Introduction to Alzheimeru2019s Prevention

Great. Good. Well, having this talk tonight and in November is apropos for a number of reasons, which I'll be getting to later on in the presentation.

There's a lot that we can do to prevent Alzheimer's, and Alzheimer is certainly one of the main things that's on the minds of people as we get older. It is a worldwide problem and there's a lot that we can do to prevent it.

So I want to share with you some of the things that I've learned as a result of having training with Dr. Dale Bredesen on preventing and stabilizing and in some cases, reversing cognitive decline.

the things that I've learned over the course of treating neuropathic pain conditions that also have to do with many of the same things when we address cognition.

So with that, I will start my slides going. Let's see. I'm going to screen share here and show you my slide. Like I said, this is Alzheimer's Awareness Month in November, and so we thought it would be good to take the opportunity to talk about Alzheimer and Alzheimer prevention.

Most of you I saw who entered and most of, you know, who I am and what I do, but for anybody who's new, I just want to talk to you a little bit about what restorative and functional medicine is because it's really a different approach.

And I think it is getting more widespread, more doctors who practice conventional medicine are getting aware of it. Some people are even interested in open to doing things differently, more like what we do.

So it's a pioneering field. It's only really come around, some parts of it are quite old and are based in things like traditional Chinese medicine and thousands year old medical systems and health systems.

But a lot of is new within the last 20, 30 years. It's scientifically based. We try as much as possible to implement treatments that have scientific studies to back them up.

Since a lot we're dealing with natural products and there are not billions of dollars behind it for development and testing, a lotta times there aren't large studies.

And so we use basic science and we used the studies that we have available. The approach includes lifestyle medicine, lifestyle changes, and natural solutions.

And I'm not opposed to using pharmaceuticals, but a lot of times pharmaceutical's either don't work as well or have a lotta side effects. So we try to use the best thing for the situation with the least side-effects.

Functional medicine also looks at the whole person. So when we're talking about cognition, we can't just be talking what happens from the neck up. Alzheimer's and cognitive decline is a body-wide illness.

There are many things in the rest of your body that contribute to what's going on in your brain. So functional medicine really unites the different parts of our body, the difference systems in our bodies.

We don't have somebody who just looks at the brain and somebody just who looks the gut, although there are specialists in those areas. Were always learning more and more about the connections between the different organ systems.

We're always trying to find the root cause of things. When I went to medical school, nobody talked about what caused disease for the most part. It just seemed like disease just happened to people.

Nobody talked why. I didn't have any idea why until I got into this field of medicine. And I'll talk to you about some of the roots causes are because when you know the real causes, you can either prevent it or treat it more effectively.

And this ends up being a deeper, more lasting approach. We also look at a lot of different things. So, conventional medicine, a, lot is looking at genetics now didn't always.

because how we process what comes into our bodies, the physiologic and chemical steps that take place in our body, significantly are governed by our genetics.

Functional Medicine Approach

What we know is that probably 20% of what goes on is genetic, but 80%, which is the bulk of it, is everything else that happens. All of the lifestyle factors, the environmental factors the stress factors and so even if our genetics are quote programmed a certain way there is a tremendous amount that we can do with our genetic to change how that genetics actually expresses itself.

And that field is getting to be understood more and more, and it's called epigenetics. So you may have the DNA. I have DNA for diabetes. My mother was a diabetic.

Her sister, who she was very close to, was diabetic, they were bad diabetics. They died of complications of their diabetes and I probably have the genetics, but my lifestyle is a lot different and my weight's a different, my diet's different.

And so I know that I have that risk and I need to work on it, it doesn't come easy. But I've managed to not become a diabetic, even though I had this really strong family history.

So you can see that regardless of your genetics there is lot that you could do to have things have a difference outcome. Conventional medicine a lot does not look at environmental factors, does look not at environment toxins, which we'll talk about in terms of Alzheimer's.

And except for a few doctors, gastroenterologists who know stress affects the GI tract, A lot of doctors do not understand the role of stress in our physiology.

And it's not just like you're stressed and you are worked up about something. It's like when that happens, there are chemical steps that happen in your body that lead to lowered immunity and increased risk of chronic illness.

So stress plays a biochemical role, not an emotional and mental role. So when I first got into functional medicine, I called it anti-aging medicine. It was 14 years ago.

I was mainly working with perimenopausal and menopause of women who were having problems with hormone decline. And so the things that were the most common issues that women came to me with was fatigue, emotional changes of peri-menopase and Menopas, low libido, weight problems, Then as things progressed, women said, my husband's got a problem, who can he see?

We've started taking men at the Sklar Center. We had men as patients for many years now. Then I realized I couldn't help everybody just by balancing their hormones.

There were other things that needed to be attended to, gastrointestinal issues, autoimmune disorders, We have patients with very complex and puzzling chronic illnesses due to Lyme, mold exposures, multiple viral reactivations, heavy metals exposure and toxicity.

Things got a lot more complicated as the years went on and I've been on a path to learning as much as I can. And in 2015, I met Dr. Dale Bredesen at a conference and had read his really landmark paper on I think it was 10 patients, nine of whom he reversed or stabilized their cognitive decline and pestered him until I got into his first training session, which was in Northern California.

So this is how we like to look at things in functional medicine. You know, when you see a tree growing, you'll see the trunk, the branches, and the leaves.

So those are the things that are obvious. And in medicine, those things are obviously cancer, autoimmune disorders, diabetes, thyroid problems, depression, Alzheimer's.

But what is underlying that? What's underground? what's at the root? And these are all the things, not all of them, but many of that we end up looking at when we're trying to figure out why somebody's not functioning optimally.

So we know that inflammation, which you can think of as a fire burning inside your body, causes a lot of chronic illness. So inflammation and the chemicals that get released due to inflammation are damaging to lots of parts of our bodies, our brain included.

We're all aware of it in terms of joint inflammation, we get joint pain if our joints are inflamed. If we're having digestive problems, chances are our gut is inflames.

Hormone imbalances are at the root of why a lotta people don't feel good. toxic environment, toxic relationships, poor diet, nutrient deficiencies. These are all things that can be the root cause of chronic illnesses.

