Introduction and take-home message

Great. Well, welcome everybody. Thank you for coming this morning. This is two hours that could save your life. And I'm not being dramatic. What we're going to go over today are things that will help to preserve your brain function.

It is the start of counteracting everything you've heard about diet and disease prevention. We've been working on it all year. we started in February with talking about cardiovascular health and what kind of ways to eat are important to maintain your cardiovascular system and the best health.

We continued on in the summer with our nutrition presentation. The same message. So people that have been here before, you're going to hear the same thing again.

I'm sorry. But it turns out I am repeating it because it's relevant to every single talk we're doing on prevention of chronic disease. whether you're talking about cancer prevention, which we haven't done yet, and if people aren't interested, we'll do next year, cardiovascular prevention and maintaining brain health.

It's the same approach to lifestyle and diet. So you are going to hear repeat, but sometimes people need to do hear things more than once. The other thing is that this is not, it's a very simple approach, that the implementation requires overriding many years of your dietary habits and overcoming some of our genetics, because our genetic make us crave things that are not the healthiest for us.

So it is a process, and it's been a processes for me, quite honestly, changing my diet to be as healthy as it needs to. And it the process that's happened over the period of a number of years.

I don't necessarily expect people to just, you know, jump like that and implement all these changes. But armed with the knowledge, you know where you need to get.

You see your endpoint, and you can begin working towards it. And we'll give you some of the tools. We can't cover it all today, but I'll be referring you to other resources.

and we will go over more of this in the future at future talks. There's so much I need tell you. two days doing this. And maybe we will at some point in the future.

So this is a little different than what you have in your handout, because I added some things since we put our handout together, but you can take notes.

You know, whenever people come to a presentation, out of two hours of a representation, you take home a kernel. Have you ever listened to it for two and then at the end said, uh-oh, What was the take home or what was I supposed to learn?

So I want to make it easier for you. So if you remember cupcakes, sneakers, and pillows, that will be your take-home message. And when you think of those things again, you'll remember what I said about cupcakes sneakers and pillow.

This is a new model for maximizing memory and reducing Alzheimer's disease. If you talk to the National Institutes of Health, and they put out a very extensive report a couple of years ago on prevention of Alzheimer's, they got an esteemed body of people together, neuroscientists, neurologists.

OBGYNs, people just from all fields that could have knowledge of brain function. And they put out a many, many page report. I don't know, 20 or 50 pages, I remember at this point.

Because I haven't looked at it since, because the take home message from that one was, there's nothing you can do. And that is dead wrong. So once I went through it and saw that, it wasn't very helpful.

Alzheimer's statistics and prevention mindset

it didn't tell people what they need to do because these problems, memory decline, and Alzheimer's are absolutely preventable. And a really important book I want to refer you to is right up here, Brain Brain by Dr.

David Perlmutter, an incredible neurologist who has studied the field of brain health for many years. He's put out a number of books. They're really good books, And this talk is largely from his book.

And he has a plan, a step-by-step plan that we're going to go over with you about what you need to do to maintain your brain health. Like I said, you won't only maintain brain your health, but you will reduce your risk of cancer and you'll reduce the risk for cardiovascular disease if you follow these steps.

So there are cupcakes. They look really cute, don't they? I mean, really, they're chocolate, vanilla. they have multicolored frosting. It's just adorable.

Cupcakes could be cuter. And here are some sneakers in all different colors. You could do that, too. you could have a different color sneaker for every day of the week, make exercising more fun.

Pillows, there're two people, a man and a woman, and they are sleeping really So we're going to talk about these things and what it has to do with your risk for Alzheimer's.

And the other thing is hormones. Hormones have a lot to with brain health and risk reduction, and we'll go into that later as well. How many people have read Alzheimer statistics?

How, how many cases and the burden on society? Okay, we will go over it. It's pretty dismal. Right now, Alzheimer's is affecting 5.3 million Americans.

One out of eight people over age 65 will develop Alzheimer. The health care costs are $172 billion a year. It affects people, women more than men. one out of five women and one of seven men after age 55. I think there's something wrong in that statistic, I'm gonna check it.

It's expected to be 7.7 million people by 2030 and it's estimated that there are 10.9 million unpaid caregivers, because you know the responsibility for caring for somebody with Alzheimer's or dementia falls frequently on the family who are not paid caregivers.

