Introduction to Hormones and Functional Medicine

actually been in 14 years now. And those of you who know me know that I came from a background in OBGYN, which I did for about 25 years. And honestly, it got kind of burned out on the whole insurance company rules and regulations, some of which I still have to abide by, but decided that I really needed to do something different.

And I actually even considered leaving medicine. But I have, to be honest with you, I don't really know how to do anything else. And there really wasn't anything I wanted to.

I have a friend who is a dermatologist and she makes children's clothes. She opened a shop and sells her children clothes while she does dermatology. Some people are writers and physicians.

I'm just a doctor and that's all I've ever wanted to do and ever been interested in. So I had to figure out a way to medicine and do it in a ways that I'd be happier about where I wasn't ruled by insurance companies trying to put many people a day through my office, seeing people quickly and be able to really spend the time I wanted spend with people.

And so through a series of very fortunate events, I learned about functional and anti-aging medicine and started working with hormones. And one of my very earliest patients was somebody who was a physical trainer.

She came to see me for menopausal problems, fatigue, libido, mood. She wrote a testimonial about she was pleased with her results. And she said, it's been two months.

I've been on the Sclar Center program, and my energy is so much better. My muscle definition has improved, And my burning tongue is not nearly as bad.

and I was like, oh, what's that burning tong? And what does that have to do with hormones? who know me through the burning mouth, you know, kind of circuit know that I'm very, very interested in burning mouse syndrome and treating people for it.

And I kind Following that, which happened like 14 years ago and treating burning mouth patients since then, I also got into the field of cognition and cognitive decline.

And in the arena of cognitive, decline is another area where hormones are really important. So I'm going to go through with you information about hormones and what happens to women through the life cycle with our hormones.

what happens to men through their life cycles, and then talk about some of the controversies. Because one of biggest issues that keeps a lot of people from using hormones who really might benefit by them is the fact that they are afraid of hormones for one reason or another.

And I want to address some those fears and dispel some myths that surround hormone risks. So we're going to go through what changes through our life cycles and what the myths and controversies are.

So let's talk about what hormones are Hormones are great commanders in our bodies and we have glands all over our body that produce hormones and the hormones are the communication system.

So we our hypothalamus in brain that governs our pituitary gland which is also in the brain and that gland govern our thyroid gland, our adrenal glands, which are our stress glands are reproductive organs and glands.

And they do it by way of hormones by creating chemicals that travel through our bloodstream, go to another site

and provide information.

Key Hormones and Their Roles

So they're commanders, they are communicators. hormones affect how your brain works and I have to say when I first got into the field of longevity medicine, I mainly knew about hormones and reproduction and so I knew menstrual periods and having babies and menopause symptoms but I didn't know about all the other things that hormones do and how important they are overall.

They regulate our stress, they regulate how quickly we age, they regulate our immunity. They regulate or metabolism, how our engine burns, food and calories.

And of course they do control reproduction as well. These are the hormones that we work with at the Sklar Center. Estrogen, progesterone, testosterone, These are hormones that are in women as well as men.

We think of estrogen as being mostly a woman's hormone and testosterone as be mostly men's hormones. But in fact, women have small amounts of testosterone and men have smaller amounts estrogen.

And in, fact we think that the estrogen that men make from their testosterone is part of what keeps men brains healthier and cuts down the risk of Alzheimer's.

We work with DHEA, dehydroepiandosterone, which is really important, vitality, immunity, blood sugar regulator, energy producing hormone. We worked with pregnenolone which a fabulous anti-inflammatory hormone, pregnetolones used to be used treat rheumatoid arthritis.

And one thing I want you to know about hormones is that hormones which are natural products, can't be patented. So you couldn't patent pregnenolone and make a ton of money on it, because anybody could make pregnanolene and distribute it.

And pregenanulone in the 40s was used to treat rheumatoid arthritis because it was such an incredible anti-inflammatory agent. before the days of prednisone.

And prednizone is a synthetic cortisone type anti-inflammatory that could be patented. So drug companies made a ton of money off of Prednisones along with a number of other things.

But we still use pregnenolone, pregnenolones acts as a neurotransmitter, a chemical transmitter in the brain and helps us lay down new memories. Pregneno alone helps to reduce stress, when we get stress, stress on our adrenal glands.

Pregnanolone, like I said, is an anti-inflammatory that can help join inflammation and autoimmunity. Cortisol is our main stress hormone when are in a life-threatening situation, which we think we are all the time, all day, every day in modern society.

It might just be sitting in traffic or it might be your boss yells at you or it might be a disagreement with your partner, but your body thinks you're in a life-threatening situation and releases cortisol and creates a whole cascade of things, which if you really were in life threatening situation would definitely help you save your life.

But since most of the time we're not that cortisol release ends up on a day in and day out basis being harmful to our bodies. Thyroid is like the thermostat.

It governs how fast or how slow our metabolism goes. Melatonin, you know, in terms of sleep, melatonine is an important regulator of the day-night cycle.

And human growth hormone. which we'll get into a little bit later. We don't generally prescribe human growth hormone, but we have ways of stimulating it.

Lots of things stimulate human-growth hormone. And people worry about growth-hormone. They know athletes use growth hormones or try to use a growth hormon.

Growth hormone has been associated in people's minds with growth of cancer. In fact, if you can just think of human group hormone if it had the name human healing hormone That's how you should think about it.

So it gets released when we're in deep sleep during the night, and that's why one of the reasons sleep is so important. And it heals your body from the multitude of assaults that have gone on during day.

It's really a healing hormone. it does not make things grow. So women have a number of different hormonal changes in life. So we have menarche, that's the medical name for puberty or when you get your first period.

Then we menstrual periods, which we all know women cycle up and down, up, and up. We sometimes have problems with our menstruation cycles like premenstrual syndrome or PMS.

Pregnancy causes huge hormone changes. We have the perimenopause, another time of tremendous hormone change. And then we have menopausal, which means a year with no menstrual period.