And we look at all of them when we're addressing somebody with cognition problems. The conventional view of Alzheimer's, and we've seen this when request patients medical records, First of all, it's difficult to admit that you're having a cognitive problem.

That you don't remember things. You're embarrassed because you are forgetting things, your brain is not working right, not processing properly. So the first thing that happens is people delay seeking help because they don t want to believe it is happening, they do not want acknowledge it s happening.

They hope it will go away. And when somebody does end up going to their doctor because they think they have a problem, frequently doctors don't refer the patient.

They will do some kind of a mental status exam, say it looks pretty good, come back in six months or a year, because if they don' have anything that they can recommend to help you, and you come in back a new year and then they document, oh yeah, you've gone downhill last time.

So we'll send you to the neurologist and the Neurologist does some evaluations and says the up you know you're impaired.

Alzheimeru2019s Statistics and Conventional Treatment Limits

Maybe tries a medication a lot those medications don't do much and then says i'll see you back in six months and another six. And another 6 months, and we have gotten the records of patients who.

have gone through this process where every six months their cognitive decline gets documented, but nobody really does much to help them out. I think the Alzheimer's Association has changed their advertising, but in 2016, they said Alzheimer's is the only cause of death in the top 10 in America that cannot be prevented, cured or slowed.

I think at this point, the Alzheimer Association admits that there are definite steps that can be done for prevention. And we'll talk about that because they are generally recognized and accepted.

So these are some of the statistics and the statistic are staggering and overwhelming. Every 65 seconds somebody gets diagnosed with Alzheimer's or dementia.

And dementia is the term for your brain is not working right and you are not able to carry out your daily activities. Alzheimer's is a form of dementia.

There are many different forms of Dementia. there's vascular dementia that can happen when you have plaque in the blood vessels to your brain. So you're not getting adequate blood flow.

Um, there is something called Lewy body disease. They're a whole variety of different types of dimension, but certainly Alzheimer dementia is the most common.

Dementia starts in the brain many, many years before symptoms appear. And that's why it's so important at the first sign of a problem to seek help. Because by the time someone can't remember things anymore, is starting to show on testing that they're in decline, they have lost a lot of nerves in their brain, a lotta neurons.

Alzheimer's is the sixth leading cause of death in the United States. And the average financial burden is huge for families who need to have caretakers round the clock or have their loved ones in a facility.

It's financially draining and it's incredibly emotionally draining. And at this point, 46 plus million people are having cognitive problems, and it's expected to double in the next 20 years.

Six people in US currently have Alzheimer's. One in three seniors dies with Alzheimer or other dementia, more than breast and prostate cancer combined.

If you live to be over 85, congratulations, but you need to really work hard to keep your brain functioning well because one of two people, every half of all the people over age 85 have dementia.

So if you plan to live a long life, you really wanna work on your brand. Sometimes this is called the silver tsunami because as we're older, we have silver hair and it's expected to be a giant wave of Alzheimer's disease.

By 2050, there are expected, like I said, to 20 years to double, but by 2050 14 million people in America will have Alzheimer disease, how are we going to take care of them?

And it turns out women are at the epicenter. For reasons that are not totally clear, 65% of Alzheimer's patients are women. It may have to do with more longevity in women, and the longer you live, the more likely you are to develop Alzheimer or some kind of dementia.

And 60% caregivers are woman. So what's normally done? You go in, you say your brain's not working like it used to and the doctor says, prove it to me and they give you a test and maybe you don't do so good on the test.

And then they say, well, we're gonna give a prescription. Over the last, I don' know how many years, 20, 30 years there have been 246 drugs tested, six approved, One showed some benefit, although it was marginal benefit.

Most recently, a drug called Adulhelm has been approved by the Food and Drug Administration. And you may have read something about this. There was a committee of neurologists who did not pass on this drug because they thought it wasn't effective.

But the FDA approved it anyway. And there are a few problems with this drug. I'm gonna run through the list of what I have on the slide, but I'll update you on what, I just happened to read right before this talk.

So what Adelhelm does is remove amyloid. And you might've heard of amyloid. Amyloids is a sticky protein. All of us have it to some extent in our brains.

It seems that people with Alzheimer's have more of it. What has been shown over and over again with pharmaceuticals is that removing the amyloid does not improve cognition.

And for some reason, the pharmaceutical companies don't seem to understand that. This drug, Adelhelm, was found to remove amlyloids. One study showed people had some mild improvement in their cognition, two other studies showed no improvement.

And what we know about amyloid, the reason our brains make amlyloids is it's an antibacterial. It's like a natural antibiotic. And a lot of Alzheimer's disease we think is caused by viral infections that have gotten into our brain.

have crossed the blood-brain barrier, and our brain is trying to kill bacteria and viruses and produces amyloid to do it. So amlyloids not the cause. Amyloide is a result of our bodies trying fight an infection in our brains.

was only effective in very early stages of cognitive decline. The studies had mixed results. So one study showed some benefit, two studies showed no benefits.

Did not seem to slow the progression of decline, and what we do know is Alzheimer's seemed to have this inexorable march toward decline and getting worse.

It has some very significant side effects, in 40% of the people that use it. brain swelling and inflammation, which can be serious and require hospitalization and bleeding into the brain.

Not minor. It's given as a monthly infusion and it's priced at $56,000 per infusio. And what's happened, and I've got a typo here, it should say will cause everyone's Medicare rates to increase.

There was a report in the LA Times that Medicare Part B is going to have a 15% increase starting next year. Half of that increase, or 7.5%, was directly linked with this medication, and they anticipated widespread use of it.

What's since happened and what I read right before our talk is that there were phase three trials, which is the last stage of testing a medication for effectiveness before it goes to market.

And the, the two drug companies that were holding the phase three trials, just abandoned them for what's called futility, meaning the drug is futile. It's not doing anything.

So the company stock just plummeted. Some other company is coming in with another similar drug to see if they can like snow all the FDA and everybody into approving that one.

And so that's the status of pharmaceuticals. and Alzheimer's, I'm gonna show you some things that really do prevent Alzheimer disease that need to be part of public health efforts.

