

## Part 4

### Are you Fat and Unhappy?

Question: You say estrogen is the archetype of femininity. Why is that?

Dr. Sara: Estrogen is that hormone that most defines you as a woman. It gives you breasts and hips and inside your body, estrogen buffers your mood and keeps you on task. It's nature's Prozac. It adjusts the level of serotonin, another really important neurotransmitter so that it's more readily in supply. Serotonin is in charge of your mood, your sleep and your appetite. (So, I have to tell you this quick little joke here – Alexi, my interviewer, made this joke that we should call it “Sara-tonin” as in “Dr. Sara.” I just thought that was hilarious). Anyways, estrogen is responsible for the first half of your menstrual cycle, if you're still having them. It builds up the cells that line your uterus, kind of like shag carpeting, and protects a developing fetus. So if conception doesn't occur, that lining is released about every 28 days as your period. If conception does occur, estrogen combined with progesterone thickens and deepens that lining for the fertilized egg to settle in to and grow. Estrogen is also a big part of your sex drive – it makes you feel interested in sex, it keeps you juicy and lubricated, in your joints and also your lady garden – your vagina. It will also help support your ability to roll with the punches.

This is some new research being done in monkeys that's kind of curious. What we've found is that some folks have what we call the “short serotonin gene” which is a gene that has multiple roles. It's in charge of how much threat you perceive in your environment and also how fast you can get reactive in a situation where you're challenged. For folks who have a short serotonin transporter gene, they may have plenty of estrogen around, up until ages 35-45 they behave as if they've got the normal genes, which are called the “long genes.” But once estrogen starts to decline, which happens in the first part of perimenopause, that makes people start to feel a lot more stressed out, like they're in amygdala hijack, in perceived danger all the time.

Question: You say that Estrogen and Progesterone, when in balance, perform a beautiful dance. What do you mean by that? And, what happens when one of these hormones has two left feet? Or if progesterone tries to lead?

Dr. Sara: Well, it's true. You want to have a lovely dance between estrogen and progesterone. You want to have a tango between the two of them. You want an even balance between the two hormones, and they should behave as if they're well-matched dance partners. And this idea of balance is very important. Basically, estrogen and progesterone have these opposing yet interdependent effects. So, on the one hand, estrogen makes the cells of your uterus grow, but progesterone stops that growth. It stabilizes it, and then releases it as your period. Estrogen stimulates your breast cells to grow, but progesterone prevents that from happening, which prevents cysts from

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developing or making your breasts feel painful. Estrogen makes you retain salt and water, and progesterone is a natural diuretic. Estrogen also creates progesterone receptors. They're like the locks that are on a cell's nucleus, into which a hormone will insert, like a key. Progesterone makes estrogen receptors jam up and shut down. You want a balance like the tide between estrogen and progesterone. So if you have too much of one, say estrogen, you're more likely to have fluid retention, breast tenderness, painful periods, maybe even endometriosis, mood swings, maybe just irritability, anxiety, and depression. You can feel foggy, sleepless, weepy, it may be hard to lose weight, you might have more headaches, migraines, and you may notice that the skin around your nose and T-zone is red, as in rosacea.

Questions: What is it that happens in our bodies that causes estrogen to rise?

Dr. Sara: The idea with estrogen is that you want to use it and lose it. Break down the estrogen and get rid of it, so that it doesn't build up in your blood and liver and cause estrogen dominance. There are two different ways that your body does this: the biochemistry isn't important for you to fast-track your hormone cure, but just so that you know what those two ways are number one is hydroxylation, and number 2 is conjugation. The main point here is that you want to use estrogen and lose it before it has a chance to backflip, cause you to have estrogen dominance or even increase your odds of having something like breast cancer.

Question: What are the root causes of excess estrogen?

