S2 EP 29: Testosterone Truths: What Every Man (and Woman) Should Know – Part 1 Transcript

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Podcast Introduction and Men's Health Focus

Hey guys, welcome to the Eat, Pray, Faith podcast with Dr. Tracy. That's me. I'm so glad you're here. And today we're taking a deep dive into testosterone.

And really, this whole month is going to be focused on men's health. So, today I decided to talk about testosterone. What is it? you know, how what are some things that we need to be aware of uh as as people that deal with men's health and practitioners that deal with men's health, but you as the person listening to this podcast, whether you're a man or a woman, testosterone is in both, but we're going to primarily focus on its role in men's health. Now, we will save some time, ladies, to get back to the value of testosterone and women's health, too. I personally think women are low across the board on testosterone, but for the purpose of today's podcast, we're talking about the guys. So, what all are we going to cover in this podcast today? Well, we're going to cover what is testosterone? What is all involved in the biochemical synthesis of testosterone? What are some of the early signs and symptoms? If you have low testosterone, what can that do later in life? What are some of the diseases that come from chronic low testosterone or not doing anything about it at all? What blood work do you need in order to check your levels of testosterone and other hormones as a man, which are really important? What are some natural replacements that you can take today that can help boost the production of testosterone safely? When is testosterone replacement therapy necessary or is it? uh what do we look for in a TRT specialist? And then are there's any other things like peptides that we can utilize if you're not interested in testosterone replacement therapy or the natural products aren't working.

How Testosterone Is Made and What Disrupts It

So all of these will be covered today in our pursuit to help men become healthier because honestly guys, I don't think you talk about it enough. And what happens with men most of the time is you end up, you know, with some sort of expression of disease. And honestly, it could have been prevented years before if you would have taken the time just to address your hormones and testosterone. So, let's just talk about how hormones are made in the body just very quickly. If you haven't caught my podcast about cholesterol, I would suggest you go back and do that. Uh, and we are going to continue this conversation. So, this is all going to build out. This is kind of the foundational talk. We're going to go uh into a podcast next time with Dr.

Silva, who's a metabolic specialist, a DO. He's going to be talking about some clinical signs that most men miss uh which can later be detrimental uh if not catastrophic to to men because they just wait too long. But if you listen to my podcast about cholesterol, then you know cholesterol is good. you know that it is a precursor to all steroid hormone production. So what happens when we put people on statins, which is one of the top medications that'll be recommended to men and women if you have high cholesterol and I'm here to tell you that train of thought has to change. There are other things that we should be looking at when cholesterol elevates. What are your hormone levels? what uh what is the brain activity or the brain need because cholesterol is also involved in the neuroplasticity of the brain and then inflammatory markers you know what's involved there so all of these things matter when we look at cholesterol but for the purpose of today's discussion cholesterol is the precursor of all steroid hormones really important that we understand and it's primarily obtained through what's called the synthesis of um acetylcholine A So again, nutrition is foundational for you guys listening. It's not just about eating the same SAD diet, standard American diet, and getting testosterone injections. They won't hold. You need the precursors for conversion because by taking TRT in an injectable form or creams or whatever you're choosing to do, but you're not converting it correctly. you're not using it correctly and you're not giving a bo the body a reason to use it such as strength training it too can become a problem. So these are things we're going to talk about. So when we talk about how does testosterone convert its first step is in the conversion from cholesterol to what we call pregnenolone and then the step is catalyzed by cholesterol through like a sidechain cleavage enzyme. So all this biochemical stuff with the help of mitochondria ATP. So if you're listening to me right now, that means you have to have the right

enzyatic action. You have to have the right amount of cholesterol. You have to have the right amount of acetylcholine A. And now you have to have enough mitochondrial strength to be able to convert pregnant into the usable form of testosterone for you guys. And this is done by what are called the lightig cells in the gonads or the testes. Okay?

