The Testosterone Report

*Derek Moody*

How to increase and optimize your testosterone, 100% naturally, according to science.

No drugs, no supplements, no strange herbs with unknown secondary effects, only what really works and has been proven by scientific studies.
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Introduction

Coming clean is important. This is free (and always will be) and you can give it (for free too) to anyone interested, that should be any man, and Derek Moody is a pen name, Derek because I like it, Moody because if you don’t get it... well you should... (And it has not to be with finances or Harry Potter).

This report exists because I suffered a very bad time with this issue and I’m sure I’m not the only one.

Searching for a solution I went deep into the rabbit hole, learning and researching as much as I could. In that journey I discovered things that any man should know and this is my little contribution, because it helped me and it will help you too.

My life is busy, I work in other things but I wanted to create this, if there are enough people interested in knowing more, I might make a bigger and more detailed book, maybe even charging a very low price, but that’s not a priority today for me. If you find this interesting and would like to see more please tell me. I’ve researched, and experimented, with tons of jaw-dropping information and things, not because I’m awesome, but because I’m obsessive, bordering the disorder, and I didn’t stop until I reached as deeper as I could.

So, let’s begin.

Do you want to boost your sexual drive, build muscle, lose fat and have more energy, motivation and concentration?

Dumbest, question, ever.

Of course you want, and testosterone, the “male” hormone, can do that.

Bold promise, I know, you can roll your eyes because I’d do it too, but it’s damn true. I did not know much about all of this until recent months, but when I did, I wondered how something so important is so widely unknown, especially for men.

Here you will know how to optimize your testosterone production, 100% naturally and according to science. No magic remedies, no strange pills, no shady supplements with unknown secondary effects that I try to sell for profit.

But I don’t want only to say how, but explain why too, because I’m a firm believer that, as Doug McGuff says “if you know the why, you will embrace the how”, that way it will make a more profound and lasting impact and probably it will spark your neurons, some things will finally make click and you will want to know more and research for yourself, allowing the most important thing here: thinking for yourself.

Probably you got here because you feel something is not right with our beloved testosterone and you are searching for help, if so, hang in there because I was in the same distressful spot and I’d wanted to find something like this.

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So let’s begin with the basics.

Testosterone has had a bad rap, being equaled to caveman, aggression and dumbness, and I’m dumb man, but not because testosterone. Nothing can be more wrong, believe me.

Think about your typical grumpy old man, he has bad temper, armpit trousers and crappy mood. One of the main reasons for that (trousers included) is his low testosterone. Because of aging the hormone is retreating like the French army and well, testosterone helps to be focused and to control mood, it’s one of the main keys to the masculine force, the trait that encourages us to achieve things, get the girl, tackle life goals and watch wrestling.

Oh, yeah, and one little thing more, it’s the key to sex drive and performance, a.k.a. “The most important thing in this world”. So if you don’t feel like when you were a teenager in that department, you bet your testosterone is playing a role.

Father time is a bastard that enjoys taking things from us: our hair, our muscles… and, yes, our testosterone, and you hear all the time: “it’s a natural process”, “you must accept that”, yada, yada, yada.

What you don’t probably know is that many things in our lifestyle and environment contribute to accelerate that and disrupt our hormones, and that’s not cool or “natural” man, but do you know what’s even less cool?

That many widespread “healthy” things in our modern life turbocharge that loss.

Yes, we are bombarded by “healthy” advice that’s contributing to reduce the size of our testes.

And yes, lower testosterone because of aging is natural, but many men have enough levels to be active and motivated to do something worthy until the very last day of their lives.

I want to be one of them… and I want to punch Father Time in his face.

If you want too, or if you want to fix a situation where you know your testosterone is not what it was, keep reading.

The usual word of caution

You are a grown man, if not, you can leave now because there is nothing very interesting here for you (or maybe you are a woman worried about your man and you want to help, if so, you are a keeper and please give this to him).

In my humble opinion personal responsibility should be the banner of a real man.

I'm not a medic and I'm not going to play one, so you should talk to your doctor regarding diet, exercise or supplements, especially if your health is not optimal, you have doubts or suffer some medical condition.

Nothing here is dangerous, untested or illegal, on the contrary, it will likely improve your overall well being, but it’s impossible to know everything about everyone that reads this.

And sometimes low testosterone levels come from serious medical conditions, so remember, there are not overnight miracles in anything and you should be smart and talk to doctors.

Because I have a lawyer friend, here comes the warning that tend to be ignored every time, although I know you won’t do that, right?

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Reading this means that you are cool with it, if not, stop, I just try to help and share what I’ve learned, because I was in a very dark time regarding this issue, I know I’m not alone, and I’m telling you what fixed my situation.

Besides that, there is a golden rule here: think for yourself.

First of all, if you are like me, you are a grown man and you don't like to be told what to do, fair enough.

So, I'm not saying you follow what this paper says, no one is forced to do anything, the only thing that I ask from you is to think for yourself, about what says here, your situation and what you have been told about this issues.

Challenge what you think, look for the references and studies I give here, know more and THINK, please, think and draw your own conclusions, because many times we are on cruise control and that's no way of traveling life.
My story (don’t worry, it’s brief)

The day it all started, I was really hangover in the front seat of a friend’s car, I did not sleep the night before, partying hard with some other friends and finally getting the girl that I liked for some time, it was meant to be a night of champions but it ended being a night of shame. (I don’t usually party very much and I’m not a ladies man, by far, because of that it made everything more painful).

Truth be told I had so much tequila in my body that Mexico called to make me their favorite son, but the thing is that my sex drive was not there for me that night and I was deeply ashamed.

In the beginning I tried to brush it off because, you know, you can’t ask too much if you have a booze ocean inside, you are not a teenager anymore, but I’m so obsessive that I worried, and worried, and worried a little more, so I started to join some dots.