Dr. Sara: Several things can make you increase the level of estrogen that you have. Anything that interferes with how you use estrogen and lose it can actually make you produce too much or accumulate too much of the not-so-good estrogens. Some of those factors include...the aging ovary. As the ovaries age and you run out of ripe eggs, you're more likely to be making too much estrogen, compared to progesterone. Your ovaries just don't make as much progesterone, so you get out of balance. If you have cortisol that is too high, that can also lead to an imbalance and that can lead to estrogen dominance. Another factor is if you've been exposed to some of those chemicals we've been talking about. Those endocrine disruptors – we call them xenoestrogens – the ones that bind to the estrogen receptors, and there are about 700 of those, There are also some really important nutritional factors. How much fat you eat, how much fiber, and also how much alcohol you have.

Question: There's a link between high estrogen and breast cancer. What is that link?

Dr. Sara: We know that certain xenoestrogens can certainly put you at a greater risk of breast cancer. DDT is famous for this. These synthetic chemicals are like estrogen in the body. I think of them as party crashers – they bind to the estrogen receptor and they also get stored in your fat. But the problem here is that your estrogen receptor is a bit

promiscuous. It binds to a lot of different hormones, not just estrogen, and it especially binds to the 700 known xenoestrogens. So that's one factor.

Another factor is how long you're exposed to estrogen. People who have an early onset of menstruation – their puberty comes early – they have a greater risk of breast cancer. And I'm really sensitive to that because I started my period when I was 10. This puts you at a greater risk of breast cancer. It's just a long exposure to estrogen over time.

We also know that for women before menopause if you have higher estrogen levels, like I did in my 30s, that puts you at a greater risk of breast cancer later on. We also know that women who have higher levels of estrogen have higher levels of density on mammograms. So that's a way that you can track this. Another factor that you can track when it comes to estrogen and breast cancer is the study that I mention a fair amount. It's not the one that makes me the most popular. It's one that was done at Harvard in the Nurses' Health Study. They found that 3-6 servings of alcohol a week is linked to a higher level of bad estrogens and a greater risk of breast cancer. If you have excess estrogens, you want to really look at your relationship to alcohol. One of the things I really recommend you do is to go on a periodic detox. In fact, you're going to hear about this later on – I've got a new detox program I'm developing right now, and you'll hear about it soon – but the idea is that I want you to detox ideally every 3-6 months, depending on how many toxins you're exposed to, and it's really important when it comes to alcohol as well as sugar and gluten. It's important that you're able to get off alcohol for a minimum of two weeks and not have a problem with that. We know that 10% of the population has alcoholism, but there's also a fair amount of people who've got a sticky relationship with alcohol. It's not alcoholism but it's tough to go two weeks without it. So that's a diagnostic test you can do if you think you might have a sticky relationship with alcohol.

Question: What can I do if I have too much estrogen?

Dr. Sara: If estrogen is high, what we want to do is apply The Gottfried Protocol. Let me start with Step One of The Gottfried Protocol. You know that you can just dive into the lifestyle changes first, but I do want you to be careful about some of the other interventions that we're talking about, especially Step Two of The Gottfried Protocol. I really want you to be working with a clinician for Step Two so that you've got a clear diagnosis and so that you're tracking these numbers.

What are the lifestyle changes? I just went on and on about reducing your alcohol intake; we've never seen such a small amount linked to breast cancer before, for the first time, the Journal of American Medical Association in 2011. The safe amount seems to be three servings or less per week. But a lot of it depends on your genetics and how you're using the alcohol in your body. The first part is reducing alcohol.

Another part that's important is reducing caffeine. You've heard me say this before when we were talking about cortisol, but it's important when it comes to excess estrogen to

reduce your exposure to xenoestrogens. I think about when you go to health food stores and you see the rows of water bottle labeled “BPA free.” This is not just one of those good ideas, or “green wash,” it actually really is good for your health. You want to avoid the xenoestrogens. You also want to be careful about eating conventional meat and conventional dairy. We know that people who eat a lot of saturated fat that comes from conventionally-raised animals such as cows in the US and also the conventional milk...that’s not so good for you. We don’t have as much large-scale data that makes me do the happy dance on grass-fed beef and other sources of meat that are organic or just safer for you. We know that eating prunes is helpful! Your grandmother was right about that.

