



Transcript of “The Hormone Cure with Dr. Sara Gottfried”

Bulletproof Radio podcast #108



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Dave: Today's cool fact of the day is that researchers have discovered a citrus scented pheromone in male goat hair. This is a primary stimulator of the female goat's ovulation and reproductive system. Specifically it's called 4-ethyl-octinol which turns into that well known chemical responsible for goaty smells. According to this new research, since goats and humans have many similarities, there could be a correlation to male pheromone smells as well. Because of that the new Bulletproof "eau de goat hair" should be on shelf soon.

Today's guest is Dr. Sara Gottfried, MD who has been on the show before. Dr. Sara is a friend and she's also a Harvard educated physician, a speaker, a yoga teacher, a wife, a mom and author of the New York Times bestselling book [The Hormone Cure](#). She's also a board certified gynecologist and has a new online program called [Mission Ignition: The Energy Cure](#), and I love talking with her because she's like a girl biohacker.

Dr. Sara, welcome to the show.

I've invited you on today specifically because you've got a new book coming out, and anytime one of my friends and fellow biohackers is launching a new book, it's always cool to talk about it because you've spent a lot of time writing, and doing research about something that hasn't been written about before, or at least that's what we hope. Tell me about the new book. What's in it? What's new?

Dr. Sara: This is the new book. I'm going to show it for those who are watching the video. It's [The Hormone Cure](#). I added almost 50 pages of new content on top of the hardcover that I released last year. I just took the top questions that women were asking me about their hormones. What do I do pre-conception? Actually I send them to your book for that one but I've got a great protocol for them. What do I do postpartum? What do I do during pregnancy? What do I do if I'm a breast cancer survivor? What do I do if nothing I try after the age of 35, 40 works in terms of getting lean? Which I hope we'll talk about today. What do I do

if I'm in menopause? Do the same protocols apply? That's the idea. I took the top questions. Women deserve to have their questions answered so I've answered them with this new book.

Dave: Dr. Sara you are on sabbatical from seeing patients because after what you just said you probably just generated 1000 people wanting to see you. I would like to offer if you're interested in someone who knows a thing or 2 about hormones particularly around pregnancy. My wife, Dr. Lana at betterbabybook.com is taking patients so people are available. You guys have slightly different sets of expertise but they are definitely related. That's available. I think people should go to your website because your website is awesome and your book is awesome.

Dr. Sara: Thank you sir.

Dave: You've got some other things in there. You've got breast cancer. You've got a bunch of women focusing on ... is there an age range for women who should read this book?

Dr. Sara: Definitely. It's 18 to 108.

Dave: My 109 year old great grandmother is really bummed right now.

Dr. Sara: Oh no, no, no. Let me raise the upper limit. The idea here is ... oh my gosh we've got to manage our hormones through the entire life cycle whether your male or female. I've got lots of gems for the guys today too. It's so important to realize that your hormones drive what you're interested in. They're not the be all and all. I don't want to be overly reductionistic but it's really important to realize ... Oh my gosh! They are controlling so much in your body. Fat storage, how happy you are, how stressed out and crazy pants you are, your mood, depression. There's so much that's controlled by it.

Dave: If you are a guy, and you're listening to this going, "Gee maybe I should fast forward because this is going to be about gynecology stuff." Understanding your partner's hormone cycles is primary skill for a guy because that way you can be just like, "Oh this is like, that week, and I should schedule my business trip for that week." or whatever else but just having a basic understanding there helps me understand, with Lana, normal monthly fluctuations in behavior and attention and even intelligence.

There's some interesting things around IQ and ovulation that come out. I actually think it's worth it for guys in relationships to just understand a little bit about this. If you can tweak it and you can help tweak it, your life as a guy will be easier too, and your partner will be happier which means you'll be happier and vice versa.

Dr. Sara: Such a good point. I think I've told you before that my husband is making an app for the guys where he thinks it's so important to be tracking your woman's menstrual cycle. Just as you describe, green light for going on a business trip because you're 1 week before a period or its ovulation you might get some if you play your cards right so I ...

Dave: Yeah or you might want to run away so you don't actually have another baby.

Dr. Sara: Exactly depends on how many kids you have but this is such an important point. I think guys are simpler in many ways when it comes to hormones. The conversation is still really rich and fun but it's important to realize that women are complicated. When you're cycling, you have a different level of estrogen, progesterone, testosterone on a daily basis. The more that you can leverage that as you're describing, you're the ultimate leverager Dave Asprey, and be masterful about it. Be skillful. Have it work to your advantage. It's going to be a win-win for everybody.

Dave: I love how you're thinking about that. One of the things missing in the whole bio hacking community, even in paleo, I've had a series of women on the show lately to talk about women, and high fat diets in general, not just the bulletproof diet, and it goes from extreme where we have Olympic winners who literally shut down their cycle for 7 or 8 months using nutrition because like, "I know my cycle makes my performance fluctuate and I don't really care about fluctuating. I care about kicking ass." All the way to, "How do I do the anti aging thing after 40?" and there needs to be more books written about this.