So the billions of dollars that drug companies are putting into drug development really need be directed elsewhere. Our approach to Alzheimer's and any cognitive decline is again, to look at root cause analysis.

Does someone have heavy metal toxicity? We had a patient with very high mercury.

Root Causes and Public Health Prevention

It had caused a lot of cardiovascular disease and cognition problems. And we were able to treat him for his mercury toxicity and as well as doing other things and improve cognition.

There are genetic factors. So there are genes that predispose people to Alzheimer's disease, the APOE4 gene. And people who have one copy of it, who along with the one APoE for gene have AP0e3 or APoe2, are probably at about 15% increased risk of Alzheimer.

Some people have APOE-4, two copies of it, which really can significantly increase risk of Alzheimer's. For those people, and increased risk for cardiovascular disease, those are the people that really need to work on lifestyle, hormone optimization, elimination of toxins, everything they can do to optimize their brain function and remove all possible things that can impair it.

We have biochemical individuality, which is partly determined by our genetics, how we process things, How much B vitamins do we need? How well do detoxify hormones, toxins and other things?

Lifestyle factors that we'll get into. environmental factors we'll also get into and like I said, the role of stress. So the same things that we do throughout functional medicine for anything that somebody comes to us about, we also do in our approach to Alzheimer's.

A new view of Alzheimer is that it's definitely preventable. It can be stabilized and we have had a number of patients who have remained stable and not declined at least.

and possibly reversible. Some doctors working in this field have actually been able to significantly reverse cognitive decline. And we did in one patient who had significant mercury toxicity.

Like I mentioned about amyloid, it's a protective response to bacteria and viruses. So no point trying to get rid of it. That doesn't make people better.

Also, we know that Alzheimer's is caused by, among other things, metabolic and toxic damage. What does that mean? Blood sugar. You don't have to be a diabetic, but if your blood sugar is higher than it should be, you are putting your brain at risk.

Toxic damage comes in many, many forms, from biotoxins like mold, to inorganic toxins like metals, air pollution, which increases Alzheimer's. And like I said, the main thing is to address things as early as possible.

Like I've said before, it's not a brain problem. It's a whole body problem So I mentioned public health initiatives. If we took the billions of dollars that were put into Alzheimer's drug development and put it in to the things that I've listed here that could prevent 50% of Alzheimer.

What a win that would be. So people with higher education have less Alzheimer's. They have what's called greater cognitive reserve. It's like you've got more money in the bank.

If you start to lose a few pennies, you still got a lot of money to work with. The same thing happens with brain power. A good education, higher-education, lifelong learning, all of that's really important.

Smoking, I would say, for the most part, there have been great public health efforts against smoking. So smoking, except in a few pockets here and there in the US, is a lot.

People know that it's something they should not do, that's not good for them, and it causes lung cancer, causes Alzheimer's as well. Physical inactivity, not moving your body, no exercising, as a risk factor.

And we'll talk about why later. Obesity is a risk factor. The more body fat you have, the smaller your brain. So it increases your risk of cognitive decline because of brain shrinkage.

High blood pressure because increased risk plaque and arterial disease so you're not getting the oxygen and blood flow to your brains that it needs. Diabetes, like I mentioned, sugar is toxic to your brain.

So even if you're not a diabetic, you are a pre-diabetic, and you have many times during the day when your blood sugar higher than it should be, that excess sugar will attack the nerves and the neurons in your brains and damage them.

And the other thing we know is that depression seems to be associated with Alzheimer's. And I'll show you later a little map of the brain and how the memory center of their brain is very close to the emotional center.

So we don't know if it's cause and effect of depression cause Alzheimer, but it seems like when one part of that carries memory, which is very close to the emotional part of the brain.

If nerves start getting damaged, they may very well get damaged in both parts at the same time. So everybody wants to know, you know like, when should I get worried?

Like I forgot where I put my keys, like should i get start any worried now? So there are certain definite risk factors. So if there is dementia in your family, you may carry one of the genes and it's possible to test people to see if you have the APOE4 gene.

Like I said, if have diabetes, it is very important to get your blood sugars under control. People a lot rely on medications, but really lifestyle, which is exercise and diet is the most effective way to do it for most people.

If you have an inflammatory, a chronic inflammatory disorder like rheumatoid arthritis, that inflammation in your joints also puts you at increased risk of brain inflammation and cognition problems.

A history of cardiovascular disease, which I've mentioned a couple of times, if the blood vessels around your heart have plaque and the flood flow is not optimal to your hear muscle, you may be also having a similar process going on in the brain.

Perimenopausal and menopause of women are at increased risk and having had head injuries. And we used to think that somebody had to have a flat-out concussion with loss of consciousness and feeling dizzy and disoriented for days to really be a significant traumatic brain injury.

We now know that much lesser bumps on the head can be additive. And each time you get a bad bump on your head, your brain gets inflamed for a while. Some of that inflammation may not get turned off.

episodes, if you have repeated head trauma, those inflammatory episodes are additive. And we've certainly seen that in our athletes, boxers, football players.

So when should you be concerned? If you have brain fog, it doesn't mean you're getting Alzheimer's, but it can indicate that your brain is inflamed. And we see lots of people who with the perimenopause transition start having brainfog where it just feels like you are slogging through molasses, like, you aren't quick and sharp and to the point And so inflammation is a contributor to Alzheimer's.

Just because you have brain fog doesn't mean you'll have Alzheimer. But one of the things that we know with menopause is we lose estrogen and estrogen along with some of our other hormones.

keep down the inflammatory chemicals. And since COVID, everybody knows what cytokines are. Before COVID if I had said cytekines, you wouldn't have known what I was talking about.

But now you know, cytakines our inflammatory chemical. In COVID they get very active in the lungs and cause the lung problems, the severe lung problem.

Well, citakine are all over our bodies. Cytokines also are in the brain and can contribute to brain fog.

Warning Signs and Risk Factors

If you find that you are more forgetful, some people have attention disorders. You know, I always joke about my husband. I met him when I was 24 and he never could remember where he put his keys, his wallet, and his glasses.

So he finally actually got better over the years because he figured out a system. So, he knew where he put those things. Some people have attention issues, but if you're not one of those people and you are now starting to misplace things frequently, that can be a warning sign.