And we know that fiber is so important. I can’t say enough about fiber. You’ve probably heard me say this before: we are so lousy at fiber. We think we’re doing a good job but on average in the US, women are getting about 14 grams of fiber a day, when we want to be getting somewhere around 40-50 grams a day. So most people have to take a medicinal supplement. That’s something that you will see in my store at [thehormonecurebook.com](http://thehormonecurebook.com).

Losing weight is also helpful because your fat cells make the estrogens that are not so good for you, the ones that have done a backflip like estrone. I also think it’s important to go to sleep before 10pm. My friend Marci Shimoff calls this “catching the angel train,” and the idea behind this is that every hour of sleep you have before midnight helps your hormones and your circadian rhythm. It helps you prevent cancer and it creates a good neighborhood. She even says that every hour of sleep that you get before midnight counts for double. I really agree with that. Exercise is also helpful.

The last part of The Gottfried Protocol, Step One is something called “DIM”: Diindolylmethane. A supplement that really helps you make more of the good estrogens and less of the bad estrogens. It’s a really cool supplement and the one that I like is from Integrative Therapeutics and it’s called “Indoplex.” This particular form of DIM has been shown to help people who have excess estrogens, including a randomized trial that was done recently in people who have abnormal PAP smears. Now, I’m saying this because I don’t want you, if you have an abnormal PAP smear just to take DIM, but I want you to work with your clinician and as part of what your clinician recommends for you, you might want to consider taking something like DIM because it helped women who had abnormal PAPS get better. Don’t just rely on that in terms of a treatment – I would never want you to do that. You need to have a really clear diagnosis. But we know that if you take a supplement like Indoplex it helps you with making more of the good estrogens and fewer of the bad estrogens. There’s still some debate about whether that actually helps you with preventing things like breast cancer but what I find is that it definitely helps people who have estrogen dominance if you’re looking at certain symptoms such as fibroids, excess bleeding, things like that. The other part with DIM that’s curious is that we know that cruciferous vegetable help you with balancing your estrogen and

progesterone, especially if you have too much estrogen. And if you take DIM, it's the equivalent of having a bushel of Brussels sprouts. I don't know about you, but I'm not going to eat a bushel of Brussels sprouts when I'm sitting down to dinner. This is one way to get the benefit, but the caveat is that if you have issues with your thyroid, it can slow down your thyroid. Be careful about that. You always want to cook them at least lightly, and if you're taking DIM, just be mindful of how it might impact your thyroid as well.

That's Step One. Step Two of The Gottfried Protocol is herbal therapies. Here are some of the things that are proven: you can eat seaweed. Seaweed is effective, but not quite as good as some of the other things I want to mention. And you've got to be careful of seaweed. It has iodine in it, so for folks who have autoimmune thyroiditis, also known as Hashimoto's or Hashi's and your immune system is attacking your thyroid, you can have problems if you have too much iodine in your system. People also have problems with too little iodine. You know what I'm talking about: We want the Goldilocks position with all of these nutrients, all of these hormones, all of these brain chemicals. What are some of those other herbal therapies that are proven? Resveratrol, turmeric, and hops. In terms of bioidentical therapies, and those that are over-the-counter, if you don't resolve your symptoms with the first two steps of The Gottfried Protocol, you can also consider taking melatonin. You want to be careful with melatonin because if you get too much, it can backfire. I'm a fan of 0.1-1 milligram a day. I like lower doses. The other thing you want to be careful of with melatonin, and this is not in my book, is that early risers can sometimes have their circadian cycles shortened if they take melatonin.

Question: What will happen to me when my estrogen is in balance?

