

How Menopause Affects The Microbiome And Inflammation

David Jockers, DNM, DC, MS
with **Michelle Sands, ND**



David Jockers, DNM, DC, MS

Dr. Michelle Sands, thanks so much for joining us today.

Michelle Sands, ND

Thank you so much for having me. It's a pleasure to be here.

David Jockers, DNM, DC, MS

You're a female hormone expert, and you work with a lot of women who are going through perimenopause and menopause. Let's talk about some of the major symptoms that women experience as they're going through this transition in life.

Michelle Sands, ND

There are tons of symptoms. The ones that we talk about the most are going to be hot flashes, night sweats, insomnia, vaginal dryness, and mood swings. That's the one that everybody attributes to menopause. But there are 99 symptoms of menopause. Everything ranging from ringing in the ears to sore joints to high cholesterol. You've got health issues ranging from bloating and gas, constipation, diarrhea, and a leaky gut. It goes on and on. The hormones are so much our chemical messengers in our body. They're involved in pretty much every aspect of our lives, and then every aspect of our lives, from everything we eat to everything we think about to how we sleep to the environment we interact with, all of which interact with our hormones. They're very sensitive. It seems like it may be scary to balance hormones because everything you do to have a healthier heart, everything you do to have healthier bones, and everything you do to have a healthier gut also helps your hormones.

David Jockers, DNM, DC, MS

For sure, hormones are such a key player in our overall physiological processes. What's happening to a woman's hormones as she goes into perimenopause and then into menopause?

Michelle Sands, ND

Women's hormones cycle throughout their reproductive years. Starting at puberty, we start having fluctuating levels of estrogen and progesterone. Our testosterone increases. Then, as we reach the end of our reproductive life, which is our perimenopause stage, where we're winding down our ovarian production of estrogen and progesterone, it starts to slow. We're not releasing eggs every month, and we're not getting that bump of progesterone or estrogen each month. We start to notice symptoms, as in, the first symptoms that usually happen are associated with progesterone decline. That's usually the first hormone to drop because, when we don't release an egg, there is no need for progesterone to increase. Symptoms like anxiety, insomnia, and constipation are another big one with low progesterone. Don't put two and two together. But progesterone helps that gut motility. Even women before perimenopause—women who are cycling—may notice that right before their period, they start to get a little constipated. When they get their period, they might get what's referred to as period poops, where you have a little bit of diarrhea.

The women will notice this throughout their reproductive years. But a lot of women don't put two and two together to know that it's the hormones that are fluctuating and not necessarily something they eat, so that's interesting. Progesterone is the first to fall. Then we have estrogen. When estrogen is ushered in, it's so important for female health and our brain. Brain fog kicks in, and we start to lose collagen. Starting at age, whatever age you enter menopause, the average age is 51. But most women will enter perimenopause five to seven years before that. It can be as early as the 30s for some women. The average is in the 40s, but your collagen will start to drop, so you'll start to notice more laxity in your skin, wrinkles, fine lines, and things like that. Often joint pain occurs because estrogen acts as a lubricant, or so it's important for lubricating our joints. You may notice you start to have joint pain and stiffness. Estrogen is also very important for not only brain health but also bone health and heart health. Then, of course, there's the vaginal dryness, painful sex, and all the issues around the vaginal microbiome, including urinary tract infections.

Because estrogen is so important for supporting our lactobacillus, which is important for our gut half as well as our vaginal microbiome. Those are some of the big ones. Like I said, there's everything from tinnitus to high cholesterol to hair loss. There are so many symptoms of menopause, but specifically for gut health, our hormones are so important. A lot of women notice that as they reach their 40s, they start to notice they can't eat as many foods as they used to. They start to have cramping, bloating, or digestive issues. Once they have their meal, a lot of women will partially cut out whole food groups because they're afraid of what's going to happen to their digestion. Also, a lot of my clients will say they avoid some social situations because they start to have a lot of uncontrollable gas. It's a quality of life thing that making sure we have that balance is so important, and there's a lot that we can do.

David Jockers, DNM, DC, MS

You mentioned three hormones: estrogen, testosterone, and progesterone. As women are going through this transition, you mentioned that progesterone is dropping and estrogen is dropping. Oftentimes, even though it's normal for these hormones to drop, progesterone drops more.

