THE MODEL HEALTH SHOW

EPISODE 769

# The Surprising Truth About Menopause & Lifestyle Changes for Menopause Symptoms

With Guest Dr. Lisa Mosconi

**You are now listening to The Model Health Show with Shawn Stevenson. For more, visit themodelhealthshow.com.**

**SHAWN STEVENSON:** On the surface, we might vaguely be aware that the female brain and the male brain have some notable differences. We might think differently, we might function and act differently, but on today's episode, you're gonna discover how our brains themselves functionally the activity of our brains are very different between men and women. We have neuroscientist, Dr. Lisa Mosconi here on this episode to talk about one of the most important aspects that is simply, simply not talked about enough. There's not enough education about this subject matter which is the changes that happen specifically in the female brain when shifting into menopause.

And this is something that every single person: Everybody, if you, if you are a woman, if you know a woman, you need to know this information. It is so powerful. It really is a game changer. And it's something that, again, most of us have no idea about. I'm so excited to share this. This conversation is powerful and enlightening. And also there are some really valuable tips, tools, and insights to apply in your life or to support in the lives of the people that you care about. So, that this transition, this remarkable change that happens in the lives and in the brains of every woman. These insights can be so helpful in making this transition graceful and also, and this is what you're going to find out today, make life even better.

You're going to learn what menopause actually is and how it impacts the brain. You're also going to learn about some surprising facts. About hormone replacement therapy and you're going to find out some of the science behind does lifestyle Factors really play a role in how people go through menopause So we're going to talk about all of that and one of the most interesting parts of this conversation is Looking at how a person's mindset and cultural beliefs around menopause Impact their health and is profound again.

This is coming from a world renowned Neuroscientist. So really excited about this episode. And before we get to our special guest, let's check out the Apple podcast review of the week.

**ITUNES REVIEW:** Another five star review titled a found spawning knowledge by Zippo flask. Every episode I listened to gives me more and more insight on the human body and the human condition. Shawn Stevenson, as well as his guests serve communities worldwide. As a man of color is refreshing to see someone who shares the passion for health, wellness, and personal growth. As he does each time I listen, I'm amazed by the practical, but mind blowing information that he provides. Kudos to you, sir, you are a font spouting knowledge.

**SHAWN STEVENSON:**Thank you so much for that acknowledgement. And thank you for leaving this review over on Apple podcasts. I truly do appreciate that. And if you get to do so, listen! If you get to do so, please, if the model health show has brought some value to your life, pop over to apple podcast and share your voice. It would really mean a lot.

And without further ado, let's get to our special guest and topic of the day. Dr. Lisa Moscone is an Associate Professor of Neuroscience and Neurology and Radiology at Weill Cornell Medicine and the Director of the Women's Brain Initiative and the Alzheimer's Prevention Clinic at Weill Cornell Medicine.

A world renowned neuroscientist with a PhD in Neuroscience and Nuclear Medicine from the University of Florence in Italy. Mosconi was listed as one of the 17 most influential living female scientists by The Times and called "the Mona Lisa of neuroscience" by Elle International. I feel that. I feel that. She definitely fits that mold and she's also the New York Times bestselling author of the female brain and brain food.

Let's dive into this conversation with the amazing Dr. Lisa Mosconi. All right. Dr. Lisa Mosconi, one of my favorite people. Welcome to our new studio.

**DR. LISA MOSCONI:** Thank you for having me. This is awesome. I love the flowers.

**SHAWN STEVENSON:**Thank you. Yes. All the flowers on the cover of the book.

**DR. LISA MOSCONI:** There you go. Yeah.

**SHAWN STEVENSON:** So awesome. I love this concept. And when you came in, you mentioned every time we talk, we're in a different studio.

**DR. LISA MOSCONI:** Yes. Yes, our first ever conversation.

**SHAWN STEVENSON:** Our first conversation was in New York City at a recording studio, a legendary recording studio there.

**DR. LISA MOSCONI:** Beautiful.

**SHAWN STEVENSON:** Where like Snoop Dogg and, you know, Biggie Smalls and all this, but there was an aroma that was embedded into the walls of that place.

**DR. LISA MOSCONI:** Yes.

**SHAWN STEVENSON:** And, um, and then our second conversation, uh, on camera was in Santa Monica here in LA. Yeah. And now we're here at my home studio and you've brought so much life and energy to this space already.

**DR. LISA MOSCONI:** Thank you. You're good.

**SHAWN STEVENSON:** So I appreciate you and you're a neuroscientist.

**DR. LISA MOSCONI:** I know

**SHAWN STEVENSON:** You're studying the brain. This is what you've done for so many years.

**DR. LISA MOSCONI:** Forever. Ever since I was a kid. Did I tell you?

**SHAWN STEVENSON:** Yes, yes, you know, this is in your, it's in your DNA. It's in your lineage.

**DR. LISA MOSCONI:** Yes, I think it's there.

**SHAWN STEVENSON:** But if you can start off because I think we kind of know this, but we don't really understand. There are differences between the female brain and the male brain. Can you start off by talking a little bit about that?

**DR. LISA MOSCONI:** Yes. So I am a neuroscientist by training. However, I have a dual PhD in neuroscience and nuclear medicine. And nuclear medicine is a branch of radiology where we use imaging techniques to scan, in my case, the brain. So I'm a brain imager, you know, in the simplest possible terms.

And my focus of research has always been on the differences between women's brains and men's brains, in part because of my family history. history. I have a family history of Alzheimer's disease, which is the most common form of dementia on the planet, affecting over 6 million people in the United States alone.

But what most people are not aware of is that there is a gender prevalence in Alzheimer's disease or a gender bias, if you will, where almost two thirds of all patients are women. And so when my grandmother developed dementia, and then her two sisters developed dementia. My mom and I started freaking out a bit, and I had just started my PhD, and I was asking, is it just me?

Or is there an effect of being a woman on the risk of neurodegenerative disorders like dementia? And back then people would say to me, Well, you know what happens is that Alzheimer's disease is a disease of old age. And women live longer than men. So unfortunately at the end of the day, more women than men have Alzheimer's disease, but that never quite makes sense to me entirely because the age gap is not that wide. The longevity gap isn't quite there. So in the United States, the difference is about four years. Women live, on average, four years longer than men, not 10 or 20. But in countries like in Europe, like in the UK, the difference is only two years.

And yet, Alzheimer's disease and dementia is the number one cause of death for women and not for men. So the question was always, well, is there something

more? So my entire career has been focused on understanding whether or not it does matter. Being a woman matters, and how do we steer away from that path?

And do we do it differently if you're a woman or a man, right? Because it's important for men too, but is there something specific that you should be doing as a woman that you wouldn't do as a man, and the other way around to make sure that you don't get dementia? And so with my PhD, what we showed, and others showed, is then we had it backwards.

So Alzheimer's disease is not a disease of old age. It's a disease of midlife with symptoms that appear in old age. But it's a disease that starts with negative changes in the brain years or decades before the symptoms emerge or can be measured on clinical grounds. And so that completely changed the question to, well, what happens in midlife to women and not to men?

they could potentially explain the higher lifetime risk of dementia for women. And one thing that we have found is that menopause plays a really important role in the Alzheimer's, the female Alzheimer's connection. And so that's what my research is focused on right now. How do women's brains age differently than men's brains?

When does it start? It starts in midlife. Why? Because of hormonal changes, at least in part. And what else can we learn and what can we do to offset that risk? That was a long answer.

**SHAWN STEVENSON:** Oh no, this is fascinating because there's this huge event. That, you know, it's just staring us in our face as to why this could possibly be the reason behind seeing higher prevalence in women.

And I'm so glad that you, you know, just had the audacity to like to investigate this, to question it, because what we tend to do unfortunately is like go with the simplest thing instead of studying it, unfortunately, and it's just like, you know, becomes standard. Like, oh, this is just why. And sometimes it's a blatantly obvious reason that is not being investigated.

And for me menopause is just like, oh wow, that makes complete sense. And so, can you actually share from your perspective, What menopause actually is, what are the changes that are happening, and in particular with the brain?

**DR. LISA MOSCONI:** Yes, and thank you for asking. So, I think as a society, insofar as we have understood menopause at all, it's always been just half.

