

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

[00:00:00] Jane Rogers: Welcome to the *Cutting Edge Health* podcast. I'm Jane Rogers, journalist, health coach, consultant to doctors, and recovering chocoholic. My passion is helping my friends and others squeeze every dropout of life, using the latest scientific breakthroughs to make 90, the new 40, extend our health spans by 10 to 20 years, and prevent the diseases of aging. I travel the world interviewing, leading experts in health and longevity, to learn how to live longer, and better. Buckle up. It's never too late to ride the cutting edge, to grow younger, sexier, healthier, and sharper together. Alzheimer's strikes women more often than men.

Two-thirds of all Alzheimer's patients are women. Research is showing it is just plain smart to be on bioidentical hormone replacement therapy if you want to protect against cognitive decline. Dr. Lisa Broyles is a functional medicine MD who appears often on the *Cutting Edge Health* podcast. In this episode, we take a deep dive into bioidentical hormone replacement therapy for both men and women. I'd like to welcome you back.

[00:01:06] Lisa: Thank you, Jane. I'm so happy to be here. It's been a little while.

[00:01:09] Jane: It's been way too long. You're doing well?

[00:01:12] Lisa: Yes, absolutely. I'm really enjoying seeing the patients in this quality setting of having lots of time with people. I love functional medicine and all that it offers people, so thank you.

[00:01:22] Jane: Oh, lucky you. We're talking about hormones today. It's something that all of us need to be really aware of, concerned about if we're not on them considering getting on some hormone replacement therapy.

[00:01:35] Lisa: Yes. I think it's so important. Women have been so focused on hormone therapy. Should I use it? Should I not? I just really wanted to answer some of those questions, address the latest research, and give women some assurance that hormone therapy is actually beneficial important. Most of us should strongly consider being on it once we go through menopause, estrogen has receptors all throughout our body, and I know that today we're focusing on cognition. You have estrogen receptors in every organ, even the blood vessels.

Vascular health is important for cognitive health because the blood vessels are supplying oxygen to the brain, and if those blood vessels are clogged, narrowed, then that brain's not getting enough oxygen, which is also going to affect cognition. You have estrogen receptors in what's called the endothelium, which is the inner lining of the

blood vessels. When estrogen binds to that endothelium, it actually increases something called nitric oxide production and lowers blood pressure, increases vascular elasticity, meaning it makes the blood vessels more pliable, softer. When blood vessels are too stiff, you get high blood pressure. When they're getting really stiff, they crack and that's when you get dissections, aneurysms, aortic aneurysms not something you want to have. Estrogen helps to prevent you getting an aneurysm in the first place, which is really exciting. Most people don't know that about estrogen.

Estrogen when it gets incorporated into the LDL cholesterol particle, prevents oxidation of the LDL particle, meaning that the damaging form of cholesterol to the arteries is lessened with estrogen. There's that. Vascular benefit affects cognition. You also have estrogen receptors all throughout the brain. Your forebrain, your pituitary, which is responsible for talking to the thyroid, the hypothalamus, and the amygdala, which are the first parts of the brain that are affected by Alzheimer's. All of these parts of the brain have estrogen receptors.

We have proven through PET scans that women that are on hormone therapy have much higher signal intensity in those parts of the brain on hormone therapy versus off of it. It's very important to have estrogen to reach each part of the brain. It actually increases what we call neurogenesis, which is the neurons making more of themselves. You have increased neuron production and decreased breakdown of the neurons. You have. Estrogen also increases synaptic transmission, which I think of like a radio with some fuzz. If you tune that radio just right, this shows my age, right? Because nobody uses radios these days, but if you tune it just right, then that fuzz goes away and your signal is much clearer. That's what estrogen does. It increases the strength of that synaptic signal so that your neurons can talk to each other better.

[00:04:43] Jane: What percentage of women in the United States are on estrogen when they're 40s, 50s, 60s? It seems like not too many people are adopting this. What you're saying is women wake up. We should be really considering this.

