Base Hits 2021 Session Two: Autonomic Balance and the Brain
Week Two: Brain Fog with Dr. Tom Transcript

Hello, everyone. I want to say it's good to see you, and it's a new world. It's so unusual to not have an audience where I'm looking out at them, but it's nice to be with you. It gives me a sense of fulfillment that I'm doing something in the world. So, thank you for joining us. Thank you.

Tonight is about brain fog. If we talk about brain fog, I'll start with, where does it come from? And how come it just comes on out of the blue? And I thought to begin that topic and answering some of the confusion about that. Before I get to the questions, I'm just going to show you a few slides.

It comes from the premise, if everyone would do this, please, could you cross your legs? As long as you're not driving, but you shouldn't be driving during this, but cross your legs. I'm doing mine now. Cross your legs. Thank you.

Leave them like that for three hours, then stand up and run. You can't. There's not enough blood in your muscles for them to work the way they're supposed to. So, I'm going to share my screen and show you a few slides on this topic of where does brain fog come from.

The mechanisms that cause your brain to go out of balance, if I can use that kind of generic term, are almost always inflammation. And when you have brain fog, you're creating an inflammatory state. So, I want to show you something about this. Blood flow into the brain is tightly coupled with brain function and metabolic rate. The metabolic rate means the thermostat in every cell of your brain.

As you turn the thermostat down at night in your house in the wintertime, so the temperature goes down in the house while everybody is sleeping, and then it automatically kicks up in the morning before people wake up, so the house is nice and warm. That's your metabolic rate of the house. Your temperature is a measure of the metabolic rate of the house.

So, that metabolic rate of your brain is operated by, if you will, a dimmer switch. When it's dimmed down, just like the thermostat on the wall in your house for your heater, if it's dimmed down, there's not so much going on. There's not as much activity right now. And when you turn up the dimmer switch, then you get more brightness, you get more blood flow into the brain, you get more function out of the brain. Basic concept, but I'm going to tie it together for you.

So, here's a study where they took 15 celiac patients who had just been diagnosed, so they were still highly acute, highly inflamed. 15 celiac patients one year on a gluten-free diet, and 24 people that did not have a sensitivity to wheat. And they did SPECT scans.

A SPECT scan looks at how much blood flow is getting into your brain. And they looked at all 12 areas of the brain individually for all these people. I think it was 54. I think that was the number, 54 people. How's the blood flowing into area number one, and area number two, and area number seven, and area number eight? And they measured them separately.

What it looks like when there's not enough blood flow into your brain, it's less red, and thin, and yellow. And if there's less blood getting into your leg muscles, you get numbness, you get tingling. Same kind of thing. So, you're looking at a brain here who's been crossing its legs, inhibiting blood flow getting into areas of the brain.

Where the white arrows are, you're looking at the frontal area, the front of the brain. That's the area that controls anxiety and depression. And in the next one, you see there's arrows also in the back of the brain, that's called the occipital area, and that's where seizures come from.

So, when there's not enough blood getting into an area of the brain, it's like the dimmer switch gets dimmed down in that area. And if it dims down in the front of the brain, depression, anxiety, and brain fog. It's like, "I just can't focus. I just can't quite ... Why can't I do this?" That's the frontal lobes of the brain when you have a state of low blood flow, that's called hypoperfusion. It means lack of blood saturation into that area of the brain.

What did they find on these 54 people? No blood flow abnormalities were found in the healthy subjects that didn't have a sensitivity to wheat. But if they had just been diagnosed with celiac disease, 73% of them had at least one area where there wasn't enough blood getting into the brain. And the average was four areas out of 12. That's a third of their brain was not getting enough blood flow. These are people just diagnosed with celiac disease.

The celiac patients a year on a gluten-free diet, only one still had a lack of blood flow into their brain. So, this suggests that for those people who have a sensitivity to wheat, wheat is a trigger that dims down the switch of the blood flow getting into your brain. And that's technically called hypoperfusion.

Now, for some people, dairy is the trigger. For some people, soy. For some people, tomatoes. It just depends. When you have the sensitivity to a food that causes inflammation in the brain, then that inflammation will be the dimmer switch for blood flow into different areas. Remember, the average was one-third of the brain.

Everyone who had positive hypoperfusion, lack of blood flow into the brain, every one of them, it included the frontal lobes. That's where anxiety, and depression, and brain fog come from. So, everyone that had hypoperfusion had the frontal lobes, and the average was they had four areas on the brain. So, one was in the frontal area, and then the other areas.

So, it's not just anxiety, or depression, or brain fog. There are many other symptoms that can occur. Cognitive decline, memory. "Where did I park my car in the parking lot? Which parking lot am I in?" There are many, many different manifestations of this. The point is that there is a test that is done by some people called a SPECT scan. It's like a brain MRI, and it identifies how's the blood flowing in there. It doesn't tell you why any of this is happening, but we now know.

Dr. Daniel Amen, Amen Clinics, they're very famous for SPECT scans. They've done 50,000, I think it is. Last time I heard from him, it was 46,000, but that was a couple years ago. So, I'm sure it's up to 50,000 now, so they've got lots of information about what it means when this area, and this area, and this area have hypoperfusion. And then they test you for food sensitivities.

They have a pretty good functional medicine approach in looking to see why things are happening. A good friend of mine just went there and he sent me all the blood work they did yesterday, actually. And I saw this is really good. This is a comprehensive protocol blood test. This I would do differently. He's my friend. I said, "I would add this or this, but this is really, really good." So, that's the Amen Clinics, if you want to pursue hypoperfusion to see if there's a lack of blood flow into your brain.

Now, I'm going to give you a couple more concepts on this topic of lack of blood flow into the brain, hypoperfusion. It's a geek word, but it means lack of blood flow. The tissue is not being saturated. That's what perfusion means. It's not being saturated with blood the way supposed to, so there's a low saturation, hypoperfusion. That's what the word means.

They find that 75% of kids with autism have hypoperfusion. Well, that's no surprise, because autistic kids, their brains are not balanced and working thoroughly the way they should be. Some areas are

working really extensively, and some areas are not working very much at all. But three out of every four children with autism have hypoperfusion.