What menopause is all about, because if you ask people, what is menopause? Most people have a notion that at some point women stop having a cycle, reproductive cycle, and stop being fertile. And after that point, the ovaries close down sharp, if you will, that's what people say, and the woman is no longer reproductive.

Right. But what's missing entirely is the connection between menopause and the brain. Because the vast majority of individuals I've spoken to at least have no idea that there's a system in the body they were born with, the neuroendocrine system that connects the brain, the neurological part of your body with your hormones or the endocrine system that ends up in the ovaries.

And this system, we're born with the system, but effectively it gets activated during puberty. Then it gets reactivated every time a woman gets pregnant, and then it gets turned off with menopause. And the switching. Can cause some of the symptoms of menopause that most people are familiar with. So when women say that they're having hot flashes, right?

Most people who are aware that there's hot flashes happening to the menopause may have heard about it. But when women say they're having hot flashes and night sweats and insomnia and depression and anxiety most concerning brain fog, memory lapses, panic attacks. There's a lot of things that can happen. Those are indeed symptoms of menopause.

They have nothing to do with the ovaries. Those are neurological symptoms that start in the brain and are a reflection of the many ways that menopause changes a woman's brain, which we're just starting to really unravel. And I believe that our brain imaging studies were the first to map out the transition to menopause, not from the neck down, but inside a woman's brain.

And now we have hundreds of women in the study, so we're able to really see what happens physiologically and chemically and structurally as well inside the brain as women go through menopause. And I think the results are quite interesting in that we have provided at least some evidence that menopause is linked with changes to the brain structure, biochemistry, energetics, functionality, and connectivity, and these changes have consequences for many women.

**SHAWN STEVENSON:** We're going to put up some images, some of your images, by the way, for everybody to see who's watching the video version of the show. Yeah. And if you could, can you share with us what It's changing here from prior to menopause because you have pre and then you have post menopause brain.

**DR. LISA MOSCONI:** We also have a peri which is the in between, and it's usually worse than the pre or the post. I mean, for most women, that's the really tricky phase, is in between, so let me show you. This is a type of brain scan that's called a PET, scan P E T, or positron emission tomography, which is what I specialize in. And we use the tracer that's called fluorodeoxyglucose, which is literally glucose, a simple sugar attached to a fluorine 18 compound, which is a light emitter.

So when you inject the tracer, it goes up to your brain and behaves exactly the same way that glucose would. But at the same time, we're able to get this little x-rays, you know, these little gamma rays. They come out of the brain and we can take pictures of the bio distribution inside the brain. So it's kind of fascinating.

But what this shows is really, um, how much glucose has been taken up by the brain. Because remember, the brain calls for nutrients. We can't push them in, right? So this is the amount of glucose that the brain wants. And is able to convert into energy in the form of glycolysis and ATP, which is the cellular energy currency of all cells.

So what we're seeing here is a very active, energetically happy brain, where for those who can't see the image right now, I'm sure you've seen them before. So these are the pictures of

the brain with some parts of red, yellow, green and blue, right? Where red means very high energy levels and yellow is a little bit lower energy, but still very high.

And green is kind of like a baseline. And then blue is just the fluid inside the brain that you need to have for cushioning and nutrition and support. So it's, it's good that we have the blue, but we want to focus on the red. You want to have a lot of red in your brain. And this is a very healthy looking brain.

The woman who holds this brain was 43. When we scanned her the first time, and she was premenopausal, she had a regular menstrual cycle, and she had no problems whatsoever. She's very happy with her life, and you can see that the top of the brain, the front of the brain, is very red, and it's almost as red as the bottom, which is good.

It's what you want. You want to sort of invert a triangle shape, and then you want the brain to be isometabolic, which means that the left side is as bright as the right. It's kind of symmetrical, a very good looking brain.

**SHAWN STEVENSON:**Beauty is symmetry.

**DR. LISA MOSCONI:** Beauty is symmetry, sometimes. And this is what happened to that same brain within a short amount of time, just about nine years.

And you can see it as the image loops, that it's kind of getting greener and greener. So the red is turning yellow and the yellow is turning green and the after menopause scan is overall much greener. than the before menopause skin. It's kind of dissolving out, almost. And if you put them side by side, I think it's quite visually striking. The difference, this is the same brain, but the brightness has changed.

**SHAWN STEVENSON:**For people that can't see the video version, which I highly encourage you to pop over to YouTube and hang out with us in the studio, but there is a substantial reduction in red area after menopause.

**DR. LISA MOSCONI:** Yeah, throughout the brain, right? So that quantitatively is a 30 percent drop in brain energy levels overall, but you know, it's you feel it.

I think the point is that women can feel. This changes and this is one person, of course, but at this point we have hundreds and this is average. So I'm not showing you the catchy image that is dramatic and whatnot. This is actually an average change. What that means is that some women don't show this kind of change.

Some women show no changes. in their brain, very subtle changes. But some women show more dramatic changes, which is when I think it's really important to offer counseling and talk about it and maybe do a little bit more investigating. As, as you know, I'm, I lead the Alzheimer's prevention program at Walker Nut Medicine.

So we have three units in the program. There's the Women's Brain Initiative, which is our observational, um, Longitudinal imaging study, but then we also have a clinical trials unit, which finally is now testing, uh, preventative strategies for women and for men separately. So we, we focus on sex specific targets, molecular targets and interventions from very excited about, and I'll tell you more hopefully soon, but then we also have the Alzheimer's prevention clinic when we really counsel.

Uh, patients about Alzheimer's prevention. So this is something that we encourage some of our research participants to consider when they have severe symptoms or maybe the brain fog is so severe that they're concerned about an early onset of dementia or maybe they have a family history of dementia or an APOE4 genotype or some genetic risk factors and then.

We do both. We do the research and we do counseling and clinical practice to really take care of the people who work with us.

**SHAWN STEVENSON:** This is so fascinating. You know,

**DR. LISA MOSCONI:** You should come in for a brain scan.

**SHAWN STEVENSON:** Done.

**DR. LISA MOSCONI:** Oh good.

**SHAWN STEVENSON:** You know, here's, here's the thing. I don't think we realize just how prevalent, you shared a little bit about this, Alzheimer's is now.

In the United States, it's the sixth leading cause of death currently. So it's like inching its way into the top five causes of death. And, It's largely considered to be, basically when the onset happens, there's nothing you can do about it. The treatments for it are very minuscule, maybe slowing down the process, but where the real work can be done, the results, and of course your work is showing, is in prevention.

**DR. LISA MOSCONI:** Yes.

**SHAWN STEVENSON:** Right? We want to avoid getting into that place, if at all possible, and knowing, and I'm so grateful for this, this kind of triggering event, these changes that happen in the brain. Mm hmm. With menopause and with that being said can you share because also I don't think a lot of us Unless they've been directly impacted by Alzheimer's with a family member.

Yeah, understand. How is this a leading cause of death like? What's going on there? It's not like a cardiovascular event where you have a heart attack.

**DR. LISA MOSCONI:** You know, it is interesting because Alzheimer's disease does not kill you Necessarily, but it renders you so vulnerable to things like pneumonia and infections and Cardiovascular disease that for many many years it wasn't even considered an actual cause of death. This just changed in recent years And I'm very, very happy that it has been, because it is eventually the root cause of death for many people, regardless of what the final event is, right?

So it is Alzheimer's that leads to those outcomes. And it's, it's I don't know anyone who doesn't have a personal history of Alzheimer's disease. I don't know anyone who doesn't have a person in their life, whether a family member or a friend, who suffers or has suffered from dementia. It's incredibly prevalent and common, and it's getting worse

We are an aging population, thank goodness. In many ways, right, aging is a gift, but it's really important to think about prevention so that our cognitive lifespan matches our actual lifespan. And there are so many things that one can do to protect your brain as you go through life. And it's just a matter of understanding what these things are and then prioritizing accordingly because like you said, we don't have a lot of therapeutics for Alzheimer's disease.

Because we now have vaccines. You know, there's two that have been approved by the FDA that seem to be able to slow down progression. I would say I'd much rather not be in that situation. I'd rather not have Alzheimer's to start with, and that's really when prevention comes into play. And prevention starts as soon as you start thinking about it.

There's no age at which it's best to start thinking. I mean, it's the age now, because the longer You engage in lifestyle practices and the longer you take care of your health, the bigger your cognitive reserve, right, your brain reserve, which is your buffer against anything age related that can impact your brain.