[00:05:00] Lisa: I think so. It's something that even when you're perimenopausal and you're approaching menopause, if you're starting to have symptoms where your periods are getting erratic, you're not sleeping as well, you're feeling more anxious, maybe you're feeling a bit more forgetful, that's the time to talk to your doctor about hormone therapy. Because the studies show the sooner that you start it, the better you're going to do as far as your cognition. The women that start it right away when they go through menopause and stay on hormone therapy for those first 10 years, between ages 50 to 60, consistently have less risk of developing Alzheimer's dementia than those that aren't on it at all, or that start it after that 10 year period.

[00:05:39] Jane: Oh, that's fascinating. It's not just any old estrogen supplementation. You have to be pretty careful, right?

[00:05:46] Lisa: That is the key. Hormone therapy got a bad rap back in 1998 to about 2004. In 2002 to 2004, the Women's Health Initiative trial came out, which was a collection of studies over 150,000 women were part of these studies, primarily between 2002 to 2004. These studies were looking at women either on just estrogen in the form of conjugated equine estrogen, or conjugated equine estrogen with medroxyprogesterone, which is a synthetic progesterone called progestin, which is very important to distinguish. It is not biologically similar to human-grade progesterone. The Women's Health Initiative studies did not look at any Bioidentical Hormones, they did not look at Bioidentical progesterone or estrogen.

It was only the synthetic progestins and the conjugated equine estrogen. The results of that study from 2002 to 2004 showed that there was actually a worsening of cognitive health, a worsening of vascular health with increased risk of heart attack and stroke, and increased risk of breast cancer. Of course, physicians immediately took most of their patients off of their hormone therapy because we were all scared that we were going to cause our patients to develop breast cancer or heart disease.

Unfortunately, the reason for that was mainly medroxyprogesterone. Synthetic progestin do worsen cognitive decline. You can look at PET scans of women that are on medroxyprogesterone and you do see a decrease in signal in the temporal and parietal lobe. You have less cognitive energy there with the synthetic progestins than you do with the bio progesterone, the natural human Bioidentical.

[00:07:48] Jane: When you go to your doctor, you should ask for Bioidentical Hormone replacement therapy, right?

[00:07:53] Lisa: You should. Unfortunately, most doctors are not familiar with Bioidentical Hormone therapy. It is not covered by insurance, and it has to be compounded. There are some exceptions to that. There is a human-grade progesterone called Prometrium that is available commercially, however, it is cut with peanut oil. If a patient has a peanut allergy, then they can't use that. For patients that don't have a peanut allergy, the Prometrium comes as a 100 or 200-milligram capsule. Yes, their doctor can prescribe that instead of synthetic progestins.

The conjugated equine estrogen has not been shown on its own to have any damage cognitively vascular. In fact, the studies that were on women, just on the conjugated equine estrogen, did show less breast cancer, less blood clots and strokes, improved vascular health. That's where you can really narrow down those negative effects that we saw were coming from the synthetic progestin, not from the estrogen. Dialing it down further from that, the conjugated equine estrogen is available orally, vaginally, topically, patches. However, I still prefer a Bioidentical form of estrogen from a compounding pharmacy, preferably transdermal. You really don't want to take your estrogen orally, especially as you age, especially for women that are postmenopausal.

You can see the warning on birth control pills, that you have a slightly increased risk of stroke when you take it orally. That is true even for women that are in their teens, 20s. Doesn't happen to the majority of people because most people don't have a genetic reason why their blood is a little bit thicker. There's usually another reason why that happens in addition to just being on hormone therapy. When you take any form of estrogen orally, the liver converts that estrogen into a toxic form of estrogen, primarily. Even if you take estradiol, which is the less inflammatory good for your form of estrogen. Then when you take that estradiol orally, a percentage of it is converted to estrone. Estrone is your pro-breast cancer, pro-inflammation type of estrogen. Women assume estrogen is estrogen, but there's actually three different kinds of estrogen. You've got your estrone, which is primarily produced by the body after we go through menopause, you've got your estradiol, which is called E2.

That's the one that we use in the bioidentical hormone therapy and in a lot of commercially available products and then you've got Estriol, which is E3. Estriol is made the least and is really the least bioactive, although it is the best for vaginal health because different tissues in the body need different forms of estrogen, but you really don't want much of that estrone.