So having good testicular health is really important as well. Again, we're going to look for signs in the next podcast of what most men miss, but I just want you to understand this is a cascade of events that comes from proper nutrition and pathways that are open and able, which means we don't want toxicity in these pathways. And if you think about it, gentlemen, as you're listening to this podcast, what are some things that you might be doing in your own current life or lifestyle that could be congesting these pathways? Are you exposing yourselves to too many EMFs, your phone, your computers? Are you sitting too much, creating pressure on that area where the gonads and the testes actually have a pathway that they have to function within? And with too much pressure, too much sitting, that doesn't happen due to inflammation. Are you exposed to other things like heavy metals? Are you exposed to other things like glyphosate? All of the pathway disruptors that can create a systemic breakdown of you optimizing and utilizing your natural testosterone levels. and then what could be contributing to maybe low testosterone levels and low testosterone overall and free testosterone. So, lots of science behind this, but we're going to try to break this down so that we all understand the value of testosterone. We all understand the position of it. So, aging is inevitable. We know that. And this process affects uh even the most resilient of men. Okay? So, you guys, we know that you're strong. We know that you've always been strong, but then you hit a certain point where you're like, hm, start noticing a little bit of low libido, maybe less stamina, some extra weight gain, and you're not really sure like what exactly is going on. So, all of this can lead to a breakdown over time.

Why Testosterone Declines With Age

Uh, and it's usually due to testosterone levels that start to fall with age. That's not uncommon. I mean, it happens to women, it happens to men. It's a natural process. But as I said in my video to promote this, I talked about the fact that, you know, because we're living longer today, we're living 20 plus years longer than we did 50 to 100 years ago. That's a big thing. That's a long time to live without optimal levels of testosterone. So, we really have to pay attention to that because it's not a thing anymore that we can ignore. We have to start earlier and start to talk to our men earlier in their 20s and 30s because one in every four men 30 years old or over has low testosterone. That's one too many. One too many just overall.

Uh it is something that we really need to concentrate on to make sure that we're talking to our men about what they can do to keep their testosterone levels optimal. That's equivalent to about 13 million men overall in just the United States alone. So if you look around, you think one in four is truly representative of what your eyes see. So what is testosterone? It's the main sex hormone for men. This is crucial for fertility, muscle development, bone density, libido, mood, and even the immune system. I talked about red blood cell production. All of this is really crucial. And when you have insufficient testosterone levels, you experience changes such as sexual dysfunction. You know, men that are diagnosed with low testosterone, report low sex drive, low motivation, have erectile dysfunction. These are not things that just happen to you. These are symptoms of things that are going on internally that you've ignored for so long and now it's manifesting into a physical symptom that's going to make you pay attention. And so erectile dysfunction not only is a sign of low testosterone, but it's also a sign of insulin resistance. Now, we're going to talk about that with Dr. Silva, so I'm going to save that topic.

But for today, we're just going to talk about the influence of testosterone, all that. So, you can maintain a healthy lifestyle, exercise, nutrition. But what more research is coming out is if you take a more holistic approach to boost your testosterone levels, whether you're using natural products or you're choosing to do some sort of injectable or even a peptide that's going to boost the pathway of testosterone production, you are going to feel more normal again.

I promise you. So let's talk a little bit about basically what is testosterone and what does it do in the body so that we have an understand. So this is not just about muscle and libido. I know I talked about that but we really need to know what happens when it's low and how it interacts with your other hormones and most importantly how to test for it, how to help you with it and then how to naturally and clinically overcome it. So testosterone as I mentioned before is a steroid hormone. It's primarily produced in the testes in men. Smaller amounts in women of course uh it

belongs to what's called the androgen class of hormones and which are responsible for your male traits predominantly you know your facial hair and your muscle mass etc. uh in puberty we see this coming forward and increasing whereas prior to puberty testosterone is not the main hormone that's helping your growth and development. You have other ones and then once you hit puberty it really turns to testosterone. So you can get muscle growth and strength, bone density, fat distribution. This is also going to determine your sperm production, uh your libido, your mood, your regulation, your brain, your cognitive memory. I hear guys say all the time like, "I can't remember anything anymore. I think there's something wrong." And also red blood cell production. And you might be asking, "Well, who cares about that?" Well, the health of your red blood cells really determines oxygenation of your body, your recovery, your ability to balance your B vitamins and utilize those through stress and also your iron levels. So guys, testosterone is no small thing. Really, really important. And I know the 70s and the 80s kind of ruined it. And we associate testosterone with horse steroids and bodybuilders.