**SHAWN STEVENSON:** You just mentioned that we are an aging population. Yeah. And, um, obviously Human longevity has been going up, but in recent decades, of course, the trend is reversed just in the last couple of decades.

**DR. LISA MOSCONI:** Especially in the states.

**SHAWN STEVENSON:** But we still are living longer, in particular in the United States, as you said, but with being an aging population, there are other cultures around the world that have A long history of having people living, um, you know, even into their hundreds, right?

So there's these kinds of blue spots that are now become popular, uh, blue zones, but within many of these populations, the symptoms of menopause are not the same as here in the United States. Can you talk a little bit about that?

**DR. LISA MOSCONI:** Isn't that an interesting correlation? And they have also the lowest rates of dementia.

Okay. Yes, I find it really So there are a few things that were very surprising to me when I started looking at menopause because, again, I'm a brain person. And I never thought I would be talking about menopause until a research on Alzheimer's disease led me to the study of menopause. And then I had to do a really deep dive into the science of menopause and what had been published and what had not been.

And the first thing I learned very quickly is that very little research has done in general, unless you look at, um, ovarian function. But when it comes to brain health and menopause, we're not in great shape from a scientific perspective. There are more cultural studies that I found really interesting that I believe clarify the list for me, that there is no universal experience of menopause.

That menopause is as individual as it is significant for many women. And, uh, not only the duration can vary greatly, and the causes can vary greatly, and the impact can vary greatly, but also the symptomatology, which is interesting, because Western medicine typically reduces menopause to there's an issue with your ovaries, and it's an estrogen deficiency syndrome, which I hate that term deeply and they use it for research because it's correct, you know, from, from a medical perspective, that's, that's what you find in textbooks, but as a woman, I don't have deficiency, you know, it's something that happens physiologically that can be addressed if you choose to. That at least is my position.

It's very controversial right now in this space. I hate that term. Anyway, if menopause was only an estrogen deficiency thing, then the experience would be very similar for all women, which is not the case. Okay, so we know that the best known comparison to the Western version of menopause is in Asia.

Like in Japan, like you mentioned before, in China, where, especially in Japan, where women tend to report fewer symptoms and milder symptoms of menopause, and what's interesting is that they do not even have. a word for menopause until recently. Yes, historically, in like a Japanese population, in Japanese culture, they use this word konenki to define menopause, which actually means renewed energy.

Yes. Isn't that much better than menopause, which means the end of your cycle? I find it so much more flattering as a term, but they also have fewer symptoms. And the same thing has been found in other cultures and other societies. They have one thing in common because they're all over the world. Some are in South America, some are in Asia, some are in other parts of the world.

And what these cultures have in common is that, one, they don't fear. menopause, and two, as women go through menopause, they actually gain in social status. They gain more freedom, they gain more respect, and therefore menopause is almost something they look forward to in some ways, maybe not physiologically, but in many ways is something that is not scary, but actually brings some gifts, and that seems to be related to a much gentler experience of menopause where some women have really no symptoms, and those who have symptoms, well, yeah, whatever, you know, just go on with my life.

And I think it's interesting that it really shows a couple of things, that lifestyle matters, culture matters, your expectations of something really matter, and your mindset probably plays a bigger role. in determining your outcomes, then we are led to believe by Western medicine for sure. So this is something I explore in the book as well.

I want all women to have all the information they need to support themselves during menopause. And I really, really hope that we will all get to a point where we make our choices based on knowledge and with confidence rather than fear. Rather than I'm not taking hormones because somebody told me I may get cancer, you know, what is the reality of that?

And if I don't want to take hormones, what are my options? What are the things that really matter? And so this is what we're doing today. Thank you.

**SHAWN STEVENSON:** Of course. Of course. This is you know I love this so much and I appreciate your work. You know talking with you.

**DR. LISA MOSCONI:** You love women. You care about women. Obviously your wife. You love your wife, but also you are very. It's very gentle and very careful with women and women's health that you really care about those issues. And I really appreciate it so much.

**SHAWN STEVENSON:** Yeah. It's my honor. I wouldn't be here. But, you know, talking with you is unique because our thoughts change our chemistry. Yes. Influence what's in particular, what's happening in our brain. Yes. Neurotransmitters, hormones. It is a very powerful aspect of being human that isn't talked about enough. We kind of look at us, so. mechanistically, unfortunately, and that's just kind of what we've evolved to in, in our modern medicine and it has its place, obviously, but taking the mind out of this and understanding the power of your beliefs and your, as you're sharing, our perception of menopause and it's much healthier in all these other cultures.So I want to circle back and talk a little bit about mindset.

**DR. LISA MOSCONI:** Yes.

**SHAWN STEVENSON:** But first, when you mentioned Japan, something jumped right out. Um, looking at in particular our metabolic health, the differences here in the United States. We're right now at over 40 percent obesity rate in our, in our population, our adult population. And obviously this is affecting women significantly in Japan. That number is around 5 percent of the population. Could this be influencing what's happening with the symptoms of menopause?

**DR. LISA MOSCONI:** Yes, of course. The symptoms tend to be. more severe for women who are severely overweight or in the obesity range. You know, metabolic health includes a number of factors, as you talk about all the time, but there are hormones that are involved as well, and they work in balance with each other, so if one of the hormones or more than one hormone is related to appetite or metabolic composition or metabolic activity around, uh, um, Out of whack, that has an impact on sex hormones as well.

And it seems like vasomotor symptoms for one, so hot flashes, night sweats, the hallmark of menopause in this country, are more severe and more frequent. with increasing body weight in women. And we're talking, of course, there's a whole range of body weight, but it's also important not to go underweight, right?

But obesity has been linked with more severe symptoms of menopause, however. There are clinical trials that looked at whether, um, women who started out with a high body mass

index or, you know, high body weight and lost a little bit of weight, a healthy amount of weight during the trial, they experienced, by means of lifestyle, exercise, healthy diet, they experienced an almost complete reduction in hot flashes in at least a little, I believe it's as little as six months, even if it's a year.

It's good for you overall, and that's a good added bonus, I think.

**SHAWN STEVENSON:** Yeah, but we don't hear about that.

**DR. LISA MOSCONI:** We don't hear about that, which is really unfortunate. Diet and exercise have been shown many times to have an impact on women's experience of menopause in a good way. I have one more thing that just occurred to me about Japan.

They don't, they come, the most common symptom of menopause is actually not even hot flashes for them is a frozen shoulder. Interesting. Yes. Like pains and aches, and specifically frozen shoulder, which really, really suggests that yes, there's always a component, like a genetic component to most things, but the fact that vasomotor symptoms are not actually the hallmark of menopause internationally suggests that there's a lifestyle component, that there's a medical health component, that there are things that you can do.

to minimize the symptoms that can be so disruptive for so many women they can also there's a connection between the intensity and severity of hot flashes and endothelial health, like your cardiovascular health, may be compromised, especially if you start flushing at an early age, and especially for African American and Hispanic women.

So this is something to consider prevention, prevention, prevention. And they also seem to be associated with white matter lesions in the brain. So these are little bright spots that we see on MRI scans, like we do all the time, clinically and diagnostically, that are a sign that the fat inside your brain that covers your neurons, the myelin sheath that covers the neurons, is getting damaged.

And you don't want that. It's a risk factor for vascular, cognitive impairment later on in life. So this is also something to consider for prevention. There are many reasons to not have severe

half lashes. And there are many ways to mitigate that, whether by lifestyle interventions, medical adjustments, or even prescription therapies for some, for whoever wants them, they're available.

So it's something to consider. I'd rather take, you know, I'd rather have a frozen shoulder, although it hurts a lot. Then, yeah.

**SHAWN STEVENSON:** I wasn't, I wasn't expecting you to say that as the symptom.

**DR. LISA MOSCONI:** Yes, no, and in India, in some rural Indian societies, where again, they don't suffer as much as Western women do during menopause. The most common, um, complaint during menopause is reduced eyesight. You don't see as well. Yeah. So,

**SHAWN STEVENSON:** There's gotta be some cultural elements here. You know? You know. Yeah. And just, you know. I'm just throwing stuff out here, but you know if we're thinking about the emotional component of physical symptoms maybe it's just the the weight of the on the shoulders of the Japanese women for example and that being released or transformed in some kind of way or you know in India, maybe it's like Uh, you know, not wanting to see certain things or gaining clarity.