Reflecting about the issue I realized it was not only one night, my sex drive was low since months ago, I did not remember very well having morning erections, or at least as hard and frequent as before, and when I started keeping count, more often than not they were not there or nothing to brag about. Something beyond too much shots one night was happening, and I started to measure my performance.

You know, as men we say we are always ready, in fact many times I only needed an innocent hug from a girl I liked to start feeling something between the legs (yes, I had to do that ridiculous maneuver of moving back my hips a little, but I know you know that). Now that was gone and my hardness (that costed me much more than I remembered) was not going to win any contests. I could perform when needed but I realized that I was far from being Wolverine.

Besides that, I was more apathetic than ever, unmotivated, always in a crappy mood and I could not focus in anything, I blamed mainly my job, but little I knew that was going to dramatically change too when I recovered my sex drive.

My passion, in every sense, was gone, and that’s not way to live.

I knew that hormones tend to call it quits when you age, but come on, in your mid-thirties and when you are healthy and relatively fit? And so fast? No way that was natural.

And what the hell! Even if it was, I was not going down without a fight! It robbed me a girl that I was pursuing for long time and, even more important, it was making my life miserable because it felt like a succession of ordinary, grey days. As my mixed martial arts instructor says, “Ni free shots, if you get hit, make them pay for it”.

It’s a shame that we only wake up when we really hit rock bottom, so in my typical fashion I tried to learn all that I could about this, devouring information, reading really bizarre scientific studies that, believe me, bore me to tears most of the time, but I discovered some facts that gave me millions (and millions) of “a-ha” moments.

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Many times I thought: "everybody (or at least every man) should know this, how can it be so important and so unknown?".

And because of that you are reading this.

Hormones 101

Ok, every study and text I’ve researched about this is boring and dry as hell, but, as I’ll try in every page, I’ll explain this in layman terms, even if it means sacrificing a little bit of academic accuracy.

Hormones are crucial for our well being, but they are total unknowns to the general public. We talk about calories, cholesterol and the like, but hormones don’t get much publicity, which is a shame, because they are much more important for critical issues than other things we worry about constantly (thanks TV and hidden economic agendas, we know you have our well being in your heart).

There are lots of hormones, but testosterone, insulin, cortisol and estrogens are the main ones we are going to talk about here. They have a role in our bodies and the thing is: when a healthy balance between them is altered they wreak havoc.

Our bodies generate hormones for every reason under the sun: you need to put up with your asshole boss and his shenanigans, so your body generates cortisol. You have just eaten that million calories ice cream, so insulin is needed to take care of sugar in your blood… You finally will have sex with that gorgeous girl because you impressed her doing two things at once… pray your body has generated enough testosterone.

The thing is, our body is an amazing machine that adapts very well, and can sustain much of the abuse we put it through because we are fans of Jackass, but our habits, age, some environmental conditions and our lifestyle heavily condition our hormone production.

And this is one of the keys: in general, if our body needs to create one kind of hormone it tends to “sacrifice” another.

Imagine a factory with limited resources, if you need to create lots of hormones of one kind, you tend to shut down another because our body is amazing but not almighty.

And, for what interest us, testosterone gets shut down or counteracted if we release too much of the other hormones we will talk about.

And because you are smart, you start to see that if you want more testosterone, you will have to check your cortisol, insulin, estrogen levels…

But before we get to that, and in order to optimize our testosterone production, it’s necessary to explain a little bit how testosterone is created and what is it.

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How testosterone is created

We need testosterone because we are men and we need to do our manly things, like throwing rocks at each other, pillaging villages or whatever, so our hypothalamus (that’s a part of our brain, not the funny animal in the documentaries) releases a substance to the pituitary gland called gonadotropin-releasing hormone (GnRH from now on, I’ll abbreviate things like this because I’m lazy and science can not name one thing with a normal term to save its life).

This hormone causes the gland to produce two other hormones: follicle-stimulating hormone (FSH) and luteinizing hormone (LH), also known as gonadotropins (hell yeah, see why the abbreviations?).

Our LH buddy travels to our testes to remember them that they have to do something more that hang in there, so it triggers the production of testosterone (about 95% of testosterone is made there, the other 5% in adrenal glands).

Our testes look at each other and because they can not make our beloved testosterone from thin air, they need to create it from something.

That something is cholesterol.

"Woah, woah, wait a moment, what?"

Are you implying that the “public enemy number one” is what we need to make testosterone?

I’m not implying anything, I’m totally saying it.

And not only that, cholesterol is a so important substance that is needed for almost everything, but for the scope of this ramblings, we need it for testosterone.

If this process continues and testosterone levels become too high, the pituitary gland slows the release of LH so production slows down. FSH (the other hormone released by the pituitary gland) is similarly involved in the increase and decrease in sperm production.

So it’s a brain thing, it starts in our upper brain, it finishes in our lower brains and now my life is complete because I finally slipped that awful joke in this.

Kinds of testosterone

If you get tested and you get a high number of total testosterone don’t deliver high fives and show the paper to the ladies yet, that tends to be good, but it’s not the important number.
In our bodies we have something called Sex Hormone Binding Globulin (SHBG) that binds to testosterone, leaving less “free testosterone”. The free kind of testosterone is what is available for "androgenic use" (i.e. our manly things).

What this means is that high total testosterone is important, but not the main amount that interest us, free testosterone is, because it’s what we can really use for our purposes. Using another fancy word to seem smarter than I am, that’s the bioavailable testosterone (free testosterone plus albumine-bound testosterone that can be easily reverted and freed).

Average levels of testosterone

Ok, how much testosterone is “normal”?  
As you age testosterone varies a lot, in fact, as the day goes by testosterone varies a lot, in the morning the number is higher (there you have your morning erections), so it’s important, if you are going to get tested (basic recommendation if you are worried about this), doing it at similar times of the day.

Testosterone tends to be measured in ng/dl, that means “nanograms per decilitre”, a nanogram being 1/1,000,000,000 grams.