Core Functions of Testosterone in Men

But I'm here to tell you guys that if this is the number one hormone that determines after biologically your XY chromosome of you being a man, biologically you're a man at conception and then physiologically you get attributes based on this particular hormone later in life that biologically man at birth. So, with that said, testosterone, although secondary, is vital and keeping those manly traits throughout life because your chromosome isn't going to determine that. It's going to be the expression of the steroid hormones that determine the health that you have through the next 50 to 70 to 80 to 90 to 100 years, right? All right. So, what are some easy signs and symptoms? And you can get a piece of paper and write this down if you want.

Fatigue. That's usually the number one symptom that happens. Just an overall decreased energy. You don't feel like doing anything. That can go into mood regulation. Right? So you might have a decreased mood, mood changes, irritability, depression. Now, some men think that their irritability or their aggressiveness is associated with too much testosterone. And actually, it's testosterone that's going to help elicit a lot of the calming effects because it does start at the HPA access, the hypothalamus, which is your brain. And so, you're receiving this information. And because you don't have optimal levels of your hormones, you can't regulate your reactions to it. And so, having optimal levels of testosterone will actually help you regulate. Low libido, I mean, that's pretty much a given. If you start losing your sex drive, uh erectile dysfunction is another one. You could have decreased muscle mass, decreased strength, uh increased body fat, especially around your abdomen. That also can be a secondary metabolic issue or even a primary metabolic issue that's then going to lead to low testosterone. So, chicken or the egg, again, we're going to talk about that next time. Uh brain fog, that's a big one. Poor concentration, you can't focus for periods of time. Decreased body hair. It's not the primary reason that people lose their hair, but overall a decrease in body hair. I, you know, one of the things that I notice is men shed more. So, if you're noticing more hair in the sink, more hair in the bathroom. Ladies, you're noticing this because, you know, we're cleaning up after them most of the time. I don't know why they shave and then think that that hair doesn't go everywhere, but whatever. Um, so if you're noticing that, that's a sign that maybe their testosterone is a little bit lower. uh poor sleep, insomnia, inability to sleep or stay asleep. You could have an adrenal issue where you're under primarily a lot of stress creating high cortisol which is going to then steal your pregnenolone, steal your progesterone, and leave nothing left to build your testosterone because your pregnenolone and your progesterone are your building blocks for your other steroid sex hormones. And if cortisol is stealing them to build himself because you're under chronic stress, you'll eventually end up with low testosterone.

But you'll also primarily end up with adrenal fatigue. So sometimes testosterone lowering is because you are stressed out, because you are in fight or flight, because you have high cortisol. So we're not getting into all of the reasons that you would have low testosterone. That's between you and a practitioner. My primary mission today is to get you to understand the value of testosterone if yours is low and to get to somebody that can look at the why.

Why is your testosterone low and then help you rebuild your natural levels? You may need to do some peptides, TRT, and or natural products to do that while you get to the root, but I'm not going to give you every possible pathway to low tea. Okay? And then for the younger generation that's popping up, one of the biggest things we're seeing is infertility. We talked about testosterone being big on contributing to the health of your sperm count, your sperm motility. also your sexual function and libido. If you're 20 and 30 and you're having issues with that, that's an infertility issue. If you're 40, 50, and 60, that is a modulation issue. So different. And I don't know if guys, unless

you're Charlie Chaplain, if you're going to be having kids in your 60s, I mean, you go you. If you're doing it, good job. But most of the time we're talking about younger guys, 20s and 30s that are just getting into their, you know, um, marriages and wanting to create a family. So that would be more on their end, but super important to start talking about it. Don't always look at the woman with infertility.