Memory lapses in the middle of a sentence. I think we've all gone, now, where was I? But the question is, is that happening a lot? for getting where you park your car.

Again, it can be an attention issue. Did you pay attention to what floor you, or did you just drive around and around, and up the different levels of the parking structure until you saw a space and then walked into the mall and didn't

really pay any attention on what you were on?

If it takes longer to learn new things. And if you find you have brain fatigue while you're concentrating, like trying to read a book, follow a movie, or follow up plot on TV, that can be a sign of brain inflammation and cognitive difficulties.

People who have a high state of inflammation in their 20s, rather 30s 40s and 50s are at increased risk of Alzheimer's regardless of what the cause of that inflammation is.

I would say the main point I wanna get across is doctors should not be telling people you're too young to worry. We've seen cognitive problems in people starting in their 50s, even earlier sometimes.

Don't write it off to stress, don't right it up to age or a senior moment. If you're having problems at least get evaluated. Then you can find out is your brain working okay or should you need to do something about it.

Here is. A picture that I was talking about the emotional part of the brain and the memory part. So the amygdala, which is down here at the bottom. I don't know if you can see my little arrow.

This is the fear and emotional center of brain. It's inside the break, not on the outside. All of this is outside which registers where our arms and legs are, and if we're having pain on one side of our body or the other.

But here in the center of the brain is the fear and emotional center, the amygdala. And it's right next door to this U-shaped structure called the hippocampus.

Hippo is a Greek word for horse. Somebody thought this looked like a seahorse, so they named the structure the Hippocampsus, But you can see why if there is something causing nerve degeneration in this area, it very likely could affect the memory center as well as the emotional center.

Here's what happens to somebody's brain when they have severe Alzheimer's. There is severe shrinkage. You literally lose tissue, you lose nerves, they degenerate, and they die.

And then your brain can't function or can function well. So we have this wheel of activity of things that need to be addressed to keep your brain healthy.

Sleep is at the top, then comes stress reduction, your diet, you exercise, what you're doing to train your and keep it active and vibrant, removal of toxins from your environment and your hormone and metabolic issues, all of these things play a role in optimal cognition.

This is how we want people to eat. I found this picture and to me, it looks like a Renaissance painting. And I think it's beautiful and it has fruits and vegetables and multicolored vegetables.

It has fish and eggs and sardines, all kinds of things that are good for us. So you wanna eat a beautiful rainbow-colored palette of vegetables You do not want to eat these things.

And when we used to give these talks in person, I would say, you don't want eat like this. Some people would go, mm, that looks good to me. Unfortunately, the standard American diet, these foods have been promoted.

These foods had been promoting. There have added additives put in them to get us hooked on them. What you want do is really fight eating this kind of diet.

This is carbohydrates, chemicals, lots of sugar. I mean, there is some dark chocolate down there. That's okay, a little bit of dark, but for the most part, these are calories that do not carry nutrients and nourishment for your body.

They don't have vitamins, they don' have minerals, They do have antioxidants. And so if you eat like this, you're really lacking. Then I tell people they're supposed to eat colorful foods and they say, well, these donuts are very

colorful.

But anyhow, These are also full of carbohydrates and sugar. So as I said, sugar damages brain tissue and you don't have to be a diabetic to have it cause problems.

Sugar is inflammatory. There are some people who notice that when they eat sugar, their joints hurt more. Women with hot flashes sometimes notice their hot flash gets worse.

That's an inflammatory reaction. So sugar is inflammatory and you really want to reduce or eliminate sugar. Like I said, diabetics are at increased risk of Alzheimer's disease and This is like the fourth time I've mentioned it, but I'll say it again.

You don't have to be a diabetic if your blood sugars are not in the optimal range, which is a fasting blood sugar of about 75 to 85 and a hemoglobin A1C below 5.7, then you're increasing your risk if you don' do something about that.

Healthy fats are important and We a lot encourage people to get their fats from vegetable sources. Grass-fed beef and dairy are okay because there are a lotta omega-3s in those saturated fats, but there's a lots that you can get from avocados, avocado oil, nuts, seeds, coconut, olives, and olive oil.

Your brain needs fat to function optimally. Two thirds of your brain is made of fat. And like I said before, lots and lots of vegetables, a beautiful colored array like this.

Other things you can do. So having a 12 hour window, which people are getting more and more aware of intermittent fasting, and there are lots of ways to do it.

But having 12-hour window between when the last time you eat in the evening and the first time eat the morning allows a number of things to happen. It allows your insulin level to go down.

it allows you body's growth hormone to work better.

Diet, Blood Sugar, and Hormones

And the other thing is having your supper at least three hours before you go to bed. When you eat close to your bedtime, your insulin gets released to help utilize the food that you're eating and metabolize the foods that your eating, and insulin interferes with growth hormone.

Growth hormone is naturally produced by our bodies in the first half of the night that we sleep. So if you have a meal close your bed time, You get insulin released to help metabolize all the food that you've just had and insulin interferes with the action of growth hormone.

And so you will not get the full benefit of Growth Hormone. What is Growth hormone? It's called Growth hormones and people have gotten scared about it.

They hear about bodybuilders who use it and there have been associations between growing cancer and Growth hormones. Growth hormones does not grow cancer.

Growth hormone should have been called healing hormone. It heals your body. People, and we use peptides that encourage your bodies to make more growth hormone while you're asleep.

People's cognition often improves when they're on those peptide. So growth hormones helps cognition. It helps your physical resilience. it helps you build muscle, which then helps reduce body fat, helps utilize carbohydrates that you eat and lowers your blood sugar.

Growth hormone has a number of different ways that it acts in our bodies. I used to make fun of Suzanne Summers

before I got into anti-aging medicine and I was like, you know, who's going to take medical advice from Chrissy from Three's a Crowd?

But Suzanne Somers really publicized the issue of menopause and hormones through her books. which her original book was one woman's story of what she went through when she through menopause and how she fell apart and learned to feel a lot better with the help of doctors who prescribed hormones to her.