Between 250 ng/dl and 850 ng/dl can be considered “normal”, but according Vermeulen, that made a study of the average testosterone and free testosterone in men, your average numbers can be like this:

25-34 years: 617 ng/dl total. 12.3 free.
35-44 years: 668 ng/dl total. 10.3 free.
45-54 years: 606 ng/dl total. 9.1 free.
55-64 years: 562 ng/dl total. 8.3 free.
55-74 years: 524 ng/dl total. 6.9 free.
75-84 years: 471 ng/dl total. 6.0 free.
85-100 years: 376 ng/dl total. 5.4 free.

The deviation being between 170 and 213 more or less.

See how “father time” is more a “son of…”?  

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What destroys your testosterone

Life is good and you start with our precious hormone balance and your healthy levels of testosterone, you are a teenager and your body releases more testosterone that you can handle, but you know that, sooner or later, when you finally become a grown man, something has to come and screw everything like a drunken brother-in-law in Christmas.

Basically everything that damages the circuit involved in testosterone creation (which I previously explained while you were snoring) can trigger deficiencies.

For example damage involving the pituitary gland, hypothalamus (remember these two terms, you will know why at the end of this material), or testes (bad surgery can do it or that awful kick in the balls that everyone found so funny), glandular malformations, infections, tumors, chemotherapy or radiation therapy…

Those are the most extreme causes, but there are others more common:

We know aging is a cause, but obesity too, and diabetes or hypertension can play an important role (and obviously not a good one). Those studies referenced in the footnotes are just a sample, there are many more.

As you can see our low testosterone can be a product of our lifestyle, but wait, there are more threats (yeah, fun never ends).

One of them is xenoestrogens, another fancy word to describe estrogens (“female” hormones) that are external (not produced by our bodies) and have estrogenic effects in us, those xenoestrogens come from industrially made compounds that we use for many things in our daily lives, because it seems that we can not make one thing right without one hundred adverse effects.

From deodorants to insecticides to plastics… we are bombarding ourselves with strange xenoestrogens that come to the party like uninvited aliens and, little by little, alter our precious hormonal balance.

We don’t know yet all the consequences or its extent, because it’s mostly uncharted territory, but you bet it’s not going to be pretty, and every minute we are less men (and more swampy mutants) that our ancestors.

Another critical factor is diet. As we will see diet plays a key role not only because unbalanced diets can provoke the obesity, hypertension, etc. but because it has a profound effect in hormones too.

References:


In fact, as we will see, many “healthy” recommendations hinder our testosterone production and boost our estrogens, which is not very good when your plan is still being a male in the next years.

I’m going to stop now because I don’t want to stress you. You know, stress can put a stranglehold to your testosterone too, and I don’t want that, it’s not my goal to instill more fear because I want you to sleep well tonight, main reason being that lack of good sleep will decimate your testosterone too and… oh damn, those were two more reasons right?

Yeah, testosterone is surrounded by enemies and circling the wagons…

But it’s time to fight back, right now.

Hitting from every angle

Because many things can influence our testosterone, and many times we can not even point fingers because it’s a sum of subtle causes, our counterattack has to be global, it has to be a way of life, so the results are sustainable in the long term.

In order to optimize the results we must hit back in many levels (physical and mental) because we don’t want just to push back the bully, we want a carpet bombing and a couple of nukes. That’s what (supposedly) high testosterone males would do, right?

We can not control everything, but there are two things that we surely can:

✓ Diet.

✓ Lifestyle.

Diet is really a component of our lifestyle, but it’s so important by itself that it deserves special attention. **Diet has profound effects in hormones, as it has been demonstrated countless times, so that will be our main weapon.**

We are going to introduce changes in those components and we will outline in easy steps what worked best for me (and for others according the scientific studies we are going to see).

What you can expect

This is not an overnight miracle and I can not guarantee anything, I’d love to, but I can’t, in fact, if someone tries to, please run (hey, in the opposite direction, please).
Personally I started to see the best results (and I mean the BEST) in about two months, maybe a little less, I think probably because that’s when the influence of the unexpected factor (narrated in the “a shocking turn of events” chapter of this paper) started to wind down because I discovered and I acted. Before that I saw good results in a few weeks.

The thing is, if you want to track tangible results, please get tested before and after, there is no other way.

Maybe you are lazy or maybe you won’t get the tests for any reason, it’s okay, you can feel in yourself if it’s working when your morning glories are back with a vengeance, your hustle returns and you feel motivated and strong in front of things that seemed impossible before.

If so, it’s working man, and if you think it may be because some placebo effect (you will never be sure if you don’t test yourself, but if you recover your natural hardness I think that’s not placebo) my point is “so what?”

If it’s working “so what?” That’s one of the main cornerstones of my philosophy.

**Diet 1: bye bye sugar**

Ok, let’s start the practical actions with the most important thing: diet, that has tremendous effects in our hormones, and the first step to an optimal testosterone diet is:

*Kick sugar to the curb.*

In fact the thing is: cut the carbohydrates you are ingesting. That means pasta, pizza, bread, cereals, sweets, desserts… (yeah, I know, life is a bitch but don’t worry, you will have your revenge, because there are other foods you like that will turbocharge your manliness).

If you live in a relatively modern society chances are you are taking too much carbohydrates, especially industrially made food loaded with tons (and tons) of sugar.

When we ingest sugar, or some kinds of carbohydrates, our insulin rises. More sugar = more insulin and if insulin is high, testosterone lowers\(^6\), and that happens even when you are a twenty-something.

In the 91st Annual Meeting of the Endocrine Society in Washington, D.C. they presented results that concluded that, no matter how healthy you are, ingesting sugar decrease testosterone… hard. We are talking about 25%, that’s worse than adding 20 years to your age…

How is that possible?

\(^6\) Interrelation between plasma testosterone and plasma insulin in healthy adult men: the Telecom Study

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Remember that when our bodies need one of the hormones we are talking about, they tend to shut down the others?