If you're taking your estrogen orally, then you're going to get more estrone production, more increased risk of breast cancer, increased risk of cognitive decline. You really want the estradiol and you want it transdermal and then you're not going to get that conversion to estrone. Your doctor can check through blood work or through saliva or urine. They can check and see, are you primarily making estradiol or estrone?

[00:11:16] Jane: What range do you want your patients to be in for their estradiol when you do a lab?

[00:11:23] Lisa: It totally depends on the patient. It depends on their age. It depends on their risk factors as far as where I want it and you also want the right balance of estrogen compared to their progesterone. That's going to be based on the individual patient. I do think that it's important that you discuss with your doctor forms of hormone therapy. If they're not familiar with it, then I recommend seeing a functional medicine expert who has been trained in it.

[00:11:48] Jane: Backing up just a little bit, you think transdermal is the best way to get bioidentical hormones into your body, but how about pellets?

[00:11:57] Lisa: Pellets are a good idea too. There's a lot of doctors that use pellet therapy, which is bioidentical hormone therapy. You can get a pellet injected that then is good for several months. The benefit to pellets is ease for the patient as far as you don't have to apply a topical cream or change out a patch. That's a nice option. The one thing

I don't like about pellets is once it's in there, you're stuck for several months. If you don't like it, you got to wait a few months before you can really do much about it.

It is a little bit harder to adjust dosing, but once you have it where you want it, it is easier if you do it in the pellet form. That's perfectly fine too. Again, that's transdermal. That's a safe form. There have not been a lot of studies that have head-to-head compared the bioidentical with the oral, but there was one that keeps trial and it was primarily focused on the vascular health and that was done in 2017. The keeps trial did show that the transdermal estrogen did show improved cognition and improved vascular health, less risk of cardiovascular events. There's just not been a ton of studies comparing them head to head.

[00:13:10] Jane: I'm on bioidentical hormone replacement therapy. I've been on it for years, ever since mid-40s probably and I noticed smart. I don't know. I know it is now. You're right, but when I started doing, I was nervous because a lot of people were saying it was dangerous, but it's been bioidentical the whole time.

I noticed right away and I happen to do pellets. Also, I take orally the progesterone compounded and it works really well for me, but I notice as my level starts to decrease, as my pellets wear down, I see symptoms like I can't sleep well. I wake up in the middle of the night. You can really feel when you're running low.

[00:13:48] Lisa: Absolutely. In 2017, the North American Menopausal Society released a statement about hormone therapy actually saying, "Hey, this is a good idea. Even after 10 years of being on it, even for women over age 60, you should just discuss it with your physician, but there's no limit that we're placing of when women should get off of this."

That is the primary prevention and treatment of osteoporosis, being on hormone replacement therapy. It helps with insomnia, it helps with joint pain because even your joints have estrogen receptors. Of course, your vaginal health. Sexual health has improved because it thickens the vaginal tissues and makes them more moist again. Sex isn't so dry and painful. Increases the quality of your hair and less likely to fall out, which is important for all of us and skin turgor too. Your skin thins everywhere without estrogen.

I remember my mom's mother had breast cancer and had to go on an estrogen blocker. She couldn't wear her earrings anymore because the skin and the fat of the ear lobe just thinned to paper thin and her earrings would just pull. It thins everything. I really think hormone therapy, it affects every body system, but I think it's critical for those of us that are at risk of developing Alzheimer's, like those that have the APOE4 gene. It's really important for them. If you've heard of something called a telomere, the APOE4 gene, if you have one copy or two copies, you are at risk for increased what we call telomere

shortening, where your chromosomes have this little cap on the end and that's called the telomere.

I think of it like a shoelace keeping your shoe on and shoe tied and if the telomere shortens, then the shoelace becomes unraveled, and that DNA is at risk of unraveling and damaging and you start seeing disease, cancer, shortened lifespan when those telomeres start shortening. APOE4 carriers are at increased risk because we do tend to see a higher telomere shortening, unless they are on hormone therapy. We have shown that being on estrogen blocks, the telomere shortening for those with APOE4. I would say it's even more critical for those carriers.