Well, how do you fix hypoperfusion? You have to figure out what's causing the hypoperfusion. Is it wheat? Is it dairy? Is it heavy metals like mercury? Is it toxic chemicals? Is it emotional stress? Where is it coming from? You have to do the functional medicine approach to figure out where it's coming from, but I want to show you this about autistic kids. This hypoperfusion is an indirect measure of diminished brain activity.

You cross your legs for three hours, you have diminished leg function when you try and walk. You can't walk, you have to wait until the blood gets back into your leg. Several studies reported the anatomical location of hypoperfusion, meaning where in the brain there's a lack of blood flow significantly correlates with autistic behaviors.

For example, in 30 kids with autism compared to 14 non-autistic, hypoperfusion, low blood flow into the area of the brain called the thalamus was observed in the autism group. Their behavior patterns for these autistic kids was repetitive behavior, and unusual sensory interests. They may like to pinch their skin, or they don't like to be touched. They don't like any sensory touch or it's the other end. But they've got some difference in sensory, what they feel, and repetitive behavior. They take the glasses, they put them here. They take the glasses, they put them here. They take the glasses and put them here. Just like that. Continued repetitive behavior. Well, those kids, all had a lack of blood flow into the thalamus area of the brain.

In another study of 23 kids with autism, low blood flow, hypoperfusion of the right side in the middle of the temporal lobes was found and then correlated with obsessive desire for sameness. Same shirt. They want to wear the same shirt every day. They want to eat the same food all the time. Whatever their sameness is. So, lack of blood flow into the brain.

Another area of the brain, when it had a lack of blood flow is associated with impairments in social interaction and communication. The point is, depending on what area of the brain is getting a lack of blood flow, that's the type of behavior pattern, or sensory pattern, or communication pattern you'll see in those autistic kids. And when you get more blood flow back into that area of the brain, that bit abnormal behavior pattern goes away.

And the same thing here is a study of 45 kids with autism, children with the highest degree of the left side of hypoperfusion. Those with the most hypoperfusion on the left side had the most severe autistic behavior. Whatever their patterns were, they were much more severe than those that didn't have a lack of blood flow on the left side of the temporal lobes or temporal area of the brain.

The point is, depending on how you cross your legs determines if your numbness and tingling is in your foot, or in your calf, or in your knee. It's the same in your brain. It's a lack of blood flow, so that you want to know ... All right, I don't really want to get a SPECT scan. I don't want an MRI, but I understand that there's a mechanism now, how food sensitivities can contribute to brain dysfunction. This is just another method by which food sensitivities can contribute to brain dysfunction.

I'm going to pull up some of the questions now and get started on those. Brain fog, it comes from the frontal areas of the brain. Every person that had hypoperfusion, wherever it was in the brain, it always included the frontal lobes of the brain. So, brain fog is a very common symptom along with, for some people, many other brain symptoms that they might have.

So, I'm going to tell you about a few things that can help with brain fog, but this is more about helping in the short term, but the message is, why do you have brain fog? Where is it coming from? You have to find out where it's coming from, because if you don't identify that trigger, and you take something that seems to help with your brain fog, that's great in the short term, but that trigger is going to manifest itself somewhere else. And we don't want that, so we need to find out where is it coming from.

Okay. First, gratitude. "No questions, but I'm ready to learn." Thank you, Dr. Tom. Thank you so much. Next one. "Thank you. Looking forward to the recordings. Due to the time difference, I cannot attend live. Thanks to COVID that we can now all connect online and still continue to grow and educate ourselves." Ines. Thank you, Ines. Very kind of you to say that.

"Will supplements have the same impact if taken when drinking a glass of wine with dinner? Does alcohol reduce the effect of the supplements?" That's a really good question. And the answer to that is it depends. If the alcohol that you're drinking creates inflammation in your gut, then yes, they will affect in a negative way the amount of supplements that you will absorb. The more inflammation you have, the poor your digestion and absorption in your gut.

But most people can have a minor amount of alcohol. The most common, most well studied is red wine. Not so much white wine, red wine. A glass of red wine has been shown to have many, many benefits because of the polyphenols in there. If you've heard me talk about polyphenols as a primary reason to talk about the rainbow diet, is because the colors, the colors of the rainbow, the many colors of the foods that you eat, those colors are polyphenols, and they are plant protectors.

So, whatever food you're eating. Tomatoes are red, that's lycopene. Broccoli is green, that sulforaphane. Cabbage is purple. What's the name of the polyphenol in cabbage? Oh, I walked right into that one. I don't remember the name of the polyphenol in cabbage, but you get my point. Red wine, the primary polyphenols are resveratrol. And it's been shown, resveratrol activates so many genes for anti-inflammation, cellular growth and healing. That for the vast majority of people, a little red wine is great for you.

Some people have a histamine sensitivity. And if they have a histamine sensitivity, they often cannot drink wines very well because of the sulfites, and whether they're natural or added to the wine. They can create an increase histamine reaction in the gut and in the body. And for those people, the histamine is an inflammatory trigger that will inhibit your absorption of the supplements.

So, for those people, if you notice that you don't feel good if you drink, if you have a drink, or you just feel off, or you've got brain fog the next day after having a glass of wine, then right now, not necessarily forever, but for right now, it means this isn't so good for you. Okay?

"What are your thoughts on using systemic enzymes for body and brain inflammation? Are they helpful or hype? Thank you." Really good question. No, they're absolutely helpful. Sometime this year, we're going to be doing an entire educational program on systemic enzymes and how beneficial they are. I just had a paper accepted for publication yesterday by the International Journal of Celiac Research, and this is a type of paper they've never done before. It took me over a year to write this and to revise it, revise it, revise it, because it's one of the longest articles they've ever had. It's a case study, and lots of graphs and test results in there.

One of the things that was really helpful for this 16-year-old boy, he had 17 of 24 antibodies elevated to his own tissue. 17 out of 24 to his brain, and his heart, and his joints, and his skin, and his gut, his thyroid, his adrenal. 17 were elevated at 16 years old, and this was why he had a failure to thrive. He wasn't growing. And we'll make the case study available once it's published. Everyone can read it if they want to.