Well, when you eat that “Chocolate Triple Threat” dessert there is a ton of sugar running around and your body needs to cope with it before you become blind or something, so the pancreas releases insulin to manage that and it becomes a priority.

If you are a professional athlete and you just completed your couple of hours of strenuous training your body will use the sugar to restore glycogen in the muscles (and liver), in every other situation (99% of the situations for us, mere mortals) your reservoirs of glycogen are full (because, let’s face it, not much energy has been burnt playing Call of Duty) so our body can’t process all that sugar and the command is “ok, let’s store it as fat”.

Yes, sugar is stored as fat, so join the dots, you can eat those silly “low fat” foods that taste like cardboard, or eat only “diet” products (that are mainly carbohydrates, but hey, 0% fat!) and you store fat in a worse way that if you ate some pork ribs, because, basically, when you trigger insulin your body enters in a “store fat” phase, so you won’t burn those love handles.

Icing the cake, the hormones that burn fat are insulin sensitive so when there is insulin wandering the streets our “burn fat” allies are not active.

And yes, they don’t tell you that part when they sell you that awful “low fat” food.

But regarding the main topic here, the thing is that if your body needs to release tons of insulin, testosterone fades into the background.

But, if you keep your insulin in check, not indulging in sweets and carbs, your testosterone (and your fat loss efforts) won’t suffer that much.

If we take a look at how we are eating nowadays this is a bigger problem than we think, because, in time, with too much sugar you can develop insulin resistance, a condition where so much insulin has been released (due to constant ingestion of sugar and carbs) that it become useless, it can not do its job anymore, in the same way that when you use anything too much their effects disappear in time. As you can imagine insulin resistance is related with low testosterone.

The next step can be diabetes, and we saw in the beginning how bad it is for testosterone and for life in general.

Not much to laugh here, I know, especially when we are bombarded with messages about how “healthy diet” means eating carbs and cutting fat… looking at how obesity and diabetes run rampant today something is really wrong here… and we become castrated in the process.

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7 Increasing Insulin Resistance Is Associated with a Decrease in Leydig Cell Testosterone Secretion in Men
Nelly Pitteloud, Megan Hardin, Andrew A. Dwyer, Elena Valassi, María Yialamas, Dariush Elahi and Frances J. Hayes
Cutting sugar (which is likely addictive\(^8\)) and other carbs can be hard, especially if they are the cornerstone of your diet, and I’m not saying that you become necessarily a “carb hater”, but some foods should be banned right now, like every industrial snack or cake, and everything made with refined flour. The first rule of thumb is that if it comes in a bag or a box is an usual suspect.

Goodbye Doritos, donuts, chips, cakes, sugar loaded cereals, chocolates, snacks, cupcakes… Those foods create insulin spikes that will tear one hole in your roof and other in your pants.

That’s the first step, next maybe you will want to know more and restrict grains, bread, pasta, etc. But that’s up to you if you want to go deeper into the rabbit hole, for now, don’t spike your insulin.

We always take a look at calories but we are looking at the wrong thing, every food has what’s called Glycemic Index (GI), a high Glycemic index means that when we eat that food our insulin will come to the dance floor, (elbowing testosterone and other fat burning hormones in the process). A value of 100 is assigned to sugar, and other foods are classified accordingly.

You can search the GI of foods in Internet and try to keep them low in the diet, GI it’s not the be all and end all, but it’s a good starting point in our testosterone driven efforts.

Diet 2: sweep estrogens

We will see here two very simple moves that can bring good results in our diet efforts to optimize testosterone.

Estrogens are the “female” hormone, and we, males, have them too, in fact they are necessary to some of our brain functions (yeah I know, the brain, who needs it, right? But it is what it is), so males create estrogens from the testosterone by the enzyme aromatase.

But we create only a little, so the ratio testosterone / estrogens is about 50:1, if we have a lower ratio we don’t “feel that good”.

Ok, get this, estrogens are not the bad guys, almost nothing here (but some substances that we will see) is bad “per se”, everything has a role, what we want is a good balance, so we are going to make sure that we keep that balance and check our estrogen levels. We must have the minimum needed (but no more) and they must be the nice kind of estrogens.

Our two weapons for that are going to be broccoli and zinc.

WHAT? You are a grown man, in fact you became an adult only to escape from broccoli and I’m telling you to go back to it?


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Yeah, if you want to keep being that grown man.

Or you can try cabbage, brussels sprouts or cauliflower, in my opinion they smell even worse when cooked…

The thing is that cruciferous vegetables (like broccoli) are rich in indole-3-carbinol (I3C), a phytochemical known to turn "bad" estrogens (which shut down our beloved testosterone production) into good ones, so eating them helps to restore it’s production, improving the hormone balance9.

“Bad estrogens” were cut in half when seven healthy men took 500 milligrams of I3C a day for a week, so if we are estrogen and xenoestrogen surrounded we can fight back and swing for the fences with a broccoli in our hand. Not the most epic image but it works.

Cruciferous vegetables are so ridiculously healthy that you know life has a sarcastic sense of humor, because it puts the better things next to the worse tastes (and viceversa). Oh, and they are rich in zinc too (the other anti-estrogen weapon), so we kill two birds with a stone.

You can take a look to every cruciferous vegetable in Internet, my main choice is Arugula or Rocket (as the british say), it’s a very common vegetable where I live (Mediterranean baby) and it’s used a lot in salads (olive oil, cherry tomatoes or even strawberries with balsamic vinegar and it tastes like heaven). I consume broccoli too (i never did when I was a child, cauliflower was the main torture), especially raw, sliced in tiny pieces and mixed with scrambled eggs for example, it’s not that bad.

Choose the cruciferous vegetables that you like and start buying them again (and eat them too, they do nothing staring at the milk in the fridge until they rot), try to mix them if you can not stand them.

The other ally we have in this battle is zinc.

