the wisdom of elders. It's one of the things I think has been diminished in our world. I know that I would not be the man I am today without the love of my grandfather and him being mentally sharp enough to pass on his wisdom at an age when I was old enough to receive it.

[00:24:14] Jane: He'd be very proud of you right now.

[00:24:17] Dr. Hasse: No. No.

[00:24:18] Jane: He would be. My parents were like that too. They were in denial. They were trying to hide what was going on. It's very common. I think we would be remiss if we didn't talk about the financial component of the therapeutic plasma exchange at this point. Yes, it's an investment in your health. It's an investment in your future. If you don't have your brain, you don't have a lot of future. What kind of investment does it take?

[00:24:42] Dr. Hasse: It really just depends upon how many are done. A lot of times people ask, "Well, how many do I need to do?" The answer so far is one is better than none. Some is better than one. More is better than some. Because the changes that can happen with even just a few plasma exchanges can be meaningful. The cost currently is \$4,900 for a single plasma exchange to be done. Then depending upon what type of augmentation needs to be done, what other type of habitat-optimizing factors go in, that price can change as well.

Again, in the hospital setting, the charges for this are—one of our patients was brought to us because they were looking for a less expensive way, their insurance wasn't covering it for another reason—\$13,000 for a single exchange. We continue to work to bring that price down. There's no question that it's an investment.

[00:25:41] Jane: I've heard a poor man's way of doing this and your price, and I don't know if it's good or not, but that is to donate blood and then right away, like go to an IV drip bar and have them drip a hydrating solution in. I've heard that. Now, I'm sure that's not right, but I just want to ask, is that the poor man's way to do this that would have some efficacy?

[00:26:02] Dr. Hasse: Listen, giving blood is a good idea. Number one, it's good for the world. It's good for humanity. Number two, it's clear that giving blood has some positive health benefits. I would never discourage somebody from doing that, and I think there may be some benefit, and then donating plasma is another way you could think of this. Instead of donating blood, donate plasma, but the amount of plasma that's removed during a plasma donation is about one-seventh of what would be removed during a plasma exchange. Remember, I was talking about signals are what are being important. I just came up with this analogy here. You have somebody in the room, and they say, "Jane, Jane," to you seven times. Does that have more of a signal than somebody screaming at the top of their lungs, "Jane"?

[00:26:59] Jane: Both are kind of...

[00:27:03] Dr. Hasse: I know, I know. I'm sorry, but the point is, what we're looking for is a strong signal. We're trying to change genetic expression, and we're actually looking at dosing levels because if we can make lower doses actually be beneficial, then that holds great promise. Looking at that, I would not have anybody that has cognitive decline wait for that data. That's going to be a long time, and again, here's the problem. We need funding. We're seeking funding for doing these clinical studies so we can find therapies that are more accessible and be able to do that, but it is a challenge.

[00:27:43] Jane: Quickly, there are some other things I just want to talk about and see if you think they have some validity. Young blood, we hear a lot about young blood and how, just like the mice, that was a young mouse, and human beings are finding some success with using young blood. That has a whole lot of ethical problems. What are your thoughts on that therapeutically?

[00:28:04] Dr. Hasse: Actually, I performed the very first total plasma exchange using young plasma in a woman for Alzheimer's disease.

[00:28:12] Jane: Really?

[00:28:13] Dr. Hasse: That paper has yet to be published. I did that about four years ago before COVID. The problem is, and it's not young blood, it's young plasma. As far as if you'd be doing a treatment, there are a bunch of problems with it. The challenging part is, what are we unaware of that is in that plasma that has been donated? As far as ethical problems, people are donating plasma all the time. Do you know that in the United States, the export of blood products is over 2.5% of our GDP?

[00:28:50] Jane: Really?

[00:28:52] Dr. Hasse: Yes. You could actually think that some people may not want to talk about donating plasma as a therapeutic because there's already a very large industry that doesn't want to have some competition.