To calm down that inflammatory cascade, it was a lot of work. But it's the same thing that we talked about. Just investigating where's the gasoline coming from that's causing the inflammation, that's pulling on the chain, and the chain is breaking at the weak link. I think you've all heard me say before. Pulling the chain, it always breaks at the weakest link. It's at one end, the middle, the other end. Your heart, your brain, your liver, your kidneys, wherever your genetic weak link is.

And the pull on the chain is inflammation. So, don't pull on the chain so hard. Reduce what's causing inflammation. And that's really important, so you don't pull on the chain to manifest that Alzheimer's

chain, or that breast cancer gene, or whatever genes you're carrying from your family history. The goal is to reduce the pull on the chain.

For this boy, 17 of 24 tissue antibodies were elevated. That was whoa. We looked at that and we thought, "I've never seen one like this before. This is great. All right, let's see what we can do here." And it took two and a half years, but part of the protocol was systemic enzymes. They can be very helpful, and we'll be talking more about that in the future.

"I'm 68 years young." Well, way to go. "I went gluten dairy free four years ago, thanks to your info, and weaned off of 25 prescription meds for rheumatoid in four months after 17 years of chemo." Wow, high five to you on that. Put it there. Way to go. "I still have fatigue some days worse than others. Could my gut not be totally healed yet? What's missing?"

Really good question. And when you're doing all the right things, and I assume you're taking some supplements also. But when you're doing all the right things, and you're just not getting the results, they're either something that's ... Some weird thing, like you've got copper toxicity or heavy metal toxins, something that hasn't been checked, or it's your microbiome.

A microbiome ... Let's see, you're 68 years young. You had 17 years, so that means from 51. So, from about the age of 50 on, you developed rheumatoid. Well, you didn't develop rheumatoid at age 50. You had the elevated enzymes for years beforehand with rheumatoid. It's 14 years beforehand. Those antibodies are elevated killing off tissue, killing off tissue, killing off tissue. And you don't feel any of that when it's happening.

You don't feel it until you hit a threshold. You've killed off so much tissue, now you're starting to get some symptoms. And depending on what the tissue is, determines what the symptoms are. It's called the spectrum of autoimmunity. The spectrum has been going on for a long time before you ever get any symptoms, and then you eventually get a diagnosis.

So, it's a really important point to understand that the mechanism has been going on with rheumatoid. The average is 14 years before you ever had a symptom. And then at 50 or 51, you started having symptoms. You got the diagnosis, and all the protocols they gave you were trying to deal with your symptoms. But you did 25 different meds over 17 years, and it didn't work adequately for you, because they were never looking at where's the gasoline coming that's being thrown on the fire, pulling on the chain, manifesting and your genetic vulnerability of rheumatoid.

They never identified the gasoline. You've started doing that in the last four years. You're off of 25 different prescription meds. Congratulations to you. What's missing? And the reason I went through all of that is because at 50 years of age, when you started having symptoms, 14 years of elevated antibodies to your tissue before that. So now, you're 35, 36. And probably a little earlier than that, it was going on, throwing gasoline on the fire.

And when you're throwing gasoline on the fire, gluten, for example, alters your microbiome. Any inflammation in your gut alters your microbiome. And who knows how great a gut you started off with in life. People that are born by C-section have terrible guts. They don't have the good bacteria in the concentrations they're supposed to. They have the bacteria of the hospital room, the emergency room where the C-section was done.

The bacteria is on the walls. The bacteria that is on the sterile gowns of the surgeon and the nurses. The bacteria that's on the table. The most common bacteria in hospitals is called Klebsiella pneumoniae. It gives you pneumonia. And many people that have compromised immune systems, they're exposed to klebsiella in the hospital, and then they can't fight it adequately, and they get a klebsiella infection and develops into pneumonia.

So, why am I telling you all this, because it's the microbiome that determines your vulnerability to these bacteria that we're all exposed to. And if your microbiome is an exceptionally healthy, and robust, and diverse with many of the different healthy probiotics in your gut, many, many different families. What happens is that you get better. But depending on what concentrations of the undesirable bacteria still there, determines how you feel.

Because some of you have heard me say before, 36% of all of the molecules in the bloodstream, over one-third, 36% of everything is the metabolites. Or my term for it is the exhaust of the bacteria in your gut. Bacteria produce exhaust. It's called metabolites. The metabolites go through the walls of the intestines into the bloodstream. One-third of all the small molecules in your bloodstream are the metabolites of the microbiome from your gut. One-third of everything.

Why? Because those metabolites are the messengers going to your brain and saying, "Make this amount of brain hormones called neurotransmitters." And saying, "Open up this blood vessel, so you get more blood flow flowing in this area of the brain." Your microbiome is controlling all of this in your brain, all of it. So, when you're dealing with brain fog, the primary place we have to work is not on your brain, it's in your gut. It's the primary place we have to work.

So, what you might be missing is rebuilding the microbiome. The Gut Zoomer is a really good test. Another one is GI/Biotics. We're about to get that test on our site. It's a new test. It's just come out in the last year. The Gut Zoomer and the GI/Biotics are the two tests that we are recommending now, most often.

You find out what's the diversity of your microbiome. How much of the bad guys do you currently have there? All right. So, I've got too many klebsiella as an example. What am I going to do about klebsiella? And then we have to give you the antibacterial that usually are effective against klebsiella. And if they don't work, you need antibiotics.

Well, I've heard antibiotics destroy or do damage to your gut microbiome. Yes, they do. And so, you need the antibiotics, and you can rebuild from the damage of the antibiotics. But sometimes you have to get rid of the bad guys that are down there first. And there's some things you can take while you're taking antibiotics that will minimize the damage.

Once you know what you're dealing with in terms of your microbiome, then you can determine how to go after whatever needs to be gone after. And we'll talk about rebuilding the microbiome here tonight. We have a whole session on it, but we'll touch on it here.

"Hello, Dr. Tom. I'm on a mission to put together my autoimmune puzzle and to find out the root cause of my two autoimmune conditions with the hope to reverse them. Way to go. Several months ago, I had a Gut Zoomer that indicated lots of inflammation in my gut." At which I was just talking about as a test to identify that.

