

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

Jane Rogers: Hey, everyone, thanks for making the time to join us. Whether you're listening to the audio podcast or the video version on YouTube, we're glad you're here. In today's episode, we dive deep into the question, is cognitive decline inevitable as we age? We all joke about senior moments as if forgetfulness and mental fog are a natural byproduct of getting old but there's a growing body of evidence that diseases like Alzheimer's result from a combination of physical causes, which if addressed early, can prevent and in some cases reverse the mental decline.

Our guest today is Dr. Lisa Broyles, a functional medicine doctor in Saluda, North Carolina, who is trained in the Dr. Dale Bredesen protocol to identify and treat the very factors that combine to cause Alzheimer's. Today, she focuses on one of the most important of these, the health of our heart and vascular system. Dr. Broyles welcome to The Cutting Edge Health Podcast.

Dr. Lisa Broyles: Thank you. I'm so happy to be here.

Jane: We're so excited to have you. Yes, yes, we're excited to have you too. Let's just jump right into this because this is one of the things that I see your passion coming out. You get so excited about vascular health and helping your patients improve their numbers.

Dr. Broyles: Yes.

Jane: Let's start from square one, why should we even care about what our heart's doing and our vascular health?

Dr. Broyles: Sure. Well, roughly 6.8 million Americans suffer from dementia currently and about 20% of those suffer from vascular dementia. Basically, vascular dementia is when your blood vessels that supply your brain get narrowed or blocked off with clots, and then they can't supply the blood that the neurons need for you to think clearly and to be you. When those neurons die, you lose brain mass. When that happens, that's called cognitive decline and dementia. We all want to remember our loved ones and who we are and all of the wonderful things that make us who we are, and so vascular health is extremely important for every one of us.

Jane: It's hard though to unpack all those things that you're getting from the doctor's office, your cholesterol level, your LDL particle number, your good cholesterol, your bad cholesterol. Can you break all of this down into different parts?

Dr. Broyles: Sure.

Jane: How do we know if our vascular health is okay? Then we'll get to how do we fix it if it's not or try to fix it.

Dr. Broyles: Sure. Well, for vascular health, you have to look at multiple things. High blood pressure can cause vascular dementia, diabetes, high cholesterol, atherosclerotic heart disease. You have to think about not only the heart, but the brain. The two are linked because you have blood vessels in both. A heart attack of the brain is called a stroke. We care about it. There's a test that I use often called the Boston Heart test that looks at the multi factors that you really need to know to truly assess, is your heart healthy, is your brain healthy? Do you want me to just jump right in and we'll go through the test?

Jane: Jump right in.

Dr. Broyles: Okay, wonderful. Traditional cholesterol tests looks at the total number of cholesterol the "Good cholesterol", which is your HDL, and the "Bad cholesterol", which is your LDL, and your triglycerides, which is the amount of fat in your bloodstream. That's about where they stop, which is really unfortunate because people scratch their heads and say, "Well, why did my dad have a heart attack? He had normal cholesterol," or, "Why is this happening when the doctor told me my numbers were fine?" That's because you have to dig deeper. You want to know not just how many particles you have, but what size are they? The LDL size is critical because small sticky LDL particles are like grains of sand.

They clump together in your arteries and they form clots and plaque, but large, fluffy LDL particles are safe. They bounce off of each other like beach balls. If they're large and fat and fluffy, you can have 150 of them and it isn't going to matter because they're big and fat and fluffy. I tell people all the time, this is one place where you want to be fat and fluffy, and that's your cholesterol particles. You don't want the small sticky guys. You really need to know not only the particles size, but you want to know where is the cholesterol coming from. I don't know how many people come in and say, "Well, doc, I stopped eating butter, I stopped eating bacon, but my cholesterol's not coming down."

Well, if you look at the Boston Heart assessment, it tells me where the cholesterol is coming from, how much cholesterol is being made by the liver, which is called overproduction, or how much cholesterol is being over absorbed by your intestines. There's two different ways that you get high cholesterol. One is from diet, but one is genetic and from an inflamed liver and that's where the overproduction comes in. It's important to know if your cholesterol is primarily coming from liver overproduction, then your diet isn't really going to change your cholesterol that much. How many of us really

need to know that? That's important as far as particle size, particle number, and where it's coming from.