So she has made it well known and I do appreciate the information that she's disseminated. And there are safe ways to use hormones. People are worried because they've heard about hormones and breast cancer.

They've heard about testosterone and prostate cancer. And there are safe ways to give estrogen and progesterone that mean using bioidentical hormones, which are hormones that are exactly the same chemical structure as what your body makes.

When you do that, there is not an increased risk of cardiovascular disease. As a matter of fact, it might be less. not an increased risk of breast cancer, and with testosterone, it's really a misnomer that testosterone causes prostate cancer.

There is not a relationship between testosterone levels and your PSA or prostate-specific antigen or testosterone level and who gets prostate A lot of myths need to be busted so that people can feel comfortable using things that are safe and very effective.

Like I said, bioidentical hormones are chemically identical in structure to what our bodies make. And this is a chemical representation of cholesterol, and cholesterol has a steroid ring structure.

So when we call hormone steroids, we're referring to the four rings that you see. Cholesterol is how the manufacture of all of our hormones start. So if you are working with a doctor who's trying to get your cholesterol as low as possible, you're losing out on some hormones because you don't have as much cholesterol to convert into pregnenolone, progesterone testosterone, estrogen, DHEA, and all the things that make us feel good.

We did a lot of education in the Bredesen group about estrogen and what it does. Estrogen prevents brain shrinkage. It dampens that brain inflammation, which is one of the causes of cognitive decline.

Your nerves communicate with each other. They have little feet that come out and attach to the next nerve and send signals. estrogen helps to improve those connections.

Estrogen slows down the degeneration of nerves, which is what leads to loss of cognition. And estrogen regulates plasticity. So what's plastic city? You know what plastic means?

Plastic is called plastic because it's malleable. Plasticity means malliability, changeability. Our brains are plastic. That's why we can learn new things.

That's why we can unlearn trauma and unlearning pain because our brains and the nerves in our brain are plastic. And estrogen regulates some of that laying down of new pathways that are healthier.

Estrogen increases our ability to detoxify the toxins that come in and affect our cognition. And estrogen helps to maintain brain speed. Very early on in my education in anti-aging medicine, I heard a talk by Dr.

Eric Braverman, who's a functional neurologist. And I'll never forget this. He said, women, and it's been shown in studies, who have their ovaries removed, so you have had a hysterectomy and you had your ovary removed and its before the menopause time, those women lose 15% of their brain speed because they lose their hormones.

So important to maintain those hormones and not take out ovories unless it is absolutely essential. Progesterone does many of the same things, I don't wanna bore you, but progesteron, among other things helps to maintain a healthy blood-brain barrier.

This can be a porous, sometimes it's not a barrier, it becomes porus and allows viruses, bacteria, and toxins to get into your brain. So maintaining a health blood brain barrier is one of hedges against cognitive decline.

How do you do that? The gut-brain connection is a really strong one. And if you're having gastrointestinal problems, whether it's irritable bowel syndrome, inflammatory bowel disease like Crohn's or colitis, if your gut is inflamed, the chances are your brain is inflamed.

If your got barrier connections are not functioning well, which is one of the things that happens in these disorders, chances our your blood- brain barrier is not function well.

And as far as men go in terms of testosterone, low testosterone has been correlated with increased risk of Alzheimer's and by the same token, giving testosterone enhances memory in men.

And it's thought possibly to be one of the reasons that testosterone enhance his memory for men is men as well as women convert some testosterone into estrogen.

And it's not done in our gonads. It's done and tissues like the fat in your body, other tissues testosterone converts to estrogen. So some of testosterone's effects for men is probably due to the estrogen that gets produced in low amounts.

The earlier you act, the greater your chance of maintaining a healthy brain and preventing Alzheimer's in the first place. And what does that look like in terms of lifestyle?

It means getting regular exercise and. Why is exercise important? It does a lot of things. It regulates blood sugar and helps with toxin elimination through sweating and a whole variety of other things, but the main point of this slide is to show you that exercise stimulates the release of very important chemical called brain-derived neurotrophic factor.

And trophic means grow. And so this is like Miracle Grow for your brain. Everything that you can do to help raise your BDNF levels will help your bring.

So exercise is probably the best way to raise BdNf. And it strengthens the connections between neurons and keeps your brand healthy. Now, there's something called the Mousheimer's model of Alzheimer's disease.

They give mice a chemical that causes brain degeneration in a similar way that Alzheimer's does in humans. And they then can test the mice. So they found that exercise actually grew new brain cells and cleaned out debris from the brain so that new cells can grow.

What's the best exercise for brain health? probably aerobic exercise, but really anything that you will do regularly is so much better than not doing anything, even walking.

Aerobic exercises has been shown to increase BDNF, increase brain volume, and increase cognition. So you want to focus on getting your heart rate elevated.

High intensity interval training is one way to do that, where you do a really all out, push to get your heart rate up for 10, 20, 30 seconds a minute.

And then you back off and do a recovery. Then you do that again, you that multiple times. You can increase your heartbeat if you strength training on circuits, if keep going at a steady pace.

If you're walking, try to find hills to walk up. It's a little hard in Southern California, but we have Signal Hill is a good hill. And walking up hills will increase the intensity of your walking.

And you want to focus on challenging your body and trying new things because that is good for your brain also. So change it up. This is one of my favorite things.

Science scientists have discovered a revolutionary new treatment that makes you live longer. It enhances your memory and makes more creative. And it makes look more attractive.

Keeps you slim and lowers food cravings. Protects from cancer and dementia. Wards off colds and the flu. You'll even feel happier, less depressed and less anxious.

Are you interested? This is from a book called Why We Sleep by Matthew Walker. It's one of my favorite books of all time. Sleep will do all of those things for you.

Seven to eight hours a night. You need to prioritize sleep. Don't be so busy that you cut down on sleep for the sake of productivity, because I can tell you it will backfire in the long run.

Exercise and Sleep for Brain Health

Here we're gonna talk about some of the phases of sleep. In the first half of a night, I mentioned that you produce growth hormone. And growth hormones gets produced during the deepest levels of asleep.

You can see the cycle number one, how deep is shown by the graph. So here's a wake up here. And then you go down, down down into the deepest stages of deep sleep.