That's the official definition. When you have gone a years without a period, you are considered to be in menoppause. Some people use the term postmenopasal.

I think once your period has been gone for a The main thing is that you are not going to make some of those hormones again. And if you're having problems, restoring them can make you feel a lot better.

So whether you call it menopause or postmenopausal, I think is really a matter of semantics, not really medically essential to know about. We have stress related changes when we get really stressed and make a lots of cortisol.

our other hormones suffer and I'll show you a graph and chart how that works. And then we have age-related changes. So there are a number of hormones that simply go down, down down starting at about age 25 or 30 and continue to go our entire lives and really have impact on our energy, our vitality and our sleep.

So I got a picture of a roller coaster because women are really on a hormone rollercoaster. We are for a lot of our lives. And I'm not saying men don't have changes in their hormone levels, but women have a lots of ups and downs.

starting to have menstrual cycles. So that's part of the ups and downs are the natural process our body goes through each month and getting ready to a pregnancy if that were to happen.

That's what menstruals cycles are about. They are getting about getting to get pregnant. Hormones, as I said, are affected by age, by stress, which I mentioned, but environmental toxins.

We'll talk about that a bit at the end. And I'm going to give Dr. Nicole Dodona a plug because she's going be doing this talk next month on toxins, environmental, toxins and the effect that they have on us and what we can do about it.

Sleep has an effect on your hormones. As I just mentioned human growth hormone gets released during deep sleep. Deep sleep, it happens in the first part of the night between about 11 and 3am.

Womenu2019s Hormone Life Cycle

That's when you're in most deep sleep. If you cut yourself short, you go to sleep at 1 in morning, You're losing out on deepsleep and you are losing on the release of growth hormone.

Your nutrition plays a role. Eating a high carbohydrate, refined carb, High sugar diet keeps your body from making adequate amounts of important hormones, and exercise affects hormones as well.

Doing resistance exercise, especially for men, increases your testosterone level. So we definitely can see a direct effect between our activity and our hormone levels.

This is a picture of what happens through a woman's life cycle. And you can see at a young age, hormone levels are very low. Then starting with the onset of menstrual periods, we start to get this up and down in estrogen.

We get some ups and downs in progesterone. In the perimenopause, things get very erratic. At menopausal, those hormones are gone. They've gone away. And the question of when it starts.

So this is a very interesting graph. The age at menarche, which, like I said, is the time when the first menstrual period occurs, has been getting lower and lower as the decades proceed.

And it's different in the US than it is in other countries. Here's the United States, it the brown line up here. Back in 1850, the average age of a first menstrual period was age 17. Now in the United States, it's down here at 13 and a half.

If you look at, oh, I think that was Norway. The United State's, okay, here in 1910, average was 14. Now the average age in 1990 was 11 years old. So why is this happening?

We think it's happening because of environmental toxins. There are a lot of toxins that fool our bodies into thinking hormones are there. They're called endocrine disrupting chemicals or EDCs.

Our bodies think we have lots and lots of estrogen and start going through those hormone changes that we would have if our estrogen levels started increasing.

And we don't really have our own estrogen, but it gets this puberty started, this first menstrual period started at much younger ages. The effect it has on men is not good.

it reduces sperm counts. So these endocrine disrupting chemicals reduce sperm count, and I don't have a picture or a graph for you, but sperm accounts have been going down, down down over the decades.

And then what happens when we have menstrual cycle? So I'm gonna go through this graph with you. If you start over here on the left, this is when you're actually having a menstrual period and bleeding.

All your hormone levels are all pretty low. Then estrogen levels start going up. This is the orange line. You ovulate or release an egg, which is getting ready to meet a sperm to have a pregnancy.

estrogen levels come down at ovulation and then come back up after ovlation. Progesterone is low, low low until after the ovulations and the place in your ovary where the egg has left from is where progesteron gets produced.

It's called the luteal part of the of the follicle, a luteinized follicles. A follical is a little spot where the egg left from. So your estrogen goes up and down and up.

And then if you don't get pregnant, your progesterone and your estrogen both come down, and you get another menstrual period. If you got pregnant while you're ovulating here and a sperm meets your egg, Your progesterone goes up and continues to go up, up up to support the pregnancy and the same thing with your estrogen.

It will go to help support a pregnancy. This is another way of looking at. menstrual cycle, it shows you what's happening. Here is the menstruation period.

This is a lining of the uterus. It's falling out, creating bleeding. That stops. Your estrogen level starts going up and you start developing a thicker lining in the urethra.

Then progesterone comes along and the lining gets even thicker. And this lining is getting thick in anticipation. of a fertilized egg implanting and needing all kinds of good blood vessels with lots of nutrients.

What's happening up at the top is what's going on with your ovary. There's a little spot in the ovaries where this egg is and being nourished by the fluid around it.

Every month, one of these follicles becomes a dominant one and starts to go through these changes where it enlarges. Eventually, an egg gets released, goes into the fallopian tube.

If there's sperm there, it'll meet the sperm and and greet each other and start a fetus going and that will end up coming down back into the uterus into this lush lining to implant.

So that's what happens during the menstrual cycle. This corpus luteum is where progesterone gets produced. It gets produce by the spot in the ovary where the egg left from.

After the corpus luteum is done, if we are not pregnant, it turns into kind of a scarred area called a corpus albicans. And what happens with all of this up and down and up-and-down?

Well, women respond to hormone changes, and one of the things that can happen is premenstrual syndrome. Nobody's exactly sure why it happens, but it's something to do with those estrogen, progesterone, and possibly serotonin, which is a brain chemical, a neurotransmitter that is supported by estrogen.

And so there may be seratonin changes too. PMS can consist of physical symptoms like breast pain, headaches, bloating, and emotional symptoms like anxiety, stress, or anger.

Things that contribute to PMS, the things I've mentioned already, sugar and a high refined carb diet, caffeine, alcohol, stressed, and lack of exercise.