The next thing that we want to look at is your inflammation levels. If your blood vessels are nice and smooth, then even though you have too much cholesterol, it's going to flow right through those blood vessels and not form plaque. If the inner lining called the endothelium is irritated and rough, then it's like Velcro and it's more prone for plaque to stick and then start to build up and eventually clot off an artery. What causes that Velcro-type stickiness is inflammation. The Boston Heart test looks at several markers for inflammation in your blood vessels. One of them being something called high-sensitivity CRP, it'll be on your paperwork, hs-CRP. It's also referred to as a cardiac CRP. This number should be under one.

Interestingly, I've seen a lot of people that have just recovered from COVID, and their hs-CRP numbers have been as high as 40 to 70 after they've had COVID.

Jane: Oh, that's incredible.

Dr. Broyles: Which shows just a massive amount of inflammation in the blood vessels, but specifically the hs-CRP is looking at the cardiac blood vessels, the blood vessels supplying the heart, and the aorta. The test also looks at generalized vascular inflammation through a marker called fibrinogen. Some people have genetically elevated fibrinogen, but some people it's just because their body is inflamed and therefore their vasculature is inflamed. Sometimes it's due to COVID or another virus, sometimes it's because they have really low Omega-3 levels. That's one of the things that this test looks at is how high are your Omega-3 levels. There's three Omega-3s, the DHA, the EPA, and the ALA.

Your body cannot make its own ALA, it has to get it from supplements or from diet. Do you know what dietary sources of Omega-3s are?

Jane: Salmon.

Dr. Broyles: Yes, salmon is a wonderful source. As long as it's wild-caught because we want it to be good for you and not have a bunch of toxins in it. Wild-caught salmon is excellent. I tell my patients to eat it at least once a week. You also want to eat raw walnuts. Unfortunately, if your walnuts have been roasted and salted, they're no longer good for you as far as the Omega-3s levels. The other thing is flaxseeds and people say, "Oh, well, I have ground flax or I have whole flax in my baking items."

Neither of those unfortunately are a good source of Omega-3s when it comes to vascular health. You really need to freeze your flaxseeds and in the morning, take a

tablespoon, throw them in your coffee grinder or your herb grinder nice and fresh and put that ground flax in food or water each day. That freshly ground flax has much higher levels of Omega-3 than using it any other way.

Jane: Sometimes I used to take salmon eggs because salmon eggs are so high in Omega-3s.

Dr. Broyles: Oh, absolutely. Yes, they are-

Jane: They're beautiful.

Dr. Broyles: -and so are small fish. Yes.

Jane: Oh, yes.

Dr. Broyles: Small fish like-

Jane: Sardines.

Dr. Broyles: -sardines and anchovies, which aren't really everybody's thing, but those actually are a good source of Omega-3s. The other is chia seeds, which I'm not a personal fan because they make everything gluey but if you're into them, chia seeds are very good for you and rich in Omega-3s. You can also have good supplements.

Jane: Do you see most of your patients struggling with Omega-3s? Is it hard?

Dr. Broyles: I do.

Jane: Yes, that's one of the big things.

Dr. Broyles: I really do. I have literally had less than five people that have good Omega-3 levels that are not on a supplement. It's difficult to keep high enough levels that you can do it just through your diet. Possible, but difficult. Omega-3s I think of them like a fire hydrant. It's literally putting out the fire of inflammation in your blood vessels. Omega-3s are one of the first things that I look at to see, "Okay, your levels are low. Well, here you have inflammation. Well, we can fix this by putting you on a quality Omega-3 by increasing the amount of Omega-3 in your diet."

Jane: Inflammation can be caused though from other factors like Lyme disease or something. Does that also trigger in your mind, "Oh my gosh, this person has too much inflammation, not only in their heart but possibly in their body?"

Dr. Broyles: Absolutely. Unfortunately, infections can cause vascular inflammation. There's been recent studies linking the development of autoimmune diseases, such as Rheumatoid arthritis, even to infections such as Klebsiella or dental infections that have over time. Yes, Lyme's disease is another one. Chronic diseases, Epstein-Barr. They can all cause chronic inflammation that can damage the vascular endothelium over time. One of the other markers that this test looks at is something called Lp-PLA2. That is looking for a protein that is in the cap of newly formed plaque. You can actually tell if you have new plaque forming with this marker.