Michelle Sands, ND

It drops first.

David Jockers, DNM, DC, MS

It's like a larger gap in estrogen and progesterone. That can be a factor in some of these symptoms as well.

Michelle Sands, ND

Hormones are all about balance. When our estrogen and progesterone are balanced with our testosterone for women, we don't talk much about testosterone. But women have a good deal of testosterone about the rest of their hormones. We just don't make quite as much as men. That's so important for our bodies. Some things are associated with low testosterone. One of the major things associated with low testosterone is going to be a loss of energy and sex drive. But testosterone is also important for reducing inflammation, specifically in our gut. Low progesterone or testosterone can lead to leaky gut and increased intestinal permeability, which, down the line, can lead to an increased risk of autoimmune conditions and much bigger issues down the road. Having healthy testosterone levels is so important for women. But in addition, even if your testosterone levels stay strong, if those are high about your estrogen and progesterone because they've now dropped, you can now have issues like acne, hair loss, and belly fat—things that you don't want as well. We don't want to have high testosterone levels in our estrogen and progesterone. We want everything to be balanced. Same thing with estrogen. We don't want estrogen dominance. We want a balance of our estrogen, progesterone, and testosterone hormones. It's like Goldilocks and the Three Bears. They need to be not too much, not too little, but just right.

David Jockers, DNM, DC, MS

That makes sense. Also, when women are younger, high testosterone levels are associated with PCOS and Polycystic Ovarian Syndrome. That's not what a woman's going to experience as she goes into menopause.

Michelle Sands, ND

But it could be a similar scenario because, with PCOS, women generally have an off-duty military cycle, meaning that they're not ovulating, and that's causing them to have significantly decreased progesterone. Progesterone opposes testosterone and keeps it in line, so these women are experiencing it on a smaller scale, like actually on a larger scale for them, but on a smaller scale in perimenopause. It's a similar scenario for a lot of women, as our progesterone

drops but their androgens stay level. It's different. It's unique for a lot of women because you can have a woman who is 40 years old and has very low testosterone, and her progesterone and estrogen levels haven't dropped yet. But conversely, you have a woman who has perfect testosterone for her estrogen. Progesterone levels have dropped so low that now she has those PCOS-like symptoms.

David Jockers, DNM, DC, MS

Now you touched on the way that some of these hormones impact the gut, the microbiome, and just the gut junction itself. You mentioned estrogen. I heard you mention how that has a beneficial effect on lactobacillus, and a lot of the different species of lactobacillus are healthy bacteria that are in our intestinal tract as well as, as you mentioned, in our urinary tract.

Michelle Sands, ND

Exactly. The urinary and vaginal microbiomes It is important to keep that in check. It is very much related to our gut microbiome. Usually, if you're having an issue in one, you're going to have an issue in another, especially if it's due to a lack of estrogen. It's not just the lactobacilli, though. It's also the bifidobacteria. Those are two big, huge species of bacteria that not only do we need to have good neurotransmitter synthesis and good absorption and digestion of our food, but they also have to keep the balance of our bad bacteria tamped down. A decrease in estrogen can harm the levels of your good lactobacillus and bifidobacteria. But also, it can cause an increase in the more harmful or less preferential bacteria that we don't have; we need all of the bugs in our gut to have environmental diversity. But you want them at certain levels. The more harmful bacteria; when they get higher and you have less lactobacillus and bifidobacteria, then you're going to have digestive issues. You might have cramping and bloating, constipation, diarrhea, and difficulty digesting foods. You do want that optimal balance. There are things that you can do besides replacing estrogen. Of course, eating a healthy diet, having fiber in your diet, taking a probiotic, eating fermented foods, and having prebiotic-rich foods. It's not just about replacing hormones; we do that in our practice. A lot of women will want to do that for all the other symptoms of menopause as well. But it's important to know, like, why these things are happening to you. It's not that you did something wrong. It's just the human body. The female body wasn't designed to live past 50-something years old, so we, our systems, shut down. If we now have the technology, the sanitation, and the lifestyle, we can live to be 100 years old. That's why, for a lot of women, replacing hormones is an option, because now they can live vibrantly until their 100th year.