Zinc inhibits aromatase, the enzyme that converts testosterone into estrogens, so a rich zinc diet will keep estrogens in check, while a zinc deficient diet can plummet your testosterone levels10.

Zinc is a “manly” component, so we must get plenty of it in our diet, that means meat, oysters, seafood, peanuts and dark chocolate (yes, at the end, chocolate, but take it as dark and pure as you can, not diluted with sugar, milk and trans-fats…).

You can take Zinc in supplements too, because many diets can be zinc deficient, fortunately zinc is cheap and it’s substance that we need but, and it’s a very big but, don’t overdose, as always balance is key, so don’t eat zinc pills as candy, always follow medical guidance when taking some supplement.

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Jon J. Michnovicz and H. Leon Bradlow


http://www.increase-testosterone.info
Diet 3: eradicate trans-fats

In the next section we will start with the more “controversial” point (controversial only because we have been brainwashed so much about certain issue that probably we will freak out) but in the meantime another diet change we must adopt is to eliminate, completely, trans-fats, also known as partial hydrogenated fats.

Do you remember when I said that almost nothing here is bad “per se”. Well, trans-fats are, they are pure evil, so 0% is the recommended dosage.

In recent years this has been a widespread recommendation so we won’t have much trouble avoiding them, but many things still have them in their ingredients.

For those who don’t know what the hell trans-fats are, they are made by a chemical process called partial hydrogenation.

Liquid vegetable oil does not look good when added to some foods (imagine your cookies wet and dripping some awful liquid plant oil when you open the box), so the food industry started to pack hydrogen with it, it seemed like a good idea because, in that way, vegetable oils become a solid fat (think of “butter-like” fat), the food manufacturers rejoiced because it can be used as margarine, for example, or in a lot of industrial foods because it’s creamy, it melts at a high point, has smooth texture… That way the damn cookies become again tasty and deliciously greasy without dripping.

For some reason we came to think that vegetable = healthy every time (big mistake, by the way) and there were times where margarine was “healthy” because it came from vegetables (and a nice industrial process involving hydrogen, but that’s only a little detail that seemed insignificant), meanwhile good old butter was “bad” because it came from an animal, but here is the thing, trans-fats are really awful, being related to cancer\textsuperscript{11}, high blood pressure and even some hydrogenated vegetable oils have been found to directly decrease testosterone\textsuperscript{12}. Even if they didn’t do all that, they are not very good for our purpose of becoming fit for the next installment of the 300 movie.

Those fats are a strange modern creation and our bodies are not prepared to deal with them very well, messing around with everything. Research a little bit and you will see.

**Rule number one to start avoiding them: eliminate fast food for good. Rule number two: read the labels.**

\textsuperscript{11} Lisa C. Vinikoor, Jane C. Schroeder, Robert C. Millikan, Jessie A. Satia, Christopher F. Martin, Joseph Ibrahim, Joseph A. Galanko, and Robert S. Sandler
Consumption of trans-Fatty Acid and Its Association with Colorectal Adenomas


[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
You can find trans fats in pastries and cakes, french fries (depending on the oil), doughnuts, cookies / biscuits, margarine, fried chicken, crackers, potato chips, and lots of industrial food.

If you followed the first recommendation and tossed out what comes in a box or bag you are relatively safe (you will have to be smart when eating out, especially when eating at fast food restaurants), but look for the words hydrogenated, or partial hydrogenated, in the labels. If you see them, slowly leave the product in the shelf and back away calmly without giving the back to the bastard.

In time I suppose they will disappear, but I would not hold my breath.

Diet 4: eat more fat

If we want to optimize testosterone we need a high fat diet.

I know, I know, fat and cholesterol kicked Satan and are now the rulers of Hell and the archenemies of humanity, at least it’s what they tell us every time in the news. Fat will make us fat and our arteries will be clogged by cholesterol… two of the most misguided dietary tips, ever.

The discussion can be endless about this, we are so bombarded by cholesterol lowering slogans and low fat products that is ridiculous, and if you don’t go with the flow you are officially declared an idiot by society, you will die tomorrow killed by your buddy “the fat” and maybe you will be charged with sedition, if you survive long enough.

But as we know too, obesity and diabetes are king and queen nowadays, even when we try to cut fat like if it’s the lovechild of Hitler and Stalin, so maybe it’s not so clear after all...

This is not a paper about weight loss, so I won’t even try because I’d had to write several volumes, this is about optimizing testosterone and adhering to scientific study after scientific study that confirm that high fat diets correlate with higher levels of testosterone.

I reference only some of them.

In a 2005 study, 39 healthy men between 50 and 60 years were studied while they were consuming their usual high fat, low fiber diet and after 8 weeks they changed to a low fat, high fiber diet (same calories ingested and a “perfect” diet if you ask many “health” gurus). The results of the dietary change were a reduction in total T and free T and some of the T-precursors (12% consistent lowering of circulating androgens levels without changing the clearance).

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Another study\(^\text{14}\) with 30 healthy male volunteers. They had a diet which supplied 40% of energy as fat (mainly from animal sources) and was replaced, for a 6 weeks period, by a lower fat diet (25% of energy came from fats) with same calories and other environmental factors stabilized. Result? 15% drop in total testosterone with corresponding drops in free T and androstenedione.

One more\(^\text{15}\), where they studied Testosterone, resistance training (other critical component as we will see) and diet. They concluded not only that diet influences T levels, but Fat and testosterone were positively correlated.

And here comes another\(^\text{16}\). They put men on a high-fat diet (about 50% of calories from fat) for 2 weeks. After that, they switched to a low-fat diet (more or less 10% percent fat, a heaven for modern health preachers) for 2 weeks too. Their free testosterone (remember, the precious T we want) dropped 21% on the low-fat diet. Whooping achievement...

I’m going to stop because this is getting boring.

Bottom line is: step one: eat sugar, carbs, fiber and go low fat, step two: wave goodbye to your manliness, energy and youth. Step three: congratulations, you are “healthy” (and yes, that was sarcasm).