"I've been following autoimmune protocol for a few years now and have eliminated all inflammatory foods since my last Gut Zoomer test. I had done a true cellular detoxing program for a year with not much results. I live a clean lifestyle and even do intermittent fasting every day. I've eliminated toxins in my personal care and household, but I have encountered a few obstacles. I recently learned that the metal disc in my chest, titanium tooth implant, and two huge polyester mashes in my body might be triggering my autoimmune conditions." True.

"In addition, the night guard that I've been using for 25 years is made of acrylic." You need to get rid of that. "The acrylic gets into my body as a TMJ specialist molds the liquid form of acrylic night guard in my mouth, and then I chewed away during the night. Detox 101 taught me that toxins must be removed from the body." True.

"Since the metal discs, tooth implant and polyester mashes cannot be removed from my body, I'm wondering if the acrylic toxic night guard could be replaced with a more natural therapeutic alternative." Yes, you need a biological dentist to answer that for you. But yes, I know there are non-toxic tooth guards that you can use. I'm just not an expert to tell you which ones.

"Also, is there any hope to reverse autoimmune conditions to prevent the development of additional ones by having these toxic junks in the body?" Yeah, of course. You just have to be on top of making sure that you're not inflamed. And you're doing a great job to identify the triggers that you can, but are you checking yourself for inflammation?

For example, have you done the Neural Zoomer Plus? That blood tests looks at 48 different antibodies to your brain. You have elevated antibodies to your brain, you got inflammation. And it's not just in the brain, it's systemic. Elevated antibodies to our own tissue are in, by definition, inflammatory. They're markers of inflammation, so there's something going on for you.

I would suspect, and I don't know, but I would suspect if you did the Wheat Zoomer and the Neural Zoomer Plus. That's usually the place to start. "Well, I've been gluten-free for 10 years." I understand. You still do the Wheat Zoomer, because so many people come back positive, and this test is not wrong. As long as you have adequate immune function, total immunoglobulins, this test is right on the money every time.

But then people are really surprised. "Well, I've been gluten-free." Yes, but are you taking WheatRescue or E3 Advanced Plus, the only enzymes on the market that I know of that actually work to prevent inflammation in your gut, anytime you go out to eat? "Well, no. No, I don't do that." Well, if you're going out to eat 50 ... No, what was it? 34% of everything.

Columbia University tested 5,624 foods. They sent 804 people out into restaurants. 804 people with testing equipment. And they went out into restaurants and they all tested seven items. That's 5,624 different foods. And what did they find of 5,624 different foods ordered off a gluten-free menu?

When the waitress walked away, they opened up their briefcase, pulled out the testing equipment, put it on the counter. When the waiter or waitress came back with the food, they immediately put the food into the testing equipment. What do they find? 34% of everything ordered off of the gluten-free menu is not gluten-free. 51% of gluten free pizzas are not gluten-free. And I love gluten-free pizza. 54% of gluten-free pasta is not gluten free.

Read the science. We don't like it, but that's fact. We went out to lunch today, and Marzi and I ... Marzi has a bottle of WheatRescue in the diaper bag, so it's always with us. She has in her purse. I've got it in the car. I also have E3 Advanced Plus in the car, so that if we're going out to eat, we always grab our enzymes and take them just before we eat. Because 34% of everything on a gluten-free menu is not gluten-free.

Well, I'm still going to order in restaurants. I want to live my life. And most of the gluten digesting enzymes out there don't work. They will work to reduce inflammation in the large intestine. That's three to six hours after you eat the food, but they do not work in the small intestine. That's two hours after you eat the food.

Food comes out of the stomach into the first part of the small intestine in 90 minutes to two hours. And any wheat residue that comes out of the stomach into the first part of the small intestine activates the inflammatory cascade right there in the first part of the small intestine called the proximal part of the small intestine. Activates the inflammation and activates leaky gut.

And every human that eats wheat, this happens. In every human. Or for some people, dairy. Or for some people, tomatoes. Or for some people, spinach or soy, it doesn't matter. Whatever the food is, it

activates an inflammatory cascade when it comes out of the stomach into the first part of the small intestine.

Now, to be clear, because I'm always quoted, so I have to be careful about what I say, the only foods that have been definitively shown to do this are wheat, dairy, soy, and yeast. Those were the four that were tested with cameras down in the gut to see what happens in the gut when food comes out of the stomach into the first part of the small intestine. It's called confocal endomicroscopy. They're the only ones that were tested, but the conclusion out of that was any food that a person has a sensitivity to can trigger the same response.

So, the only ones we know about for sure are wheat, dairy, soy, and yeast. Conclusively, you see it within five minutes of the food coming out of the stomach into the first part of the small intestine, you activate all that inflammation. And that inflammation creates the environment for a whole lot of bad bacteria to grow. And that inflammatory environment with a lot of bad bacteria can nestle in to the mucous layer lining. There's like a force field on the inside of the gut.

The gut is a tube, just a big long tube. And inside, there's a force field where the good bacteria live within the mucous membranes, the force field. And the bad guys aren't supposed to be able to get in there. But for whatever reason, persons, whatever their life habits or lifestyle was, they've got not enough of the mucus layer, too much of the bad guys getting in there, causing the inflammation, suppressing the good guys, and you get this battle going on inside your gut all day, every day.

For this person that's been working so hard on her rheumatoid and has based off of so many medications, congratulations to you, but there's likely something going on in your gut. Likely.

"Can you touch on the issue of viral infections, Epstein-Barr and brain fog that comes and goes with flare-ups?" Oh, sure. Sure. When you do the Neural Zoomer Plus, one of the 48 antibodies they look at is the Epstein-Barr virus. And so, you can find out if you're fighting Epstein-Barr virus, or herpes simplex one, or herpes two, or herpes six, or cytomegalovirus. They're all tested on Neural Zoomer Plus, because they're so very common.

It's just like any other elevated antibody in your brain. By definition, elevated antibodies cause inflammation. The inflammation is the dimmer switch, and the blood flow, the perfusion into your brain, and depending on your genetics, whatever part of the brain is going to be. If it's in the back of the brain, you get seizures. If it's in the front of the brain, you get brain fog, and depression, and anxiety. If it's the size of the brain, your behaviors can be different. It just depends on what area it is where it manifests.