I don't know. Who knows? Who knows? There's different things in the culture and also things that are placed upon our psyche in our culture. In the United States, of course, like it's such an, uh, a vast array of different things. You know, we were called a melting pot. Which is beautiful. Which is beautiful, but it can also be messy.

And so we're in a place of figuring things out right now. And I just want to be an advocate of this because what you're sharing, and I wish this was, this should be on The news every day because it gives us more legs more under the belief that okay I want to make sure that I'm taking care of my of my body and not allowing myself to getting getting to a place where My metabolic health is really damaged or dangerous for me because of instead of it just being from the perspective of vanity Which that has its place but understanding like Our, these, our fat cells are producing hormones as well.

Yes. Right? In particular, estrogen is in the mix here. Our muscles are an endocrine organ. Like all of these things are helping or potentially hurting how folks are going through menopause. Absolutely. We've got a quick break coming up. We'll be right back. Hippocrates, the father of modern medicine, stated that all disease begins in the gut.

We often think of this in terms of chronic diseases, but this holds true for infectious diseases as well. He had a plethora of nutritional treatments for his patients and according to a study cited in the journal frontiers in pharmacology. One of his most notable treatments for preventing infections was propolis.

Propolis is time tested immune support from the world of bees. And today, numerous peer reviewed studies are affirming its benefits. One study published in the peer reviewed journal Antiviral Chemistry and Chemotherapy revealed that propolis has significant antiviral effects, specifically in reducing viral lung infections.

Now a little fun fact is that Hippocrates used propolis both internally and externally for his patients. And again today the external benefits are being highlighted in new studies as well. This study published in Phytotherapy Research found that topical propolis That was applied a few times a day. It was three times a day in this study, which accelerated the healing of cold sores faster than the placebo group.

The researchers found that topical propolis not only reduced the amount of herpesvirus present in a person's body, but it also protected the body against future cold sore outbreaks. One other study, and again, there's so many. This is a meta analysis of multiple studies. Published in the evidence-based, complementary and Alternative Medicine, and it found that propolis has antiviral, antibacterial, antifungal, and anti-tumor properties.

It is well noted to be an immunomodulator that increases the body's resistance to infection. This is one of the most supportive things that you can do for your immune system, and it's one of my favorite go-tos that I use on a regular basis, and I'm talking about the propolis immune spray. From beekeepers' naturals, go to beekeeper's naturals.

com forward slash model. And you're going to get 20 percent off their propolis immune spray and also storewide. On their other incredible bee products, including their superfood honey and their royal jelly supplement that is incredible for our cognitive function. Go to B E E K E E P E R S naturals. com forward slash model for 20 percent off.

Get yourself hooked up right now with their incredible propolis immune spray. It is something that I always have on hand. I travel with it. It's actually in my bag right now for whenever I'm traveling and on the road. And also just keeping my family healthy, proactively, especially during cold and flu season.

Hop over there, check him out. beekeeper's naturals. com forward slash model for 20 percent off and now back to the show.

All right. So now I want to circle back as mentioned to the mindset piece and how that can potentially influence how folks are going through this process.

**DR. LISA MOSCONI:** Or any process in life. Any, yes, exactly. So something that I find helpful as a woman or when I talk to our patients or their families, I find husbands and friends are really always very interested in supporting others, the women in their lives, which I think is beautiful. And like I was telling you, my daughter is eight, can explain these, and has been explaining these to all her little friends, which is really funny.

But women's brains and bodies go through three major changes. throughout the course of life, at least from a brain perspective, and they call them the three P's, and I'm coming back to mindset, but let me tell you the three P's, which are puberty, pregnancy, and perimenopause, which is the transition to menopause, and what these three P's have in common is that they are linked to a change in the neuroendocrine system that I mentioned before, where there's A specific thing that happens to your brain, which is that the brain rewires itself at all three Ps, and every time a woman is pregnant, that happens again.

So there's a rewiring that takes place where this may sound a little scary, but we actually shed neurons. We lose neurons. But then the neurons that we have, that stay with us, get more

strongly interconnected, and they seem to be very specifically This happens very specifically in parts of the brain that are involved with theory of mind.

tasks, which is mentalizing, which is the ability to connect with another person intuitively and read another person's state of mind. And that is very important in puberty because that allows you as a teenager to become a member of society because you need to understand what people say and think in order to relate with them and be a member of a team, right?

So what happens with the rewiring. is that, yes, you do have the strong emotions and you have the risk taking behavior because these parts of your brain are a little bit in a state of flux. But there's a good outcome at the end of it, which is that these changes that give you a hard time, could be especially women as we start having our periods, right, and PMS and whatnot.

But at the end of the process, you have a better brain. Right? For what we need as a human species and race. Then it happens again during pregnancy, and this time we have the baby blues, we have the postpartum depression, we have the brain fog, we have a lot of things that can happen when you're pregnant.

But again, these changes lead. To a brain, to a neurological system that is so on point that you're able to respond to your baby's needs instinctively, intuitively. It's your intuition that is upregulated during pregnancy. It's the primitive parts of your brain that make you stronger, that make you more like Always ready to get going, always ready to resolve an issue and able to read another person's mental state.

Again, a serious mind, that kid can't speak for a really long time, so you need to be able to read nonverbal clues. So all this baby blue is the mommy brain. We always blame the mommy brain as something that gives us a hard time, that can be a bit of an issue. But in reality, there's a reason. You've been predisposed to motherhood.

You're enabled to be a good mother and your brain is changing accordingly. Then we get to menopause. All the circuits that allow you to be a mother and hold, host a pregnancy and

respond to a pregnancy, those can go. You no longer need them. So all those neurons, this is my own personal theory, all those neurons can go.

And that leads to the rewiring another time. Menopause is a renovation project on the brain that comes with pros and cons and there's ups and downs. And that is the reality for any person who's born with ovaries. There's going to be ups and downs weekly, monthly, for a really long time. And then the final one is menopause.

But what the menopause brain gives you is peace of mind. And I'm coming back to the mindset. There's many studies, cultural studies, showing that menopause brings some gifts to women neurologically. One is greater life contentment. Many postmenopausal women report that once the transition is successfully complete, they are happier.

The many women who are younger and premenopausal, but they're also happier that they themselves were before menopause. And we never talk about it, we have to, because that really gives you something to look forward to, right? But it also makes you feel better about going through this process. And number two, there's greater empathy.

Studies have shown that postmenopausal women are the ultimate empaths. They have the highest scores and ratings of empathy across all people of all ages and genders. And the most important one, in my mind, is emotional mastery. Emotional control, where so many women who are postmenopausal really report giving fewer F s.

Yes. In a good way, where they're just so much more self confident about what they bring to the table, what they have accomplished, what they can accomplish, and they start looking forward to things much more so than before. And what's interesting for me as a neuroscientist is that there is a neurological correlate to that.

So when you do the brain scans, you can see that after menopause, just one specific part of the brain is called the amygdala. It does no longer over activate in response to negative things that happen to you. So you're still responding to good things, but your response to things that would have been upsetting is actually more blunted.

You don't care that much. You're like, yeah, whatever, been there, done that, you know, I'm not going to let it go under my skin. But your frontal cortex, which is in charge of reasoning and thinking, works just as well as before. And so overall, there's better control over your own emotions and the greatest stability in your emotional reactions, which I think is a big plus.

**SHAWN STEVENSON:** People would want to pay for that. Right? You know? Yes. But we don't hear about like, that's one of the benefits. That comes along with this process, you know, and you just shared it's so beautiful how those things go together Being more having a high level of empathy, but at the same time giving fewer f s So it's like giving fewer f s about the negativity, the drama, all the stuff Yeah, but caring deeply about the things that you care about, right?

It's that's like That's, that's, that's the recipe for happiness and contentment and like an overriding, like, continuous feeling of well being, I really feel, mentally. Yeah. But, like I said, people would gladly pay for that state today because we tend to, especially today, there's so many things to give a f k about, right?

There's just so much going on in the world. And oftentimes what we see today of, you know, a lot of times we lose ourselves in those things. And we're not able to properly distribute our compassion and empathy to the things that matter most. We find ourselves feeling fractured. And so hearing that this is one of the benefits, again, it's like giving more legs to the belief of why this should be something that's honored and valued. Yes. Like it is in other cultures. Yeah.