A lot of the studies out there are specific to men. Intermittent fasting, I wrote a post when we've talked about on email a while back about when women do intermittent fasting for longer periods of time, they lose their sleep. They adrenal fatigue but you add protein back into the morning and it's a different effect or you add more carbs and it's a different effect. I would love to see ... even rat studies were like "Oh the girl mice

are different than the men mice.” although mice are not rats. We all get that for people listening.

Why don't women lose weight on a typical diet that works? You know - I look great! My man boobs are a little small but all right. What's the deal here? What did you come up with in your book?

Dr. Sara: This is the million dollar question. I'm super curious about this because I similarly found in my practice. I've seen about 20,000 women about 5000 men in the past 20 years and what I found especially with the paleo revolution of the past 5 to 10 years is that women don't fare as well especially after a certain age like 35 to 40. That the transition where hormone starts to fall of a cliff.

For women between 35 and 40 that's when progesterone drops. You start to run out of ripe eggs. You can't be soothed as well. You have growth hormone drop and there's also an issue with your ... for a lot of women their thyroid starts to get wonky. They have issues with reverse T3 which I think is a key player when you go to low carb as a female of a certain age. Those are some of the issues that I see. Why is this?

I'm asking all of the thought leaders this very question because I'm not finding a great answer in the literature but I can tell you from experience that I'm seeing something similar. For the women who go on paleo, there's even a study done by Terry Wahls. She put folks on the Wahls protocol and once women hit a body mass index of 23, they don't lose weight on paleo anymore.

It's curious to me. I think it has to do with a carb threshold that's particular to women of a certain age and what I'd love to talk about with you Dave is a bit about ... if you look at the low carb movement like where is it not a good idea? Where is it potentially harmful or might cause issues with sleeping or work against you as you try to heal adrenal dysregulation. What do you think about that? Shall we talk about low carb?

Dave: Let's zoom in on it. It's really important that we talk about low carb. It's just like a low fat or high protein or whatever else. High soy protein specially hydrolyzed soy is totally different than high egg. It's totally different than high collagen just to talk about a protein or a fat or a carb. The difference between a low carb diet and a low sugar diet is you're going to have a high carb, low sugar diet.

One of my goals in bulletproof is to help people understand that it's too simplistic to say carbs, protein, fat. It's actually almost meaningless. It's slightly less meaningless than saying calories which is just not a great way to measure nutrition but even on top of those things. Now you got to the right kind of ... you're on [collagen protein](#) but where did it come from and what are the di- and tripeptide forms? Are you kidding me? You go to McDonald's and say, "I'd like an order of side of dipeptides?" You don't.

You want to understand what are the molecular and biological and gut biomechanisms of these things. When you get down to that level, quality becomes the most important thing you look at after you get your macronutrient ratios right maybe even before you look at other things. When you're talking about ...

Dr. Sara: Amen! I just want to say amen right there. You asked about intermittent fasting. I just want to say I'm loving your [collagen](#) man. I'm having my [bulletproof coffee](#) with my [MCT oil](#) and my [collagen](#) in the morning and I am so happy. I think you're on to something with that particular formula.

Dave: I designed it using a whole bunch of different things including a lot of serendipity and some luck and some biochemistry but a new study just came out looking at something I've hypothesized for the past 2 years about what [bulletproof coffee](#) does to your butt giome. Your butt giome has serious problems Dr. Sara.

Dr. Sara: My butt giome, oh my gosh. I didn't even know.

Dave: I can't believe I said that on the air. All right your gut biome.

Dr. Sara: After that and the goat pheromones, man I'm ovulating over here.

Dave: I'm so twittering that. So one of the things that's going on there is a shifting of the bacteria in your gut because the phenols feed ... the phenol which is basically antioxidants in the [coffee](#), at least one of the antioxidants. It feeds a kind of bacteria in your gut that thin people have more of than fat people have less of. When you look at what the brain octane oil does specifically is it puts a stress on the bacterial population. You're like, "Wait a minute, this fat puts a stress on what's happening inside the gut." All the bacteria are like, "Hey I don't really like that." But then you feed the ones you want.

In very rapid order you're basically suppressing fat people bacteria and you're increasing thin people bacteria by feeding the ones you wanted. So I don't know if it's soon enough to say coffee is a probiotic but I can tell you with absolute certainty that phenols in foods ... there are phenols in lots of foods like blueberries and wine and coffee and chocolate but phenols in ... funnily enough on the Wahls protocol and Terry has been a guest on the show a couple of times, Terry Wahls who cured her MS using a high colored food diet, what do you think makes vegetables colorful? Dr. Sarah, it's phenols, right?

Dr. Sara: Right.

Dave: We've got a lot of polyphenols in [coffee](#) and whatever else. When you take brain octane and you mix it with your red bell peppers, when you mix it with your hot chocolate, when you mix whatever it is, you're basically feeding the good biome and you're maybe making life a little tougher on the other stuff in your gut. You still need those things. Those are lactobacilli. But if you're free basing yogurt to try and change your gut biome, maybe that's not what you wanted to do.

I can tell you yogurt and a lot of the so-called good bacteria they cause brain fog in a substantial number of people including women over 40 and under 40. I've written about that and I tested it just last week. I had 2 days of being a total zombie after I took a very well respected probiotic formula, one that worked great for a family member by the way. So how do you know? You'll have to be a bio hacker and measure.