I can see you, you are gathering wood in the town square to burn me next to that weird medieval witch, because not only I want you to die from heart attack before your 40th birthday, but you are afraid to grow a big gut and screw your efforts to get fit (a condition that, we saw, is key to testosterone).

Well, remember the golden rule here: think for yourself, if it works for you keep doing it and, above all, do what you want, please. I’m just sharing what I’ve learned, and above all, what I’ve lived, and I can say for certain that after my own experience:

1) I failed miserably in all my goals (testosterone included) when I got into a low fat - eat carbs lifestyle. Not only I was stuck with artificial food that tasted like paper with cotton but I had the lowest energy levels of my life and a less than manly body, I was one of those “skinny fat” guys. I seemed skinny on the outside but my muscles were nothing to write home (even when I trained). If you grabbed my gut you could pinch a good bunch of stubborn fat that refused to leave since I was a teenager.

Seeing how many people eat less, eat low fat, rise a crucifix when they see things like meat or whole milk, and they never get to their desired body... You can see that something does not fit here here (especially when their strategy against failure is being even more extremists with fats and the situation becomes worse).


\(^\text{15}\) Testosterone and cortisol in relationship to dietary nutrients and resistance exercise
JEFF S. VOLEK,1,2 WILLIAM J. KRAEMER,1,2,3,4 JILL A. BUSH,1,2 THOMAS INCLEDON,1,2 AND MARK BOETES1,2


[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
Sounds familiar? If so, maybe it’s time to challenge what we have been told.

2) I had the epiphany that hormones play the key role in getting fat (and depressed, depleted of energy, etc.) or getting ripped (and focused, motivated and with enough energy to light a city).

We will get more results optimizing hormones than counting calories. In fact hormones rule almost everything, and if you doubt their power think about your girlfriend in “those days”, where hormones are in a viking party... (we, men, would be worse than our girls in that situation, so don’t laugh, I’m sure of that because look how grumpy and insufferable we become during our andropause in our old age)

But the thing here is: “Eat fat and you will get fat” is one of the most misguided and awful diet advices ever.

Eat fat with sugar and you are trapped in your worst nightmare, because your insulin rises and the body follows the “store fat” command, meanwhile your testosterone (a “fat burning - muscle building” hormone) and other fat burning hormones plummet, so the sugar gets stored as fat, the fat gets stored as fat, and previous fat won’t move from its warm place in your love handles because, obviously, it's not needed.

See how good is the burger (fat) + chips (carbs+awful fat) + soda (worst kind of sugar) combo? You can not get hit harder.

But if insulin release is controlled, lowering the insane amount of carbs we ingest nowadays (I don’t think we are made to eat so much sugar, which is a relatively “modern” invention in human evolution when agricultural societies appeared) and testosterone is high, guess what? Our body is in “fat burn - build muscle” mode. If you combine that with an active lifestyle you will burn fat like a champion (the fat you eat and the fat you stored in your previous “sweet” days), packing muscle in the process IF you combine that with resistance training.

I trashed every industrial food loaded with sugar, started to buy and cook real natural food, like fresh meat, fish, tons of veggies, some nuts, etc. lowered my carbs and grains, started to get more energy from fat (to compensate the carbs and calories cut) and my body literally changed.

Not only I could see my abs for the first time in my life (nothing fancy, but I didn’t even tried) but an ex-girlfriend of mine that came to visit commented, out of the blue, how my body had “changed” (last time she saw me was a mere month before) and not because I packed a little bit more of muscle (I increased a bit my resistance training, because it’s another necessary piece of the puzzle as we will see), but because my entire physiognomy changed, I weighted the same and I was still thin to the eye, but I seemed “more masculine” in her own words, she could not pinpoint one thing, but I was different.

Oh, and my energy levels? Through the roof.

In my mid thirties I have more than ever and, for example, I can see how I’m climbing the ladder in my mixed martial arts training, where I’m faring better than ever in the “cardio” department, and there are a lot of people in their twenties (of course that’s too because I combine diet AND training).

http://www.increase-testosterone.info
3) The diet issue is much more complex than this, but if you are interested in knowing more (and possibly ending with your jaw on the floor) I recommend going to the studies referenced here, research for yourself a little bit and challenge what you think.

A good starting point is searching for Gary Taubes, their books are not easy to digest (childish pun intended) but, believe me they are worthy, maybe it will change how you think and what you know, you will get more results and probably you will want to shoot your TV, every time a food is marketed.

Now, because you have to kick those white chocolate cakes for good now you rejoice because it seems you can indulge now in french fries and deep fried chicken.

Sorry, no luck, the fats you will add to your diet are critical for your testosterone well being.

That starts with this rule of thumb: Nothing fried or (obviously) deep fried, sorry.

They tend to use vegetable oils, which become really bad (i.e. Toxic) for us when heated. And take a look at this example: potatoes are a carb source and when you fry them you are getting a trifecta of sugar + fat + toxic substances that will kick testosterone between the legs, and if you bread that fried chicken you are having a similar effect, remember that carbs + fat are a bad combo, better if you don’t add toxicity to the mix with deep frying.

One of the things I’ve discovered in my research is that the type of fat that increase testosterone is a complex issue, these are the main kinds of fat (in one “fatty” food you can find several, or all of them, in different ratios).

Saturated fats are those mainly found in meat, some fish (like salmon) and dairy products, i.e. Animal sources.

Monounsaturated fat is found in vegetables and animals: olive oil, avocado, nuts, some fish…

Polyunsaturated fat is found mainly in vegetable sources: soybean, sunflower, corn and their oils.

The thing is that although several studies had seen a positive correlation between fats and testosterone levels, one of them found that fat ratio can play a role.

This study concluded that when Polyunsaturated fats (PUFA, the “vegetable” branch) were more abundant that mono and saturated (SFA), there was a negative correlation with Testosterone. I quote (because, remember, I’m lazy).