This is when growth hormone gets released. And you, the cycles are about 90 minutes or so. Then you come back out and you'll come up into REM sleep and REM Sleep is rapid eye movement sleep, and that's when you dream.

and then, you back down in to deep asleep. The first half of the night you have the most deep-sleep in the cycle. between 11 p.m. and 3 a. m. And this is somebody goes to bed at 11 and wakes up at seven, that's their eight hour window.

As you get closer to the morning, the REM sleep episodes get longer and the deep sleep episode get shorter or disappear. So what happens in non-REM or deep-sleep?

First of all, you release growth hormone. Secondly, waste products like amyloid get removed. There are other proteins. Tau is another protein. Basically, it's like a power wash for your brain.

Just like you accumulate waste product all day from your body, right? You use the bathroom, you get rid of wasteproducts. Well, your brains doesn't have that outlet, so it gets rid waste-product a different way.

And this is the really kind of creepy thing. but there are cells in your brain that actually shrink by 40% while you're sleeping so that your cerebral spinal fluid can circulate more quickly and carry out, carry away these toxins.

So you have major brain shrinkage temporarily during the night. This is non-REM sleep or the deepest layers of sleep. During this time, memories get filed away in long-term storage.

I think this is an error, the memories part. Forget that. Memories get stored in REM sleep, So REM sleep happens more the second part of the night. And there's another creepy thing that goes on with REM Sleep, which is that your body is paralyzed.

You are paralyzed from the neck down in REM Slee. Your muscles are totally relaxed. There are sleep disorders called REM behavior disorders where people are not paralyzed, from their neck, down and actually act out their dreams.

and can get up and literally attack their bed partner. So it ends up being a dangerous condition potentially. They can hurt themselves also. This is the time of dreaming.

Your eyes move, so it's called rapid eye movement sleep. And it's when memory consolidation happens. And so I must say, this slide is also wrong. I got things switched up.

Growth hormone is the other slide, and memory consolidations on this side. Sorry. Just realized that while presenting this, I've given this talk a number of times.

So how do you get enough sleep for optimal cognition? You want melatonin. If you're on your computer late at night, if you watching TV late night. You're your phone with the blue light, you are going to suppress your natural melotonin, which is your go to sleep hormone.

So turning off electronics an hour or two before you want to be asleep or at least wearing blue blocking glasses and they end up being kind of yellowy orange and the block out those blue rays.

Stop watching the news before you go to bed, okay? Like get your news in the morning so you have all day to process it and you're not all worked up when you got to sleep.

Keep your bedroom for sleep and sex only. Now, this is hard during the pandemic because a lot of people are working out of their bedrooms. But in general, try not to eat and do a whole variety of other things because it helps to train your body to know that when I get here, it's time to go sleep, Meditating, meditation has been shown in scientific studies over and over again to improve sleep.

So if you're having problems with sleep, that should be your number one go-to thing to try. The other thing that can be really helpful is Epsom salts in a bath.

And why is that? So Epson salts are magnesium salts and magnesium is really brain calming and it gets absorbed through your skin. The other thing that happens.

Okay. Did was I muted for a long time? Yes. Oh, somebody muted me. So let's see. How many slides back did I get muted? I'm so sorry. Just on this slide.

And it looks like maybe one paragraph worth of what you were speaking. It wasn't okay. Great. All right. Well, let me go back because I just saw when we try to mute somebody who enters, everybody gets muted, including me.

I Just saw that. So let's go that when you were talking about no news shows before bed. Watch. Oh, oh, great. Okay. It wasn't wrong. Right. OK. You want to train your brain.

Your brain is very trainable. And if you tell your brain like when you're in this room, this is for sleep. So that's why you want to keep your bedrooms for sleeping sex only and what I was saying is it's gotten.

a bit confusing during the pandemic when people have their home offices in their bedrooms and are trying to juggle a variety of things. But as much as possible, try to limit the time in your bedroom to sleep and sex, because that does help to train your brain.

When you're in here, it's beddy-bye. It's kind of like training a toddler when it is time to go to Meditating has been shown in many, many studies to be effective for helping sleep and helping insomnia.

And really, it should be the first go-to thing if you're having trouble sleeping. Epsom salt baths can be very helpful. They are magnesium salts. Magnesium and they get absorbed through your skin when you're in the bath and magnesium is very brain calming.

We have lots of people use magnesium at bedtime to help their sleep. It's non sedating, but it tells your brain to calm down. The other thing that happens with an Epsom salt bath is you get, you take a super hot bath, not super hop, it's just nice and hot.

And when get out, Your body cools down. And that is another signal to your body that it's time to sleep. That's why it is important to keep your room nice and cool.

The other thing is if you're having difficulty with insomnia, really important to get evaluated for sleep oxygenation

problems, because those for sure will kill your cognition, kill, your mood, cause diabetes, causes weight gain, caused cardiovascular disease, has hypertension.

So we have a fairly low threshold at the Sklar Center for referring people for Sleep Studies. One statistics I know, and I don't know if it's true for women or not, but for men, if you snore, there's a 70% chance that you have an oxygenation problem during sleep.

And if you witness your partner, not just snoring, but waking up with a cough or choking sound, they probably have had an apnic episode and their oxygen levels went so low that it finally brought them out of sleep with kind of like a start and a cost.

So if your witnessing that in your bed partner. They need a sleep study. Oxygenation during sleep is critical to good brain function. What about toxins?

Air pollution increases Alzheimer's risk. And now there are these ultrafine particles in the air. They not only get into our bodies, they get intracellular, They get inside our cells and they are very brain damaging.

So we have a problem in Southern California. You know, most of us live near freeways and there's lots of pollution. And I live down at the ocean near the port of Long Beach.

You know what's happening there. All those cargo container ships that are sitting out there, there's like 200 ships waiting to bring your products to you.

When they're out at sea, they all have their diesel fuel engines on and diesel is about the dirtiest burning fuel there is. So we have had day after day of unsafe air quality levels.

So what can you do? Use air filters in your bedroom. You know, you spend a third of your life sleeping, or you should. Use an air filter in you bedroom, and I'm really recommending air-filters everywhere you spent a lot of time because of the amount of pollution that there is.