Signs, Symptoms, and Long-Term Effects of Low T

So you have a couple walk into your office and they say, you know, we're having trouble getting pregnant. It's not just about the woman. We got to start looking at the guys because we are also finding out that children that have neurological issues uh at birth or even after is a a contributing factor between mom and dad, their levels of toxicity and their level of mitochondrial regeneration or ATP production to make new and healthy baby cells. Got to look at both. Okay. So, some of the long-term effects of low testosterone um is metabolic syndrome. So, remember I talked about chicken or the egg. You can have metabolic syndrome which means high insulin, high glucose in the blood, not utilizing all of that. Um and you can also have that belly fat, congestion of the liver, fatty liver, etc. That can be the cause of low testosterone. But long-term low testosterone can also create a secondary metabolic syndrome or even type 2 diabetes because testosterone again is incredibly valuable in muscle mass. And if we look at what muscle does and muscle is medicine, muscle has these glut receptor sites on it. And so when you're working out, they actually activate so that the available glucose in your bloodstream gets pulled in without insulin. And that's what we want. We don't always want insulin driving glucose into the cells.

We want to be able to pull that into the cells without insulin as well because insulin is catabolic. It builds and so it's going to build belly fat. it's going to build an unchecked insulin that's out all the time that doesn't have anything to work with or has too much of something to work with is an issue. So, long-term testosterone need cardiovascular disease. This is really important because cardiovascular disease is still the number one killer beyond all cancers. And now with the most recent technology that's been put into the blood and people voluntarily did that to themselves, you have an increase of this risk. If you add on other issues with that, you are increasing your risk even more. So by optimizing things, you may never not be able to change that, but optimizing things around it can be very helpful and very preventative. If you have low testosterone for long term osteoporosis fracture risk just like women with low estrogen which is their primary get osteoporosis and fracture risk men you will have it too with low testosterone muscle wast wasting that's called sarcopenia that's a big one you guys start to get soft and mushy and you get what are called dad bods now I know that everyone's making dad bods cool and sexy And you know, we even have cheerleaders now that are dadbod cheerleaders. I mean, you do you, but it's not it's not healthy. And while it's common, it shouldn't be normalized. You know this whole body positivity of wasting or metabolically decreasing your potential to overcome a disease or body positivity that leads to a disease metabolic disorder cardiovascular cancer neurodeenerative whatever that looks like is not sexy. It's actually detrimental. And so you can shift that. You know I'm not saying that you're not gorgeous and created in God's image. So, what I'm saying is we don't normalize unhealthy patterns and say it's okay. If you're doing everything you possibly can, you still have a little bit of a dad bod and your testosterone is good, you go you absolutely. But that's not going to be the case. I can guarantee you. Uh increase of all cause mortality is another risk of long-term low testosterone. So, you die younger. I'm just saying. Cognitive decline, that's another one. And then you're going to have an overall effect on all of your other hormones. So you have this hormone dance, right? DHEA, estrogen, testosterone, all of this. So DHEA is a precursor hormone. Um, and it's made in the adrenals. So again, under a lot of stress, adrenal dysfunction, you're not going to get a high conversion of testosterone because you're under stress. So DHEA is going to convert to testosterone. and estrogen. When you have low DHEA, it means you have low poor hormone production. When you're under stress and you have poor adrenal function, you have low DHEA, you'll have low testosterone.

It's the way it works. Estrogen, men, you need this, too. I know that we're not like oh estrogen in small amounts because if you have too much uh aromatization which means testosterone to estrogen via an enzyme called aromatase. This can lead to fat gain, mood swings, low libido. So, if your testosterone is getting converted because of stress, because of all these other things, and it's becoming too much estrogen dominance, there's ways that we can help you there as well. Obviously, getting to the why, but putting things in place that are going to help you. And then you have what's called sex hormone binding globbulin. Um, this binds with testosterone in the blood. And high sex hormone binding globbulin equals free or what we or equals less less free active testosterone. So you don't want your sex hormone binding globbulin to be high in the blood. You want it to be at a functional range so that you

have available testosterone that can be bound. Okay. And then you have what's called luteinizing and focular stimulating hormone. These are pituitary hormones and they signal the testes to produce testosterone. So when you have low levels of LH or FSH that means your pituitary is not functioning, not just your testicles. So there is a cascade of things that you test in men uh blood workwise that gives you a full picture of why. And so when you're testing for testosterone, you should be testing for all of the androgens, the DHEA, the estrogen levels, what type of estrogen, your sex hormone binding globbulin, your free testosterone, your total testosterone, your luteinizing hormone, and your fulcular stimulating hormone.