Here's a really concerning chart, because this is in a five-year span of time. The death from Alzheimer's increased by almost 50%, while heart disease deaths went down, since we have stints and other things that we can do to help keep people dying when they get their heart attacks.

And stroke deaths have gone down as well. So while other chronic illnesses, where we've made some inroads into treatment, We have done nothing for Alzheimer's.

Current Alzheimer research is looking for pharmaceutical agents that will have an impact once Alzheimer has set in. Well, once it's set, you've lost a lot of your opportunity for doing anything.

There are physiologic changes that have occurred in the brain that cannot be undone. Current Alzheimer's research, I call it looking for love in all the wrong places.

Remember that song? They're looking in the right place and they are committed to devoted I don't know how many billions of dollars to Alzheimer research.

And the solution is in front of us and it doesn't cost very much. So they're look for the magic bullet. There's not a

magic bullet for any chronic illness.

And we've seen this, whether it's heart disease or diabetes, lifestyle, educating people, weight loss, those are the things that really have tremendous impact.

The pharmaceutical agents, not so much, and especially for Alzheimer's. It may slightly delay the onset of the disease, But it really does nothing to affect the underlying causes.

And we're going to talk about the underlined causes today, because that's where prevention lies. So you're not going find your solution in a pill. At least not a pharmaceutical pill I've developed a supplement called Brain Food that will help nourish your brain.

Inflammation and diabetes as core risk factors

Yes, it's in the pill, in capsule. But I'm talking about pharmaceuticals. Pharmaceuticals can't undo the damage. What needs to be done is you need to prevent the damage from happening in the first place.

And that's what this talk is all about. We're going to go over Alzheimer's risk factors. Age is one of them. OK, we can't do anything about our age, right?

That's not a modifiable risk factor. Genes, there's a gene called the APOE4 gene, or the ApoE gene. That is a if you have a certain variant of it, you're at increased risk of heart disease, strokes, and Alzheimer's disease.

Now, you may say, OK, well, genes, can't change genes either, right? And now is what you're given. We're going to prove that that's wrong. And we're gonna talk about how you can change your genes later on in the talk.

Diabetes is a tremendous risk factor for Alzheimer disease, we know that diabetes is something that is modifiable. you can change your blood sugar levels, whether you're diabetic or pre-diabetic.

And this is one of the most urgent things for you to begin working on to lower your risk, not only of Alzheimer's, because you might feel like, well, maybe that's 25 years in the future.

But I'm talking about better brain function, memory, and thinking ability now. Risk factors. Low-fat diets have been proven to be a risk factor for Alzheimer disease.

and a high carb diet has been proven to be a risk factor for Alzheimer's disease. They've done epidemiologic studies and asked people, you know, they have the people who have Alzheimer and people that don't and they've asked them what they're been eating and this is what's been found.

Inactivity. If you're not physically active, You must become physically to the best of your ability. And I know people have orthopedic problems, other things that can limit your ability to be active.

But most people who are up, you've been able to walk and come and sit in here, who probably can do something physical that will lower your risk of chronic disease.

High body fat is another risk factor for Alzheimer's and low hormone levels. So we're gonna go through these one by one. So what causes Alzheimer's? People heard of inflammation.

Raise your hand if you've heard the term inflammation related to chronic illness. Great. We know that inflammation, called silent inflammation is the cause of all chronic illnesses.

Heart disease, Alzheimer and cancer. Those are chronic diseases. Cancer doesn't just fall from the sky. it is a long process in developing. Just like we're accustomed to thinking heart disease that way, Alzheimer's disease, and somehow when we think of cancer, we just think it's like whoop, all of a sudden one day it just fell down on us.

It also is many year process and developing for the most part. And what causes or what's one of the underlying processes in any of these chronic diseases is called inflammation.

and it a series of changes that go on in your body that cause your cells not to function properly and open them up to risk. So with cancer, it opens renegade cells up, to growing, and your body doesn't have the immunity to tamp them down.

You know, we're always developing renegate cells that could become cancer. We're doing that all the time. And for the most part, our bodies have a healthy immune response that crushes it, puts that fire out.

If you have chronic inflammation going on because of poor diet, high body fat and lack of activity, and these things have all been correlated with risk of cancer as well as Alzheimer's and heart disease, you will increase your risk.

And the mechanism is silent inflammation. People are accustomed to hearing about inflammation like your joints hurt, your have arthritis, rheumatoid arthritis.