And dairy consumption, if you are drinking conventional milk because of the amount of hormones that are used to raise the cows, They get into the milk and can make PMS worse.

And then what happens during pregnancy? So I mentioned to you, if you get pregnant, instead of the progesterone and the estrogen levels falling and getting a menstrual period, those levels go up, up up.

You can see on this chart, Ovulation happened here, the progesterone level goes up, up the estrogen level, goes, and human chorionic gonadotropin, which is the hormone that we measure when we do a pregnancy test, it goes out shortly after pregnancy at about two to four weeks.

So women, we have this tremendous change in our hormone levels. Our progesterone level is 20 times higher than when we're not pregnant. And progeterrone does a lot of really wonderful things.

It creates a sense of calm. it helps mental focus. but it also relaxes muscle. So women sometimes have heartburn during pregnancy. Even before their belly is so big, like this woman's belly pushing her stomach up, progesterone relax is what's called the lower esophageal sphincter.

That is the muscle that holds our esofagus tight and keeps stomach acid from reflexing back up into the esophagus and giving us heartburn. Progesterone relaxes that muscle.

Women get more heart burn during pregnancy because of this very high progesteron. The estrogen is actually 200-300 times higher than in the non-pregnant state.

It's responsible for the changes in breast, the growth of the uterus, and a lot of things that go on to support the pregnancy. And as I said, these hormones promote this relaxation and feel good response.

Then we have our sweet little baby, and then what happens? is remember I told you that progesterone and estrogen go up, up up and they're nice and high.

And then we have the baby and boom, both of those are down to rock bottom and stay rock-bottom the whole time

that women breastfeed. That is a huge amount of hormonal change.

The hormone levels, the estrogen is so low that some nursing women have vaginal thinning and painful sex, just like menopausal women do, because they don't have any estrogen on board.

They don' have progesterone onboard. And if you're nursing primarily and the baby is not taking a bottle with other things, you are very much suppressing your hormones for as long as you'r nursing.

After a while, either with weeding the babe, facing out, nursing, menstrual periods come back, and hormone levels resume their up and down pattern. One of the things that happens postpartum to some women, as many as one in seven mothers, is post partum depression.

It's possibly due to these very rapid hormone changes. it also may be due other things. Sometimes thyroid glands majorly malfunction with delivery and the changes that go on and can contribute to postpartum depression.

There are nutritional deficiencies that might be the result of the pregnancy. Those important omega-3s that we want to have in abundance to help the baby's brain develop as well as possible may in fact end up sapping our own omega 3 stores.

And low vitamin D and low iron may contribute to postpartum depression. But certainly that tremendous decline in hormones very suddenly is a major contributor.

And then we go back to having our menstrual periods, you know, with the up and down, up down every month until we get to perimenopause and then those up-and-downs become quite unpredictable and erratic.

So one of the things that I tell women you can be absolutely count on in perimentopaus is that you cannot count anything happening with any regularity.

So, menstrual periods may be spaced out further than usual, they may closer than usually, longer, shorter, lighter, heavier. But what we do know is that they are going to change because hormones are really erratic.

And then once we get into menopause, here are changes. estrogen declines 35 percent between age 35 and 50, and progesterone declives even more. The reason that they use the ages 35-50 is in fact perimenopause starts at age-35.

Menopause, Perimenopause, and Symptoms

I know people, especially in the medical profession, I've had a lot of patients tell me in their late 30s and they feel like they're going through some hormone changes, they don't feel their old selves, And they get told now that couldn't possibly be perimenopause way too young.

Well, in fact, perimentopaus starts at age 35 and age 50 to 51 is the average age of menopase. It can be anywhere from age 45 to 55 and still be considered normal.

Menopause before age 40 is called premature menopaus and it's felt to put women at increased risk of a variety of things because of losing that hormonal support so early in life.

So estrogen has a lot of protective effects on our blood vessels, on your brains, and we lose that when we go through menopus and lose those hormones.

These are probably the most common symptoms that I hear about in perimenopausal women and were the symptoms, that the first patient with burning mouth told me about.

Fatigue, weight gain, even if you don't gain weight, you may have shape shifting where your waist and belly that were nice and small and flat, now get larger and you have fat deposits around your midsection even, if don t

actually change your weight.

Hot flashes occur to for a lot of women and we think hot flashes are actually a sign of brain inflammation in the temperature set regulating center of the brain.

With hot flash is comes insomnia with lack of progesterone comes Insomnia anxiety with Lack of estrogen comes. more depression. Remember, I said that estrogen supports serotonin, which is the feel-good brain chemical that we think keeps us from feeling depressed.

And if estrogen levels are low, seratonin is not well supported and we can end up with depression, forgetfulness. Estrogen is really important for our memory and It turns out that women who have a hysterectomy before menopause age and get their ovaries removed so that they are pre-menopausal before age 50 and have sudden loss of hormones actually have 15% reduction in brain speed.

So their thinking processes are 15 percent slower because of losing their estrogen. The other thing that we see is decrease in libido because testosterone levels go down.

And then what happens to men? So we've spent a lot of time talking about women. Men go through changes too, but they're more gradual. They're not as dramatic as having menstrual periods and then boom, having them go away.

And the medical name for changes that happen to men with their testosterone hormones and other testosterone related hormones is called andropause. Testosterone and DHEA and their related metabolites are called Androgens.

That's the class of hormones they fall in. When androgens decrease, the medical name is andropause, and we in anti-aging and longevity medicine kind of jokingly call it manapause to go along with women's menopause.

And the risks that happen with loss of testosterone are premature aging, testosterone is important for maintenance of muscle in women as well as men, So with loss of testosterone, we lose muscle mass.

We can end up with higher body fat, that part of the shape-shifting I'm telling you about. Even if you don't gain weight, you may have less muscle and more bodyfat.

And muscle is extremely important for healthy longevity. Higher inflammation. Men get bone thinning and osteoporosis too when they lose their testosterone hormone.