How do you treat viruses? The primary approach in treating viruses that we've used, and I'm not a virologist. I know I'm not an expert, but we've done pretty good with these. Is to strengthen the immune system to lower the setpoint. I think I'm going to show you this slide. I don't think I've done this slide yet for so many of my presentations. I don't think I've done it in Base Hits yet, because I've just been talking more about this slide recently.

So, let me think for a minute. Oh, yeah. I gave a presentation in Russia. I just sent it in, and I talked about it in there. So, let me bring up. I think I've got it on there. Just one moment while I'm looking this up. And let's see here. Oh, this one is ... Okay. I don't think we need that one. We need this one. Let's see if it's here. It's opening up. So, let's see what we've got.

Do we have the slide I'm looking for? Scrolling, scrolling, scrolling. Nope. Okay. It's not in that one. We'll leave that open, though, because there's something else I might show you there if we have time. So, where else did I just give a presentation this week? Let's see. Where was I? Okay. Just one moment, please. I'll pull this thing up for you. No, it wasn't there.

I just gave a presentation earlier this week. Not the Russia one. It's another one. Let's see if this is where the slide is. No, it's not in that one. Okay. Oh, but this is a really good couple of slides to show you.

Because we're dealing with brain fog, and so we're dealing with brain function, so I'm going to show you a couple of slides here on this. So, let's find the share screen button. Let's see where this is. Just a moment. Here we go. Share screen, and we're going here, and we're going to bring this one up. We'll bring it on full screen.

This is from the Alzheimer's Association. This was last year, and they said, "One out of three seniors dies with Alzheimer's or another dementia now." It's one out of three. It's because the brain is the canary in the coal mine. And if there's anyone that hasn't heard that term before, coal miners, mid to late 1800s, they would take canaries with them down into the mine. A little cage on a swing.

And they listen to the birds sing in the background down the tunnel somewhere, they can hear the canary singing. When they couldn't hear the canary and somebody went over to check. If the canary had fallen over dead, they blew a whistle, everyone got out of there immediately. Because the Canaries were much more sensitive to methane and carbon monoxide that you can't smell, but it will kill you. And so, the canary in the coal mine would fall over dead first. The coal miners don't hear the canary singing anymore, someone checks it, blow the whistle, gets out of there, you save a lot of lives.

The brain is the canary in the coal mine in the human body, that it's going down faster than most of us realize. So, this topic of brain fog is very appropriate to this bigger topic of what's going on in our brains.

Between 2000 and 2015, in 15 years, we saw a decrease in the causes of death, 1% from breast cancer, a decrease of 7% for prostate, 11% from heart disease, 16% from strokes, 55% decrease in deaths from HIV, and 123% increase in deaths from Alzheimer's. There is no treatment for Alzheimer's. There will never be a treatment for Alzheimer's.

Because you don't treat the Alzheimer's, you have to treat the person and what's going on in the person's body. And this is the estimates in seven years. Now, it's only three more years from now. In terms of the percent increase in Alzheimer's, dementia by state, and depending on where you live, you can see what your state, the projections are of how quickly it's growing.

Not that 45% of people have Alzheimer's in the purple states, but rather that there will be a 45% increase in the number of people getting Alzheimer's in the purple states. That's really something. This one really caught me that came out last year from Blue Cross Blue Shield. And they showed us that between 2013 and 2017, just in four years, there's over a 200% increase in people being diagnosed with Alzheimer's between the age of 30 and 64.

Now, in four years, between the ages of 30 and 44, it's a 407% increase in four years. It means it's going like this, and it's really the pandemic that we all are beginning to suffer from more and more. And what we're focused on is brain fog here today, because that's what we notice. The symptom we notice.

Well, the brain fog comes because of inflammation, and the inflammation is what's causing all of this. That's why I think the Neural Zoomer Plus is such an important test for people, because you can't argue with these test results. You may not have a clue what to do about it, and that means you just have to learn. I mean, I've got a Brain Masterclass.

There's 80 plus videos of me talking about where's the inflammation come from in the brain? In your shower. You've got to clean the shower head, because of the amount of bacteria. It's in the shower head every time you take a shower. All these little things you have to learn. That's the Brain Masterclass. We'll give you a link to the Brain Masterclass here, but there is so much to learn as to the sources of the inflammation in your brain that people don't know. And they don't feel like a little brain fog once in a while, but that is so junior to what's going on in your brain already, but we noticed the brain fog, so we think that's what we should focus on.

The takeaway from all this is that the canary in the coal mine, your brain is under constant assault from conception to elderly, and we're losing the battle. I mean, this is what it's like when you hear this. It's

like "Whoa, what do we do with this? And how do we begin to understand where this degeneration is coming from?"

First step is what I was talking about with autoimmunity in general, it's a decade's long process. Now, this drawing was put together by Health and Human Services Advisory Council of health and human services about Alzheimer's. And if you notice, all the way on the left, the normal, unimpaired, completely unimpaired.

And then the next stage where the secondary prevention can occur is called the prodromal stage. Prodromal means beforehand. Indicators beforehand. And the prodromal stage goes on for over 20 years of inflammation in your brain, killing off brain cells, killing off brain cells, killing off brains. You don't know, because there's no symptoms that you notice. You just don't notice.

Then what happens ... So, if you do a blood test for somebody who's young, most of the time, they have a normal level of antibodies to the brain. There's a reference range, like between zero and 40. I'm making up the number, because it's different for every type of antibody, but there's a reference range.

When they have normal levels of antibodies to their brain, everybody has got some. Why? Because you're getting rid of the old and damaged cells to make room for the new cells to grow. And when you have a normal level of antibodies, you've got cell regeneration, you're building younger, stronger, healthier cells. Apoptosis means getting rid of the old and damaged cells. You get rid of the old ones, you're making new ones, everything is great.

But then we move into the city. We live a block off the freeway, so we're sucking fumes 24/7 all day, and every ... I don't smell anything, but if you measure, you're breathing a lot of particulate matter, especially diesel exhaust particulate matter that is in the air when you live close to a freeway. And you're breathing it in, and during this 20 year period of no symptoms, causing inflammation.

And then your body trying to protect you is saying, "What is this junk that I'm breathing in?" In this example that I'm giving you, or that I'm eating. Gluten as an example, or bacteria I'm exposed to because your shower head is old, and there's bacteria, colonies of bacteria in the biofilm inside the shower head, because nobody has ever cleaned it. What do you mean clean a shower head?