“Our results showed a nonsignificant correlation between PUFA and T and a significant negative correlation between the PUFA/SFA ratio and T.”

So it seems that best results are accomplished when saturated fats are the main source in the high fat diet.


18 Testosterone and cortisol in relationship to dietary nutrients and resistance exercise Jeff S. Volek1,2, William J. Kraemer1,2,3,4, Jill A. Bush1,2, Thomas Incledon1,2, and Mark Boetes1,2 http://www.increase-testosterone.info
This means: meat, fish, eggs…

Yes, they are telling us that bacon and ribs are going to make us fat and ultimately kill us, but not only they won’t (if we don’t only eat that and remove sugar and carbs from the equation, because meat or fish don’t spike insulin due to the absence of carbs in them) they are the main dietary key to testosterone.

Diet 5: the vitamin connection

Next stop in our testosterone journey are vitamins, they have a powerful role in our testosterone production so if we are deficient in those vitamins our testosterone will suffer, BUT, as it happens with almost everything, an excessive amount will have awful effects too, so, for the benefit of those who don’t listen very much I’ll say it once again, get tested, consult a physician and don’t get overboard.

If you read that vitamin A has a positive testosterone effect don’t load yourself with tons of it because you will mess with the very problem you want to solve, besides other very nasty effects.

Balance is the key in every step, so that being said, these are the vitamins that we must take care of:

Vitamin A

We start here because, you know, it’s the first letter and I’m not very original. scientific studies have shown that if you don’t have enough of this vitamin your testosterone will decrease and, after that, your accessory sex organs will atrophy. Raise hands if you want that, no one? Good, I thought so.

Another study saw significant correlation between testosterone glucuronide and vitamin A (and by the way, the same study saw correlation between fat intake and testosterone, another one that says the same…)

Bottom line. Our diets must secure enough quantity of this vitamin.

What foods have it?

Whole milk, eggs, liver, dairy products like butter… Old school bodybuilders used them as the backbone of their diets, and with good reasons because the vitamins, cholesterol and animal fats made them natural anabolic foods.

Bad news: if you are fully into the low fat nonsense you are cutting lots of vitamin A.

19 Regulation and perturbation of testicular functions by vitamin A. G Livera, V Rouiller-Fabre, C Pairault, C Levacher, and R Habert. Society for Reproduction and Fertility

I personally reverted to whole milk and I must confess that I’m a addicted to cheese.

**Vitamin D**

This is the other “big one”.

Did you know that we create vitamin D with sunlight? Our bodies can convert the “dreaded” cholesterol into vitamin D if you put your mug out of the shadows.

And do you know when testosterone levels are higher in men? Summer (that was easy) and not only because there are less clothes around, but because vitamin D is higher in the summer too, due to increased exposition to sunlight.

Vitamin D is indeed a hormone, and, for example, it’s responsible for better athletic performance\(^{21}\), besides that it directly affects the Leydig cells, that live in our testicles and are responsible of our testosterone production.

Deficiencies in Vitamin D showed decreased testicular functions, that were improved after 1 month when normal levels of vitamin D were reached again, but get this: too much vitamin D showed testicular disfunction too\(^{22}\), a remembering of the need of balance.

Vitamin D is almost a super substance, but for our humble purpose here, take a look at the studies and you will see that, when you have enough vitamin D you will have higher levels of testosterone than those with deficiencies\(^{23}\).

I’m lucky to live in a country where sun is shining most of the time, but again we humans are so efficient screwing good things that you know what happens with sun, that is our new enemy (mainly because we are messing with the protective capabilities of our atmosphere) and, in general, our lifestyle lock us in cubicles from dawn until dusk, so the thing is, if you see that spring sun run outside and rejoice (but beware of burning yourself or abusing, Jersey Shore showed us the ill effects of too much).

Bad news here, regarding diet very few foods contain naturally vitamin D: fatty fish such as salmon, tuna, mackerel and fish liver oils are the best sources. Small amounts of vitamin D are found in beef liver, cheese, and egg yolks.

With few sunlight and few foods we are normally screwed with our friend D, but if you start to get your diet right you are on the correct track, besides that we have a powerful cheap thing that will help us.

**Cod liver oil.**


\(^{22}\) Effect of vitamin D repletion on testicular function in vitamin D-deficient rats. Sood S, Reghunandan R, Reghunandan V, Marya RK, Singh PI.

\(^{23}\) Association of Vitamin D Status with Serum Androgen Levels in Men. E. Wehr; S. Pilz; B. O. Boehm; W. März; B. Obermayer-Pietsch. Posted: 09/17/2010; Clin Endocrinol. 2010;73(4):243-248. © 2010 Blackwell Publishing

[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
That has so high vitamin A and D levels that is ridiculous. The taste is so horrible that you will find it in gel capsules so you can take it.

One of those capsules (415mg of cod liver oil) gives you 47% of daily recommended intake of vitamin A and 68% of vitamin D. Personally I take a couple daily, but remember, get tested, don’t go overboard, etc. I’m not you. Of course those fats in the cod liver oil help our cause too.

**Vitamin K**

This a is an almost unknown letter when talking about vitamins, but when you are bleeding and you need to stop it, your bones are not what they used to, or your skin starts to turn inelastic and old, vitamin K is playing a role there, or better said, depletion of vitamin K is playing the role, mainly because of aging, that finds thousands of annoying ways to mess with us.

The thing is that when vitamin K leaves the station, our dear testosterone loves her so much that she runs after the train and you can’t find her until normal levels of vitamin K are restored.  

We can’t make vitamin K, so we must take it from food. What food? Don’t worry you won’t grow a biblical grocery list nor you will have to remember a lot of strange names, the good thing is that if you work the basics in your diet you will have the main points covered.

Green leafy vegetables are the main sources, and you should have them as a cornerstone of your testosterone diet, so you are covered, especially if you took seriously the cruciferous vegetables part (a.k.a freaking broccoli attacks again).