Unless you live out in the country somewhere with this nice fresh air, lucky you. What about infections? So there are a number of infections that have been associated with Alzheimer's disease.

Like I said, many of them cross the blood-brain barrier, which is supposed to be impervious, but if it's not healthy, it has holes in it and things can cross over.

Antibodies. So if you have an infection of some kind, your body creates an immune response. That immune responses are called antibodies. They're our little fighting soldiers.

However, those fighting soldiers sometimes cross-react with brain tissue and will attack our own brain tissues. Periodontal disease, gum disease is a big risk factor for Alzheimer's.

And there have been the same bacteria that's in your gums found in you brain somehow gets up there. Herpes infections, Epstein-Barr, which causes mononucleosis, CMV, a cytomegalovirus.

These are all common viral infections. We all get exposed to them. Many of us have gotten these infections not in a full blown way, but the viruses are in our bodies.

And with age and the decline of our immune system, There are things we can do about it, but if your immune system is declining and you have viral infections in the background, they can start to become active and start doing damage.

Lyme and Lyne co-infections like Babesia, Ehrlichia and Bartonella all can get into the brain and cause dementia.

Toxins, Infections, and Mold Exposure

Toxoplasmosis is carried by cats. I was an obstetrician-gynecologist for many years and we used to worry about toxoplosmoses. For pregnant women, it's carried by cats in the cat litter box, because if women get toxoplasmosis, that causes fetal abnormalities.

It also causes cognitive problems. Chlamydia pneumonia is another common bacteria. it has been associated with cardiovascular disease, also with Alzheimer's.

What about stomach ulcers? You know, for a long time, it was thought that stomach Ulcers were caused by stress. And then somebody made the great discovery since caused, by a bacteria called helicobacter pylori or H pilari.

That bacteria can end up in your brain. Syphilis, of course, has been known for millennia causing dementia. That is very well known. And even in our modern era, people should still get checked for syphillis.

It's not common, but you really wouldn't want to miss that as a cause of cognitive decline because it's treatable. What we're seeing more and more is mold and mold toxicity, mold from water intrusions in people's either their house, their place of work, or even their cars.

And mold, when it grows, mold likes to have its own little territory. It doesn't want other molds encroaching, so it produces toxins called mycotoxins.

They're volatile organic compounds. And when we humans get exposed to those mycotoxin, they get into our bodies and can be very difficult to get rid of, and those can cause cognition problems.

just a picture of mold and yes, produces toxins that cause cognition problems. So signs that you might be living with mold. First of all, have you had water intrusions in your house?

It takes about under 24 hours for a water intrusion to allow mold to start growing. If you act on the water, immediately clean it up, open it and let it dry out, maybe you won't have a mold problem.

Most of us end up finding that we have a leak somewhere. We see a stain in the ceiling and then find out the leak's been going on for a long time. And in a particle board that many of have making up our walls or mold spores and they start growing.

So you might have a musty smell, you may have asthma symptoms and shortness of breath, which can happen with mold exposure, chronic cough, clearing your throat all the time.

You can get neurological symptoms like numbness and tingling, lose your sense of smell. It can affect your gastrointestinal tract. it can effect your sleep.

skin rashes, joint pain, mycotoxins, mold toxins can do a lot of different things, but most significantly in view of what we're talking about tonight can cause cognitive decline.

And I was at a retreat with Dr. Bredesen and a number of patients that were coming to be treated and one woman Getting out of her home and coming to the retreat out in India, where it was nice and dry and no mold started improving right on the spot.

And she ended up not going back to her Home until it could get fixed. I mean, she was gone for weeks or months. because she realized when she was in a dry, non-moldy environment, her cognition improved.

And we ask patients that a lot of times when we suspect a moldy the environment. Do you feel better when you go on vacation? I mean, people feel there when they're on a vacation for a lotta things, because they are away from their usual stresses.

But for things like joint pain and breathing problems and cognitive problems, do you fell better, when your someplace outside your home? That can be a tip-off that you may have mold in your house.

Getting rid of toxins is complicated. So a lot of toxins exist in the fat in our bodies. All of the environmental pollutants that are things like flame retardants, the things in plastics, pesticides, When those get into our bodies, they get held in body fat and they're very difficult to get rid of.

Sweating is one way to gets rid those things. Being in a far infrared sauna where you sweat is a way do it. Exercise with sweating is the way you do. A lot of toxins can only be sweated out.

Mold toxins, we give binders that adhere to the mold toxin and come out through the gut. A lot of toxins don't come out that way. You want to cut down your toxin exposure, so using safe, natural, non-toxic products at home, not the things that are on this slide like Mr.

Clean and Pledge. and all that stuff. They have a ton of chemicals. You can go on the environmental working group website, ewg.org, and they have whole list of safe household products to use.

And there's like vinegar and water and ammonia and bleach, things like that. Like you don't need all of these chemicals to clean adequately. You wanna eat organic produce and cosmetics.

So whatever you put on your skin, just like the magnesium from the Epsom salt is a good thing when it gets absorbed through your skincare. Your skin absorbs the bad things too.

Cosmetics have parabens in them that get absorbed into our bodies and do damage. You want to be sure that your cosmetics are non-toxic cosmetics Continue to use your brain.

And like I said, higher education and higher occupational level yield higher brain reserve. Everybody hasn't had that opportunity or for one reason or another couldn't.

But there are lots of things that you can do at any stage in life, like doing challenging brain activities, learning new things, learn an instrument, memorizing poems, maintaining your social connections are really important.

People who are bilingual, it seems to protect them against dementia by a number of years. But there are many things you can do. There are brain games we recommend.

reading and crossword puzzles. Reading is probably one of the best cognitive things you can do. This is called Brain HQ and it has been scientifically shown to reduce risk of dementia.

It's all of these online brain games haven't, but this one has. And you go to brainhq.com. They have a free version that you try and then there's a paid version.

That's more extensive. What about stress? Stress does a lot of things. It depletes your hormones which are brain protective. it can cause weight gain, moodiness, it creates silent inflammation which increases risk of all chronic diseases, heart disease, cancer, and Alzheimer's.