[00:16:10] Jane: Good. I'm heterozygous for APOE4. Good. I'm seeing a lot of my friends though, as women are talking more and more about menopause, finally openly really talking about it and how it affects their lives. Many of my friends haven't adopted bioidentical hormone replacement therapy. Maybe they were nervous coming out of the early 2000s with all the scare that our mothers went through, but if they're already pretty well past menopause, what are their 60s, what are their 70s? Can you start then?

[00:16:39] Lisa: That's a great question. It's so interesting. The researchers that did the Women's Health Initiative study went back 18 years later. These studies have just started emerging. They looked at those women that were in the Women's Health Initiative study and they looked at that arm that was only on the conjugated equine estrogen and those women compared to women that weren't on hormone therapy, had decreased risk of developing Alzheimer's and breast cancer 18 years after they did the initial studies.

It's really a breakthrough to look back at that same group of women and say, "Hey, that estrogen was protective and those women were just on the conjugated equine estrogen. It wasn't even the bioidentical, but it does show that estrogen long-term is protecting our cognition, protecting us. The transdermal protects us from breast cancer. We do have that new evidence that says yes, even after age 60, after age 65, it is important to still be on hormone therapy and right now we don't have an age at which women should stop it and that really should be up to that woman, her risk factors, her medical history and her provider to make that decision.

[00:17:55] Jane: What if you haven't? What if your menopause was 15 years ago? What if you're a 70-year-old woman or 60 even? Can I start now if I haven't been on it?

[00:18:04] Lisa: You can. Now, if they have absolutely no symptoms of anything, they're a 70-year-old that's happy and exercising, no cognitive decline, no issues with sex, sleep, any of that, then they may not be interested in it, but I do think if you have a family member that has had Alzheimer's or you find out you have the APOE4 gene or you're experiencing any mild cognitive decline, even if you've not been on hormone

therapy, if you don't have a personal history of breast cancer, uterine or ovarian cancer, you should strongly consider going on hormone therapy because we can prove that it does improve cognition and lessens the risk of you developing Alzheimer's in the future.

Now I will say if you have a first-degree relative, a sister, or your mother that did have breast cancer, I recommend that you get genetic testing done to see if you have a known gene that can cause breast cancer before you go on hormone therapy because it's not that being on hormone therapy causes tumors de novo. It's that a tumor that's already there can be fed by estrogen or progesterone if that tumor has receptors for one of those hormones.

[00:19:19] Jane: Good advice and that gene you're looking for, is it the BRCA?

[00:19:23] Lisa: The BRCA. There's a BRCA1, BRCA2, but there's been more genes than that identified and there's more that we don't know about, but there are like 5 to 10 that we know about that can be tested, but if you don't have a family history or a personal history, then I do strongly recommend it. If you are at all worried about cognitive decline.

[00:19:45] Jane: One of the ways to prevent cognitive decline is to slow aging. If we can slow aging, we then can slow the onset of age-related disease.

[00:19:54] Lisa: True.

[00:19:55] Jane: It's funny in men with testosterone and we haven't gotten into the male side of it yet. I've read, if you supplement, you do testosterone replacement therapy and you get your testosterone too high, that is not going to work in your favor, as far as trying to increase your longevity, trying to slow your own aging. It puts your body into a state of reproduction, instead of hunkering down when times are rough. How about for estrogen? Have you seen any studies for estrogen for women?

[00:20:25] Lisa: Yes. If women are on too high levels of estrogen, patients actually get symptomatic before those levels become a problem. Too much and you're going to restart a woman's period, and they're not going to be very happy with you. You don't want to resume uterine bleeding, not only because it's a pain, but also because that can lead to uterine cancer. You really don't want to have any uterine bleeding after you've gone through menopause, and if you are having it, that means you're either on too much estrogen or it's not being balanced appropriately with the amount of progesterone that you're on.