[00:29:04] Jane: Could be.

[00:29:05] Dr. Hasse: That could be an idea. Yes. There is substantial increased risk to putting somebody else's bodily fluid inside your body. There are conditions called trolley and taco, and you can have anaphylaxis pretty frequently in those type of situations when one immune system is hitting another immune system. We have used plasma as a therapeutic for getting close to 100 years now. It's not like there's anything new in this process, but we need data. Right now, we have data that a plasma exchange utilizing albumin, which is a clean pharmaceutical albumin that doesn't contain any other proteins. It doesn't contain spike proteins. It doesn't contain antibodies.

It doesn't contain the other refuse that could come from other humans. It's been cleaned out, been sterilized. No viral particles, no prion particles, no other concerns in there. I feel very, very comfortable about that. I think it's important for us always to first do least harm, first do least harm. To over-determine safety is a very important part of our ethical obligation here.

[00:30:23] Jane: If you're talking about cleaning the blood, how about an ozone procedure? It's called EBOO, and it takes your blood out and runs it through and gives you some ozone and under a UV light, and it kills some problems in the blood, and then they put it back in the other arm. Is that good for dementia?

[00:30:41] Dr. Hasse: That is a way of delivering ozone and exposing the blood to UV therapy. It does qualitatively nothing to filter the blood. The filters that are used are filters that are used to treat a rare disorder that is used to extract one particular protein from the blood that is overproduced in this rare disorder. Those people will undergo an EBOO, and they'll look at the container there, and they'll say, "Oh, there's a frothy, horrible stuff coming out." That's what happens when you pull a protein out and expose it to a bunch of ozone, but it's not removing much from the blood at all. That is a therapy to deliver ozone and deliver UV therapy.

When people say this is a blood filtration process, I think that's false advertising. I think that's going too far in that direction. It can be very beneficial for entirely different reasons, and I think that the blood filtration is another way that it continues to be explored in this particular therapy. In order to do blood filtration, you have to give heparin to the whole person. You have to give them a dose that shuts off their coagulation system during the time they're having that therapy. That can expose the person to increased risk for

bleeding, hemorrhagic strokes, and those types of things. The type of plasma exchange that we do is utilizing a centrifuge process.

The body doesn't actually get anti-coagulated during the procedure. Again, it's another measure of safety. That's a really good question about the EBOO because there is a false perception that that's filtering the blood in a meaningful way. I have yet to see data on that.

[00:32:35] Jane: If someone has some blood issues, like anemia, what's therapeutic plasma exchange going to do with anemia? You're pulling all the blood out. Are you going to get more anemic?

[00:32:43] Dr. Hasse: You always have to ask, what is the nature of the anemia? If individuals are very old and frail, then sometimes the red blood cells themselves are fragile, and the old red blood cells will break down and diminish. Really, no. There's no substantial loss of red blood cells during one of these procedures. There's one person who had blood drawn because we do blood draws before and after. When the blood draw after also includes some of the saline that's going in, then it gave a false appearance that there was a lowering of the red blood cell count. Then a quick recheck of that blood cell count showed that it was absolutely normal a week later.

This does not cause increased anemia in individuals to any meaningful extent. Also, this procedure and this device is really the best at maintaining platelet volume. How many platelets are present in the system? Because as you're pulling out plasma, the next cell or the next particle, the next size of plasma is platelets. It's the next lightest thing in the body. When you're pulling out plasma, you also want to preserve all the platelets. This particular machine does a great job of that.

[00:34:07] Jane: I'm just curious. You've studied, you've done a deep dive into what slows aging, what helps with longevity. What are you personally doing? What are you having your family members do?

[00:34:18] Dr. Hasse: That's a long list. It's a long list. Plasma exchange is definitely one thing. I am a research subject and it's the fundamentals. The best way for me to answer that is not a list of taking these supplements and taking these drugs, these peptides, these exosomes, these et cetera. Because I think that health care really does need to be individualized. The idea that there's a one size that fits many protocol, great. I'm totally open to that. How do you best assign your limited resources of time, money, energy, effort, and focus to get the most benefit for you? I think that's always the question to answer. My list is too long to really go through.