Dr. Sara: You have to measure ... You have to pay attention to this individual variation that we see person to person. I think that's a crucial piece. And I love this idea ... I wrote this down. Feed the bacteria you want. It reminds me a bit of that line, love the one your with. It's really important. That's our new theme song I think Dave for 2014 is we want to feed the bacteria that we want. That's like the next 10 years medicine.

Dave: It seems like it. Do you cover resistant starch? I'm just not remembering. I have a copy of The Hormone Cure floating around here but I read a lot. Do you talk about basically the types of fiber that feed bacteria as well?

Dr. Sara: I don't talk a ton about the different types of fiber. I'd love to get into it now in the book but I feel like fiber is the unsung hero of hormone balance especially for the global experience that we're all having of estrogen dominance and estrogen pressure from 700 known

xenoestrogens. I think of the fiber as being the way that we really upgrade the liver so that phase 1 detox where you're generating the garbage and then the phase 2 detox where you're picking up the garbage, the garbage collection. Fiber really helps you with that. I think it's so crucial that women get around 35 to 40 grams a day. Guys get 40 to 45 grams a day but do you want to say something specific about fiber and maybe prebiotics?

Dave: There's a bunch of different prebiotics you can take and there are different types of fiber. Lately the reason I was thinking about this is because the latest rage in a lot of the paleo discussions ... I frequently had [Mark from Mark's Daily Apple](#) on. We talked about this a little bit and he's saying, "I wish I had paid more attention to resistant starch." which is one type of call it prebiotic. The problem is that different fibers irritate the gut differently.

So taking wheat bran which is what I took as a kid, which didn't benefit me at all and probably caused more harm than good is different than psyllium husk which is also pretty rough on the gut but is widely touted in herbalist and raw circles all the way to things like resistant corn starch which is a manufactured product that appears to work pretty well in some people but not others. So it feels that's part of the equation but what do you talk about in the book?

You're mentioning now some prebiotics. What do you talk about specifically when women are trying to lose weight? You know about this 23 BMI thing, what do you tell them to do then? Do they eat more fiber? Do they eat more starch? Do they eat more I don't know, carrots? What's the magic food here?

Dr. Sara: How to answer this question, 1 strategy is to do some genetic testing and just see what some of your tendencies are like what the PPARG gene, and what's happening with your dance with fat. Do you respond better to MOOFAs? How do you respond to PUFAs? How do you respond to saturated fat? I agree with you that there's this macronutrient conversation about carbs, protein, fat and then there's also drilling it down much further which I love that you do in your info graphic for the bulletproof diet.

The piece that I've been really working with right now is the carbs because I see so many women who are at a plateau. They're pushing

their total percentage of calories if you still calculate that down to about 10% 15% with their carbohydrates. And I just see such a backlash from the body. I wanted to talk about that today. Why is it that women are hitting this plateau especially over 35, 40? What's going on? I've got a few theories. I'm going to float this one by you.

Dave: Do share.

Dr. Sara: I've got a little mnemonic. This is how I survive medical school ATAPIS. My daughter is reading To Kill a Mockingbird so it's an honor of ATAPIS, A-T-A-P-I-S.

Dave: My 4 year old will be laughing right now.

Dr. Sara: You like that? These are the folks who really have to have some caution around pushing the carb envelope too low. ATAPIS. A is athletes. T is thyroid. P is ... 3 Ps actually, preconception, pregnancy and postpartum. We can go into more detail there and the other A was adrenal dysregulation. So it's ATAPIS. Athletes, thyroid, adrenal dysregulation, preconception, pregnancy, postpartum, insomnia and then stress like really high perceived stress. What do you think Dave?

Dave: I'm not sure that I like the acronym. When you put in scrabble and rearrange it to something that sounds cooler than ATAPIS because I can spell it. But I'm just joking. Those are the cases when I'm working with coaching clients for performance where like well here's a simple experiment. Have more carbs. It's not just more carbs because that means more apple turnovers. Some of these people were talking about eat carbs like an orangutan or something. What we're talking about here is, we're talking about eating carbs that don't contain a lot of the carb defense systems that plants put in place to keep from getting eaten.

So I recommend white rice and sweet potatoes. If you are not one of those people that has problems with normal potatoes, maybe the inside of a normal potato but not the skin, and for the most part sticking with clean forms of starch versus say a ton of fructose is a good idea and then you play with it but don't eat it for breakfast. Who was it who was just on a show who said breakfast is the most important meal of the day to not screw up? If you're having sugar and carbs in the morning, it's probably not going to benefit you. If you're going to do it, have it at dinner or maybe in the afternoon.

To start out the day especially with fructose or even with a lot of starch, it just sets you up for that hyperglycemic thing. If you're looking at your body weight, it's okay to not have carbs in the morning. You're not going to die and I think that can build resilience even in people on the ATAPIS thing. But then night time comes and you're like, "Okay I'm going to have me some rice." It's okay. You can just go for the starch and enjoy it. Even if you get a little bit of blood sugar crash you'll be asleep anyway.

And you can use the honey sleep trick that I talk about on the bulletproof site about taking maybe a couple of teaspoons maybe a tablespoon of raw honey long after a meal but right before bed to get your blood glucose up and stable for 6 to 8 hours. If you find you wake up at night with low blood sugar then you need to hack that and sometimes [collagen](#) before sleep does it and sometimes you can do it with the honey trick. I don't know if you want to mix the 2 though.