Signs of too much estrogen, the danger flag is vaginal bleeding, coming from the uterus and breast tenderness, bloating, and increased irritability, if there's too much progesterone, we'll often see some acne starting to pop up. Too much testosterone can

do that for men and for women as well. You get those clinical signs before a woman reaches a "dangerous level", just talk to your doctor immediately if you have those.

[00:21:30] Jane: When I do my labs to check my hormone levels, it's very interesting. I look at how much estrogen, and how much progesterone, but if I don't have that in a certain ratio to each other, that's not good, is it?

[00:21:42] Lisa: Correct.

[00:21:43] Jane: There's even an online calculator, in fact, I'll, I'll put a link to it below, that you can plug those two numbers in, to make sure, "Am I in the right ratio of those two?" For a while I wasn't, I had too much progesterone.

[00:21:55] Lisa: Yes, you can, and too much progesterone again-- well, most women, I see too much progesterone can work the opposite for hair loss. They'll start losing hair more, having more bloating, more moodiness, and once you get that progesterone level imbalance, that improves. Primarily though, I struggle to get people's progesterone levels high enough to really be where I need it.

One interesting caveat to that is, if your doctor says, "Well, you need more progesterone according to your labs," but you become symptomatic when they really increase your dose, you can take progesterone that's an oral capsule and actually use it vaginally and all of those symptoms go away. You can still get all of the systemic benefits of the higher levels of progesterone without the bloating, hair loss, irritability, or acne. A little trick is, to use it vaginally.

[00:22:45] Jane: Oh, that's interesting. That's fascinating.

[00:22:47] Lisa: There's often a workaround. Estrogen levels, I will say too, there are different ways to test hormone levels. You can get salivary levels, you can get urine, there's 24-hour urine, there's spot urine, there's blood. I typically use blood, and even though it only gives you a snapshot of what the hormones are doing at that time, once women have gone through menopause, their hormones are no longer cycling. Before menopause, women's hormones are cycling in a pretty complicated pattern to create ovulation, reproductive cycle. Well, that ends. We really want a pretty steady state.

Blood is a more accurate way to test women that are postmenopausal versus premenopausal. The salivary testing, I have found when women get into their 70s and older, becomes inaccurate. If a woman has a dry mouth, her saliva concentrates. I was getting these crazy high levels of hormones when I was doing salivary testing and I realized, "Oh, it's because their saliva's concentrating," so I went back to blood at that point, the blood is also covered by insurance. That's a nice option for people financially.

[00:23:58] Jane: Whoa. Mine isn't. I learned something there. I keep having to pay out of pocket.

What do you think about, should we be at all concerned about our estrogen levels getting high enough that we should take DIM?

[00:24:09] Lisa: DIM helps our gut to detoxify levels of estrogen that are too high or that estrone level of estrogen. You can lower that, both with something called DIM, D-I-M, that's a supplement. Also, Calcium D-glucarate, that's also another supplement that detoxifies the toxic form of estrogens in the gut. When I do people's hormone levels and I see that their estrone is too high compared to their estradiol, even though I'm not giving it to them orally, I usually use it as a cream. But if cream pellet, you're still getting too much estrone, you can decrease that both with the Calcium D-glucarate and with the DIM. Both of those are effective. I like DIM also because it blocks histamine release, so for women that are sensitive to red wine, and dark chocolate, DIM helps block that headache and the histamine release that you get, which can cause itchy skin, hives, and those kinds of things.

[00:25:08] Jane: Do you find, as women are really doing the actual transition, sometimes you have a period, sometimes you don't, and it's slowly waning? That's one of the hardest times for BHRT Bioidentical Hormone Replacement Therapy because it's hard to get your amount of estrogen right, and pretty soon you've restarted the period and then you haven't, and you're right on the cusp.

[00:25:27] Lisa: It's especially true around age 50 because the ovaries haven't completely stopped working yet. They'll do these little squirts of estrogen and they're like, "I'm not done yet," and you'll go six months without a period and you're like, "Okay doc, can you start your Bioidentical Hormone Therapy," and you're starting to ramp up and feel good and then all of a sudden your period starts. Well, sometimes that's just because your ovaries are doing a last surge of estrogen.