**DR. LISA MOSCONI:** Absolutely. Yeah, I agree so much.

**SHAWN STEVENSON:** Could you share a little bit more about here in particular in the Western world? Reframing our mindset. Yeah about this. Yes.

**DR. LISA MOSCONI:** I Well, we have to so I think in society in our society Menopause is typically met with stigma and with bias It's a combination is a convergence of ageism and sexism that really end up with menopause ism Where menopausal women are basically made invisible in culture and they're completely ignored in medicine and in science.

We have a very long history of neglecting women in science and medicine and that is never truer than after menopause. Like the vast majority of what's been done focusing on women is about reproduction and just being able to have a kid, right? But everything else is kind of up for grabs and I think especially when it comes to menopause, the research has been scarce.

to put it gently. And we're really trying to help in that respect because it makes no sense that the women who reach menopause, which is most women, God willing, right, if you live long enough as a woman, eventually you will go through menopause. And there's no sense of achievement. There's no sense of having accomplished something wonderful.

There's nothing to look forward to according to Western medicine. And there's no status gained. And that is unacceptable. unacceptable. I really, I call this book my love letter to womanhood. I think being a woman is just so beautiful and there's so much to celebrate and I would really like all women to embrace this phase of life and, and celebrate what it brings and also be mindful that there are symptoms, there are risks, the need attending for many women Um, the need managing, um, not for all women, you know, it's a personal choice.

It's a free, it's a free country, of course, but if you do have a problem, it's important to know that there are solutions that can be custom tailored to your personality and your own needs. And there are many people like myself who are more than happy to help, and it's important to know that the support is there.

**SHAWN STEVENSON:** So with your new book you talk about a wide range of course you get everything that we're covering right now Just getting into the science and what's happening to get educated on what's happening in your own body But also talking about some of the supportive Aspects with this transit transition. So we're gonna talk a little bit about a few of the lifestyle Factors, but in particular you also talk about hormone replacement therapy.

Yeah And obviously, there's a lot of misconceptions about hormone replacement therapy. Yes. And if you could, can you share where that would fit in and how that works in the context of the menopause brain?

**DR. LISA MOSCONI:** Yes. Uh, so it is. A complicated conversation, so you stop me when it's too much, okay. So hormone replacement therapy, it was the treatment of choice for menopause up until the year 2002.

So estrogen as a hormone was discovered in 1936. And immediately, almost immediately, people linked it with sexuality and reproduction. So it's been dubbed a sex hormone since, which is really unfortunate. We've been stuck with that definition ever since. And it's been marketed for menopause care ever since, right?

But it was also the number one drug, the most sold medication in the United States. Yes, yes, for many, many years, until 2002. So what happened at that point? Two things happened. Number one, 1992. Scientists finally discovered that the same hormones that are so important for reproduction are also just as important for brain health.

So estrogen is not just a sex hormone. It serves so many roles and functionalities that have nothing to do with kids and have everything to do with having a healthy brain. That was only accepted in science in 1996 for context. When do we get to the moon? Like Max said the other day, he said, well, we know more about space than about women's health and hormones.

Right? Yeah. And that's, that's actually still true, sadly. But so 1996, at that point, the largest clinical trial in history, testing hormone therapy for women's health was already underway. It launched in 1993. This is the Women's Health Initiative. So it launched years before anyone had any clue how estrogen actually worked in our brains for sure, but also in the rest of the body, except your ovaries.

So that is the problem, as you can imagine. And so this hormone was being tested in a study of hundreds of thousands of women. all over the United States, and it was being tested. So estrogen replacement therapy is, there are two ways of doing it. You have estrogen only therapy for women who do not have a uterus, and estrogen and progesterone or progesterone for women with a uterus.

Now, how many people do you think do not have a uterus in the United States? Let me see if this is common knowledge or not.

**SHAWN STEVENSON::** Do you want me to throw an actual number out, or percentage?

**DR. LISA MOSCONI:** Do you know what, no, but brother, but do you know it's a common surgery?

**SHAWN STEVENSON:** It is increasingly common.

**DR. LISA MOSCONI:** Exactly. So, it's the second most common surgery for women in the United States. So, it's not like a couple of women. Right. It's one in eight.

**SHAWN STEVENSON:** That is a it's more than very substantial.

**DR. LISA MOSCONI:** Yeah, what people would casually think. Yeah. Yes So it's a lot more women that one would think so this is relevant and not just three listeners who are going to be like Oh, that's interesting. No, it happens a lot. So if you have a uterus you have to take progesterone because estrogen alone increases the risk of endometrial cancer. So if you take the progesterone together with it, the risk goes back down to baseline.

So they had these two arms, one per treatment, and both arms were interrupted early because therapy was doing exactly the opposite of what was intended to be. There was a higher risk of stroke, there was a higher risk of blood clots, there was a higher incidence of cardiovascular events, there was also a higher risk of breast cancer and a higher risk of dementia.

So, pretty much, that was it. The media over emphasized the numbers, and we're going to talk about it. But what happened is that most women just stopped treatment. The trials were halted midway, women just dropped their hormones, and hormone replacement therapy has had a terrible reputation since. So now we know more, we know better.

I think what everybody agrees on is that the Women's Health Initiative was looking at the wrong women. Yes. I know. You're like, why? Because they only had 8 years, 10 years to finish the trial. And cardiovascular accidents happen when you're a little bit older. And dementia happens when you're 70 or 80. So I can't look at women who are in their 40s and 50s.

I need to look at women who are in their 70s and 80s or I won't catch anyone. who develops these outcomes. So they were working with women who were decades post menopausal. And if you remember, this system is only active for a certain amount of time and then it just turns off. So if you want to give hormones, you need to do it while the system is receptive to the hormones.

You can't just re enter, you can't push hormones on something that doesn't want them. So that was the big problem. Now we understand a lot more. There's a lot of research that has been done and professional societies issued revised guidelines in 2022, thank goodness, updated guidelines saying that for women who had a hysterectomy, surgical removal of the ovaries, estrogen therapy, estrogen only therapy is actually recommended.

To reduce OMO symptoms, the symptoms of menopause, but also to reduce the risk of things like osteoporosis later in life to reduce the risk of mood disorders, to reduce the risk of depressive symptoms and anxiety, but also potentially reduce the risk of cognitive impairment and cognitive issues, which are quite common.

It could be, it could be really a problem. Because we know that the risk of dementia is higher for women who go through menopause because of surgical interventions relative to women who go through menopause spontaneously. So I don't want to scare anyone, but it's just a relative increase in risk. We don't know this.

The risk is a little bit, I know.

**SHAWN STEVENSON:** Still, 1 in 8 women.

**DR. LISA MOSCONI:** 1 in 8 women.

**SHAWN STEVENSON:** They're not getting this information usually when they're going through this process.

**DR. LISA MOSCONI:** Yeah, you know what's shocking to me, speaking of this, is Hysterectomy, the surgical removal of the uterus, can be partial or full. Partially, only the uterus comes out.

Full, the ovaries come out too. Whether or not this happens should be based on whether or not the ovaries need taking out.

**SHAWN STEVENSON:** Yeah.

**DR. LISA MOSCONI:** It's not the case. So still today when you go to the doctor as a woman and you have a uterus It's very common for the surgeons to recommend that the ovaries will come out as well. Let's do it. Let's take you, do you want to have kids? No .

**SHAWN STEVENSON:** Don't need them.

**DR. LISA MOSCONI:** Are you maybe in your forties?

**SHAWN STEVENSON:** Then you don't need them.

**DR. LISA MOSCONI:** And if I take them out now, then your risk of ovarian cancer later on in life is zero Right, so if you're a surgeon, that makes perfect sense, it makes perfect sense. The problem is that, how about their brains?

If you have no reason to take out healthy ovaries, now most societies recommend ovarian preservation. You leave them in. But still today, about over 40 percent of women who get a hysterectomy for whatever reason but their ovaries are healthy, they still have an oophorectomy at the same time. So this is something important to discuss with your surgeon if it ever comes to that.

There are cases where you do need to take them out, that there's, you know, otherwise the risk of having to redo the surgery is higher or there's reasons to, to take the ovaries out even if there's no cancer, there are other indications, but for most women, ovarian preservation is in fact recommended.