Dr. Sara: When you have your estrogen in balance you feel feminine. You feel content. You sort of feel that sense of the archetype of femininity on your side. I would even call it "higher feminine." Your moods are steady. You find that your body rests well. You're lubricated. You've got enough blood flow to your "lady garden," your genitals. You're able to have the kind of orgasms that you want to have. You're not wondering, "Was that just an orgasm? I can't tell." No. You're having toe-curling orgasms. And your breasts feel normal in size; they're not too big, as they would be with excess estrogen or too small and pancake- or banana-like. If you're cycling you're able to navigate your menstrual cycle noticing ovulation, attuned to the natural cycles, (bonus prize if you're synced up with the lunar cycle). You're not burdened by ovarian or breast cysts or PMS. And if you have fibroids or endometriosis, you enter what's called "remission" where your symptoms resolve – they start shrinking. This is exciting, and it's something that happened to me in my 30s that I don't talk about a lot. I had two fibroids in my 30s and when I started to pay attention to estrogen and I got it into balance, into that tango with progesterone, I had a ratio of progesterone divided by estradiol of 300, which is really the

magic spot: when you have 300 times the progesterone molecules than estradiol molecules in your body. When I was able to go to that place, my fibroids shrank.

Question: On the flip side, what happens when my estrogen is too low? What part of my life does that impact the most?

Dr. Sara: Low estrogen affects many different things and I think for people who are in menopause or even premature ovarian insufficiency, you'll understand what I'm talking about. It's really common to have problems with weight and appetite when estrogen starts to drop. We're talking about the second phase of perimenopause under normal circumstances. That's normally between 45-55 for women. Average age for your last period in women is 51. We know that low estrogen stimulates appetite. We've got some research from Yale that shows that estradiol produces the same biochemical pathways as leptin, another really important hormone that's released by fat. When estrogen is activated and you've got just the right amount of estrogen you'll find that your appetite is more normal. It also affects sex. Estradiol makes your genital skin sensitive and moisturized. It makes the nerve supply happy because there's plenty of blood going where it needs to go. When women have a level of estrogen that's too low for them, which varies from woman to woman, the hormonal control center in her brain assumes she is in danger and that the last thing she needs is to get pregnant. So the vagina gets dry, and the nerves that densely populate the clitoris and the g-spot, the labia minora, those thin inner lips of the vulva, they start to disappear. Another aspect is mood. We know that estradiol fills your tank with serotonin. It's that beautiful feel-good brain chemical that is involved in mood, sleep and appetite. We're starting to see the overlapping roles of some of these things. When you have a problem with mood, with low estrogen, it can make you feel cranky, irritable, or even depressed. Low estrogen also affects your bones. You can have bone loss, it can be mild, which is also known as "osteopenia," or age-related bone loss, or it can be more serious, known as "osteoporosis." This is a problem especially for the skinny-minis, the women who are 127 pounds or less. They're at greater risk of this. Finally, you can have problems with hot flashes or night sweats. We don't totally understand the mechanism of this, but many women have an issue with temperature regulation when they're going through menopause and perimenopause. Estrogen and progesterone are part of it, because the two travel together.

Question: Speak of hot flashes: Ugh. What can I do to make these better?

Dr. Sara: Here's my top five: Paced breathing. This is super cool, and it actually reduces hot flashes by 44%! What you do is you breathe deep belly breaths. Put your hands on your belly right and slow down your breath. Inhale for a count of five, and exhale for a count of five. This is something that you can practice for 20 minutes, and will help a lot with reducing hot flashes and night sweats.

I'm also a big fan of acupuncture. We know that acupuncture is very effective in this situation as well as when you have PMS. Number Three is Vitamin E. That's easy. Vitamin E got a bit of a bad rap because there was a study showing that it doesn't seem to help with heart disease across the general population, but that doesn't mean that it's not going to help you with hot flashes, and this has been proven in several studies.

Another interesting new player, number four, is a pollen extract. This is an herbal remedy called "femal." There were at least two studies showing that it reduces hot flashes and improves quality of life. Number Five: Rhubarb! It's been proven to reduce hot flashes in two trials.

Question: How do I know if I have low estrogen?

Dr. Sara: There are a few ways to check for low estrogen. When figuring out how to check your hormones, I never understood why doctors were trained to tell women "You don't need to check your hormones, they're too variable." And yet when you're trying to get pregnant, that's when they check pretty much every hormone in the book. I didn't understand why checking hormones when you're trying to get pregnant is valuable and it's not at other times. To me, something is fishy there. I find it very helpful to follow some of these levels.