You know, things get swollen and they hurt. that those are markers of inflammation. Those same processes can go on inside your body, only sometimes there are areas that don't feel pain.

You can have tremendous inflammation going on in your brain, but your brains doesn't have the kind of nerve sensations that give you a pain reaction like the joints do.

So I know that pain, you know, when you feel the pain it's a circuit that's gone to your But I'm talking about inflammation in the brain. Your brain doesn't have a sensor for pain to tell you that's going on like it does with a swollen joint.

So silent inflammation can go on inside the lines of your blood vessels. And when that happens, you develop plaque that is very inflamed, that at risk of rupturing and blocking off an artery and causing a heart attack or a stroke.

So this is what we call silent inflammation, because you don't feel it in your blood vessels. You don' feel either unless they're really pretty blocked and you get angina and then you're having chest pain.

But prior to that happening, you can have a lot of plaque buildup and inflammation in you blood vessel and it's another area that you dont feel the pain So inflammation is one of the underlying causes of Alzheimer's disease.

We sometimes refer to it as brain on fire. And Alzheimer's has so been connected with blood sugar regulation problems and diabetes that we've started calling it diabetes type three.

Diabetes type one is the type of diabetes generally younger people develop. It's an autoimmune disease. Their pancreas stops making insulin and they require insulin at a young age.

Then type two diabetes, which I think most people are familiar with, right? happens more middle-aged although children are now developing diabetes type 2 because of their obesity.

So diabetes Type 2 is related to obesity and poor diet. And Alzheimer's is now being considered diabetes-type 3 so connected with issues of blood sugar regulation.

Okay, we're going to talk about genetics now. How many people Truly believe that what you're given as far as your genes is it. You don't have any choice about what's going to happen with that.

How many people think that you are stuck with your gene? Great, you guys are way ahead of the gate. OK.

Epigenetics and how lifestyle affects genes

There's something called epigenetics that we're learning more and more about in probably the last 10 to 15 years in science. So what if you have the APOE gene.

What if have a diabetes gene, My mother and her sister died of complications of diabetes, my mother of renal failure and my aunt of meningitis, which has a very high mortality to diabetics.

So I more than likely have the diabetes gene. Whether I get it or not depends on a number of factors. This field called epigenetics. Now you have your genes and people I think are familiar with The Watson-Crick model of DNA, the spiral.

People are familiar with that, right? It's a pretty in common media. So this is what your genes look like. And your jeans are all bundled up into chromosomes.

You have 46 of these, 48 with your sex chromosomes, And these chromosomes have genetic material, that coil, all coiled up here. Here's the coil. But you don't just have the coil.

The coil is wrapped around something. the Coil is wrap around proteins called histones. And this histone can be modified. somewhere on here. They had a nice epigenetic mechanism.

OK. So histones are affected by a number of things. Development, what's happening in utero, was happening with your mother when you were inside. We're all born and passed that, so that's not really relevant to us.

Environmental chemicals can affect the expression of your genes. Drugs and pharmaceuticals can effect it. aging, diet, exercise. So just because you have a certain gene doesn't mean that gene is going to get activated.

The gene does not do its dirty work until it gets activated, you can keep your genes quiet. You can your Alzheimer's gene and your diabetes gene, and heart disease genes, quiet by the types of things that you do and that's what we're talking about today.

Now, there are other genes that you do want to have activated. What genes are those? They're genes called the longevity genes. We actually have genes, that will help us live longer and healthier and reduce our risk of heart disease if we can activate them.

And we'll be talking about some of the ways to activate our longevity gene. So it's a combination of things that we're doing that will affect our epigenetics.

So epi means the things going on around our genes. And this is where we're really aiming all of our efforts. These are the thing that affect epigenetics, right?

We mentioned them in the beginning. Cupcakes, sneakers, pillows, and hormones. This is Suzanne Summers in her seminal book, The Sexy Years. So what about diabetes and carbohydrates?

You don't have to be a diabetic to have sugar be causing a problem on your brain right now. This cartoon says, if a vegetarian diet is good for losing weight, how come they use grain to fatten pigs and cows?

Exactly. So we're going to talk about what you need to do in your diet so that you don't get fat like a pig or a cow. Because basically, a low-fat, high-carb diet is exactly what fatens humans, pigs, cows, and humans.