Women lose it when we lose our estrogen and progesterone and testosterone. There is higher mortality from heart disease. And I know people have told you using testosterone supplementation gives you cardiovascular disease, but in fact, the statistics don't really show that.

And men with low testosterone are at increased risk of Alzheimer's and other forms of dementia. And like I explained, we're hormonally at our optimal at about age 25 to 30, and then a number of hormones start declining and testosterone is one of them.

In men, it declines by anywhere from 1 to 3% every year. So by the time a man is age 60, he has lost a good 40 to 60% of his testosterone. And even age later than 60 it declines further.

Here's a graph that shows you testosterone decline with age. You can see what happens by time men are in their 50s, 60s and 70s. And what happens when testosterone levels decline?

A number of things can happen. One of the things we call this emotional changes that go on, it's a non-medical longevity medicine term, the grumpy old man syndrome.

And I put a picture of Felix and Oscar on here because they were the odd couple and they we're pretty grumpy.

especially Oscar, but men go through similar changes when they have hormone decline in their testosterone, less energy, decreased sex drive, not sleeping as well, thinking not as clear, loss of exercise endurance and muscle strength.

emotional swings and irritability. So these are some of the things that can happen when men lose testosterone. Like I said, 25 to 30, our hormones are optimal levels.

And here are some of the other ones that decline with age. So I explained to you that DHEA, dehydroepiandosterone, is a really important energy and vitality hormone, also important for immunity.

And you can see how it's peaking here at about age 25 to 30, both in men and women. And by the time where 70, 80, 90, there's hardly any left. And it accounts for some of what we think of as, quote, normal aging changes are in fact hormone decline, which means we can do something about it.

Other things that decline with age, melatonin. So our sleep is not as good as we age because we don't have as much melatonin. And it's one of the reasons why it so important to turn off your screens at night because they suppress meletonin, keep the lighting low, wear blue blocking glasses.

All of those things help to keep your melotonin going at good levels and prevent suppression of it. Blue light suppresses melettonin But you can see what happens through the lifespan with melatonin.

The other one is human growth hormone that I mentioned before. And you could see here that it's at its optimal, its highest at about age 20, and then it declines and goes down, down down in our 50s, 60s 70s and 80s.

Growth hormone is our healing hormone. It heals our injuries, it heals, our bodies. It heals our brain. It heels our memory. And when levels go down, we lose vitality.

We lose mental sharpness. Then stress affects your hormones. So this is my husband and I were in Monument Valley and we were touring around and saw this little cabin and it had the sign on it.

It says stress reduction, bang head here. So directions are placed on a firm surface, follow the directions in the circle and repeat that until as necessary or until unconscious.

And I know sometimes we feel like we do wanna bang our heads against a wall because stress builds up and you don't know what to do with it So here is the steroid hormone pathway.

So I know this is very medical, but what I wanna show you is first of all, that cholesterol is not our enemy because all of our hormones are made from cholesterol.

And I Know doctors wanna lower cholesterol levels to cut down risk of heart disease, But there are probably limits in how low it should go. and especially if you're having cognition problems, you would really not like to have your cholesterol below 160. That's something that needs to be talked individually with your doctor, because if you have serious vascular disease, you had vascular disease in the blood vessels in your brain, that can affect your cognition also.

But our hormones start getting made with cholesterol, which is circled in red. The next step in metabolism is pregmenolone, we've already talked about.

And from pregnenolone, we make progesterone.

Menu2019s Hormone Decline and Andropause

And, from progmenolones and progeterones, it can go over to the right side and end up making what we call our feel-good hormones, DHEA, testosterone, and estradiol, which is estrogen.

If we are stressed, The pathway goes from pregnean alone straight down to cortisol, because if your body thinks you're in mortal danger, it makes cortisol in preference to anything else.

And you will lose your feel-good hormones in the effort to raise cortisol. Most of us are not in life-threatening situations. We are in mortal danger all day every day, but our bodies think we are.

So it becomes really important to do things that tell our body that we're not immortal danger, and those we'll go over later, stress reduction techniques.

I mentioned toxins, endocrine-disrupting chemicals, Things that are in health and beauty aids, we need to be really careful about what we're putting on our skin because our is a huge area that we absorb things into our bloodstream.

There's no barrier there. You put it on your skin, it gets absorbed into your blood stream. So health in beauty aides that have parabens in them disrupt our healthy endocrine function.

These things act like estrogen, but not a good kind of estrogen. And they fool our bodies and they create what we call estrogen dominant states, things that cause endometriosis, fibroids, heavy periods, painful periods.

They're found all over our environment. We take them in every day when we eat, unless you really focus on getting organic foods. Like I said, they're in our health and beauty aids or in cleaning products.

And not only are they endocrine disruptors, a lot of them are carcinogenic. Huge amounts of pesticides are sprayed on our fields. The average American unknowingly eats about 124 pounds of additives a year.

They may not all be Pesticides, there are plenty of additives that are put in foods that not pesticides, but these things all disrupt the healthy function of our system.

So what is the solution? We have a solution. We work on a variety of things. One is using hormone therapy with bioidentical hormones to fill in the hormone gaps.

And so what do I mean by bio identical hormones? I have to say before I got into longevity medicine, I heard the term bio identical hormones and I would roll my eyes.

And I thought that's just like somebody that it's a marketing term somebody's using that ridiculous and I don't know who these people are like with like Suzanne Summers and all of that.

Well, it turns out bioidentical hormones mean that the hormones are chemically exactly the same as what our bodies make. And we are able to make those in the lab usually from YAM or some other precursor hormone type structure that then gets made into bio identical hormones like estrogen and testosterone and progesterone.

They function in a much healthier way than the synthetic hormones that are out on the market. When I say fill in the hormone gaps, what we find is In perimenopause, when progesterone levels are down and then they're up, estrogen levels down, and they are up.

If we can fill in where they drop and people start getting symptomatic with hot flashes, a lot of women will get hot flash the week before their period during perimentopaus.