So we live in a stressful world. We're going through a pandemic that's added stress So it's imperative that you do something every day that will lower your body's physiologic response to stress.

So you may still have all those factors going on in your life. But if you one of these things every, day you will your cortisol level and lower all of the metabolic steps that happen when cortisol levels are chronically elevated.

Yoga has been shown to decrease stress, decrease inflammation, increase the plasticity or the ability to learn new things in your brain to set down new pathways.

Yoga increases BDNF. It increases antioxidants. Oxidation is one of the deteriorating processes that go on in our bodies and our brains. And it increases telomerase.

Telomerases is an enzyme that helps to maintain our telomeres, which are an indicator of longevity in

chromosomes.

Stress Reduction and Mind-Body Practices

This is a Kundalini yoga study. kriya is called the satta nama kria and you just go sat ta na ma and do that repeatedly and studies have been done on it.

And they took 81 people who were over age 55 and they had mild cognitive impairment, which meant they were able to carry on their daily activities, but needed a lot of AIDS remembering or people helping them remember writing things down so they wouldn't forget.

And, they, were assigned to this CREA. or a gold standard of some memory enhancement training, you know, how to remember things using mnemonics and stuff like that.

So the memory improved in both of those groups. But the short and long term executive function Meaning your brain's ability to plan, execute, and organize, which is one of the things that deteriorates with Alzheimer's, only improved with the Kundalini yoga.

There was decreased depression and increased resilience and increase blood flow to the brain with Kundalin yoga that didn't happen with conventional memory enhancement training.

Meditation. decreases cortisol levels, increases immune function, decreases inflammation, and improves blood flow in what's called the prefrontal cortex, which is the front of your brain where all of this executive organizational planning ability happens.

And improved memory testing. And then mindfulness-based stress reduction is another type of meditation. More stress in people's lives is correlated with increased mild cognitive impairment and Alzheimer's.

And mindfulness based stress-reduction, I showed you the shrunken brain with Alzheimer. It actually decreased the shrinkage in the hippocampus, which is the memories part of the brain in center of brain.

And it improves the connectivity between the front of the brain, which is the thinking and executive part and the memory part, the hippocampus. And this was, it did two hours of weekly lessons for eight weeks.

So it's two hour a week for 8 weeks, and then you practiced at home for 30 minutes a day. These people had brain changes that were impressive and reduced stress and an increased feeling of well-being.

And Tai Chi is a moving meditation. So if you're somebody that has trouble sitting still and focusing, Tai chi is beautiful, you know, smooth ballet like moving mediation.

And a lot of work has been done looking at Taichi. There is increase in brain volume, hippocampal volume. and again, the connection between the front of your brain and the memory part of the brain.

So lots of ideas for what you can do to lower stress, very important. So that's the end of the presentation, and I know there are some questions, so I'm happy to answer them.

I did find out right again before this, one of people in our reticence study group that there is going to be an Alzheimer's summit next week. That's one of those free online summits.

You can listen for free at the time it's being given, and then you can actually buy the summit if you want to listen later. And so if your request to get the slides from this presentation, it will have this link on it for the Alzheimer summit.

and you could probably also Google Alzheimer Summit Robert Lufkin, L-U-F-K-I-N. And text us if you are interested in getting a copy of the slideshow. Text 562-280-2191 and we'll receive that.

Give us your name, phone number, and email. Write info if like a of a slide show. We have an ebook called Boost Your Hormones, Boost your Brain. And if would like that, that's a free gift.

You type in gift, If you would like to be on our email list and are not currently put in list, and contact us for a consult if you're interested in a consultation.

And let's see, with that, I'm going to start looking at our questions. Let's say. Oh, what I think of Ozemp. So somebody wants to know what i think ozempic, which is a blood sugar lowering medication.

as it relates to Alzheimer's. Yes, so definitely some people actually call Alzheimer, you know, there's diabetes type one that usually happens in childhood.

That's an autoimmune disorder. There's Diabetes type two, which is generally a lifestyle, weight gain, poor diet, insulin resistance problem that happens in midlife.

Q&A and Resources

And some people have called Alzheimer's diabetes type three, because what happens is you develop insulin in the brain. So many of the steps that we recommend to take the 12 hour fast, the three hours between supper and when you go to bed, the exercise and building muscle are all to lower insulin resistance in your body, which also helps to low it in the brain.

Semiglutide is the generic name for Ozempic, and it is very effective at regulating blood sugar. It's expensive, but if you're able to get it, I think it's a great thing to use.

I don't know that it is a substitute for diet and exercise as far as Alzheimer's goes, Let's see, somebody had a question about learning a new language, and is this helped to avoid Alzheimer's?

Definitely. You saw the slide on being bilingual, cutting down Alzheimer, prolonging any dementia by four and a half years. Anything new that you learn, whether it's a language or an instrument, a game, or a sport, Any of these things is good for keeping your brain going in a healthy way.

A question about nootropics. So no tropics are supplements that help improve brain power. Somebody said, am I a proponent of no atropix or are they just snake oil?

No, they're not snake, oil. But what we found is, If somebody has underlying problems like mole toxicity, hormone decline, inflammation, those things are not gonna suddenly get their brains to start working well.

So what you wanna do is correct the underlying things, the underlining root causes that are keeping your brain from working optimally. And yes, nootropics can help your function better.

It's not a solution to everybody with cognitive decline, like I said, because you've got to correct some of these other things. But I would say it's just snake oil.

And I think it is worth a try. Let's see. Oh, and then people said that we lost the audio. So has everybody asked their questions? What did I do? Let me see, maybe we can.

Is there anybody who wants to ask a question by unmuting themselves or have we gotten through all the questions? Nope. Well, again, let us know if you'd like a copy of the slideshow.

The Alzheimer's Summit begins on Monday after Thanksgiving. If you like to get our free ebook, Boost Your Hormones, boost your brain. We're happy to send it to you.

And if you'd like to be on our email list, please contact us. Thank you for your attention. I know it was a long presentation, but I appreciate that you stayed on and stayed all the way through.

If you have questions later on, you can always get in touch with us, so thanks again and thanks to Riley for being here late. Everyone.