David Jockers, DNM, DC, MS

For sure. Let's come back to replacing hormones. But first, let's talk about estrogen. You mentioned how that impacts the gut. How about progesterone? What's its impact?

Michelle Sands, ND

Before we move on to progesterone, I also just wanted to add in estrogen. It has a huge impact on our bile production and our digestive patterns. Our gallbladder stores bile. That is, it's produced by the liver as a digestive fluid that helps break down fats. When estrogen levels drop, we make less of this bile. It's more concentrated when it empties into the digestive system, so that can make digesting fats extremely difficult for women.

David Jockers, DNM, DC, MS

Now, by more concentrated, you mean more sluggish.

Michelle Sands, ND

More sludgy. It's not as free-flowing. It becomes more sticky, which. Exactly.

David Jockers, DNM, DC, MS

It is made up of bilirubin, which is a product of red blood cells, cholesterol, and specific salts. It's going to have a higher concentration of cholesterol in salt, which makes it more sluggish there.

Michelle Sands, ND

I guess that is a perfect word. When that happens, you're going to have a harder time digesting your fats. But also, you can put yourself at risk of developing things like gallstones and gallbladder problems. That also has a direct relationship to estrogen.

David Jockers, DNM, DC, MS

I think that's so key too, because bile is not only key for digestion, but it helps to sterilize the small intestine.

Michelle Sands, ND

Yes, the bacterial levels are under control.

David Jockers, DNM, DC, MS

A lot of people are dealing with small intestinal bacterial overgrowth. That can be related to poor bile production.

Michelle Sands, ND

We do see an increase in SIBO in women as they enter perimenopause and menopause. And it's higher in women than in men all over. That's a huge distinction that we often don't think of. Like a lot of people aren't pointing to estrogen and progesterone when it comes to gut issues, it is important to take note of that.

David Jockers, DNM, DC, MS

For sure. Then there's also a marker beta-Glucuronidase that you look at, which my health coaches look at when we're looking at people, stool analysis, and hormone balance. What is the role that estrogen plays in estrogen metabolism?

Michelle Sands, ND

Up until now, you've been talking about the effect estrogen has on the microbiome. But the microbiome also has a huge effect on the estrogen circulation in our body. There's a whole part of the microbiome that we call the Estrobolome. Part of what that does is reduce the properties of an enzyme called beta-Glucuronidase. This enzyme can take estrogen that you've had circulating through your body. Then you have catalyzed it, and now you're getting ready to excrete it out. They used estrogen. It can reactivate that estrogen and send it back through the circulation. This can create estrogen dominance issues for women. even women with menopause symptoms. You don't want that recirculating estrogen going back through the body. You have to have the right amount of beta-Glucuronidase so you can excrete the used estrogens.

David Jockers, DNM, DC, MS

I see a lot of people who have elevated beta-Glucuronidase. As we get into solutions, we want to touch on that. What can they do to help bring that down?

Michelle Sands, ND

Absolutely.

David Jockers, DNM, DC, MS

Now again, going back to because we talked a lot about estrogen and its impact on the gut and how the gut impacts estrogen levels. How about progesterone? What is its impact on the gut?

Michelle Sands, ND

Progesterone has a major impact on the gut and has to do with gut motility. Estrogen is important for helping move food through the digestive tract when progesterone levels decline. This can slow gut motility. This can contribute to gas in putrefying foods, releasing harmful gas and causing discomfort, bloating, distention, and constipation. Then you can also detoxify your body because when you're excreting stool and urine, you're getting rid of toxins. When you're constipated, you can send those toxins back out through your body. Just like with estrogens recirculating, you can have toxins recirculating as well. A lot of people can feel sticky, sluggish, uncomfortable, tired, and fatigued. This is directly related to progesterone.

David Jockers, DNM, DC, MS

I always say you have to pee and poop your way to good health.

Michelle Sands, ND

That's the elegant way to put it. Exactly.