Really, the whole test is you want to know, are my arteries getting blocked up by plaque and that little protein can tell you that. That's another marker in the inflammation category. It's got the hs-CRP that we've talked about, the fibrinogen that we've talked about, and then the Lp-PLA2.

Jane: Okay. Anything else for inflammation before we move on to the third of four factors that you're looking at to help heart disease?

Dr. Broyles: Sure. I think that the third thing flows nicely into inflammation and that's metabolics. Metabolics is looking at your blood sugar. Just because you don't have diabetes, doesn't mean that you might have some mild insulin resistance, meaning that your pancreas might be overproducing insulin to keep your blood sugar normal. There's no way you would know that if your doctor doesn't test you for insulin resistance. The Boston Heart specifically looks at how much insulin your pancreas is actually making to keep that blood sugar normal because high blood sugar is like little tiny shards of glass ripping the inside of the endothelium which, obviously, that sounds bad.

The higher the blood sugar, the more inflammation that causes in the blood vessels. That's why so many diabetics also end up with heart attacks and strokes because the two are linked. When you have high blood sugar and you have high cholesterol, then the blood sugar causes the tearing in the arteries, the inflammation, and then the plaque sticks to those tears.

Jane: How many patients are you seeing with issues in the metabolic area as their primary driver?

Dr. Broyles: Probably two-thirds of the patients I see.

Jane: Really?

Dr. Broyles: Just because we live in America where everything's at our fingertips and we don't have to ride our bike to work and we don't have to work hard for our food. Our lifestyle predisposes us to being sedentary and we're all busy and we eat processed

foods. Then, a lot of us have genetics that increase our risk and we end up with heart disease and insulin resistance. The insulin resistance is something that is fixable, especially if you catch it early.

Jane: The fourth area, genetics.

Dr. Broyles: Genetics.

Jane: Not too much about that you can change. Well, but epigenetics you can.

Dr. Broyles: Yes. Epigenetics wasn't even a field when I went through medical school. Really in the past 10 years, we've discovered that what we eat and our lifestyle really can change the protein expression. It can turn on and off genes, which is absolutely incredible. It's really important that you know your genetics, as far as atherosclerotic heart disease, cognitive health. There's several factors that I'm specifically looking for. One of them is called the lipoprotein(a). Think of lipoprotein(a) as a high-speed train that carries cholesterol through the blood. If you have a normal speed train, then your arteries aren't going to build up clot faster than other people.

If you have an elevated level of lipoprotein(a), then your arteries are on the high-speed train to plaque buildup. That's really important because if you have an elevated lipoprotein(a), you have twice the risk of the average population for stroke and heart disease.

Jane: An elevated number is what kind of number?

Dr. Broyles: Anything generally above 15 is considered abnormal for the lipoprotein(a). A lot of times patients ask me, "Well, doc, I've been on baby aspirin for years, should I continue it?" I say, "Well, let's see what your Boston Heart says." If they have an elevated lipoprotein(a) then yes, they need to be on that baby aspirin because then it negates that risk, and their risk of a heart disease or stroke is the same as everybody else is at that point because their blood is just slightly thinned by that baby aspirin.

Jane: Baby aspirin for some people is still good because I was reading recently, there was a question as to whether baby aspirin was still a good thing.

Dr. Broyles: Absolutely. Well, there are some risks associated with baby aspirin, such as having a bleed from your intestines or your stomach. It can be hard on blood pressure or kidney function or increase your risk if you fell of having a bleed in your brain. It is important to know, should I be on this? There's a low risk of all those things with baby aspirin, but still possible. However, for those people that have a familial risk of

colon cancer or have an elevated LPA, they do need to be on the baby aspirin. It is worth the risk.

Jane: Yes, this whole test, and we'll get to what to do about those numbers and how we can really change them, but this whole test is something that folks, if they have insurance or Medicare, can afford. Medicare picks it up, doesn't it?