There's something called a mild cognitive impairment that is sometimes a sign of the beginning of Alzheimer's disease. And sometimes something that happens on its own that does not progress to Alzheimer's disease.

But it is forgetfulness, lack of focus, slower thinking ability. That's going on more than the usual kind of age-related, you know, why did I walk into this room, or problem finding a word.

It's beyond that. And it's been found that diabetes increases the risk of mild cognitive impairment. insulin

resistance, which is before diabetes happens, you become resistant to insulin.

That's why you've become diabetic. Your body needs more insulin because it's resistant its effect. So your body need more insolent to do the job of utilizing sugar.

And eventually your your pancreas for so much insulin, because that requires so to overcome the resistance that your pancreas gives out, can't produce anymore.

And then you need to use insulin by injection. So before you ever get to that point, while you're still in the insulin-resistant phase, and how do you know if you are insulin resistant?

Diet, carbohydrates, and brain health

Well, there are a couple of ways. One is, is your waist measurement more than 35 inches if your a female and more 40 inches is you a male? What is your hemoglobin A1C?

We'll be talking about that more later. It's a blood test of sugar utilization. So these are some of the ways you can figure out if you're insulin resistant or not.

If you actually develop diabetes, no, this is still on, if your carbohydrate intake is higher than it should be and your utilization is not optimal, you still could double your risk of Alzheimer's disease and double you risk in any kind of dimension.

So you don't even have to have diabetes. You have just poor sugar utilization. And we're going to talk about how to remedy that. Our genetics and our physiology have been the same for 10 million years.

But our diet has changed tremendously. And to our detriment, we were not designed to be riding around in cars and using electronics instead of running around talking to people and finding them in the woods.

We were designed not to go to the supermarket and procure our food. Were supposed to out in a forest chasing animals and picking fruit and vegetables.

What's happened as a result is a tremendous increase in the percentage of carbohydrates in our diet. Now, what I'm showing here is not just how many carbs people are eating.

It's the carbs that the experts recommend. This is what the food and drug and the agriculture department recommend, people aren't eating more than that.

People are being more the recommended amount. So we used to have 5% of our car of diet come from carbohydrates back in, our ancestral diet, and 75% from fat.

So when you talk about are eggs okay to eat and is dietary fat okay, most definitely. And when man, and one of the reasons it's felt that man progressed as far as he did in homo sapiens with our bigger brain is that we started eating fish with those tremendous omega-3 oils in them and that allowed our brains to grow bigger.

What happened when agriculture came in and we started developing grains for growth with agriculture is, grains actually shrank some. So people say, well, people have always eaten bread.

And in the Bible, bread was the staff of life. Well, it was, but it wasn't necessarily the healthiest thing that people should have been doing. We were really meant to eat this kind of diet, actually very high fat.

And it won't make you gain weight, I promise. The right kinds of fat, our current recommended diet that the experts recommend is that 60% of our calories should come from carbs.

That's where the eight to 10 servings of grain today comes from the Agriculture Department Food Pyramid. Now

they have a plate. On their plate, They don't even have fat listed on the plate, only protein and carbohydrates.

So they completely ignore the benefits of good fats, which is essential to keeping your brain healthy. You must have adequate good fat. Pardon? Somebody say something?

No. Okay. Now, how many people think that you are stuck with the number of brain cells you were born with? Do we grow new brain cells? Yes. OK. Good. Such an educated body.

We do grow the brain cell. And actually, it wasn't until about 30 years ago or 20 years that scientists figured that out. I mean, even the scientists thought that you were just stuck with what you're born with.

As you lost braincells, you've lost function. Well, as it turns out, we can grow brain new cells. And Dr. Perlmutter called it the gift of neurogenesis because it for sure is a gift if we're able to develop new brain cells to take over ones that have died off or are no longer functioning well.

So we can make new nerve cells, and this is the picture of a nerve and the different parts of the nerve. These dendrites are little fingery projections and they reach out and touch other nerves and that's how we get communication between nerves.

And what is fertilizer for brain growth, the growth of new baby brain cells? Something called BDNF, and it's a long word, but really, you definitely want to familiarize yourself with it.

Brain-derived neurotrophic factor. And trophic means helps it grow. Neuro is nerves. So this is something that is formed in the brain that helps the grow of the new nerve cells.

What does BdNf do? It protects the nerves that are already there. It encourages new connections. You know, I mentioned the dendrites want to touch other nerves, so it encourages that connection.