David Jockers, DNM, DC, MS

We've talked a lot about these hormones and how they're impacting gut function. That was that interesting. I didn't know that progesterone had that impact on motility. Estrogen plays a big role again in bile production. That way, we're able to sterilize the small intestine, digest and absorb fats and fat-soluble nutrients like vitamin A, vitamin D, vitamin E, all these key nutrients, the mega-three fatty acids, all these key players in overall physiology and immune health, hormone health, and all that stuff. Then you mentioned testosterone playing a big role in keeping inflammation under control. You guys can see how all three of these hormones in balance work to keep that gut working just right, keeping that microbiome in balance. As a woman goes through perimenopause and menopause, there's going to be a teeter-totter where it's like there's going to be times based on her stress levels or sleep, things like that, where things are out of balance, and ideally, if you're out there and you're listening, what you need to do to get back in balance, but you may not. That's what Dr. Michelle is here for. Let's talk about that. There are things that we can do to create balance with these hormones.

Michelle Sands, ND

Balance—that's the perfect word—for your hormones, but also a lifestyle. We live in a very hard-to-do-it-all lifestyle. That attitude of just trying to get things done all the time and not taking time for rest. That's one of the main contributors to one hormone imbalance, but also to the gut issues associated with hormone imbalance. One thing we didn't talk about was that when you're pregnant and progesterone declines, your cortisol can increase because of stress. We just have a lower ability to deal with stress when we have a decline in our estrogen and progesterone, partly because there's more inflammation, but we're more sensitive because of the neurotransmitters that are affected. When cortisol goes up, it just makes you have a more heightened stress response, which takes you out of the rest and digest response rate.

It's the opposite. The relaxation response helps with digestion and repair, whereas the stress response is going to be more of a fight-or-flight. You're not going to take the time to digest as much. You don't release as many digestive enzymes into your system, and you don't release as much hydrochloric acid. That's the key: taking the time out to practice, whether that's breathing yoga, meditation, walking outside in nature, reading or painting, or doing something that you enjoy that may not be productive but does something for you. Taking time out. That's like number one for me. Supplements, hormone replacement, and anything else you can do. That's number one: stress reduction practices every day are non-negotiable. For sure. That's going to help your digestion. Also speaking of that, when we sit down to eat a meal, not eating on the go, we take our time to choose our food well, because chewing is actually like the beginning of your digestion and mixes with your saliva, and it helps your body to have that pre-broken food go into your digestive system. That's going to be huge. Also, it's mindfulness with their food. You're

going to feel fuller faster. You're going to be more satisfied. Chewing your food, taking the time to eat, and then, of course, for a food diet. I'm eating a diet that's rich in fiber but also diverse in fruits and vegetables and animal products if you eat because the more diverse your diet, the more diverse your microbiome, and you're going to have the ability to feed all of your microbes in your body, and fiber is going to help with the motility.

It's going to help move things through. That's very important. A lot of people don't get enough fiber. In the United States, we don't eat enough fiber. Just trying to make sure that you're getting fiber, including fermented foods like yogurt, sauerkraut, and kimchi, is going to help promote the growth of your good bacteria. If you can't eat fermented foods because you don't like them, consider taking a probiotic supplement. I like sports supplements, but you can find one that you like and works for you. If you've never taken a probiotic before, you may have to work your way into it slowly with a quarter dose or a half dose. Just because it can cause a few digestive issues at first. If you don't have what you need to accommodate it, it will help. Staying hydrated is important. Hydration is going to help your digestion. It's going to help with your elimination. Drinking your water is super important. Also, eating foods that help support your bile production is going to be great. Things like artichokes are going to be super important because those help with just supporting bile production as well. Let's see what else I said. Fiber. Getting sleep. Sleep is so important for our digestion. Make sure that you take the time and get seven to nine hours of quality sleep a night. When we're sleeping, this is when our body repairs itself. This is when your liver helps to clear out. That's going to be important for your hormone balance. Sleep is very important. Then, like, just for some remedies if you are having digestive distress, bloating, or gas, ginger tea and peppermint tea are great to have on hand to just sip on because they help with gas, bloating, and gut motility. Those are great options as well.

David Jockers, DNM, DC, MS

There are a lot of good strategies right there. Kind of a good foundation to start with. Now, when you're seeing a woman, let's say a woman's doing all those things. But you look at the labs, and she's got high beta-Glucuronidase. Going back to that compound that the gut microbiome produces causes the estrogen levels to recirculate. Particularly, estrogens. We should be breaking down, metabolizing, and excreting. Now they're elevated in the bloodstream. And oftentimes, very toxic estrogen compounds are elevated. What should a woman do if they see something like that on a stool test?