You can certainly use the questionnaire as a way of figuring this out, but here are some of the different ways that we check for estrogen, especially if you're trying to get pregnant. Here's the test that I ran on myself in my thirties when I was trying to get pregnant: on day three of your menstrual cycle, where day one is the first day of bleeding, you can measure two hormones: FSH (which stands for Follicle Stimulating Hormone) and estradiol, which is one of the key estrogens of your reproductive years. FSH can vary from cycle to cycle because it depends on the ripe eggs we've been talking about. But it basically tells you whether you might have some diminished ovarian reserve, which is total doctor-talk for the idea that you might be running out of ripe eggs. I still feel like it's really helpful to measure through questionnaires. That's why I want you to use the questionnaire that we've been telling you about at [thehormonecurebook.com/quiz](http://thehormonecurebook.com/quiz). You might have heard me say this before, but for women, starting at around age 43 (I've talked about this with Dr. Louann Brizendine who wrote about it in *The Female Brain*), we become more resistant to estrogen. We don't respond to it the same way in our brains. That's when you start to develop CRS – when your memory starts to fail you and you can't remember bleep.

Question: You say food plays a big role in estrogen levels. How?

Dr. Sara: How you eat, what you put on your fork definitely affects your estrogen levels. We know that lower body fat can cause low estrogen levels, and this can lead to losing your period, to something called "amenorrhea" which is when you go without a period for three months or longer. If your body fat is lower than 21% of total body mass (the normal

range for women between 20-39 is about 21-33%, over age 40 it's 23-34%), you brain is feeling like you're in crisis. Maybe you're a runner and you're training for a marathon and your body fat is dropping, you can just imagine this ancient system in your brain is thinking "oh my gosh, she's running from a tiger so much! We've got to save the resources. Let's not let her ovulate." This is why you get into trouble with your period: you don't ovulate; you don't build up that shag carpet in your uterus. These sorts of things you'll often see in women who are suffering from eating disorders. Food definitely plays a role. You've heard me talk about how when you are drinking more than 3-6 servings of alcohol per week, that actually raises your bad estrogens. I don't know of other foods that lower your estrogens, it's more the issue with body fat.

Question: What are your recommendations for getting back in balance?

Dr. Sara: If you're low in estrogen, The Gottfried Protocol Step One is to stop using caffeine. Cut out gluten. Eat whole soy. Add flaxseed to your porridge in the morning. Have more orgasms; it turns out that raises your estrogen levels. Don't exercise too hard. Get acupuncture. We know that pomegranate is effective. You've heard me talk about Vitamin E, but magnesium can also be used to raise your estrogen levels.

Here's my favorite recommendation: if you learn nothing else today, remember this: Step Two of the Gottfried Protocol is herbal therapies, and I love maca. Maca has been shown to raise sex drive, and to lower depression and anxiety on menopausal women. I'm all for it. I put into my smoothie pretty regularly, and it's the way that I increase my energy, and I love it. Some other effective herbal therapies are rhubarb, ginseng, and both valerian and hops. Hops have also been proven to help with the sleep deprivation that happens in women with low estrogen.

Sometimes, if you're really desperate, if you're miserable and if your quality of life is suffering, this is one of those 1-5% of the times when if nothing else is working, that's when you want to see your clinician and consider the smallest dose and the shortest duration of some estrogen therapy. If you have a uterus, this has to be done together with progesterone because those two tango. For the most part, I'm not a big fan of going on estrogen unless you really need it.

Question: What happens to me once my estrogen is in balance?

Dr. Sara: You have regular periods. Estrogen and progesterone, as you've heard me say many times, work together on this one. If you're post-menopausal you'll notice that your joints and your vagina feel well lubricated and juicy, orgasm has its lovely role in your sex life. That sense of dullness is a distant memory. You roll with the punches and don't feel so stressed or overwhelmed. You're sleeping well. You don't prefer sleep to sex with your partner. Your mood is stable throughout your menstrual cycle. Your brain is working; your brain fog lifts. Your memory and your recall improve.