Dr. Sara: I love that. Let's back up a step because I want to talk a bit about how to measure your response to these things especially if you don't want to spend a grand or more on some genetic testing. For me and this particular matrix of my female body, if I have white rice or the inside of a potato, my blood sugar is going to be 130 fasting in the morning. So I just don't respond well to that. I'm going to have to try your [collagen](#) before I go to bed and just see what happens.

I agree with you that you don't want to march forward first thing in the morning toward the fructose. We know that our food has really changed over time. The food that my great grandmother had, an apple back in her day had a lot less fructose than an apple today. We want to be really careful. What I recommend for women who are trying to lose weight is to keep your fructose less than 20 grams a day and that's not very much.

Dave: I'm at 25.

Dr. Sara: You're 25. Okay.

Dave: We totally agree on that sort of thing. Too much fructose is just bad for you. What are the reasons that you believe it's bad? I have my theories but let's see if they match.

Dr. Sara: This is like pure Gary Taubes. This idea that what happens is your turning on the fat storage in your liver with fructose. And I think that we have been hammering our poor bodies with fructose for way too long. I

think it definitely accounts for some of this epidemic that we've seen with the obesity problem in the US that's it's tripled in the past 50 years. Food, the exercise situation, the calories that we're eating they don't account for the obesity epidemic. We have to look beyond it. I think fructose is part of the story. I also think that endocrine disruptors are a major player when it comes to leptin resistance, insulin resistance, these hormone resistances that we're seeing.

Dave: Let's talk some more about endocrine disruptors. You talk about top foods that hijack any woman's hormones. Are those foods containing endocrine disruptors or are these other sources like cosmetics or something? What do you think about when you think about hormone disruption?

Dr. Sara: I think of a lot of different things. We know from quite rigorous data that women are more vulnerable to hormone disruption than men. Even as recent as a year ago there was a Harvard study looking at phthalate exposure and women with the highest thallium exposure had more problems getting pregnant. They also had more endometriosis. They had lesser egg quality based on some studies that were done with IVF. The way I think about endocrine disruptors, I think as broadly as possibly because I feel we are exposed to toxins on a daily basis and detoxification is no longer a luxury. It's something that we all need to take on. So when it comes to foods, I think of those endocrine disruptors as well but I think the persistent organic pollutants are where we have the best data but I think it extends far beyond just the pops.

Dave: Are you concerned about things like roundup, the organophosphate weed killer that is just being used by millions of gallons? What does that do to hormones?

Dr. Sara: It's interesting. This is another place where the data is not as robust as I would like it to be. I wish we have randomized trials of animals on roundup versus not, and tracked for really long time. I wish we had some human data but I think the data is at a point where you don't want to do randomized trials on humans with roundup. The studies that have been done ... There was a study from France looking at the effect of I believe it was in rodents.

They found that female rodents became more male. Basically it raised testosterone levels. It lowered estradiol levels. Then the male rats

become more female. It raised their estradiol levels and lowered their testosterone levels. There's this reversal in sex hormones that I think is really important to pay attention to. We also know that farm workers who are exposed to roundup have higher rates of miscarriage. They have more issues with infertility and I think we have enough of a consensus to say, "Oh my gosh, don't eat GMO food."

Dave: It's frightening because you get the direct hormone effects and you also get the effects on the soil biome. That soil biome is what affects your gut biome. If you think you can separate your body ...

Dr. Sara: I like how you carefully said it Dave.

Dave: Was I careful enough?

Dr. Sara: I still like butt giome. I'm going to use that more.

Dave: I can't believe that that was the best Freudian slip ever. I don't know if its Freudian, it was just a slip, but anyway if it was Freudian I have deeper issues. So we tend to agree GMOs are a bad idea. If there's a direct problem with roundup residue that's measurable on say GMO corn but on top of that the biome there is wrong and it also does this thing. Corn almost all of it like 98% of it in the field grows mold on it.

The species Fusarium is the problem in corn, first and foremost there are other ones. Fusarium makes endocrine disrupting mycotoxins that are thousands of times stronger than normal female estrogen. So if that happens and there's a presence of roundup that stresses fungus which makes it even more of a toxin, you're basically getting something that ought not be food. I don't give my dogs GMO corn or if I had chickens, I wouldn't give it to them either. I don't have any chickens. I will, give me time.

Dr. Sara: I agree with you. I think there's ... when it comes to mycotoxins, I think this is a fascinating conversation. You and I have talked about coffee and mycotoxins. I think that's one of the reasons why cortisol levels go up and some of the older studies that we have coffee. You and I still need to do that study where we look at bulletproof and compare it to some toxic coffee that has mycotoxins and look at our cortisol levels.

Dave: I can't wait to do that Sara because I've done a study. I want to actually do a confirming study before I release it but there is a few people saying "ah, there's no difference". But I'm probably going to release that study

before I would prefer to. But it looks at executive function, at cognitive function on my coffee versus a selection of other coffees and oh my goodness the difference is so big. That study is the basis for a lot of the claims that I can legally make about coffee for human performance. No, it's real.