Dr. Broyles: Most forms of Medicare do cover this test in entirety. There are two other genetic markers that are not covered by any insurance and they are add-ons but I do think that they are important. One of them is the APOE4 gene. You want to know do you have an APOE2, 3, or 4? You're going to have one from each parent. You could have an APOE3 3 is ideal because that's the most normal, lowest inflammation associated with it. If you have an APOE4 gene from one parent or both parents, that means that you have an increased risk of developing dementia and vascular disease. You really need to know, do I have one copy or do I have two?

People with two copies often begin to develop cognitive changes even in their 50s, and people with one tend to in their late-60s to early-70s, however, this is preventable if you know about it early. That's why we're talking about this. If you know you have an APOE4, listen to our podcast because you can change this ship. You can turn the direction if you know through lifestyle and supplements.

Jane: And, finding a good physician to partner with you like I have.

Dr. Broyles: Thank you. Yes. The other genetics, I do want to mention one more genetic test that I usually do along with that APOE4, and it's called the MTHFR, methylenetetrahydrofolate reductase. It's a long word, but basically, it is the enzyme that helps your body to activate its folate, which is its folic acid. If you have a defective gene in this area, we'll call it a mutation, you cannot detox as quickly, thereby your body is going to increase its inflammation levels and you have to work harder to keep your body from developing high levels of inflammation.

People with an abnormal MTHFR variant often develop chronic migraines and constipation and autoimmune diseases and lupus and fibromyalgia and they don't understand why. Part of it is because their body can't clean out its trash effectively. I sit down with people and teach them how to detox so that we can get rid of all that inflammation, which not only helps your vascular system but your whole body.

Jane: It's my life because I'm APOE4 heterozygous and I also have MTHFR mutation, and so it's my life. I'm detoxing all the time, sweating in saunas and foot baths and things like that trying to detox.

Dr. Broyles: Yes. Every dollar you spend on detoxing is one more brain cell that you're preserving. It really has to be a lifestyle when you have those genetics.

Jane: That's a great way to put it. Okay. You get the test back. I know when you ran my numbers, when you ran my husband's numbers, especially the very first test that we ran with you, we had some areas that we needed to improve big time. The Boston Heart has a compilation in the back that says, "Here's some different herbs you could use. Here's what we think of statins."

Dr. Broyles: Absolutely.

Jane: Let's unpack that.

Dr. Broyles: Sure. I would love to talk to you about statins. This is really an area where people are so polarized. Some doctors say statins save lives, everybody should be on statins, we should put children on statins. I don't believe that, but there are those that do. Then, you have the other camp that thinks that statins are terrible, killing everybody. Honestly, the truth is somewhere in the middle. Medicine is both a science and an art. You have to look at all of these factors to be able to tell someone if a statin is right for them. Truly statins can be life-saving. If you have a family history of high cholesterol, you have those small sticky particles, you have diabetes, you have inflammation, you very well may need a statin.

However, I always try herbs first. The herb that I use primarily is called red yeast rice extract. Red yeast rice extract is actually the herb that the very first statin Mevacor was made from. It truly is an herbal statin, it's just watered down. It's diluted. When the first statin was made, there actually was a lawsuit against the makers of red yeast rice and the pharmaceutical industry won and forced the vitamin companies to water down the red yeast rice that we get in our supplements.

It is powerful still. However, it is not the same degree as the statins. I think people should know that. What I do with red yeast rice is I combine it with something called CoQ10 because statins and red yeast rice both inhibit your body's production of CoQ10, which is made by your mitochondria. CoQ10 is a little energy particle that everything needs, your muscles, your heart, your brain. It's important to keep your levels of CoQ10 up. You want to have a quality red yeast rice supplement that has the CoQ10 in it and that way you can prevent the side effects of muscle aches or brain fog that people sometimes experience with the statins, and to a lesser degree, the red yeast rice.

The red yeast rice is definitely the most effective herb that is available for lowering cholesterol but it should be dozed by a doctor that knows what they're talking about and

knows the quality of the supplements because the FDA does not regulate the quality of the supplements and they are not created equal.

Jane: You should be careful and not buy the cheapest one on the shelf sometimes but just because you buy the most expensive one, doesn't mean you're getting a quality supplement either.