**SHAWN STEVENSON:** Yeah. But just to do it on the, you don't need them, it's not a good enough reason.

**DR. LISA MOSCONI:** Yeah. I mean, it may not be correct. I mean, it may not be correct. Yeah. I'm going to scratch that. That's not true. It's really case by case. But there is, for many years, best practice was to take them out. So the surgeons were just following guidelines and the points that the guidelines need updating. Because they're not up to speed with reality.

**SHAWN STEVENSON:** You've shared several times the impact of these hormones on the brain and this powerful interaction.

**DR. LISA MOSCONI:** Yes. Yes

**SHAWN STEVENSON:** You know, you even mentioned bone density as well, being another one of these roles. So, estrogen plays a huge role in cognitive function, brain health.

**DR. LISA MOSCONI:** Huge.

**SHAWN STEVENSON:** And we've gotta keep this In consideration, when we're making choices about our bodies and our health. Did you know that there's a spice in your spice cabinet that can very likely improve your insulin sensitivity and help you to burn more fat? This spice has been utilized for thousands of years and now today we've got Tons of peer reviewed evidence showing how incredible it is for so many aspects of human health.

I'm talking about the renowned spice turmeric. Now turmeric is actually in the ginger family, but it has its own claim to fame today. And researchers at the Department of Neurology at USC found that one of the active ingredients in turmeric, curcumin, is able to help eliminate amyloid plaque in the brain, slow down the aging of our brain cells, and also help to remove heavy metals and reduce inflammation in the brain. By the way, I'm talking about its impact on body fat. Turmeric has been found to both improve insulin sensitivity, reduce blood fats, and directly act upon our fat cells. And to take it up one more mental notch, research published in the Journal of Ethnopharmacology points to turmeric's potential to reduce both anxiety and depression.

Turmeric functions like a Swiss army knife for human health and benefits. And today, more than ever, people are going beyond the casual curry and doing one of the most remarkable

teas that you're going to find. And that is having a Tumeric latte. My favorite turmeric latte. My favorite tumeric drink is coming from Organifi Gold.

And this is because it also has other bio potentiators that make tumeric work even better in the human body. I'm talking about cinnamon. I'm talking about ginger. And also, here's the thing that makes Organifi Gold so remarkable. It also has the medicinal mushroom reishi, which according to research published in pharmacology, biochemistry and behavior, They found that Rishi was able to decrease our sleep latency, meaning that we fall asleep faster was found to improve our overall sleep time and also improve our deep sleep time and light sleep time.

So our REM sleep and non REM sleep, pretty remarkable. So I highly encourage you to check out this incredible, organified gold blend. Go to organify.com/model. That's O-R-G-A-N-I-F i.com/model. You get 20% off, they're incredible gold blend as well as their green juice blend, their red juice blend, and actually store wide.

So definitely take advantage of this and make yourself your own turmeric latte. I love the turmeric blend. The Organifi Gold with some almond milk or milk of your choice. Warm it up if you're feeling spicy. And it's one of those things that really helps to add another layer to your health and well being.

Check them out. Go to Organifi. com forward slash model for 20 percent off. Now back to the show. If you could, can you talk a little bit about what are the best practices when it comes to hormone replacement therapy?

**DR. LISA MOSCONI:** Oh, yes. Well, so what's interesting and what's important to understand is that not all hormones are created equal. So when we talk about estrogen, we're actually already talking about three different types of estrogen. So estrogen is an umbrella term for different types of estrogens. And the one we want to replace is called estradiol. So estradiol is the most potent, it's the most biologically active hormone during a woman's reproductive life.

And then we have estreon, that is only made during pregnancy. And then we have estrone, which is plan B, in a way. So that becomes the most common, most abundant type of

estrogen after menopause. But it doesn't come only from the ovaries, it's also made by body fat. And other tissues and the hormone they were trying to replace or supplement is estradiol.

Now there are two major types of hormones that have been used clinically for menopause. Um, what was used in the Women's Health Initiative is called a CEE, a conjugated equine estrogen. And what we use more now is called micronized estradiol or bioidentical. Estradiol. Then you can administer these hormones in different ways.

Usually it's either oral, you take a pill, or transdermal, a patch, or a spray or a gel, and vaginally as well. It can also be done intramuscularly, but the most common route is now transdermal, through the skin, so you have a patch, or a spray. Actually my mentor loves a spray. She recommends it, and she's one of the leaders in estrogen, everything, um, in science. Then, if you have a uterus, you want to add the progesterone on top. And it's important to understand, this comes up a lot, and you'll find it on social media, so I want to clarify. All these hormones can be bio identical or not. Okay. Progesterone means bio identical progesterone, or micronized progesterone.

It looks exactly like a molecular replica of the hormone that we make from the ovaries. But there are other forms that are called synthetic progestogens or progestins. And there are many different types. You have them in birth control, we have them in HRT or MHT for menopause. Usually progesterone, uh, is being given orally.

It's a pill you take by mouth. You can do it either continuously throughout the menstrual cycle, one pill per day or sort of, or, uh, cyclically. So you only take it towards the end of the cycle, or, you know, what would be your cycle. Best way to use hormones, if you have symptoms of menopause, to ease you through the transition.

This is common. These are accepted guidelines. These are the indications that the FDA approved. So you take these hormones for relief of hot flashes and night sweats and for prevention of Osteoporosis for women who don't yet have. Osteoporosis, and then for treatment of, um, urinary, genitourinary symptoms, which are vaginal dryness, vaginal

atrophy, painful intercourse, urinary tract infections, and a lot of other things that are more topical, okay?

So in that case, a lotion is great. There's vaginal estrogen. Did I want to just clarify this thing? A lot of women are scared about the possible link with cancer, breast cancer. There is no evidence the vaginal estrogen, topical estrogen causes breast cancer. So this is very important to understand because vaginal atrophy is a hack, of an unpleasant symptom for which there are solutions that are safe and available for the vast majority of women. Contraindications are very rare. They can be started anytime. You can do it daily. There's, there's not been evidence, there has, there is no evidence that that would increase the risk of breast cancer.

But if you buy them, there's the black box warning that has nothing to do with what's in the box. It still refers to the oral conjugated equine estrogens given at very high doses during the Women's Health Initiative. So that's one reason that a lot of women say no thank you and that's not right. It's not the right information that we should be given.

**SHAWN STEVENSON:** So the approach here is more Perimenopause versus premenopause?

**DR. LISA MOSCONI:** Not pre menopause. You have to, yes, you have to have the symptoms.

**SHAWN STEVENSON:** 'cause there are some, you know, camps of thought of.

**DR. LISA MOSCONI:** I see.

**SHAWN STEVENSON:** Right?

**DR. LISA MOSCONI:** Yes, yes. Well, you have to go through the FDA. So the indications are for symptoms of menopause. If you have the symptoms when you're premenopausal, then I think we need to dig a little bit deeper and see what's happening.

Is your thyroid, is it PCOS? Is it something else? But generally, Perimenopause is a good time to start, or early after the final menstrual period. As long as you have symptoms. You know,

there are some women who still have symptoms in the 70s. So now there's a movement to say, well, you know what? Let's start at very, very low doses and see if that helps.

If it does, it means that your system is still active and still receptive to the estrogens. And maybe that helps. Let's, you know, let's make sure that you get mammograms and this and that. But it is, it is on the table. I think it's helpful to know that it is on the table. Also, if you're a little bit older.

And also, the other thing that changed in 2022 is that up until then, the recommendation was to stay on the lowest possible dose of hormone, if you must. Almost, if you really can't avoid it, and go off as soon as you can. And now the guidelines have changed to say you do not need to stop just because you've reached a certain age.

If you feel that you still have a benefit, you keep taking it, just make sure that you monitor, that you go for your checkups, that you work with a professional, that you've been followed, and, you know, it's no longer considered unsafe.

**SHAWN STEVENSON:** And of course, reading your book and getting more information on this, I love that you mentioned this, having this on the table, and, you know, these are options for folks, but there are some things that are kind of like across the board that you recommend.

For a, for a more graceful transition, and we're going to talk about some of them that are a little bit more common knowledge in just a moment, but I want to start off by one that I was surprised that you talked about, which is um, uh, Toxins.