And of course, good brain function depends on good connections, BDNF goes down, people who have Alzheimer's disease, and it's increased by lifestyle. So you can raise your BdNf.

I'm going to tell you exactly how to do that. So what about cholesterol? At the beginning, before we got started, Ruth asked about eggs. And they have so much cholesterol in them and the yolks.

Is that OK for us? Well, this is part of the whole discussion about what is the optimal diet. The optimal is not what's been promoted by the government in cahoots with the pharmaceutical agencies or companies, the drug companies.

They would have you be on a high carb diet, and low cholesterol and target cholesterol as the evil factor in getting ill and want you to be on medicine to lower your cholesterol.

Well, not only doesn't that work especially for women and most of the men that are on statin medications. Statin medication increase your risk of diabetes, men and women.

So just what you're trying to prevent, you are a medication that causes. Not only is cholesterol not the evil factor here, you need cholesterol.

Neurogenesis, BDNF, and healthy fats

Cholesterol promotes communication. These dendrites that want to connect, they need cholesterol to connected. The axon, which is like an electrical wire, transmits through this wire.

It needs cholesterol to have a proper coating. just like our wires have rubber coatings around to insulate and promote the flow of electricity. These axons, these myelin sheets, promote flow electricity from one neuron to the other and depend on cholesterol.

And cholesterol also promotes neurogenesis, the gift of neuro genesis. Cholesterol helps that. So don't be afraid of cholesterol, cholesterol is your friend.

enemy. And I know it's very hard, because it has been promoted for so many years, for the last 40 years that you should be on a low-fat, high-carb diet.

Maybe they didn't promote high carb, but when you remove all the fat from everything you're doing, you've got to eat something. People have ended up eating a lot of carbohydrates.

We have seen the health of America go down, down and down since 1970. Healthy oils. Things like fish oil and fatty fish like salmon. They increase BDNF.

And I told you, you'd want to get familiar with that very technical term. That's your brain fertilizer. I talked a little bit about statins already. In women, they increase diabetes by 48%. And if anybody here is on Lipitor, women especially, It had been shown not to do a thing to prevent risk of heart disease and death from heart attacks.

It doesn't do anything. There was a real sleight of hand by a pharmaceutical company that makes Lipitor to bundle together the data from men and women.

They did help some men cut down their risk for heart attack, but it didn't anything for women, and if that came out in the press, well, you lost 50% of the population, there goes 50 percent of their sales.

So they bundled that information and said overall it helps cut down risk of heart attack. So especially if you're a woman, you really increase risk for getting diabetes from your statin medication and it's not going to do anything for your heart health.

And like I said, increased diabetes means increased Alzheimer's disease. The last thing you want to is be on a medication that's going increase your risk So what about dietary fat?

We talked about carbs. Carbs have definitely been shown to increase risk of mild cognitive impairment, as well as Alzheimer's disease. So first of all, dietary fact, like I said, cholesterol is good brain food.

The other thing about cholesterol, is cholesterol turns into hormones. All those good hormones, estrogen, testosterone, DHEA, start with cholesterol. So without cholesterol, your hormonal status is diminished, and your brain doesn't work as well.

Being on a high-carb diet increases your risk of mild cognitive impairment fourfold. And they have done studies on young people who were subjected to memory tests.

When they ate high carb before their memory test, their function was way diminished. So this isn't even people with diminished function because of age and that sort of thing.

Cards directly diminish the speed of your brain function. Healthy fats, and we'll talk about what that means, diminish risk of mild cognitive impairment in half, it cuts it in a half.

You need to have plenty of healthy fats. And you need plenty healthy protein. I know there are Some very strong and convincing movies and information out there, like Forks Over Knives, convince people to eliminate all animal protein from their diet.

And what happens is, as a vegetarian, it could be quite difficult to get adequate protein. So we can see that having healthy amounts of protein will help to keep you from getting mild cognitive impairment.

The thing that's been found with Alzheimer's disease is people with Low dietary fat and low fish intake are associated with increased Alzheimer's disease.

The more healthy fats and the more fish that people took in, the lower their risk of Alzheimer by very significant amounts. So diet plays a critical role.

Whether it's mild cognitive impairment, losing some of your memory, or actually getting Alzheimer disease, And Amanda Middleman is our exercise expert.