Getting lab data, I would be interested in cortisol as well as other inflammatory things because I suspect we'd find some inflammatory markers go down. The problem is that as a coffee company, I'm not allowed to talk about what a food does to inflammation because then the food will become a drug and we'd have to go through a 100 million dollars of clinical trials on coffee. So if coffee does ...

Dr. Sara: Well, I can talk about it. So we'll have to do the study. What are your favorite inflammatory markers? You want to look at high sensitivity C-reactive protein, homocysteine, what else would you like to look at?

Dave: The different cytokines.

Dr. Sara: So IL6.

Dave: Yeah. I'd actually want to look ... there's 2 of them that we know that different oils from coffee have an effect on from some studies. So I would want to read, check those studies and just look at, ok ... so the study believes it does that so does that, but does it do that? But maybe that could be stacking the deck because there's already science about it. It's just science that if I link to it then I'm making claims. So anyone who wants to consider coffee inflammation and find Wow there's some huge impacts here and it turns out how you process the beans, how you roast them and then even how you brew matters. I don't want it to turn into a coffee thing. Everyone who listens to this wants to pick your brain. Sorry. Going off on coffee.

Dr. Sara: We're talking about some of these key hormones that really affect women. I want everyone to listen to this particular piece because if you're women in your 20s or you're a guys in your 20s or your 30s, I don't want you to fall down a hormonal flight of stairs. An when you actually manage these hormones that we're talking about like cortisol and what kind of coffee you drink, it's going to help you not fall down that hormonal flight of stairs. It's really important. I'm a big fan of building out a dashboard. To be honest Dave, I'm going to go like totally

transparent here. I don't like the term bio hack. I feel like it is so masculine. I need a more feminine term.

Dave: We have a bio hackete. It totally ... Sorry.

Dr. Sara: We're going to dig a little deeper before the end of the show. But I think this piece is so important. What are the metrics that you need to be watching? If you're trying to get more lean or if you're trying to get along better with your spouse or get your woman to have more sex with you, these are really important metrics to be tracking. What do you think?

Dave: I could not agree more. The whole idea of bio hacking ... It's funny there are a bunch of women who have embraced it because it's empowering. They're like, "I'm in charge." The younger you get, the easier it is because any popular media like half the time the hackers the girl although if you go to computer science program it's still 80% males. I don't know why that is probably incidence of Asperger's in men versus women. I say that as a guy who studied computer science by the way.

Dr. Sara: I was an engineer Dave but there's like a slight Rwanda quality to the term bio hacker.

Dave: Rwanda?

Dr. Sara: There's like a hacking quality to it that it feels a little violent.

Dave: Yeah, it's a tough thing like if you want to talk about like hack your skin like that's where you to go a surgeon for. I hear you there. It's just a question of co-opting. You're an engineer so you know what a hacker does. But I get it. I couldn't find a better one and the idea ... I'm a health enthusiast is so not feminine or masculine. It's just boring. I'm a wellness person. You look at me, and Mr. Rogers is like my idol. it just doesn't work. How do we tell people that? I'm taking charge and honestly I don't care if I'm not supposed to because that's what a hacker does. I worked in computer security for half of my career. That's where I come from. If you come up with a better word for girl hackers, girl bio hackers.

Dr. Sara: Let's crowd source it. If you're listening, give us some comments. Give us some ideas on a feminine term for bio hacker please. It would help move the cause. Empower more women.

- Dave: We can have meet ups between bio hackers and bio hack girls or whatever.
- Dr. Sara: Yeah.
- Dave: I like this Dr. Sara. So let's talk about women's brains since we're talking about bio hacking.
- Dr. Sara: Cool.
- Dave: What do hormones do to the brain? Give people in their cars that rundown from your neuro-hormonal dashboard. What are the top 5 hormones ...
- Dr. Sara: What are the key players?
- Dave: ... that are going to make you crazy or make you calm?
- Dr. Sara: I think about this. I'm an engineer so I think of this in terms of modules. I think of the female brain according to age and there's the pre-puberty. There's the pubertal age. There's the reproductive years then everything goes crazy and perimenopause which is puberty in reverse and then there's menopause where you have just a direct current instead of an alternating current. I think about it in those modules and I imagine it's the reproductive years and maybe perimenopause that's of most interest to our listeners today.
- Although I have to tell you I've got a 14 year old daughter and we got perimenopause right out next to puberty and she's got estrogen firing her brain like crazy and oxytocin. All she wants to do is go to the mall with her girlfriends and all I want to do is wear my yoga pants and I can't even remember if I brushed my hair today. So it's...
- Dave: Does she listen to your podcast?
- Dr. Sara: No she ... let me tell you. She listened to Abel James yesterday because she feels like he looks like Ryan Reynolds so that was her reason for listening. I'm going to have to get an angle. Maybe you can help me with this to make her listen to my podcast with you Dave. More on that. More will be revealed.
- Dave: All right.
- Dr. Sara: When it comes to the brain, a couple of things that I think are important especially during the reproductive years and also perimenopause, menopause. Women have half the serotonin that men have and so this is

a really key point because serotonin is a gatekeeper. It's not like all these happy brain chemicals like BDNF and dopamine. It's not like these are all created equal. Serotonin is a really important gatekeeper. We have half what men have about 52%. I think it's part of the reason why we run into more problems around restricting carbohydrates.