**DR. LISA MOSCONI:** Toxins. You're surprised?

**SHAWN STEVENSON:** Yes. Well, not, not really.

**DR. LISA MOSCONI:** Not really.

**SHAWN STEVENSON:** But surprised that, you know, this was something that you made an emphasis to, you know, to be aware of for people.

**DR. LISA MOSCONI:** I think it's really important. We know that there are chemical compounds that are constantly released into our environment that have consequences for hormonal health. And years ago, many people were skeptic. About it, but I think at this point we have enough scientific evidence that pollutants do matter.

And they may have, there are very specific pollutants, or chemical toxins, that are called endocrine disruptors, or xenoestrogens, foreign estrogens, from Greek. Because they do disrupt the functionality of estrogen, they mimic estrogen, so they work like an estrogen, they bind to the same receptors, but the consequences are actually they're, they're harmful.

And that is especially the case for They've been linked with a number of conditions, from thyroid disease to infertility to endometriosis to some types of cancer. And now, because of the association with menopause, also to a possibly higher risk of dementia. Down the line, like, uh, just a couple of years ago, the scientific community, finally, endorsed pollution.

Primarily air pollution, but pollution as a whole is a risk factor for dementia. Yes, that's quite new in my field, so we do sometimes recommend air purifiers when indicated. Of course, it's an expense, but if you live in a very polluted, very polluted environment, that's something to look into. And all these issues are more of a problem, of course, for children.

And women in particular. Why? For a couple of reasons. Um, the most important being that pollutants accumulate in living tissues by bioaccumulation. Which means that they pile up on top of each other. So they don't, they're very, they have a very long half life. They stay in your body for a really, really long time.

And so they just keep increasing over time. They accumulate in bodily tissues, especially fat. And women are born with a higher percentage of fat, fatty tissue, relative to men. So we have more fat in our bodies by design. We have, you know, for getting pregnant and then going through menopause, you need to have more fat to do it efficiently as a body.

But that also means that you're more vulnerable. to the effects of these pollutants that accumulate in body fat and stay there for a really long time.

**SHAWN STEVENSON:** Lipophilic.

**DR. LISA MOSCONI:** They're very highly lipophilic. You know, these tracers that we use, they're all very highly lipophilic, which means they get inside your brain.

The brain is mostly lipids, so anything that is lipophilic will just go right through your membranes. Sometimes, it depends on how strong your blood brain barrier is, but it can get more easily inside your brain and then just stick in your brain, which nobody needs.

**SHAWN STEVENSON:** Can I ask you about this? There's, uh, there's some theories out there that the blood brain barrier doesn't even exist. I don't know if you've been exposed to this.

**DR. LISA MOSCONI:** I have not been exposed.

**SHAWN STEVENSON:** But there's some people out there on the streets. There's flat earthers. We got blood brain barrier doesn't existers.

**DR. LISA MOSCONI:** That's interesting.

**SHAWN STEVENSON:** You haven't heard this before?

**DR. LISA MOSCONI:** I wish it didn't exist in some ways because it's so hard for us to find tracers that can get inside your brain.

They cannot. Most tracers that we use for brain imaging, um, fail. Before we can use them for clinical applications because they can't get inside your brain. And the reason they can't is that we do have a blood brain variant. It's very highly selective. I don't know why they're saying that it doesn't exist. Maybe it's the terminology then, or they're just saying there is no such structure.

**SHAWN STEVENSON:** Yes. So, well, the thing is it isn't just one structure.

**DR. LISA MOSCONI:** Ah, okay.

**SHAWN STEVENSON:** Can you talk a little bit about it from your perspective about how it works?

**DR. LISA MOSCONI:** Well, it's an umbrella term, again, for a very intricate system that protects your brain from everything that is non brain.

So there are many different layers of protection that are in place. They start from the outside, obviously, the skull is there to protect your brain. And then you have cerebrospinal fluid that protects your brain. But also you do have a Sort of barrier system. I don't know, maybe the term is not appealing because it's too simple.

Blood brain It looks like they're just one thin layer of something whereas it's a very intricate system that is not necessarily anatomically defined, so it's not like a little layer of something, but it's more a structure that we define as a barrier. Like, you can think about this as like the coral reef has a barrier, right?

But it's not like a piece of rock. There's all different corals, that, and the same happens inside the brain, so it's actually a very intricate system that can be subcategorized into many different components. There's receptors, there's all sorts of different receptors. There's, um, ways. by which things can go through.

Then there's blood vessels, there's endothelial tissue, this is a whole number of things. So I agree that it's very heterogeneous.

**SHAWN STEVENSON:** Yeah, because I think we perceive it as like there's a barrier at your neck.

**DR. LISA MOSCONI:** No, no, no, no.

**SHAWN STEVENSON:** That stops, you know what I mean?

**DR. LISA MOSCONI:** No, no, no.

**SHAWN STEVENSON:** For some people, but it's like it's more of a global brain system. There's even unique to your neurons. There's a yes.

**DR. LISA MOSCONI:** Yes. You said this is the other surface of your brain, basically Also on the inside out. So it's whatever Shields your brain from the cerebrospinal fluid is the barrier. It's not necessarily just blood So I see where the terminology may be. Maybe it's not as Convincing, but there is a barrier when it's healthy and, and strong and compact.

That's wonderful because it's very protective, but it does get damaged, you know, with aging, with disease, with insults, with oxidative stress, with inflammation.

**SHAWN STEVENSON:** Toxin exposure.

**DR. LISA MOSCONI:** Toxin exposure. And then it basically, things can go through, they should not go through. And pollutants are one of those. So it's really important to consider that.

And when we, when we say pollutants, it's not just a tobacco smoke or cigarette smoke. It's, it's a lot of chemicals that we find in the food that we eat or in the household products that we use or, you know, flame retardants or specific types of fabric. Anything synthetic has a potential for containing some of these endocrine disruptors or estrogen disrupting chemicals.

**SHAWN STEVENSON:** According to the EPA, over 3 billion tons of newly invented synthetic chemicals are released into our environment annually. And this is from what they refer to as normal business practices. Right? So this isn't when a catastrophic event happens or anything. It's just normal. Day to day

**DR. LISA MOSCONI:** Pollution.

**SHAWN STEVENSON:** Pollution and so, you know, we're living in a very different environment and one of those things You know just that so many of us are exposed to when you mentioned xenoestrogen I was thinking about what is the common thing that would be in our food supply and there would be pesticides

**DR. LISA MOSCONI:** Yes.

**SHAWN STEVENSON:** So a lot of these have these estrogenic effects and as a matter of fact chlorpyrifos is one of these Pesticides that's caught up in red tape right now, but several studies have indicated increased miscarriages infertility all these different issues and For women that are exposed to these compounds and it's just because again if you think about it, it's because of the estrogen like impact that it has on the body and You know I think a important thing that we can do in these diet guidelines Whatever diet we're subscribed to is if we can avoid some of these toxins You know, that's, that's the way to go about it.

**DR. LISA MOSCONI:** You know, you can be on any diet and, you know, you can be vegan, you can be vegetarian, you can be keto and still eat processed foods. They, they really, make them for you, right? Oh, you're plant based. Great. Let me give you the plant based version of so and so that is loaded with chemicals and is not a healthy food just because it comes from plants and the other way around.

So I think it's important for diets to really go for whole foods whenever possible, organic when possible. With, you know, within reason there are things that are not sprayed as much with pesticides, but we know which are. So those maybe you want to, at least you want to peel them at a minimum, right? That helps a little bit.

But also animals, you know, when they consume things that contain pesticides and other chemicals, then by bioaccumulation, they end up in the meat and also what are they being fed as well?

**SHAWN STEVENSON:** There's been issues with, with hormones and with, you know, um, antibiotics and things like that. You are what you eat, ate, as well, you know, so keeping that in mind

One of the most powerful things that you've said today, which is so many incredible things, You said the brain calls for nutrients.

**DR. LISA MOSCONI:** Yes.

**SHAWN STEVENSON:** We can't push them in there.

**DR. LISA MOSCONI:** We cannot push them in. The brain is a very interesting. Well, there are a few things that go through by passive diffusion in the brain, like glucose.

up to a certain point. But most nutrients are, it's the brain that calls for them. It's like the brain has these receptors and these, uh, passageways in the blood brain barrier that we are trying to define as existing, um, that very selectively can choose when is the right time to let nutrients in. And this is something that I described in Brain Food.