You do have to play with it a little bit. I usually check levels every three to four months when women are in that perimenopausal, converting them over into hormone therapy until their symptoms are controlled and there are no more periods, no breast tenderness, sleeping better at night, the skin's feeling better, vaginal health is good. Then I know that we've got our dose where we want it, but it's still a good idea to check it every six months and to make sure that you are getting some form of breast imaging, whether that's a mammogram or a thermogram. I do feel like regardless of what form of hormone therapy you are on, you should be monitoring your breast health.

[00:26:28] Jane: That's a good idea. In the ideal world, and I didn't do this, but I have read that we should have been testing our hormone levels in our 20s just to get a baseline, or early 30s so we know what personally our bodies ride at.

[00:26:41] Lisa: I do think that's a good idea. Again, when women are in their 20s and 30s, a blood test is only going to be a snapshot of where they were in their reproductive cycle at that moment, and even during the day. First thing in the morning, for example, your testosterone levels, everyone's testosterone levels are highest, first thing in the morning, and lowest, mid-afternoon. Then they climb a little bit again before we go to sleep. If someone gets their testosterone checked in the afternoon, it's going to read a lot lower than that same day if they had gotten those labs done at 8:00 AM. [crosstalk] Timing is important for when you get them done as well.

[00:27:16] Jane: Are you finding with your patients, is this a hard sell to convince them they need to go on to hormone therapy?

[00:27:21] Lisa: Not at all. Honestly, it was, when I first started practicing and the Women's Health Initiative study had just come out, and I was uncertain and they were uncertain. I took my patients off of it and now I look back and of course, hindsight is always 20/20, when you see that, "Hey, those women that were just on the estrogen did a lot better. We've identified that the culprit was the synthetic hydroxy progesterone, not the human-grade quality progesterone." I find that it's actually quite easy now to discuss it with women. Like I said, if a woman has a history of breast cancer, uterine, or ovarian, or they're a smoker, or they have a personal history of blood clots, I do not put those women on hormone therapy because then the risks outweigh the benefits, but if they don't have those, then absolutely, I find that women are pretty excited about it and they feel good quickly once they're on it.

[00:28:10] Jane: When should a young woman go to their doctor? It shouldn't be when you're well into perimenopause. It should be at the very beginning, right?

[00:28:16] Lisa: I really think around age 40, women should start having these discussions with their doctor. Some women go through menopause early, I've seen it as early as 43, 44. Certainly, if a woman has had their ovaries removed or partially removed, you really need to get on hormone therapy because those women that have early hormone removal in their 20s, 30s, or early 40s, absolutely have an increased risk of osteoporosis and cognitive decline. Getting on hormone therapy right after surgery is really important for those women too.

[00:28:50] Jane: We've really talked this through about women and our hormone levels.

[00:28:54] Lisa: Yes.

[00:28:54] Jane: Is it time to move on to the guys?

[00:28:56] Lisa: Yes. We can talk about the guys because it's important for them too.

[00:29:01] Jane: Testosterone replacement therapy, is this as safe as what you're finding for the women's side?

[00:29:07] Lisa: I think that testosterone is important for men and women. For libido, for muscle mass, there's something called sarcopenia, which is muscle loss as we age, and both in men and women, you can prevent sarcopenia by being on both estrogen for women, but also for men, the testosterone. Testosterone is critical for men for their sense of well-being, for energy. It's not just about libido, and yes, it's true that low testosterone levels will lower libido, but they need to be thinking about it for energy and that sense of well-being as well. Testosterone therapy has really come a long way. You know, used to, all we had was injections, and I really don't like the injectable testosterone. I will say it's the only one that insurance easily covers because it's cheap. I did have men that were on it during my years of primary care. What I saw was they would feel great for that first week after that shot. Then they're supposed to get it every three weeks, and then week two, they're like, "I don't feel it's great." Week three, energy is bottomed out, grumpy, don't feel like doing anything. Certainly don't feel like having sex, until we get that next shot. We see this dramatic rise and fall of those testosterone levels with getting the injections every three weeks.