Well, the city waters got bad bacteria. Not to make you sick, but there's bad bacteria. Turn the shower off, and there's water sitting in the pipe all the way up into the shower head that's not coming through. And if there's bad bacteria there, the bad bacteria start colonizing, making more bad bacteria, more bad bacteria, more bad bacteria, and they produce a biofilm. It's like a polymer. It's like a plastic that protects them. And that's what the bacteria does in our gut. That's where antibiotic resistant bacteria comes from, is they produce these polymers that are like force fields that protect them. Well, your shower often has it.

Just google shower head and bacteria, and you read the science. I didn't know this. That's what my Brain Masterclass is about is all those little things. I think it's 87, but there's over 80 videos of me talking like this, but just one point at a time. You really dial down. "Okay, I did this one. I think I'll listen a little more today or listen to this next video. Oh, okay. I didn't know that. I didn't know that about houseplants. Okay, good, good. What's this? Oh, I didn't know that about Teflon pans. Okay, good." And you just go check, check, check, check, check, check. And you just keep working on it at your own pace.

When you cross the line of tolerance, meaning your body can't handle the food you're eating anymore without having an immune response, so maybe it's wheat. Now, everyone gets transient intestinal permeability when you eat wheat, but it's transient, it's not permanent. Until you cross the line of tolerance, now it's permanent.

And now, you make the elevated antibodies to wheat. That's called a loss of oral tolerance. Or if it's bacteria, you get exposed to too much bacteria more than your immune system can handle. It's a loss of

bacterial tolerance or viral tolerance. Or if it's an environment because you're living two blocks from the freeway, it's a loss of inhaled tolerance.

Or if it's EMF, electromagnetic pollution, because you're wearing the newest thing to put these little earbuds in that have a battery in them. You're not holding the phone next to year head now that you got the earbuds in. And you develop a loss of EMF tolerance. Or emotional stress, does too many intense things happening and you can't handle it anymore, you start making stress hormones, and you get a loss of emotional tolerance.

Or it's your structure and your joints are way out of shape, and you haven't taken care of your body. You're not exercising quite right, and you lose structural tolerance. Whatever it is, whatever type of tolerance you lose, that's in the prodromal stage where you don't feel any of this. You can't feel it.

But then what happens over 20 years, you progress. And I will skip that one. You progress over 20 years, and you get a breach of the blood brain barrier. Leaky brain. Like you get a leaky gut, you get a leaky brain. And the molecules in your bloodstream get into the brain that shouldn't, creating even more inflammation. And this is going on killing off cells, killing off brain cells, killing off brain cells, killing off brain cells for 20 years.

Until eventually, you move to the next stage of mild cognitive impairment. This will last for seven years. Now, it's like, "Oh, where did I put my car keys? What parking lot did I parked the car in at the shopping center?" Or, "Something is not smelling the way it used to." Which is what the smell test is about. If you look at the bottom one under mild cognitive impairment, it says hyposmia. That's a loss of the sense of smell.

That's why you've heard me talk about the smell test and how important they are to do, because there are 17 studies that say a loss of your sense of smell, a reduction in your sense of smell is the earliest biomarker of pre-clinical Alzheimer's.

Now, when you read that, 17 studies talking about pre-clinical Alzheimer's. You say, "What? What's pre-clinical?" It means before symptoms. "Really, there's markers that can tell me if I'm killing off brain cells before I kill up so many cells? I have symptoms of memory loss?" Yes. "Well, what's the biomarkers?" The Neural Zoomer Plus that I keep talking about again and again and again, and the smell test.

17 studies say this, the reduction in the sense of smell is the earliest biomarker of inflammation in the brain, in the memory center of your brain called the hippocampus. Why? Because the nerves of smell are the only nerves in the body. They go back in the brain with no filter, absolutely no filter. They go right back to the memory center of the brain. Why? Our ancestors had to recognize that they smell danger right away. Right away. They smell a saber toothed tiger, they better turn around and walk out of there quietly and quickly. It was a protective mechanism to save our life.

So, there's no screen for the nerves of smell called the olfactory nerves when they go back to the brain. The only nerves in the body like that. No screen, no filter, nothing. We know from our friend, Dr. Dale Bredesen, that the vast ... There are five different types of Alzheimer's, and the majority of Alzheimer's is called inhalational Alzheimer's. It's what you've been breathing for the last 25, 30 years that's caused the inflammation killing off brain cells, killing off brain cells, killing off brain cells. And nobody knows this.

Well, there are many doctors that do now, thanks to Dr. Bredesen. Inhalational Alzheimer's. And that's why mold has become so popular to talk about, because it's a primary contributor to inflammation in the brain and the development of cognitive decline in Alzheimer's. So, you've got 20 years of the prodromal period.

Now, once again, this graph ... Now, I put all the fire and other words in there, but this graph is from Health and Human Services. 20 years, and look at mild cognitive impairment, look at the drawing of the

brain. Now, you're seeing there's some gold in there or some yellow in there. Well, look over in prodromal, and you can make up, "Well, there's a little bit there too."

That's right. There was a tiny amount in prodromal, a little bit of inflammation and dead tissue, but it's not enough to cause any problems. That's non-symptomatic. That goes on for 20 years, and then you start having symptoms. So, you're getting brain fog. You've been on this path for 20 years, 30 years, who knows. Who knows how long, but if you're getting brain fog, I'm glad you're here tonight, because this is a wakeup call to identify how advanced is the inflammation in my brain right now.

Critically important you do that. The smell test is easy. It's a no-brainer. We'll put the link here to the smell test. And this is like a lottery ticket where you scratch the bottom there and you smell it. And they ask you, "Is it tomato, menthol, strawberry, or licorice? You Mark the answer in the blue there." Then you turn the page.

The next one, you scratch it, smell it. "Is it cherry, honey, lime, or whiskey? And you mark it in the yellow section here, the answer." Then you turn the page. And the next one. "Is that baby powder, tomato, chili, or cloves?" And you go through all 12 of them. And after the 12th one, here is the answer key. And so, you score it yourself.