All of those should be tested. I always throw in the full thyroid panel, vitamin D, and a few other bells and whistles that we'll get to later. So when you test for testosterone there is a few things that I look at. Number one is total testosterone which measures all circulating testosterone which is both bound and unbound. So available and not available already kind of utilized.

The free testosterone only makes up 1 to 3% of the total but it's the biologically active form. And so it's important and sometimes more important than the total because if you don't have any biologically available testosterone to actually bind, we have an issue. So again looking at the SHBG, the LH, the FSH and the estradiol, your estrogens, your DHEA sulfate in the form of sulfate, all important. So we had to look at functional lab ranges.

Hormone Interactions and Blood Work to Check

So if you have your labs right now, you can bring those up and we're going to talk about them. So your total testosterone, your lab range is going to go from 250 to,00 normal. I'm here to tell you clinically, my personal opinion, men under 600 don't feel well. So, if you're running at four, you're running at three on your total, and it'll say total testosterone, you're low. You're not going to feel great. If we look at free testosterone, the lab ranges can run 5 to 21. I will tell you, men under 20 or excuse me, under 15, they don't feel great. So, we have to look at more of a functional range than a normal range.

Normal's too broad broad. I talk about this all the time. Plus, we need to see changes. We need to see You might feel terrible at 15, great at 17 when we're talking about free testosterone, but a little bit angry and moody at 25. So, that's too high for you. So, this is what I'm talking about.

When we use natural products, peptides, or even TRT, you have to have a practitioner that will run the numbers for you, that will look at the functional ranges and the small changes where you feel good because every body is different. We have to look at how is your overall symptomology, the libido, the energy, the mood and also what are your numbers expressing and we got to find the magic where the symptoms are gone and you feel great and the numbers are stable. That's your optimal. And it looks different for a lot of people depending on height, size, weight. It's also going to change with your fitness level. I will tell you that people will start coming to me with, you know, levels of four or 500 and we get them up to 600 700, they start working out, they put on more muscle mass and they start to feel bad again. They may need more testosterone because they've put on more muscle mass.

So, we have to also look at the fact that your body's needs change as you become healthier. Some people feel fine. So again, individualized protocols. These are not blanket statements. These are not things where I'm like this is the exact number. It's going to be very different. There are things that we can do um such as natural pathways, peptides, etc. that we can utilize so that you have choices in your health. Very important. One of the things that I want to talk about with um estrogens in men, which really gets swept to the side, you know, we talk a lot about testosterone and DHEA. Those are manly hormones. But in men, estrogen's not produced directly.

It's converted from testosterone as we talked about. This isn't necessarily balanced because it's the balance that's going to support bone density, libido, vascular health, and neurop protection. If you have too little, you're going to have joint pain. If you have too much, you're going to have uh more feminine qualities. But estrogen is still important to you guys. So, we don't want any estrogen, like zero. One of the things that I see happening with TRT, and I want to address this because it's important, is that they will also get put on an estrogen inhibitor, a medication that lowers estrogen. I personally, unless their estrogen is super high, am not a fan of that strategy. I'm a fan of if you need TRT, testosterone replacement therapy, of doing some natural products that will help with the conversion and slowing down that that aromatase uh naturally. I am also a fan of understanding like why, right? But I'm not a

fan of medicating down unless it's getting to a point where it's dangerous and something else that I'm unaware of. There are ways that you can utilize natural products to help with conversion and lower estrogen in men and optimize testosterone. Even if you're using TRT, but I personally am not a fan of medications that lower estrogen in men. I'm just not. So aromatase, I've talked about that a couple times. This is upregulated. So that enzyme that is going to convert testosterone to estrogen, right? The way that that happens in men is when you have increased body fat. So you're eating the standard American diet. When you have insulin resistance, this aromatase enzyme is upregulated, meaning testosterone is going to convert to estrogen fast. and hard alcohol, chronic stress and xenoestrogens. Those are fake estrogens that are toxic that will hijack receptor sites and amplify aromatase enzyme to convert tes testosterone to estrogen in men.