She's here and in the back and she'll be talking to us about what we need to do as far as exercise to increase BDNF. So you nourish your brain, you make fertilizer for your brains when you exercise.

Excess body fat's a problem. The higher your body's fat, the smaller your you are producing inflammatory chemicals in your body fat. But the medical profession used to think body was just an inner type of tissue, that it didn't really do anything, it doesn't have very much of a blood flow, wasn't involved in our physiology that much.

And now we know that our fat plays a huge role in the physiology. In our body, particularly our mid-abdominal fat, we make inflammatory chemicals. So the silent inflammation I was talking to you about is fueled all over your body by your mid-abdominal fat.

And it has been correlated brain size on imaging with body fat, and the people with higher bodyfat had more brain shrinkage.

Exercise, body fat, sleep, and hormones

It's really imperative to start taking steps to reduce your increases BDNF, caloric restrictions. Caloric restriction has been studied for many, many years and has definitely been associated with slowing down the aging process and very significantly reducing risk of all chronic illnesses.

Chloric restriction is not an easy thing to do because the type of calor restriction that was studied was a 30% reduction in the calorie intake. it's not easy to do.

So we're going to give you some hints later on in the second part about how you can activate the same genes that get activated when you engage in caloric restriction, but without putting yourself through that amount of calorie restriction on a day-to-day basis.

Turmeric. Yeah, people heard about turmeric and its anti-inflammatory effects. The population in India has the lowest rate of Alzheimer's of any population group in the world.

And it is spelled out because of their very high use of turmeric in cooking. It's a spice they use frequently in curry. Turmeric is a very strong anti-inflammatory, and we use it for people who have joint inflammation as a safe antiinflammator.

But turmeric not only has antiinflammatory processes or effects, it increases your BD and F. So there is that term popping up again. It is brain fertilizer, and it's part of our new brain food product.

And sleep, this is the part that was left out of your handout, so you want to take some notes on this. Sleep is a foundation of good health, sleep governs tremendous number of processes in our body.

It governs our metabolism. It governments our hunger and satiety. If you lack sleep chronically, you will be hungrier. You'll want to eat more, and you'll put on more body fat.

That's how it govern our weight. Now, it also governes our immunity. When you are short on sleep, your more likely to get sick. And it governance a number of other things like, creativity, our ability to respond to stress, Memory is affected if you're short on sleep and the speed of your brain function, your ability to think, how quickly you think is definitely impacted by lack of sleep.

There was a recent study that came out from England that looked at a week of asleep deprivation and it affected

700 genes. So you know what I was saying about epigenetics, you can either keep your healthy genes functioning and activated, or you could turn them off.

You can activate your unhealthy genes or keep them quiet. Lack of sleep activated 700 genes that increase people's stress, inflammation, it lowered their immunity and it slowed their metabolism.

Genes that govern all those things. Like I mentioned, sleep increases your hunger, it increases risk of dementia, and it decreases your immunity. And we'll talk some about sleep and what to do about sleeping in the second part.

I want to talk a little bit about hormones because hormones are also what we call neurotrophic. If you remember, I explained what that means. Neuro is nerves and trophic means helps it grow.

And I think of it as like a flower garden, like you plant a little seedling and you water it, and maybe get some rose food or fertilizer, you see it flower and become beautiful.

Your brain cells do the same thing, but you need to give it water and fertilizer and rosefood or whatever else you use on your plants to make the flower.

And hormones are also neuroprotective. That means keep your nerves healthy. Progesterone is definitely brain fertilizer. And there have been a number of studies that show that people who have had traumatic brain injuries, where it happens in football, they get a bump on the head.

It happens on a battlefield. Uh, it happened with car accidents. When you have a traumatic injury, depending on severity, you can get death of some brain cells.

It turns out that people, both men and women, who are given progesterone by intravenous within 72 hours of their injury, cut down the amount of damage that occurs to their brain tissue.

You know, that shows up on imaging techniques, MRIs and things. But more importantly, their function was improved over and above people who did not get projesterones.

So projesterone has been shown to have tremendous benefit in preventing brain damage and enhancing the function and growth of new baby nerve cells. And it may modify the progression in Alzheimer's.

Now, one of the problems, given the way the pharmaceutical industry is set up and the profits go, is nobody really wants to study progesterone very much because it's a natural substance.

You can't really patent it. So who's going to get the corner on the market? So all of the neuroendocrinology literature that I read is always saying, and so we need to find a pharmaceutical that will do this.