We need to be really wise and smart about how we are bio hacking our food and designing that food plan each day so that we are topping off the tank with serotonin and not with the latest antidepressant because oh by the way those are linked to a higher risk of breast cancer and ovarian cancer that was shown in 2011. Serotonin is a really important piece. You want to be mindful of that and estrogen of course is involved in the control of serotonin, the way that we move serotonin around.

There's kind of a threesome here. I always have the sexual innuendos when I'm around you. I don't know why these come out of my mouth. There's a threesome and it's serotonin and estrogen and oxytocin. You want all 3 of those really working on your team and not working against you. Gaba is in there too and allopregnanolone but I'm going to go with the threesome for now.

Dave: Okay. Got it.

Dr. Sara: Those are important. The other one that's really important for the female brain through reproductive years and also perimenopause is progesterone. Also important in menopause and progesterone is also ... it's kind of like fiber. It's like the poor relation that nobody pays attention to. We've got a lot of fascinating data on progesterone. We know that when you have low progesterone, this is chapter 5 of my book, what happens is you're more likely to have heavy periods. They may come closer together and the answer is not to go on the birth control pill. Believe me that is not the answer. Shrinks your clitoris by 20%. It robs you of testosterone and that is a serious problem. We got to talk about testosterone too.

Dave: For guys, do you see why you want to know about this? I have for the past 20 years, every woman that I've dated or whatever, I would say, "Get off the pill." They're like, "Do you want me to get pregnant?" I'm like, "No I don't. Trust me on that. I just want you healthy and normal." Do you talk about pheromones and the birth control pill on your book at all? Do you mention that study?

- Dr. Sara: I should. I don't talk about it in the book. Maybe we could link to it with our podcast.
- Dave: Okay. We'll link to it. The really short version of that for guys and women to understand is that if you're on the pill, it changes your smell receptors so that your partner's pheromones smell good to you. When you go off the pill, when you decide to have kids, you may be sexually unattracted to your partner because their pheromones smell different and that's a bad thing. You just maybe got married and you're going to start a family and like, "Eww, that guy's gross." This is one reason while you're dating you might not want to be on the pill other than the little breast cancer thing. Anyway we don't have to go down that path.
- Dr. Sara: Well I do want to go down the path. Can we do a tangent on testosterone? Because...
- Dave: Yeah. Let's do testosterone it's awesome.
- Dr. Sara: Oh my gosh! I love this point you made. We're always trying to figure out. What is it with mating in captivity? Why is it that sex becomes less interesting for so many of us after you've been married for a while? So I love it ...
- Dave: Did you just equate marriage with captivity?
- Dr. Sara: Yeah. Marriage in captivity. It's a book by Esther Perel. Finding these reasons, pheromones I don't know any women who didn't go on the birth control pill. Maybe there's a few here in Berkeley but most of us did not escape. I want to just say there's a great way to think about your testosterone receptor. I'm hoping we can talk about molecular sex here for a moment. Really when it comes to hormones, it all comes down to molecular sex. Are you having good sex or bad sex? The sex of course is between the hormone and the receptor.
- With testosterone, when you go on the birth control pill, it's not just this problem with the pheromones and the increased risk of breast cancer. It's also that it reduces your free testosterone dramatically. So I flippantly said it can shrink your clitoris up to 20% but even more concerning to me is that 20% to 25% of women on the pill have vaginal dryness and they're all of 22 to 25 years old. They're like, "Why do I have this dry vagina?" They're not asking their doctors about it because

they're embarrassed and then they don't want to have sex because it hurts.

And the problem there if you look at the receptors is that some of us have what Andrew Goldstein, I love his analogy here, we have the Prius receptor. We have the super efficient androgen receptor where we can go really far on a low tank of testosterone gas. And then the rest of us have the Hummer receptor for androgens. When your testosterone is low, you just can't go very far and so you have vaginal dryness maybe even pain. I feel like the birth control pill is the largest endocrinopathy that we are imposing on women in the world. I feel like I'm getting on the soapbox. That's my little thing on testosterone.

Dave: It's really important that you say that. We did the same thing and the [better baby book](#). Look, the pill is not good for women. It is bad for all these different reasons and if you want to have children later it's not in your best interest to do this. I know it's convenient. We're fans of women's liberation and rights of women. That said, denying your biology isn't going to make you live a long time and is going to make you have a healthier family or a have a healthier sex life but there's ...

Dr. Sara: I'm going to give you a fist bump for that one.

Dave: First bump it is.

Dr. Sara: There we go.

Dave: There's two other things that you said though around testosterone and vaginal dryness. Guys, you can hack your partner's vagina. Did you pick this up?

Dr. Sara: See the use of hack in the same sentence as vagina.

Dave: I knew that would bother you. Seriously, you can modify your vaginal receptors. No, no that is even worse. Here's the deal. By encouraging healthy behaviors, you can basically improve the health and quality of your partner. See this is all just too medical for me. Here's the deal. You can improve your sex life by improving your partner's health. Now there's another thing. I don't know if you ever tried this. I'm guessing probably. Have you ever tried topical application of very low doses of testosterone directly to the clitoris?