[00:35:08] Jane: You're a guinea pig for yourself. I understand.

[00:35:10] Dr. Hasse: Yes, but if you can get data, if you can get data, act on the data and then get more data to see did it work? That's the only way that we're really going to be moving this needle forward.

[00:35:25] Jane: Speaking of data, you said your longevity study and the data that came through with that, you haven't released it yet, but you're very excited about it. Can you share anything?

[00:35:34] Dr. Hasse: I can share that dose matters. Dose matters. I think when you're asking about can we donate plasma, can we donate blood? I think those have positive effects. I think if you're starting that when you're 30, awesome, great. Okay, now that may have some additional benefit. We know that degenerative conditions are additive. The sooner you engage in your health recovery plan, the vastly more effect you're going to have and potentially the less investment you need to do with that. If you're already at a point where you're having symptoms, I believe any symptoms of cognitive decline is a late finding. That already means something is advanced because our brains are amazingly redundant.

We have huge redundancy and backup systems on backup systems on backup systems in our brain. If we're already having dysfunction, that means that we have run through our backup systems or at least our backup systems aren't working like they need to either. We don't pay enough attention to subtle symptoms. We think, "Oh, that's senior moment, that's an early finding." Not really. No, it's not. We need to be much more proactive with what we do. I think that's why at those earliest signs, get a cognitive health evaluation. Make certain your omega-3 fatty acid content is optimized above 8 to 10%.

Make certain that you are addressing the stressors in your life, that you're getting great sleep, that you're moving, that you're playing, that you're engaging in relationships, that you have multi-generational relationships, people older than you, people younger than you, that you are truly finding ways to contribute in the world. Because I think the most dangerous thing is for us not to see a future for ourselves. We actually spend quite a bit of time asking people about, "Well, what do you want your health for?" If you can get clear that this is what I want my health for, this is how I want to contribute in the world, I want to be a force of love in the life of a person who has not experienced that before.

I want to bring wisdom and kindness into the world in a way that somebody else needs. I am going to tell you there is such a deficiency of loving kindness and care and just mentoring in the world. The need is so great for healthy elders. The need is so great. Interestingly enough, that is one of the most important solutions for healthy aging. Get off your ass and go give, go contribute, go serve. The multitudinous return on that investment is absolutely beyond imagination. Then you have a reason to live. I have one of my dear patients who supports like three different families, and he looks out after the mom, the dad, the kids, and is being the uncle that they've never had.

All three of these families have very dysfunctional family systems. They've never had an older male that was present in their lives. He says, "Listen, these people need me. Let's get me healthy, let's keep me healthy. They need me." They do need him. That's not made up. That is what life is about. That's why I think we need to take this seriously. Our lives are so precious. The opportunity to get to be alive, the opportunity to walk on this earth, and to be aware of our own being, that's unbelievable. We want to make sure that we make the most out of these minutes.

[00:39:47] Jane: Dr. Hasse, thank you for giving us all these minutes of your time and those words of wisdom to close with. I really appreciate it.

[00:39:54] Dr. Hasse: You're welcome. Thanks for having me on.

[00:39:56] Jane: You have a great day.

[00:39:57] Dr. Hasse: You bet. Take care.

[00:39:59] Jane: Take care. You've been listening to the *Cutting Edge Health Preventing Cognitive Decline* podcast. Any information shared here is for educational purposes only. Guest opinions are their own. This podcast is not responsible for the veracity of their statements. Do not use any of this information without first talking to your doctor. Cutting Edge Health, LLC, is not responsible for what may happen to you if you use their information in place of official advice from a medical professional. Thanks for listening. Be well.

[00:40:36] [END OF AUDIO]

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