If you score nine or less correct, you got hyposmia. Reduced sense of smell. You score 10 or more correct, don't worry about it, you're fine, check it another three years. But everyone should do this test. It's so inexpensive. The link will be here. And you'll see in the link that I've done a couple of videos about the test. I put five studies in there about the importance of your sense of smell as an indicator of early death, and as an indicator of cognitive decline.

And you read these studies, say, "Oh my god, I had no idea." And your doctor doesn't know about this, because he hasn't read those studies. And he's just been too busy just trying to keep you alive, right? But everyone should order this, I believe, the smell test and the Neural Zoomer Plus.

Most people, if we're lucky, we're identifying them in this stage, in the mild cognitive impairment. But if we can't get to them, if we can't get to them, this of course just progresses. The circle of these two areas of prodromal stage and the mild cognitive pair, this is where it's the easiest to save a brain and to allow a person to have great brain function into their 80s, 90s over 100, great brain function.

But when it progresses to mild Alzheimer's, and you see how much more brain tissue is inflamed and been killed off now, your symptoms are reading problems, poor object recognition, poor direction, a sense of direction. And then it goes to moderate Alzheimer's, and then it goes to advanced Alzheimer's, and there's not much we can do.

So, the goal is to get back to that earlier stage, if I can get ... Right there. That stage. The goal is to identify here. Is your brain on fire? And once again, the brain is the canary in the coal mine. You saw the numbers from Blue Cross Blue Shield of the four year increase percentage, 400% increase in diagnosis of Alzheimer's between 30 and 45 years old. It's like, "What? What?" This is what we're up against right now. So, let's get past all that.

That's just a more geeky slide about there's no symptoms for quite a while and then all of a sudden, you get the clinical symptoms. And MCI stands for mild cognitive impairment. But when you're cognitively normal, and you think you're fine, all of this inflammation is occurring. It's going on now there.

Okay. So, I can stop sharing, because I wanted to give you that big picture overview of what we're dealing with here and why the smell test and the Neural Zoomer Plus are so important to do, even when you think your brain is fine.

So, next question. "How does smoking affect the body's immune system and causing autoimmune diseases?" It creates so much inflammation, and the residue of the smoke sits in your lungs. You ever seen a picture of a smoker's lungs compared to a non-smoker's lungs? You can just google. Picture of

smoker lung and non-smoker lung, and just look. And you see all of that crud that's in a smoker's lungs. All of that garbage, the nicotine, but tars.

They're not inert. They're not just crud. Your immune system is actively trying to fight this stuff. This is a constant source of inflammation. This is like slow burning coals in a furnace. They burn for hours and hours and hours. The nicotine and the tars that are in cigarette smoke, they sit in your lungs and they're like coal. They burn for months and years. Little more inflammation, little more inflammation, little more inflammation, little more inflammation, and it just continues.

So, the environmental triggers that activate inflammation in your body are not always on the outside. There are a number of categories, the most common environmental triggers what's on the end of your fork. The next most common is what you're breathing. The next most common is your emotions and the stress hormones you produce. And then the next most common is all the crud that's inside your body. The heavy metals that have been accumulating. The phthalates, the chemicals have been accumulating. The tar, the nicotine from lung that accumulates. And all that stuff just accumulates in there.

Yeah, if you've given up smoking, it would be wise that you are on a constant awareness about detoxing. Not just once a year. Constant, meaning every day, you do a little something to help with detox pathways, depending on what your genetics show your weak links in detoxing are. I hope that answer the question for you.

Common. Gluten-free oatmeal is not gluten-free. That's a very common contributor to the cross-contamination, and gluten-free foods not being gluten-free. Bob's Red Mill oats, they put on the label gluten-free and they go out of their way. And there's another company, glutenfreeoats.com I think it is and Bob's Red Mill, which is a very large international corporation now, but they have taken measures to make sure there's no contamination in their gluten.

Okay, that is the question. Oh, no. Oh, there's the links, right. Anne has posted a number of links in here that you can see down below that looks like there's about 10 of them or so. So, I'm going to talk about some of the products now that we use, and we recommend for helping your brain function.

Now, I want to be very clear, these products do not reverse. How do I say this? There's a fire. You've got a hose pouring gasoline on the fire. Maybe it's wheat. Maybe it's another food. Maybe it's you live near a highway, whatever it is. And now, you're trying to take something to reduce the inflammation. So, that's a hose of water to put out the fire, but you got a hose of gasoline fueling the fire and a hose of water trying to put out the fire.

So, if I tell you what supplements to take to help your brain work better, that's a hose trying to put the fire out, which will help. But I don't want to hear 10 years from now, "I took your products for the last 10 years and my brain seems to work really well, but now I've got Parkinson's." Or, "Now, I got dementia."

I don't want to hear that, because you need to understand that the hose to put the fire out, the things I'm going to talk to you about are valuable, but you have to identify where is the hose of gasoline coming from. You must, or else it's like a dog chasing its tail.

I've looked for a video on YouTube, but I couldn't download it. A picture of a dog chasing its tail. It was kind of funny to watch that, but that's what we do when we keep living the same lifestyle causing the problem, but now we're just going to take some extra vitamin C, but we keep living this lifestyle causing the problem. And we think the extra vitamin C is going to stop all of this, and it's not going to do it. You've got to become your own Sherlock Holmes.

Unfortunately, you have to. And hopefully with the right guidance, you can do that. That's why I like my Brain Masterclass so much is because it just takes one thing at a time. I'll talk about homocysteine and then here's the things that you have to check for homocysteine, and then here's the things that will help

reduce homocysteine levels as long as you're putting the fire out. And then that's it for that video, and then the next video, and then the next video. So that you get the thorough explanations of all this stuff.

But now, I'm going to talk to you about what I take for brain fog, because our topic today is brain fog. This is Fog Cutter. I've never seen anything work as quickly as Fog Cutter. I just slip the cap off here, and I take four or five pumps. Swish it around. And within five minutes, people have come back to us at seminars. I give it to docs at seminar, give them a pump. They go listen to a speaker. The next speaker comes after ... It's an hour, usually for a speaker, but within 10 minutes, it was like, "Holy cow, I'm alert. I'm awake. What the hell is that stuff?" And I've heard that time and time again.