Dr. Sara: Oh, hell yes. In fact I have ...

- Dave: This is like the unknown bio hack and it's amazing.
- Dr. Sara: I have my vulva right here. Hold on.
- Dave: Okay. You all want to turn on your video now. Oh my God! You have to see this on iTunes or on YouTube. You're holding a giant vagina.
- Dr. Sara: It's a velvet vulva. It's not my vulva. It's a vulva of color and there's the clitoris. A lot of women think especially in perimenopause when they start to get dry, they think they need to start frosting themselves with estrogen but it turns out your androgens are way more important. So you are right. The testosterone ... you've got to be careful. You don't have to have cliteromegaly where you start to grow a penis but putting it on especially where you have the androgen receptors on the clitoris. Can you see that Dave?
- Dave: Oh totally.
- Dr. Sara: The labia minora and ...
- Dave: It's a great big clitoris.
- Dr. Sara: It's a great ... you can't miss it and there's the G spot. See the ruffly pink stuff. Don't forget the G spot and then right here the opening, the introitus, that's where you have a ton of androgen receptors based on embryology. That's where you got to put it. You don't want to ... and DHEA. There's some new interesting data on DHEA.
- Dave: Topically?
- Dr. Sara: Yes and that it helps the full thickness of the vagina not just the surface like estrogen does. Oh my gosh! So many clinical pearls today. They're just like dripping out of us today.
- Dave: You and your innuendos good God. You are the first in the more than 100 shows, the first person to actively show a vagina on the air. So congratulations Dr. Sara Gottfried.
- Dr. Sara: Thank you. I'm happy to have that position.
- Dave: What is interesting is that if you take a low dose testosterone cream, a very tiny amount of it and you apply it topically, you get a very sudden effect. Are you familiar with that effect?
- Dr. Sara: I want you to say more. Of course I want to see the data but I think the ... this is actually where we're going. I think you're talking about where

we're going where we're talking about very small doses of bio-identical hormones and how to use them strategically so I wanted to call that out.

Dave: This will be more along the lines of female Viagra. Based on the stuff that I use, it's a 5% in a cream base and you take a vanishingly small amount. If I applied it on my armpit normally what would be left on my finger is enough and you swipe it over the labia and the clitoris and within 5 minutes you get amazing amounts of blood flow. Huge amounts of blood flow like nothing you've ever seen, and its repeatable. And it completely changes the whole sexual response and it's different than raising testosterone in the body say through supplementation or diet or exercise or even applying it on an armpit. You use armpits because it absorbs well there. But if you put it on a woman there, sex drive goes up but if you put it topically on a vagina immediate ... a reckless abandon desire for sex goes up a lot more. So you can use less testosterone and get a bigger benefit. Guys you shouldn't do this without her permission but it is an amazing result.

Dr. Sara: Well I have to be a little bit careful about medical advice when it comes to testosterone especially your testosterone being applied to a female. So you got be cautious about that. Work with your physician and ...

Dave: Of course. You can't get it without a physician.

Dr. Sara: And I'm thing 1/3 of the US public, the females have polycystic ovarian syndrome, and so we have to be a little bit careful about testosterone balance. But I appreciate the point that you're making. I think most of us are in short supply of testosterone in our lady garden.

Dave: Yeah, I'm not saying do it everyday for God's sake especially. I'm just saying that this is a relatively unknown effect of testosterone in that region especially if a woman if deficient that might be a great way to apply it. There I said it as politely as I could.

Dr. Sara: That was good Dave. It's like you talking about coffee. So I was talking about progesterone in the brain. Honestly it's a little hard to follow the testosterone clitoris conversation with progesterone on the brain. But we give progesterone now to people who have had traumatic brain injury. Women need it. It really helps us. Men need it too and you need it to have this really good dance with your estrogen.

- Dave: Even in pregnancy. There's the progesterone baby studies that we've covered in the [Better Baby Book](#) where we look at intelligence of kids who had extra progesterone in the womb and the studies. There's been some questions about them because they're done in the 60s but the studies were kind of amazing and the effects that came out. So it's not just for women. It's not even just for men. It's for like babies too. Go ahead.
- Dr. Sara: There's all these new studies not from the 1960s showing that it reduces preterm labor. In fact, there was a study I just looked at about a month ago showing that women who have the lowest progesterone levels, we know that they have a higher rate of miscarriage. They have a higher rate of other problems in their pregnancy and now we know that they have a higher rate of preterm labor. So progesterone is really important. I'm not saying start frosting yourself in progesterone cream but that should be one of the items on your dashboard. Your managing your cortisol, your estrogen, your growth hormone, your thyroid, your testosterone.
- Dave: That is so cool and to do this you should work with a doctor. You can get your numbers and bring them to your doctor if you want using a wellness effects panel. Your doctor probably works with a specific lab and is familiar with the way they do their numbers and how they do their own quality control. It's best if you're going to work with a doctor, go to the doctor and say I'm interested in optimizing these levels, help and you want to make sure the doctor gets it which means what IFM, what other things should people look for in a doctor since you're not practicing Dr. Sara.
- Dr. Sara: Well I work with people online. You can check me out at saragottfriedmd.com and ...
- Dave: Oh I didn't know you're still doing that. We'll definitely put links to that and everything. Cool.
- Dr. Sara: Awesome. I work with folks online. I also have been training practitioners. You can go to functionalmedicine.org. Go see a functional medicine practitioner. I'm joining the faculty at IFM, the Institute for Functional Medicine so I'm a big fan. I recommend in my book that you check out some of the scripts that I have for checking out doctors and

seeing if they are collaborative. If they're going to partner with you that way that you deserve.