The other thing I don't like about them, is you do have an increased risk of something called thrombocytosis with the synthetic injectable form, which is where the blood is thickened, by being on testosterone. It is true that any form of testosterone can thicken the blood, but it happens more with the synthetic injectable form of testosterone that's commercially available.

Those men, if they felt really good and just couldn't afford any other way, I would have them donate blood every few months. A little bit less blood and that lowers the risk of blood clot. In general, I prefer more of a bio-identical. You can have them made as a **[unintelligible 00:31:07]** that melts under the tongue. You can get them made as a cream or of course, you can do pellet form, which is convenient for a lot of men.

[00:31:15] Jane: This begs the question and we should have covered this on the woman side, but women need a little bit of testosterone too, we do.

[00:31:21] Lisa: Yes. Women do. I usually include just a little bit of testosterone in my hormone cream that I get compounded. I've got the estrogen and the testosterone and a little bit of something called DHEA, which is a precursor hormone to help your body make more of its own progesterone and androgens like testosterone. I usually put the three of those in the cream. Progesterone is best taken orally. It doesn't absorb as well through the skin, and it can make it difficult to absorb all of the other hormones through the skin if progesterone is in the cream. I typically use progesterone orally or pellet form is fine. Then for the transdermal, the testosterone, the DHEA, and the estrogen.

[00:32:03] Jane: The testosterone for women helps with libido.

[00:32:06] Lisa: Absolutely.

[00:32:07] Jane: It does.

[00:32:07] Lisa: It does. You also have a nice partner, but I do think that testosterone levels for women, it helps women want to be athletic, want to exercise because I do see as women age, they tend to not want to exercise as much. That drive isn't there. Testosterone helps you want to go to the gym or want to go lift weights. Of course, that's going to build not only your muscle mass but your bone health because when you stress your bones, they build. It is important that women continued exercise for bone health and that is going to improve with testosterone.

[00:32:42] Jane: Back to men now. Let's talk about testosterone level with longevity and slowing aging in men. You don't want to have a guy jacking up his testosterone level getting into reproduction mode. If he is really concerned to slow the progression of diseases of aging, you gotta act.

[00:33:00] Lisa: Yes, the levels for men are a little more simple than women. For men, you want a level between about 400 to 700. 700 is really optimal. If a testosterone level gets above 700, then you do run the risk of the thrombocytosis, that thickened blood increased risk of blood clots, heart attacks, stroke. We don't want any of that. Oh, also, prostate health. Being on testosterone swells the prostate. It doesn't necessarily cause prostate cancer but it can make the prostate get larger. This condition, that's very common called benign prostatic hypertrophy, can be worsened by being on testosterone.

Now, if you have prostate cancer and you start testosterone, it can feed that cancer. It is true that there is an increased risk of prostate cancer if there's already one that exists and you don't know about it and you go on testosterone. It is important. I am a fan of monitoring a yearly PSA level for men because I do see that a PSA that's hanging around one or two is not cancer. If the next year I check it, that PSA has jumped from 2 to 20, that's prostate cancer until proven otherwise. I do monitor PSA levels along with the testosterone, along with the CBC, which is the blood markers for men that are on testosterone therapy.

[00:34:19] Jane: Good idea. Anything else we need to be covering? Men, women, hormones, anything else?

[00:34:24] Lisa: I just think it's so important that women know the truth about hormone therapy, the truth about the risks. That it's not all hormone therapy that's causing breast cancer, stroke, everything that we heard about back in the early 2000s. It's that they

really need to avoid the medroxyprogesterone. The synthetic progestins, and they need to avoid oral estrogen. If you avoid those two, then by and large, the hormone therapy is safe and beneficial.

[00:34:52] Jane: Dr. Broyles, thank you. I've learned.

[00:34:54] Lisa: Thank you for this opportunity. I love sharing this information because it really is life changing if this is the Fountain of Youth for women. I certainly am planning on being on hormone therapy once I reach menopause.

[00:35:07] Jane: Excellent.

[00:35:08] Lisa: Thank you so much for this opportunity.

[00:35:10] Jane: Thank you. Have a great day.

[00:35:11] Lisa: Thanks, bye-bye.

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