Dr. Broyles: That is true. It is important that your provider know which supplements actually have what they say they do in them and that they've processed them correctly and safely. One of the other supplements that it really matters the quality is fish oil. If you go and you buy your fish oil from Walmart, you're probably not getting a quality fish oil. The fish stores all of its toxins and its fats, and those fats are what the oil is. If you get a fish that's been farm-raised or it's been processed incorrectly, you honestly are giving yourself more inflammation by taking that fish oil, so you really need to take a quality product when it comes to fish oil.

Fish oil, again, as we've talked about earlier, is your primary source of lowering inflammation, so I put almost everybody on it, but I use a quality product.

Jane: There's some other things that were recommended for us like Ferostorol. I might not say that right, Ferostorol, and bergamot, and berberine.

Dr. Broyles: Yes, Bergamot is primarily made in Italy. There has been very limited studies on bergamot and they've really all come out of Italy, so the jury is still out on really how efficacious bergamot is in lowering cholesterol. I have not really seen a substantial improvement from that. You mentioned berberine, berberine is a wonderful anti-inflammatory herb for the gut and it can slightly improve blood sugar. However, I've had patients on just straight berberine and I have not seen a drop in their cholesterol just from the berberine alone.

Now there are supplements that have combinations with berberine in them. If I have a patient that's suffering from irritable bowel syndrome, insulin resistance, and high cholesterol, well, then throwing some berberine into the mix is going to help all three.

Jane: Anything else you want to add? We have gone through so much and unpacked so much other than it's just critical.

Dr. Broyles: I do.

Jane: Yes, go ahead.

Dr. Broyles: I know we've talked about a lot of different parts of this Boston Heart, but there's actually a fifth part that I think is very important, and that's that it looks at

vascular stiffness. There's a marker called homocysteine and it looks at your folate level and your CoQ10 level, and that's the back page, but I think it's one of the most important because a lot of people's high blood pressure is caused by vascular stiffness. If you had gotten ahold of that person back in their 30s or 40s and discovered, "Hey, this person has an elevated homocysteine level," and you reversed it through putting them on quality folate, you might have been able to prevent their high blood pressure in the first place.

Some people, I have been able to lower their high blood pressure by examining their homocysteine levels and improving their folate levels. The two are absolutely linked because homocysteine is a byproduct of your body making its folate, and if you remember from what I talked about earlier, that enzyme called MTHFR, the people that a variant in that tend to have elevated homocysteine levels because they can't stick the little methyl group on the folate that helps your body absorb it and use it.

If you have an MTHFR variant and your doctor puts you on plain folic acid, your body can't use it and it can actually raise your homocysteine levels and worsen your vascular stiffness, which increases your blood pressure and makes you more prone to aortic dissection, cracking, splitting. You really need to know if that's present.

Jane: How does someone find a doctor who knows what she's doing or he's doing and loves this and is as passionate as you are?

Dr. Broyles: This is why I love functional medicine. Before I did my functional medicine training, I felt like there were so many people that I couldn't help. We put people in a box, we said, "Oh, if you have this diagnosis, we treat it with this," but medicine should be an art and each person is a beautiful canvas and a doctor should look at every part of that person's background and their history and their exposures and their lifestyle and their infections. All of that goes into their health, their vascular health, their cognitive health. Look for a functional medicine doctor near you, go to the Institute for Functional Medicine website, and do the provider search.

You can also go to Functional Medicine University, which is the governing body that I was trained under, and do a provider search. If you live in North Carolina or South Carolina, you can consult with me at waytohealthmd.com. I soon will have a license in Florida, Georgia, and Tennessee, so stay tuned for that. If you live outside of the Southeast, I will be having a subscription option where I will have little three to five-minute videos that detail my protocols for common medical conditions, such as heartburn, urinary tract infection, new COVID diagnosis.

You want to know what Dr. Broyles would do, well, you can log in as a member and you can watch the video, and you can also see some functional medicine-approved recipes to help you enjoy your food and still be healthy.

Jane: Great, Dr. Broyles, thank you so much for your time today.

Dr. Broyles: This is a topic so dear to my heart, Jane, I really appreciate the chance to tell more people how they can save their brain.

Jane: Thank you, dear. Have a great day.

Dr. Broyles: Thank you.

Jane: Bye-bye. Thank you for listening and have a beautiful day.

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