One doc said ... He looked for me and he came running over to me he said, "I went back into the lecture and I realized I was watching the screen and I wasn't wearing my glasses. I have not had to wear my glasses to see the screen in years, but I don't have to wear my glasses. What's in that stuff?" And you hear that again and again.

Fog Cutter, we'll put the link in here for you. It's a number of adaptogenic herbs. It's just a fabulous product that has no downside. Anyone can take it. There's no sugar, no added ingredients. There's a little bit of organic gravy, maple syrup in there, but nothing else aside from the adaptogenic herbs. It's very helpful for a short-term ease, quick fix. It is not going to deal with where the gasoline is coming from, but it's a good, big hose to put the fire out temporarily.

Next, Brain Bean. Brain Bean is a company that I'm in love with. The owner of the company, Dr. Michael Nelson, he's a brother from another mother. When we sit together at a conference, or now we talk on the phone, we're so like-minded in terms of looking at the science and looking at what works and doesn't work. And his products are, if I were a formulator making brain products, I'd be Dr. Michael Nelson. His integrity is so high. The quality of the ingredients are great. This is collagen, and collagen peptides.

I've had a problem for a number of years that I really couldn't figure out that my right heel would dry out. And my underside of my right foot would get dry sometimes and peel a bit. And sometimes, I get cracks in my heel because it was dried out. And it was only on my right side. I'm trying to figure out, "What the heck is this? Why is it only my right side?" Well, the right side moves forward in life and the left side just follows. The right gives, the left receives, all this weird stuff that I'm thinking about where it came from.

I just changed two things. I started making my coffee as Dr. Nelson recommended. And that is I put a scoop of Brain Bean collagen in my coffee, and I put a teaspoon of ghee in my coffee. And I put one pump of the MCT oil. Oh, I forgot to grab the MCT oil, medium chain triglyceride oil from Brain Bean. One pump of that. And within a month, my heels on both feet are perfect. It was a lubrication thing.

And this collagen is just marvelous. This collagen is for skin, brain, and joints. And they're the exact peptides in the quantities that the science talks about that works to regenerate healthier skin, regenerate healthier joints.

I did a lovely, lovely interview yesterday with an icon in the field for our Facebook Live, Ann Louise Gittleman. Just a brilliant, brilliant icon and leader in the mental or emotional side of the pyramid of health and how it affects our bodies and our spirits. And all the different things she's found over the years.

She has a new book coming out, so I interviewed her. The Facebook Live was yesterday. You go to Facebook and watch it. It was just brilliant. And at one point, she mentioned that she's 72, and I didn't say anything, but I thought, "My God, she's just two years older than me." And there's such a difference in our bodies.

I'm so glad that I've been doing the Base Hits. Base hits when the ball ... I've been doing Base Hits for 20, 30 years now, and I'm really glad to see the results, so it's never too late. It's never too late. You just start where you are and you start doing Base Hits.

So, with Brain Bean, so the Fog Cutter, I've got a bottle in the car, a bottle in my briefcase, a bottle at the house. I haven't traveled since. I'm so used to talking about traveling. I haven't traveled in over a year now, but I've always got my Fog Cutter with me. If I've missed a meal or really tired, it's been a long day, whatever it is, take a couple of pumps of Fog Cutter, ready to go.

Next, I talk about one of the things that we all need to do first thing in the morning, what most people do is go to the bathroom. The very next thing, drink two big glasses of water. Hydrate yourself every day. So, next thing you do. I put three things in my first glass of water and then take the second glass, and I do a glass, I do one of these.

So, the first one is with water, and then I put in Vitality C. That's the vitamin C I love to take. NeuroCardio Drink Mix and Neurogenesis Blend, and these are powders. And I put them in there with my Vitality C and got a little handheld blender. And I drink it down and then I drink my second glass of water, and I do that every day. Without exception, every day.

If I miss it in the morning because I wake up and got to do something, or Gio needs me or something, and I forget to do it, I notice it later in the day. I didn't take my water today, or I didn't take my NeuroCardio, or my Neurogenesis Blend.

That's the basics that I start with on my day. So, the first thing I start with from a supplemental perspective is the Brain Bean collagen, the Neurogenesis and the NeuroCardio. That starts my day, every day, unless I forget. And then I take other supplements during the day too, but that's where I start to give my brain the fuel it needs to start the day.

A question came in. "Is there any testing to determine sensitivities to supplements?" It depends on what type of testing you're talking about. For those that are very traditionally minded, which means blood tests, urine tests, that kind of thing, not that I've heard of. There are tests for different ingredients like polyethylene glycol and things like that, but they're not very common at all.

But there's other types of testing, muscle testing, electromagnetic testing, the instruments by [Bold 01:16:31] and others that can tell you this is good for you, this is not. And there are electrical instruments that look at the energy, and they compare it to your energy. It's not woo, there's really good science to all this stuff. I use that equipment for years in my practice, and I did muscle testing for years in my practice. So, they both can work, but I don't know of any blood tests or things like that.

"Please list the two powder blends Dr. T puts in neuro ..." Okay. So, the names again are NeuroCardio Drink and Neurogenesis Blend. These are the ones I put in and there's little scoops in there. Put one scoop of each with a scoop of Vitality C, which is 4,000 milligrams of vitamin C, and 2,000 milligrams of ribose. Ribose is the fuel for your mitochondria, so it escorts that fuel into the furnace of your cells to give you more energy.

I love Vitality C. Sometimes, I'll do two scoops of Vitality C. I put it in here with some water and I have a little handheld blender. Blend it and just drink it down. And then I'll do a second glass of water right after that. This concept of two glasses of water first thing in the morning is so important to start your day.

Okay. That's it, folks. That is all the questions, and this topic of brain fog. The takeaways from this topic. Do a smell test and do a Neural Zoomer Plus and find out what your level of inflammation is. Do the Brain Masterclass. I think it's 87. 87 videos of me. Some of them are five minutes long. Some of them are 12 minutes long, but it's just one topic, so it's not too overwhelming. You just listen to that one topic.

I talk about shower heads and how to clean them, and why, and show the studies for that. So, do consider the Brain Masterclass for that. You can do it at your own pace. And Neural Zoomer Plus, Smell Test, and Brain Masterclass, and then these supplements. Thanks so very much. Look forward to seeing you next time. Thanks again. Bye-bye.