So using some estrogen during that time to help with that tremendous drop in estrogen before menstrual periods come on. We use peptides to help raise growth hormone and we've had great responses with people feeling like they were 20 years younger with their endurance and resilience improved, with they're sleep better, their memories better.

So peptide do a really good job of raising growth hormones in a very natural way, letting your body do it rather than imposing a growth hormon actual hormone into your body.

Lifestyle changes are really important. I talked to you about why sleep is so important, why stress reduction is important and why toxins avoidance is importance.

So having healthy hormones is not just using a hormone and putting a cream or gel on your skin, it's doing these other things also. So I want to talk some about myth versus truth, and I have some solution sheets that were too much to put into this talk.

And so for people who are interested, we'll give you a number that you can text us. If you're interested in getting a copy of the slideshow and would like to get information on solutions for premenstrual tension and postpartum depression and perimenopause, We have some information sheets for you that we can send you.

It's a little bonus. So the real question is, are hormones bad for your? That's always the issue, right? I wouldn't be doing this, and I've been on hormones myself for 25 years.

Trust me, I would be on them if I thought they were bad from me. A lot of women, when I talk to them, if they're reluctant to be finding out what hormones do for our brains is a big motivator to being on hormones.

And this was a huge study. It was meta-analysis, which is, a scientific study that looks at many, many different scientific studies and pulls all of the information together.

and it said that women who were symptomatic from menopause, so it meant women, who are having some hot flashes or mood changes, They some outward signs that they were lacking in hormones, if they weren't put on hormones they had improvements in verbal memory, which means what you're hearing people say or what your reading reasoning and and motor speed.

If women were asymptomatic, they weren't having hot flashes. They didn't see these benefits. So that's interesting. Something about having menopause symptoms are an indicator of hormone lack, perhaps maybe more than women who had no symptoms.

This is a huge study that came out fairly recently. It was 379,352 women from Humana, the Humanna Health System. And they looked through the records to see who was diagnosed with neurodegenerative diseases.

They looked at Alzheimer's, they look at amyotrophic lateral sclerosis, which is progressive paralyzing neuro degenerative disease, also known as Lou Gehrig's disease because Lou developed it.

Stress, Cortisol, and Hormone Pathways

They looked at multiple sclerosis, which is a neurodegenerative disease, and Parkinson's. And what they found was that women who are on hormones had 58% reduced risk of getting neuro degenerative diseases, And then what about heart disease?

So the American College of Cardiology came out with a statement. A lot of doctors, and I'll tell you why in a minute, think that hormones cause heart attacks and strokes if they're given properly.

If they're given in the right form, if they are given the proper route of administration, do not do that. And so this was a study looking at women on hormone replacement therapy to relieve symptoms of menopause.

They were 30% less likely to die if there were on-hormone therapy and they had less atherosclerosis or plaque in their arteries compared to women not using hormone therapy.

So they have a group of women that were in hormones and at age matched group of women not on any hormones and the hormone group 30% less likely to die.

And then talking about benefits for men because we've gone over benefits of hormones for women. Increased libido, increased energy, bone density improvements, increase muscle strength and endurance, and

cardioprotective or prevention of heart disease in men.

And these are hormone benefits for women, improved energy, improve stress resilience, we talked about that with DHEA, less depression and anxiety, clearer thinking, improves memory, better mental focus, increased sleep, and increased in libido and sexual satisfaction.

We see that every day in our practice with women who go on hormones who have had problems with these things. So the real issue of course is aren't hormones dangerous?

So the Women's Health Initiative, and this has been a huge tug of war about whether hormones are beneficial or dangerous. The Women Health initiative came out in 2002. It's been almost 20 years.

And the women's health initiative was run by the National Institutes of Health in conjunction with Wyeth, who makes Premarin, which is a form of hormone replacement therapy.

And they had 80,000 women, so it was a good number of women. And, they have women on Premarin as their hormone replacement. That was their estrogen hormone replacements.

Provera, which is a synthetic progesterone, for their progesterone replacement They waited to give women any hormones until women were average age mid to late 60s.

So what happens to women is we have a protective effect from estrogen until we hit menopause at age 50. And then if we're not on hormones, we lose that protection.

If you wait 15 to 17 years, to first start a woman on hormones, which is what happened in this study, women were 65, 67 years old on the average, they already have some plaque laid down.

They already some cardiovascular disease roughness in their blood vessels. And you're giving them primarin in a pill form, pill forms of estrogen, induced clotting factors, goes down through your mouth into your stomach, into intestine, through the liver, what we call a first pass through liver where it induces clotting factors and thickens your blood.

So you've gotten older women with plaque who now have thickened blood and they were more likely to get blood clots that caused heart attacks and strokes.

The result of the Women's Health Initiative is yes, there was an increase in heart attack and stroke. They used the wrong group of women, they waited until women had had no estrogen treatment for 15, 17 years.

They use the right route of administration. If you use estrogen in a skin patch, a skincare gel, skin cream, or a vaginal ring where you don't eat it and have it go through your liver, you do not get those clotting factors.

And then they use wrong progesterone. They use Provera, which is not natural progesterone. It's not bioidentical. And guess what? It caused an increased risk of breast cancer.

So this is Premarin, and Premrin got its name as a shortened form of pregnant mare's urine. That's where Premrine comes from, pregnant mares. They have these horses in stalls and they're collecting their urine, these pregnant horses, then they extract hormones and put them in a pill and give them to you.

Estradiol is our bioidentical estrogen. It is what's made for our bodies and it's protective and brain enhancing. And like I said, if given in a transdermal or a skin form, you know, I told you things get absorbed through your skin, estrogen gets absorbed for your skincare, and you do not have the clotting risks.

So here's the comparison. Bioidentical estrogen given topically, no increased risk of clotting. Premarin increased risks of clotting, bioidentic estrogen protects against heart attack.

Primarin, increased heart attacks in older women. Bio identical estrogen protect against stroke, primarin increase strokes in old women Bioidentical estrogen protects against Alzheimer's.