I also think that it's important to realize that there's this problem with mainstream medicine. I think you've noticed this Dave where many folks just are ... it's as if they don't think that adrenal dysregulation exist or they think that there's something wrong with people getting empowered and testing their own labs and taking ownership of their health. The patriarchal system doesn't want for us to step into our power. There are some folks who are resistant to this and you want to not see those people.

Dave: Exactly. I want to be conscious of your calendar and your schedule here. We have one more question that I have asked every guest that I'm hoping that you have time to run through and that is your top three recommendations for people, men or women, who want to kick more ass.

Dr. Sara: I love this. So I'm going to give you ... what is top of the heap for me right now because I'm always taking on new stuff. Number one ChiRunning. Oh my gosh! I am so into ChiRunning. It's like backdoor spirituality. I always love these ways of finding your secret sauce which is really being able to rebalance your synthetic nervous system and your parasynthetic nervous system, your fight or flight rest and digest. ChiRunning, totally love it.

Dave: What is ChiRunning?

Dr. Sara: ChiRunning is where you basically combine qigong and these principles of retraining the mind with running.

Dave: Oh okay. It's kind of like a walking meditation but you're running?

Dr. Sara: Kind of. You're engaging your dantian. Next time I see you Dave we'll go ChiRunning, okay?

Dave: All right. I'm excited. I'm going to get my dan tian all warmed up.

Dr. Sara: Number two I'm totally grooving on my morning bulletproof coffee. Guys, Dave hasn't paid me to say this. He makes me pay retail for all of my coffee and everything. There's like no bias here. So I am loving my bulletproof coffee with my [MCT oil](#) and my [collagen](#) in the morning. I just think it's totally cool. I need to study it more. I'm collecting the data more on that later. Then number three, I'm going to have to say

oxytocin. I feel like oxytocin ...we're just at the tip of the iceberg in terms of understanding about how oxytocin is involved in connection. It's really the best hormone therapy out there. Oxytocin, it lowers your cortisol. It raises your estradiol. It helps you make your thyroid work more efficiently. I love oxytocin. There's so many ways to get it.

Dave: As a drug or orgasms? What's your top way to get it?

Dr. Sara: I do have the vulva here so definitely female orgasm.

Dave: Stop waving your vagina on camera. Sorry I've always wanted to say that on a podcast.

Dr. Sara: We might have to say this is for mature audiences only.

Dave: I think it's okay. This is educational. We're not going to be playing in this your daughter's class.

Dr. Sara: I do bring this to the 8th grade class. They love it.

Dave: Good for you. I love that too.

Dr. Sara: But you can also hug, right? You can keep your pants on and 8 hugs a day is what Paul Zak says based on the half life of oxytocin. You need 8 hugs a day.

Dave: More hugging I can do that. Dr. Sara Gottfried, give us your url. Give us the title of your book where people can order it and things like that so they can find you. We'll put all these links on the show notes but just make sure people can find you.

Dr. Sara: Absolutely. The book is [The Hormone Cure](#) and you can find it at the hormonecurebook.com that's the best place to go. We've got a free offer right now where you get this 39 page special report on how to rebalance your hormones in 8 steps.

Dave: Awesome. Thanks again Dr. Sara Gottfried for being on [Bulletproof Executive Radio](#). The number one ranked health podcast iTunes right now. Wohoo!

Dr. Sara: Wohoo!

Dave: Talk to you again soon and we'll go Chi Running.

Dr. Sara: Thanks Dave. Absolutely! Bye everybody.

Dave: One of the things you can do to make your brain work really, really well is you can remove toxins from your body. One of the most important

antioxidants and toxin binding substances in the body is called glutathione. [Glutathione](#) has been available as a nutritional supplement for a long time. The only problem is that when you take it, it gets broken down in the stomach and you don't get the benefits of it.

About 10 years ago, we started making some they called Liposomal Glutathione which allows this precious molecule to pass through the lining of the gut and it works. The only problem is that you have to have very, very small liposomes for it to work and there is varying results from using different liposomal forms. That's why I created [Upgraded Glutathione Force](#). This is a radical innovation in the glutathione world small as it may be because we use a patented technology that binds another molecule onto a liposome. It's liposomal but it absorbs in studies using this form of molecule up to 8 times better than normal liposomes that don't contain the added boost.

That's why it's called glutathione force because it literally forces the glutathione past your gut and into your blood where it can do the most benefit. If you look at the comments on the forums or on the product page, you'll find that a lot of people use it because it makes their brain feel crisper and clearer not to mention the other benefits to your immunity and other systems in the body which always run better when your liver is able to detoxify substances really well and that's not even talking about what it can do to help you reduce the impacts of drinking too much alcohol. You'll feel better the next morning if your glutathione levels are high enough before and after you drink. Check it out. [Upgraded Glutathione Force](#) on upgradedself.com.

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