So they're looking for a Pharmaceutical agent that's going to do what we already have progesterone, what it already does. And progesterone has lots of other wonderful effects on our bodies.

But why would we want a pharmacotical when we can use progeterones? It's got to be one of safest hormones known to man or woman. So progesterone is wonderful brain fertilizer.

Now, this is a secret. Some of you, I know, know this because we work together. But vitamin D is not a vitamin. It's a hormone. And its chemical structure is just like any of the other steroid hormones, which are the steroidal hormones.

Those are ones that start getting manufactured with cholesterol as the first step. Progesteron. estrogen, testosterone, DHEA, pregnenolone, these are all steroid hormones.

Well, vitamin D is essentially a steroidal hormone. Low vitamin levels correlate with increased risk of Alzheimer's. And there is a cause and effect, because it's been found that people with higher intakes of vitamin, people always

say, well, how do you know it is not low, just because that's something that happens with Alzheimer's disease.

People that take in more vitamin D have a lower rate of Alzheimer. So people who are taking more Vitamin D in their diet. And we know that vitamin B has tremendous anti-inflammatory neurotrophic effects and neuroprotective effects.

learned a lot about this more than what the typical anti-aging doctor would know about, because I got involved learning about a condition called Burning Mouth Syndrome.

Have people here heard about it? You've heard of it. It is a conditions that affects anywhere from one and a half to maybe seven percent of menopausal women.

And it's 90% of people that have it are perimenopauseal and menompausal women, and it is the condition where you feel like the inside of your mouth has been scalded, like you drank something that was too hot.

And there really have not been good treatments for it. For some people, it gets so significant that it becomes a very significant chronic pain factor in their lives, prevents them from sleeping, enjoying food, socializing, and ends up being quite serious in terms of disruption to their life.

Although you can't see anything. It all looks normal. There's not a growth there. But it turns out it's a neurological condition. The nerves aren't functioning well.

And what I found in the course of doing our hormone restoration program is that a number of people with burning mouth syndrome had their symptoms go away with being on hormones.

So I started really researching the neuro It's neuro-endo-immunology literature. Pretty esoteric. Most doctors don't read it. You know, it's not the journal of the AMA or the New England Journal or Lancet.

It is pretty esoteric journals and societies that you have to be invited to join. I wanted to find out and go to one of their conferences, but it is by invitation only.

Buried in that literature is this information about progesterone and traumatic brain injury. Burried in there is information of the benefits of other hormones and how we actually make these hormones in the nerves in our brain.

The information that I ferreted out in order to understand the burning mouth syndrome, which is a neurological problem, is applicable to all of us in terms of maintaining our good brain function.

So testosterone depletion accelerates dementia in men. And we see that testosterone is important in regulating a protein that gets deposited in the brains of people with Alzheimer's called beta-amyloid.

We think that beta amyloids, we're not sure if it's there as kind of a bystander or if the brain decline, but definitely testosterone has been shown to help regulate that and cut down on the amount of beta amyloid.

And so there is some talk in this esoteric neuroimmunology literature about using testosterone to prevent Alzheimer's dementia and other types of cognitive decline which means thinking ability and decline in thinking abilities.

Again, they were looking for a drug that would mimic testosterone rather than actually considering studying testosterone and its effects. Estrogen for women we have known for many years is very important in the speed of our brain function.

And women who have their ovaries removed, if you have a hysterectomy before menopause and get your ovary taken out, you lose 15% of your brain speed right there.

Anybody had their ovaries removed before menopause? Because you're fighting an uphill battle. Then there's

estrogen replacement. Women on estrogen replacements frequently notice that their brain function improves.

Speed, focus, memory, all of those things are estrogen, protected by estrogen. And DHEA, dehydroepiandosterone, is a hormone that is our vitality, immunity, and mood hormone.

And we find that DheA helps new nerve growth. All of these hormones help new nervous growth DHeA levels naturally decline as we age. So by the time we're in our 40s, I don't mean older I mean, by the time you're in your mid-40s, your DHEA level is half of what it was when you were in you 20s.

And it keeps going down from there. This is a hormone that's really important for, like I said, energy, immunity, vitality, and mood, as well as protecting your brain cells and brain function.

The lowered levels that happen as people age are associated with memory loss and decrease in cognitive function, So that ends the first part, which went on a little.