Michelle Sands, ND

Typically, I recommend supplementing with something like calcium. Which helps with that. Then also dim, which helps your body detox often. And then, of course, exercise, a healthy diet, a sauna, and other things that help with detox, like red light therapy. These can all help get the harmful estrogens out. But also, going back and healing that gut because it's not, we don't want to just treat the beta-Glucuronidase because it's part of the whole environment. Looking to see, do you have a good balance of good bacteria? If you're looking out loud, you're going to be able

to see this. Do you have a possible parasite like mold, yeast, or anything like that? Gut health, because you're the expert here, it's so important for every system in your body. If you are noticing any issues with your gut, chances are there's another issue that you often see worked on. But beta-Glucuronidase is a great supplement that you can take to help with beta-Glucuronidase. Calcium D-glucarate, and beta-Glucuronidase get it to its balance, but looking to find out why that's happening is probably even more important.

David Jockers, DNM, DC, MS

For sure. Calcium D-glucarate is probably the most well-studied compound for getting that beta-Glucuronidase under control. But I also found that adding in more of the bitters. You mentioned artichoke. Things like that can be helpful. Milk thistle can be helpful.

Michelle Sands, ND

Yes.

David Jockers, DNM, DC, MS

Oftentimes, there's an issue with the liver.

Michelle Sands, ND

Absolutely.

David Jockers, DNM, DC, MS

That can help support that as a whole. What are some other things that you're seeing, perhaps in labs? First off, what are the key labs? Do you do a Dutch test? What are some of the key labs you like to look at?

Michelle Sands, ND

We only tell you that the Dutch test is going to give us not only levels of hormones but also how those hormones are breaking down. Which pathway is for testosterone? That's super important, especially for women. Because we can see your testosterone breaking down the more androgenic pathway, if we added testosterone, you might suffer from hair loss, facial hair, belly fat, and things like that. That's important to look at. But for your genes, it's important to see if your estrogen is breaking down the pathway that can cause DNA damage, a healthy pathway, or a great split of all three pathways, which is nice. The Dutch are also nice because they're going to give you cortisol for points during the day. You can see what your cortisol rhythm is like. You can see your metabolized cortisol, which can give us some insight into the thyroid. Then we can also see some other markers like melatonin and oxidative stress markers as well. It's a little expensive. We do have an alternative. We also do saliva and blood spot testing. If someone just wants to see if their antigen tests and testosterone are not where they need to be, that's a great way to start checking. That's like a quarter of the price of a test. It depends on what you're looking for and

how much information you want. In a perfect world where testing has no money, I would recommend the Dutch test, but we also offer other tests as well.

David Jockers, DNM, DC, MS

The Dutch stand for dried urine testing for comprehensive hormones. As you mentioned, it's got a lot of biomarkers. You can help customize a plan. It doesn't necessarily mean you need to get that started, however, especially if you're hitting plateaus and you're doing a lot of things Dr. Michelle's been talking about. That would be a good strategy to look at because that can help fine-tune things. A lot of times for women, they'll just take something like DIM, say here all the press, about how methane is so good for estrogen levels. But sometimes that's not their issue. That's not going to impact the pathway that they need help with.

Michelle Sands, ND

Exactly. Now, for a lot of women in my demographic, they not only have the fat problems, but they also have the hot flashes, the vaginal dryness, and all the other things. They are looking for hormone replacement. In that case, we don't use the Dutch test because it doesn't give you an absolute level of progesterone. It gives you an inference based on the metabolite. We do like to use that saliva to drive blood testing when we're looking at replacing those hormones. We're just looking at absolute levels. But it's an option. You have so many options. You can start with a lifestyle of diet, exercise, stress reduction, and sleep supplementation. But if that doesn't do it or you still have other symptoms besides the fat issues, hormone replacement therapy is available. It's bioidentical hormone replacement therapy. It's safe, especially when it's topical. There's zero side effects. They're only side effects, like living longer. It's not a taboo thing like it used to be. Menopause itself is no longer taboo to talk about either. For talking about it. All of the celebrities are talking about it now. It used to be that women were embarrassed about menopause or digestive issues. But now we're all talking about it, so you don't need to be embarrassed. It happens to everybody. There's no need. There's no reason not to get help.