The Women's Health Initiative noted an increased risk of dementia in women who were on hormones. It was not Alzheimer disease, it was dementia due to many strokes.

So in fact, even Premarin helps prevent Alzheimer, but the problem is in the many stroke that cause what we call vascular dementia. And we also often use Estriol, is another type of bioidentical estrogen that actually can be protective for breast cancer.

The interesting thing was Premarin by itself did not cause an increased rate of breast So they had a group of women on hormones, premarin and provera.

They had group women no hormones at all. And they a third group who had had hysterectomy and they only had them on premrin. Not only did that group that was only on Premarin not have an increase in breast cancer, they actually had decrease in cancer even though they were on And then the problem with the Women's Health Initiative was the Provera, which is the synthetic progesterone that actually has a number of anti-progesteron effects.

Toxins, Endocrine Disruptors, and Lifestyle

It prevents uterine cancer, cancer of the uterin lining, but it increases breast cancer risk and it increase it substantially by 30%. So the women's health initiative came out in 2002. The headlines were all over that hormones were bad for women.

Women went off of hormones wholesale. We did not have a really good analysis of what happened and all of the details did come out for years later. It was stopped because they saw an increased risk of breast cancer.

The study was stop, women went of their hormones whole sale. And it was later that they found, oh yeah, the people that were only on primer and they actually had less breast cancer.

Oh yeah. It was the provera that gave them breast cancers. So then stop using pro vera. And I think pro very should be off the market. it's still on the.

Market is still available. Is bio identical progesterone. And here are the comparisons of natural progesterone versus the synthetic projestin called Provera, which stimulates breast cell growth, increases heart attacks and stroke, doubles insulin resistance.

And instead of being a natural calming agent, we see all the time with natural Progesteron has emotional irritability as a side effect. The interesting things and what I came across in doing research on hormones and cognition is that in animal studies, estrogen almost all the time showed enhanced learning and memory in rat studies.

So they take rats, they took out their ovaries, to have a group they give estrogen to. They have another group that they don't give estrogens to and they see how well they can learn things.

And so rats learn to run through mazes and do other tasks and you can judge their learning memory. And animal studies mostly show animal size all show benefits from estrogen because they are always giving the animals estradiol, which is the bio identical form of estrogen.

The human studies of Estrogen mostly showed benefits, but some don't because permanent issues so. It's interesting, my takeaway from it was that rats get better treatment than women, but I'm sure there are other takeaways too.

And then there's the issue for men, what about testosterone? And the two things that always come up are the question of prostate cancer and the questions of cardiovascular risk.

So when they've looked at men's testosterone levels and incidents of prostrate cancer, there is no relationship between the testosterone level and prostate cancer incidence.

So they don't have a group of men with low testosterone and they have low prostate-cancer incidence, and then as the testosterone levels go up, up up they show more and more prostate cancers.

There is no connection between testosterone levels and prostrate cancer. And when they've done studies on using testosterone, prostate, cancer incidents, there is no increased risk of prostate cancer.

So the whole issue of Prostate Cancer growing because of testosterone use came from a case report from the 1940s of a few men that were studied who were on testosterone and got prostate Cancer.

And that has permeated our entire medical profession without regard to studies that show the contrary. And even in men who have prostate cancer, if they're given testosterone, their cancer risk is not increased.

And the same issue actually comes up for women and breast cancer. If you give breast-cancer survivors estrogen, they actually have a reduced recurrence rate and an improved mortality.

And the benefits of testosterone, we've gone over improved sex drive and energy levels, bone density, not losing bone as much, improved endurance and strength and protective effects on the heart.

And, the newest thing that we have been doing is using peptides and there are growth hormone releasing peptide and growth hormones releasing hormones.

do is when you use them, it doesn't push your body to make extra growth hormone, but it removes some of the blocks that our own bodies have to making growth hormones.

We have some chemicals that prevent growth-hormone release, and these peptides remove the block. So we're not forcing our bodies to take a huge amount of growth hormonal, we are not giving our body huge amounts of hormone.

We pretty reliably see an improvement in the quality of sleep, people recovering from injuries more quickly, better exercise, recovery and endurance, memory better and improve body composition with more muscle and less fat.

I talked about stress reduction being very important for improving your hormone situation. Yoga and meditation decrease the cortisol level, so allow your body to make less cortisol and more of those feel-good hormones, estrogen, testosterone, and progesterone.

Yoga, meditation, reducing cortisol actually improves your immune function, your memory, sleep, lowers stress, lowers inflammation, increases your antioxidants and increases something called BDNF, brain derived neurotrophic factor, which is like miracle grow for your brain.

So anything that you can do to bring down your stress levels will lower your cortisol levels and allow these physiologic natural processes to proceed that are good for health.

The other thing you want to do is clear out your home of cosmetics that have parabens, household products that has a whole variety of chemicals that are bad for you.

Pledge is not great. Mr. Muscle, there are lots of low toxicity house cleaning products. There is vinegar and water. That is a great cleaning solution.

There are other natural homemade cleaning products you can use. And very importantly, to be sure that you're eating foods that are pesticide-free, meats that're hormone- free, chicken that's hormone free and fish that wild caught.

Other ways that we get toxins are with our Teflon-coated pots and pans. Storing things in plastics that contain bisphenol A or BPA. Keeping our water in water bottles and then leaving the bottle in the car where it heats up and the bisphenol A from the plastic leaches into the water.

Bioidentical Hormones and Treatment Benefits

Using any purchased water that is contained in plastic because it's sat in a truck somewhere in hot weather and BPA is leached into water, so having a home filter and using a metal or plastic water bottle or a B. P. A.

free water There are detox things that you can do for your body. And this is one of our favorites. This is Core Restore from Ortho Molecular. People I've had that use this, it's a five-day program with different components.

Almost universally, find that they feel better. They either sleep better or they lose some weight or their energy is better as they are mobilizing and getting toxins out of their bodies.