You get those from plastic bottles, um, body washes that have high xenoestrogens, cologn. Think about deodorants. Think about all the things that you're putting on your skin. Guys, it's really important that you pay attention. You know, this whole like men's body wash that you can smell 42 feet away. I'm sure that's great, guys. Switch to a castile soap or something natural. You should be using natural deodorants. You should be, you know, absolutely making sure that your colog or don't use them at all. You smell good enough as long as you're showering. Like some of you guys, you need you need some lessons on showering. No, I'm just kidding. So, really important. Think about it. Um, also the coping mechanisms that you've developed, right?

Functional Ranges, Estrogen Balance, and TRT Considerations

The the few beers after work or hitting the bars, like all of that's going to lead to insulin resistance. is going to congest the liver. It's going to slow down your metabolic processes. It's going to impact your gut health and it's going to slow everything else down anyway. So, when you have high estrogen in men, because of this insulin resistance, because of this issue of increased body fat and increasing the aromatase enzyme that takes testosterone and converts it to estrogen, which is not what we want. A little bit, but not a lot. bitting these people that have these habits, eat poorly, have insulin resistance or drink too much under chronic stress, etc., you can get what's called gyneastia, which is male breast tissue. So, when I see somebody with male breast tissue, and I'm seeing this a lot more in kids, I know that they're estrogen dominant because they're experiencing insulin resistance because of what they're eating and their body converts testoster testosterone to estrogen because their aromatase enzyme is amplified.

So this also will lead to a lot of irritability, brain fog, fatigue. Um you get this negative feedback to the hypothalamus into the pituitary that you have enough estrogen so it inhibits testosterone because the aromatase is so high and you get stuck in this functional loop. When we look at estrogens on blood work, we're looking at estradiol, which is E2, or in-depth estrogen metabolite breakdown, which is in what we call a Dutch test. Now, a Dutch test we usually associate with women, but guys, we can do Dutch tests on you because I need to know all your other hormones, too. Now, they're going to look different on the scale than a woman, but we need to know. So, there's different types of estrogen. We need to know that. Total testosterone versus free. We need to know that. Your DHEA, we need to know that. I need to know your cortisol levels. I need to know your sex hormone binding globbulin, your FH, your FSH, all the things. Very important. So, I just wanted to address that because estrogen is not talked about enough uh when we talk about uh men's health and men's hormones, but gymastia is a big issue. It's a big issue in our kids based in insulin resistance. And I say personally that PCOS in women even without the cyst, right? Polycystic ovarian syndrome is really based in insulin resistance. That's what it is. And so you get the cystic like ovaries due to long-term insulin resistance. Some women don't even get the cystic ovaries, but they're still diagnosed with PCOS because their testosterone shoots up. Because for women, it goes the other way. We go from estrogen and all of a sudden we we're we're bound up in testosterone because our testosterone gets converted way down to lots of estrogen and sometimes we get stuck because we don't have the aromatase because it gets inhibited by the insulin resistance. The same with men. It's like the opposite. But your gymastia is like the PCOS of men, right? You just don't have ovaries. But anyway, that is kind of how I explain it to men. You still have conversion issues just like women, hormone imbalance issues just like women, mood issues just like women. It's just not as apparent because you guys, I think, are better at hiding your emotions where we women, we're just all out there on you all the time. And we're kind of sorry about that. But that's just how God created us.

So, all of this to say that we have this path of vital vital information for you right now to find a practitioner that can do some functional blood work or even a Dutch test for you as a man. Let's find out where not only your

testosterone is and your free testosterone, but where your cortisol is, where your estrogens are, your DHEA, and all your other hormones so that you have a path to a longevity type of lifestyle where your cells are aging beautifully, you don't have joint pain, you can put on lots of muscle mass, you have good mood, you have good cognitive abilities, you don't have cardio iovascular issues. You don't have any type of adrenal issues, fatigue issues, energy issues, libido issues, ED issues. Like you feel good and you feel good through the decades. That's what we want for you. Trust me, every woman, every woman wants that for you. Every single one we do. And then you as a man will feel more motivated, stronger, healthier, more confident. You will look better and you will absolutely 100% have better quality life. That's what we all want.