David Jockers, DNM, DC, MS

What's the difference between bioidentical hormone replacement therapy and conventional hormone replacement therapy?

Michelle Sands, ND

Conventional or synthetic hormone replacement therapy. The difference is that the substances that you're putting in your body are similar to the chemical structure of the hormones that your body makes. But not the same. They might have a little extra hydrogen, carbon, or something else. However, the bioidentical hormones are identical in chemical structure to the hormones that your body makes. Your body can't tell the difference. We do that. Some of the synthetic hormones are still considered safe. However, orally administered oral hormones for estrogen, particularly oral estrogen, whether it's bioidentical or synthetic, can cause some problems with clotting and some other issues. I never recommend oral estrogen, whether it be bioidentical or

synthetic. I'm a national Catholic physician, so I'm always going to try to do everything as close to nature as possible. We're always going to opt for it if it's available. Why not up for the hormones that are identical to what your body is expecting?

David Jockers, DNM, DC, MS

You mentioned that bioidenticals are the identical structure of the hormones that our bodies naturally produce. Then you mentioned a topical approach. It can cross into the bloodstream transdermally through the skin. Why is that a more effective strategy than oral?

Michelle Sands, ND

Because orally you have to, it has to go through your digestive tract into your liver for you to metabolize and then go into the bloodstream. Whereas topical, that hormone is going into the bloodstream in the first pass. It doesn't have to be metabolized by the liver first. When it's metabolized by the liver, it's changed so little that you also lose a lot of hormones when it has to go through your digestive tract. You have to use a much higher dose to get the same effect. When you're doing oral versus topical.

David Jockers, DNM, DC, MS

Based on specific testing, you could see if a woman might need a little bit more progesterone, a little bit more estrogen, and a little more testosterone. Or do you? Sometimes women need a little bit of all three. Is it?

Michelle Sands, ND

Everyone is different. You look at the test results, but there's a range of testing. It's not a perfect number. There's this level of this level, and it's considered normal. We also look at symptoms because every woman is going to be different. Some women like to be at the top of the range for testosterone. Other women feel better at the middle or lower end of the range. We're always going to look at symptoms. We look at like 100 different symptoms self-evaluated by the woman combined with their test results to see where you are in the range. Are you below the range? Are you right where you need to be? Do you need a little bump to feel a little better? So we'll do that. It's not a perfect science. We retest every four months. We reevaluate symptoms and dial them in. Everyone is going to be a little bit different. Then, depending on the stage of her life, if she's in perimenopause, it's going to fluctuate a little bit. She's still making hormones sometimes. If she has a stressful environment, if she gets sick, then things can fluctuate as well. It's always something you have to be rechecking and reevaluating.

David Jockers, DNM, DC, MS

It's good to know. Just clinically, I've seen a lot of women do amazing. When they get the right amount of hormones. It's life-changing for them. I'm sure you're seeing this on a regular basis.

Michelle Sands, ND

It is life-changing. Unfortunately, some doctors will give you megadoses of hormones, which we never recommend. We only recommend physiological doses. What the body would expect. But there are some anti-aging clinics out there that want you to get a vague result right away. They get negative, which feels good at first for a lot of women and men. But then what happens is that you start getting symptoms, and it starts not working as much because your body is just rejecting a negative.

David Jockers, DNM, DC, MS

You get a receptor downregulation. Is that what happens? It's almost like if you take a high amount of insulin, you create more insulin resistance.

Michelle Sands, ND

It's not quite the same. The mechanism is uncertain because you don't get as much receptor downregulation as you do with the symptoms of too many hormones. Like I said, it's Goldilocks; it takes a while to reverse those symptoms. Some of them, especially for women, can take a long time to reverse. Their voices can change like too much testosterone. The clitoris can get larger. And these things can take a long time and maybe never change back. It's important to work with someone who is looking out for your best interest, understands the whole body holistically, and isn't just hammering out hormones in a clinic because some people do that, and it might work for some people, but it's not a good idea in the long term. We always want to look towards long-term health and what's going to help you now, but what's going to make you feel better in ten years, 20 years, or 30 years as well?