So I hope I've given you some good ideas on how to live long and healthy. I appreciate all of you attending. We've had a great turnout. The next month, we are going to be going more in depth on toxins with our wonderful Dr.

Nicole Dodona, one of our naturopathic doctors. It will be on Zoom at the same time on Tuesday, October 26th. And the last thing I'm going to leave up is our text request slide.

If you text this number, you can let us know if you would like to have a consultation. You can text us and say slides or info, and we'll send you a copy of the slideshow and the information, the add-on information that I mentioned.

Include your name, your phone number and your email address. The email is really the only way that we can send to you the bonus items and a slideshoe.

And with that, I'm happy to take questions. I don't know if there are any in the chat. Oh, it looks like there's some in chat Let's see if you're 68 you've never used hormone replacement.

Does that mean you shouldn't start now so No, I don't think it means you shouldn't start. What I think is that you need to be on the right hormones. You need be to on ones that are not going to increase blood clots.

So that means using estrogen preparations that go through your skin and using bioidentical progesterone. And it also depends on why you want to use it because if you have a compelling reason, cognition, energy, Mood, I think that the benefits really far outweigh any risk, which really there are not increased risk if you use estrogen in a patch, cream or a gel on your skin.

Just don't use it orally. Don't take it in an pill. Any insights on birth control? So birth control pills are super high dose, synthetic estrogens and progesterone.

And they really tamp down your own body's production of hormones. For contraception, they can't be beat. They have a really good effectiveness rate. The problem is that they're used to treat a lot of medical conditions and hormone imbalances in women.

that can be treated other ways. So if a woman does not need birth control pills for actually for contraception but is using them because of painful periods, heavy bleeding, endometriosis, and fibroids, we really want to get at the root of why those conditions are happening, which is usually Too much estrogen, not enough progesterone.

It might be too much of your own natural estrogen or you may be in contact with endocrine disrupting chemicals and toxins in your environment, which have definitely been related to endometriosis.

How do you know which hormones you need and how much you should take? It really depends on what your blood levels are, what It's really. process of starting at a fairly low level to try to get as much benefit without having side effects.

And the side-effects are annoying, not serious. So you don't want to load a woman up who hasn't been on hormones 10 years post-menopause on a huge amount of estrogen because her body hasn' seen it for a while and she's more likely to have breast soreness and swelling.

Why do that when you can start on the lower dose and kind of see how it goes and eat somebody's body into it? And so we go by what blood levels are like, and we try to optimize blood level back to what would have been there and what you would've been at at age 25 or 30. And we got by your symptoms.

So if you're feeling pretty good and your hot flashes are gone, we don't necessarily need to raise your estrogen to particularly high levels. If your cognition's an issue, you definitely want your estrogens at higher levels, so it depends on your reason for being on hormones, what your starting levels are, and sometimes other things that are going on in your health history will make a difference.

So those are the ways we take your history into account. your blood levels into account and your symptoms into a count. Is blood or saliva better to determine hormone needs?

So there's a raging debate and I spent a lot of time going to lectures when I first 14 years got into this whole field of longevity medicine, the raging about saliva, blood or urine.

So they're all different ways to test. And what I found out is they each have their advantages and disadvantages. And the main thing is for the practitioner to get knowledgeable and expert in how whatever the method is that we're using to determine levels correlates with the amount of hormone you're giving and the results you see in your patients.

So there really is not one right or wrong. I'm accustomed to looking at blood levels and I know what to expect with them. Some doctors use saliva and so it really depends on your practitioner what they're experienced and comfortable with.

How do I feel about metformin? So met formin is a insulin resistance lowering medication that's used a lot for pre-diabetics and diabetcs. There is some use for it in the longevity world.

But I heard a really actually knowledgeable talk about metformin, and it seems like you can't just get the longevity effects of it without some downsides.

So it seemed like in some ways it helps longevity. I can remember all the details. And in ways, it actually does not help longevity, so I at one point thought it would be a wonderful thing to put everybody on, including myself.

When I looked into it more, I decided maybe not. And let's see, somebody who's a female, 55 years old, has been on a couple of bioidenticals for a few years with hesitation because your mom had cancer at 42 and from Premarin.

And, oh, thanking me. So, you know, a lot of women got breast cancer and were on Premarine. Did the Premaran cause it? It's really hard to know that. People sometimes mistake, when women do develop breast cancer, there are receptors that are tested for.

There are estrogen receptors, progesterone receptors. And if you have breast and your biopsy shows that your estrogen receptor positive, it does not mean that estrogen caused your breast.

It means that an anti-estrogen chemotherapy treatment will help you not get a recurrence. So it guides treatment for breast cancer. It does not mean that estrogen cause breast-cancer.

And there in fact are so many things that go on that cause cancer, they're certainly genetics. For somebody like you who's 55 and your mother had breast at 42, that's young to have breast.

You might want to see if you have the genetics, the BRCA gene, that would be one reason to think maybe twice about being on hormones, but at least you'd have the knowledge and could decide.

The reasons why women get breast cancer, stress, working the night shift. In Denmark, When women who work the night shift get breast cancer, it's considered a work-related disability, and they get paid as a working- related disability because working the nights shift and having your circadian rhythm disrupted increases risk of breast cancer, stress increases, risk-of-breast cancer.

Pesticide and toxin exposure increase risk, of-breadth cancer.

Hormone Safety, Myths, and Research

" So there are so many things that go on that cause breast-cancer and really prevention of Breast-Cancer is not just a hormone issue, it's getting your body in as best shape as possible, getting adequate sleep, Stress Reduction, limiting toxins, Let's see, as you age, so the amount of estradiol you take go up, it seems like doctors want you to make my Vivell dot patch less rather than more.

So there's this theory in the medical community that you should be on the lowest possible dose for the shortest possible time. And that's pervasive in medical communities, prescribing hormones.

not us anti-aging functional medicine doctors, but conventional doctors. In fact, that is not based on any scientific study whatsoever. That's people guessing.