Which is my first book, which is actually how we met a long time ago, it was 2018. And one reason that I wrote Brain Food is that back then there was a little bit of a trend outside of academia to promote very high fat diets for brain health based on the statement that the brain is made mostly of fat.

And so you have to replenish those fats. And if you look at the fat composition of the brain, there is quite a bit of cholesterol. And so there were quite a few people, doctors included, even neurologists, on social media, saying you have to eat cholesterol rich foods because the cholesterol will go up in your brain and replenish it. And I said, absolutely not! Cholesterol cannot get inside your brain, ever.

**SHAWN STEVENSON:** Of course, your brain makes cholesterol.

**DR. LISA MOSCONI:** Your brain makes its own cholesterol when you're born, actually even before you're born, and then it's completely shielded. from the rest of the body, so some cholesterol can come out of your brain, but it just cannot get in, and the brain is also really selective.

Let me tell you, when it comes to fat, because we try to get things through by using fatty molecules, right? And we just can't, so Saturated fat can barely get inside the brain. More so in kids.

**SHAWN STEVENSON:** Past infancy. Yeah, there we go. Yes, of course. Of course. I've read your books.

**DR. LISA MOSCONI:** Yes. But then it's quite difficult, like if you look at the uptake curves, they're nearly flat depending on, on what time we're looking, you know, we're looking at.

But then polyunsaturated fatty acids can get through. So that's the only kind of fat that the brain actually really calls for, often, and those are fats that we want to have in the diets, the omega 3s.

**SHAWN STEVENSON:** Omega's are super important for the brain. So in the book, you share a wide variety of different foods and nutrient sources that support the menopause brain.

**DR. LISA MOSCONI:** Yeah.

**SHAWN STEVENSON:** Can you talk about a few, maybe let's, there's again, there's so many in the book, but maybe like three things that are just kind of across the board and important for women's brains.

**DR. LISA MOSCONI:** So I would say number one is up your plant game. You have to eat more plants. That seems to be the one thing that really comes through across all different studies that plant.

Fiber is so important for women's health and menopause, and so are antioxidants. And I'm not trying to push veganism or vegetarianism on anyone. It's just a matter of prioritizing eating fresh produce because of the nutrients that are provided by plants. So fiber, of course, is extremely important, but not just for digestion.

It's also important for estrogen regulation. Because fiber has a balancing effect on a molecule that's called sex hormone binding globulin that carries your hormones around. So it's the kind of molecule that determines what fraction of estrogen and testosterone are still in the circulation. And if you want this, this molecule to be working efficiently and eating fiber seems to have a positive modulatory effect on this protein.

So it also helps with regulating hormones. Number two, antioxidants. Antioxidants come from plant based foods. Veggies, fruits, nuts, seeds, whole grains, legumes, mostly veggies and fruit, some more than others. So, um, the best antioxidants for the brain, as far as we know, are beta carotene. The precursor to vitamin A, vitamin C, vitamin E, and selenium as a mineral.

So you want to make sure that you have foods in your diet that do provide these nutrients and some that I really like are berries, all sorts of berries, blackberries more so than others. Goji berries are one of the richest sources of vitamin C, readily available per unit. So you just need a little handful.

You know prunes are really good too. They're very high in antioxidants and fiber. soluble fiber. So they support a little bit across the board. Dates, medjool dates are really good, complex carbs. Um, but those all sort of leafy green veggies and cruciferous vegetables, you know, the more the merrier. The more you can eat, the better for you. And then the last thing I would like to say is, um, diastereo bolum. Can we talk about it?

**SHAWN STEVENSON:** Absolutely.

**DR. LISA MOSCONI:** Everybody knows that we have a microbiome in our guts that is involved in a number of functionalities, including reducing inflammation, digesting food, extracting nutrients, and also balancing out your mood.

It seems to have a strong connection with the GABA receptor in the brain, which is an inhibitory receptor and neurotransmitter that promotes calm. and reduces anxiety. But what is less known is that the microbiome is very heterogeneous, includes all sorts of, uh, things, and good microbes and bad microbes

The good microbes have little families, and one of these little families is called the strobilum, which is a part of the microbiome that has a strong impact. Potentially it's been investigated as having a strong balancing impact on estrogen levels. and also on glucose metabolism at the same time. So there's one specific enzyme, it's called beta GUS, beta gus, that is part of this estrobolon and regulates the amount of free estrogen that is in your bloodstream at all times.

It kind of regulates whether or not estrogen is being reutilized or eliminated. So it's important for bio distribution and the way that you keep your strobilum Healthy and happy is by eating plant based foods whole foods of plant based origin.

**SHAWN STEVENSON:** Mm hmm. So it's providing these inputs for our microbes supporting that diversity is the hallmark because these different microbial communities Need different inputs. And so that's the number one thing seen in the data to improve the health of your microbiome. Increase the diversity of plant inputs. Yes, and in particular, you know polyphenols and antioxidants and things like that. So and again you share some specifics and also you share some particular supplements and yes other lifestyle factors. Again, everybody should know this stuff.

The menopause brain is the new book And so I want everybody to run out, pre order this book right now, or depending on when you're listening to this episode, because the book officially releases.

**DR. LISA MOSCONI:** March 12th.

**SHAWN STEVENSON:** March 12th. And here's something really special. Of course, I got an advance copy of the book, and I feel, seriously, this should be required reading.

Not just for women. But for all of us, because this is impacting our society and nobody's talking about this. And this is so important in the consolidation of the data, you make everything make sense. And there's so many incredible, simple resources, simple things to think about. I love how this conversation, you integrated the mindset piece as well, because it's so unfortunately looked over in our culture and how our thoughts and our beliefs impact.

So it's a really, really special book, The Menopause Brain, pre order copy right now. You can, of course, get it at any of your online retailers, Amazon, Barnes Noble, all that good stuff. But also, themenopausebrain. com. Yes. People can go there. And also, I'm sure you're going to give them some bonuses and other goodies.

So support this book. Be one of the first people to get it. The Menopause Brain. Very, very important book. Get it for people that you care about. Any women in your life, get this book for them and be another resource and another support. You're the best. Is there anything else you want to share about this book?

**DR. LISA MOSCONI:** I would like to say one thing that so many women are really scared of losing their minds. During menopause, it happens so often, which is why the first chapter is called You Are Not Crazy. And I really want to reassure most women that you are not losing your mind as you go through menopause. In fact, if science is any indication, you're getting a brand new one.

And it's interesting and it's worth knowing and embracing because it happens whether you want it or not. And we all need to think of menopause. After years and years of having a menstrual cycle, and PMS, and pregnancies, and postpartum whatever happened, eh? Menopause is another tune that we learn to dance to.

We can do it. We have support. We have the knowledge. We have the information. It's time to act on it.

**SHAWN STEVENSON:** The minibar's brain, Dr. Lisa Mosconi, everybody.

**DR. LISA MOSCONI:** Thank you.

**SHAWN STEVENSON:** Thank you so much for tuning in to this episode. This is one to share, share, share with somebody that you care about. Help get this information into the hands and hearts of more people.

It is super important. It is not talked about enough and to be able to learn. from a world renowned neuroscientist who's really studied this passionately to revive this education, to normalize this process and discussion, conversation around this process and to support our health and well being as a community, as a people.

This is so important right now. And so again, please share this out with somebody that you care about. Send this through a DM. You can send this directly from the podcast app that you are listening to. And by the way, Make sure that you're subscribed. Don't just hit it and quit it. Make sure you're subscribed to the Model Health Show on whatever platform that you listen on.

And also, of course, you can share this on social media. That's the right use of social media. Share this with your followers. Share this with your friends and family over there. Take a screenshot of the episode, share it on your Instagram stories. You could tag me, I'm at shawnmodel on Instagram. And of course, tag Dr. Mosconi as well. She would love to see the love. We've got some epic masterclasses and world class guests coming your way very, very soon. So make sure to stay tuned. Take care. Have an amazing day. And we'll talk with you soon. And for more after the show, make sure to head over to themodelhealthshow. com.

That's where you can find all of the show notes. You can find transcriptions, videos for each episode, and if you got a comment you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome and I appreciate that so much. And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.