David Jockers, DNM, DC, MS

And that you guys have a free hormone restoration masterclass as well that women, men, or anybody else can go to to discover more about what's happening with their hormones if they're dealing with any of these perimenopause menopause symptoms for men. Low testosterone issues, and they can learn more about it. How do people access that?

Michelle Sands, ND

You can go to fixhormones.com. You just put your information in, and you can choose when you want to watch the class. If you don't find a time that works, you can just click any time, and we will send you the replay right afterward. It's great because it's going to dispel all the myths and misconceptions. There's a lot of confusion around hormone replacement, who it's for, who it's not for, and what will help you and hurt you. I explain it all in simple, easy-to-understand terms. Then you can also ask questions.

David Jockers, DNM, DC, MS

That's wonderful. That's going to be a great solution for a lot of women out there. Let's talk. Let's go back to testosterone. What are some key strategies beyond what you mentioned earlier for

testosterone? When it comes to weight training and resistance training. Most women, a lot of women, and I shouldn't say most, but a lot of women are concerned about weight training. They think they're going to get bulky.

Michelle Sands, ND

But that's coming around the corner. That is changing. Like now, when I was growing up, women were supposed to be skinny, but now, like, everyone wants to have a booty.

David Jockers, DNM, DC, MS

Strong is the new skinny?

Michelle Sands, ND

I'm excited to see that. Yes. There is a study showing that, like, the most testosterone-boosting activity that they've ever found was chopping wood with an ax. You can simulate that with, like, kettlebells or those; they have those, I don't know, sledgehammer things, but lifting heavy weights. Heavy weights for one person are going to be different from heavy weights for another person. For some people, that might be a bodyweight squat. If they've never done squats before, But it's where it's hard for you after eight to 10 reps, and then you rest and you go again. That's great. Sleep. Lack of sleep is one of my primary reasons for low testosterone, believe it or not, which is of huge importance, and then there is also nutrient deficiency, like not getting enough. Zinc. Not getting minerals and then also not getting enough protein is important. One day, I didn't mention that magnesium is a good mineral for people who have constipation, bloating, or sluggishness. Magnesium can help with relieving gas and constipation. That's something very easy that women can take; you can take too much, especially magnesium citrate. You might get diarrhea. Just be careful with it. However, eating magnesium-rich foods can also be helpful. Spinach, beet greens, sweet potatoes, and things like that are going to be great. Dark chocolate. We all love that. Epsom salt baths can also be awesome because you can absorb them through your skin.

David Jockers, DNM, DC, MS

That's so good. Magnesium is also good for helping calm high cortisol levels as well as exacerbate them.

Michelle Sands, ND

It's like a stress management act.

David Jockers, DNM, DC, MS

This has been a great interview. We've covered a lot of great information here. That the listeners are going to enjoy this. Again that site was at fixhormones.com which people can go to.

Michelle Sands, ND

That's where you can watch the masterclass. Then I'm always answering questions. My team is made up of hormone specialists, doctors, and nurses. We love answering your questions. Don't be shy.

David Jockers, DNM, DC, MS

Wonderful. Your normal website is glownaturalwellness.com as well.

Michelle Sands, ND

That's correct. glownaturalwellness.com, and then fixhormones.com. You can find the masterclass.

David Jockers, DNM, DC, MS

Thanks so much, Dr. Michelle. This has been a wonderful interview. Listeners have learned a lot. Any last words of inspiration here for our audience?

Michelle Sands, ND

Since we're talking about menopause and perimenopause, I just want to let women know that your final period is not the end of your story. There's a whole other chapter. There's much more to go. Never let anyone write your prescription for the rest of your life. It's not. You write that prescription and the things that you're learning in the series from doctors and other experts. These are the things that are going to help you thrive. Just know it's not the end. It's the beginning.

David Jockers, DNM, DC, MS

Awesome. Thank you so much, Dr. Michelle. Go check out fixhormones.com, guys, and we'll see you in a future interview. Be blessed, everybody.