And what we know, there was a recent study that came out the one I told you about on the 379,000 women. In fact, the women that were older and on estrogen for longer had even more reduction in the risk of neurodegenerative disorders.

So there is nothing scientific that says the least for the shortest time. And so what you're getting with people wanting to lower the dose of your Vivelle patch is this, kind of unscientifically based mantra, that it should be the least for the shortest time.

And you want to look at what keeps your brain healthy, what keep your hot flashes away, What helps your sleep? What help your mood? what helps you bones?

and what help you blood vessels? And it may not be lowest dose. Let's see, somebody wanted me to speak to burning tongue and hormone replacement. So many of you may know that I have an area of expertise in burning mouth syndrome or burning tongue syndrome.

And like I said, I fell into it because of one of my very early patients who told me her burning mouse syndrome got better on hormones. In fact, we found treating people with hormones The majority of people have significant improvements when they're on a hormone replacement program, which includes all of the hormones that I talked about for women estrogen and progesterone for both women and men testosterone pregnenolone DHEA.

thyroid, melatonin, and vitamin D, which actually is a steroid hormone. We call it a vitamin, but its chemical structure is the steroidal hormone, so I think hormone replacement has a lot of benefits for burning mouth syndrome.

It doesn't for everybody, And so we're trying to figure out why some people do not improve on hormones and have other treatments that we are using for it.

Let's see, I did the BRCA years ago and it was negative. And is that the same person? Yeah. So you're the person who asked me about your mom. Well, great.

Then honestly, who would use hormones and not worry about it? How long does it usually take to see relief of burning mouse symptoms when starting hormone replacement?

You know, it can take, so we have some people that know changes like right away the first month, but I would say more typically it's two to three months.

for burning mouth syndrome. Would hormone use help burning-mouth syndrome if the burning mouse syndrome is being caused by lichen planus? So lichens planuses is an autoimmune disorder that causes plaques in the mouth that are very painful.

Some people have burning mouths in addition to the liche and planas. So I would say if it's like in plainness alone, you need an autoimmune approach, which may not include hormones.

And an Autoimmune Approach for us means looking at all of the things that can trigger auto immune disorders. Number one of which is leaky gut when your intestinal integrity is not what it should be.

So we look at gut inflammation, we looked at markers for leakey gut, We look at environmental toxins. We looked at past history of reactivated viruses.

All of these things can trigger autoimmune disorders. And that's how I would approach the lichen planus. If you have burning mouth in addition to lichens planas, so you areas of burning where you don't have the like in planis plaques, then hormones may help with that.

Didn't need to make that go away. Let's see. What are bioidentical hormones made of? They come from, usually extracted from yams, which have a somewhat similar chemical.

They have chemical in it which has a similar structure to the steroid ring structure of bio identical hormones. And then they are in the lab changed from that ring structure from the yam and specifically made into testosterone, progesterone, and estrogen that are then put into creams or gels or whatever.

Here's somebody whose period stopped three years ago and seeing brain dysfunction as well as other things like overall pain and inflammation. Can starting hormones at this stage reverse brain disfunction or other disabling symptoms?

Audience Q&A and Practical Guidance

So I think hormones could make a big difference. I don't know if it can completely reverse your brain dysfunction. Sometimes brain disfunction is comprised of more factors than hormones alone, but we know when women lose their estrogen at menopause, you enter an inflammatory state and it could inflame your joints, your you know, many areas of your body.

So using estrogen helps to reduce some of that inflammation. I can't say that it would necessarily count on completely reversing your brain dysfunction, but I've definitely seen people where their memory gets better.

Just sleeping better, having progesterone that improves, that's brain calming and improves focus. All of these things help with brain dysfunctions that occur at menopause.

So I really, I'm sorry that you're having those symptoms that occurred with the menoppause transition, but I think probably hormones would be really helpful for you.

And let's see, someone who's been on low dose. Estrata, not familiar with Estrada, it's an estrogen patch for four months, no relief from burning mouth.

Yes, I definitely would try the other hormones, progesterone, DHEA, pregnenolone. We make a supplement called Burning Mouth Advanced Support that makes a significant difference in about 25 or 30% of people who use it.

It has DHEA and pregnenolone in it, along with lipoic acid, which helps some people, methylfolate and vitamin D. So we've seen some good results in some with our BMS Advanced support.

Yeah, I would add something like that or add other hormones. Let's see. Do we have any other questions? Has everybody had a chance to see the text request slide?

It's 562-280- 2191. And what I'd like to do is stop screen sharing and let you open up your cameras so I can see you and say hi. So I'm going to stop screensharing.

And I know I recognize some names, I have some friends here, people that have messaged us through Facebook, some of our patients. I really appreciate you being here.

I hope it's been worthwhile for you and allayed some of your fears about hormones and some unknown. Great. Thank you. We appreciate everything you're sharing with us.

You're so welcome. It's my pleasure. I want to get this information out as much as possible. They estimated, I told you about the Women's Health Initiative came out in 2002 and wholesale thousands, millions of women went off their hormones.

And there's a doctor, a very well-known academic gynecologist named Dr. Sorrell. He did a study where he estimated the number of lives lost because women went off their hormones and either had fatal bone fractures or cardiovascular incidents.

He estimated anywhere in the first 10 years after the Women's Health Initiative came out and so many people went of their hormone, he estimated there were excess deaths of anywhere from 19,000 to 90,00 deaths, of women who had got off hormones, and lost their benefits.

So if you want to know why I'm a big hormone proponent, you know, hopefully I've gotten that across to you. So I really thank you all for being here and asking your wonderful questions.

And again, The phone number for the text is 562-280- 2191. And send us your email if you'd like to get the slideshow and the additional bonus gifts. Give us you phone numbers if would like us to call you about a consultation, we're happy to do that.

I want to thank Riley for being on with me and being so patient and consistent. We're going to end tonight and hopefully we'll see you next month at our Talks and Talk.

I everyone have a lovely evening. I know.