Kale, brussels sprouts, spinach, collards, turnips, lettuce… if you see something really green chances are vitamin K is present.

Parsley (über present in mediterranean cuisine) is so loaded with vitamin K that two tablespoons contain 153% of the recommended daily intake… and it will help with our bad breath too, that is probably our real reason (and not testosterone) of not getting chicks.

**Garlic**

What? Now garlic is a vitamine? Are you drunk again even when you are going to talk about alcohol and testosterone?

Nope and almost nope, but these are my pages, I could not find a better section to put it, and I think it fits well with parsley and bad breath (because I like childish humor) and it will highlight more the need of parsley (and brushing teeth).
Garlic has been shown to increase testosterone levels in testicles and decrease cortisol levels\textsuperscript{25} (two birds with one piece of garlic) at least with a high protein diet, a kind of diet that you will probably have when, along with tons of veggies, you will eat your eggs, meat, fish and dairy.

Garlic is so healthy that there are supplements that contain allicin (its main healthy component), if you can’t stand the taste (I love it when it’s used to cook) or if it’s not easy on your stomach (too much for me is not a good thing) go that route, my philosophy tends to be “eat the damn food instead of the strange pill”, we tend to make simple things very complicated but I believe in freedom, so do what works for you, ok, cod liver oil can be the exception, I tried once to taste it directly and even that wasn’t so bad, it tasted... like fish oil (amazing discovery I know)... but I prefer to swallow the capsule.

Diet 6: alcohol and testosterone

Ok, you were expecting it, and probably it’s going to be painful for you, so I’ll make it as short as I can. If you are a man alcohol probably is one of your best buddies, but our jealous testosterone does not like it as much as we do.

Too much alcohol means low testosterone and elevated cortisol\textsuperscript{26}, that’s a fact so we are not lucky, binge drinking or chronic drinking must be out for good.

But there are some studies that saw an increase of testosterone with LOW doses of alcohol\textsuperscript{27}, I highlighted the low part because we, men, have problems sizing things, low does not mean “only one” bottle of Jack Daniels.

Ok, so maybe you are thinking it’s not so painful, it’s even good, let’s celebrate in a bar, because moderate drinking does not seem so bad, but here is the worst part.

Beer should be out, probably it won’t because it should.

I can see you looking for your gun, but don’t kill the messenger. Hops, the main ingredient in beer, is a highly estrogenic food.

\textsuperscript{25} Garlic Supplementation Increases Testicular Testosterone and Decreases Plasma Corticosterone in Rats Fed a High Protein Diet. Yuriko Ori, Mika Imafuku, Chiaki Shishido, Yutaka Kominato\textasteriskcenter*, Syoji Nishimura\textasteriskcenter* and Kazuo Iwai. Laboratory of Nutrition Chemistry, Faculty of Home Economics, Kobe Women’s University, Suma-ku, Kobe 654-8585, Japan and; * ; Riken Chemical Industry Limited Company, Fushimi-ku, Kyoto 612-8404, Japan


\textsuperscript{27} Testosterone Increases in Men After a Low Dose of Alcohol. Taisto Sarkola, C. J. Peter Eriksson

http://www.increase-testosterone.info
So beer is alcohol, what means sugar, what means insulin, and hops are added to the equation, what means estrogens... not a good combo for us.

Maybe it’s time to change to red wine.

Ok, I said it was going to be brief, as always do what you want.

Testosterone diet in a nutshell

When I started to worry about diet and nutrition years ago I found everything confusing and contradictory (and as I found later, very misleading in some critical issues), luckily the necessary changes to optimize testosterone are easy as pie, so knowing what to eat is not complicated and won’t interfere other dietary goals you can have (like staying fit and healthy), on the contrary.

And, best of all, you won’t be counting calories or making lists of strange allowed foods, it’s a lifestyle full of rich natural meals and delicious things, once you start you won’t have to worry.

Let’s sum everything.

1.- Cut sugar and carbs to avoid insulin spikes. Refined flours and every industrial snack are out of the table. Remember, if it comes in a bag or a box is not a good sign.

2.- Avoid fast food, anything deep fried and trans fats like the plague until they disappear forever.

3.- Tons of veggies must be present in your shopping cart and in every meal, in order to add substances and vitamins that we need for our goal.

Cruciferous (like broccoli) and green leafy vegetables are a must, so no excuses if you want to see results.

Make salads (with olive oil), steam them, eat them raw... pick your preferred weapon but have veggies every time you eat. This is very important.

You can not go wrong with veggies (soy being the exception, it’s a very estrogenic food so it’s out).

They will give you critical vitamins, antioxidants and substances so healthy that you will want to kiss them before you eat them... and they will give you carbs too, but they won’t spike your insulin (their glycemic index is very low) and you can not possibly ingest too many carbs from veggies (if you do please call me, you are some kind of freak and maybe we can make money in fairs next to a bearded woman).

4.- Eat meat, fish and eggs. If you cut carbs you can eat some fatty meats or fish (like yummy smoked salmon) raise your testosterone and get thin in the process, really.

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We need energy and if we don’t take it from carbs we will take it from fat, and because high fats will improve testosterone, you will be a “burn-fat-build-muscle” machine, instead of getting fat and depressed because you don’t even eat real food, you crave sugar constantly and your love handles still say good morning (with a mocking tone) every day.

5.- **Milk (whole), butter, nuts, other dairy products and olive oil (virgin) will help to our cause of high fats and needed vitamins, but don’t go overboard here**, I think common sense is the approach and you won’t eat sticks of butter as you main dish right?

Right?

Ok. I thought so.

6.- **Everything is better when grass-fed** (well, fish... I don’t think so), but if not, don’t sweat it too much, you will be better with non grass-fed than with refined carbs.

7.- Olive oil (virgin) being the exception (and because I’m mediterranean and yes, maybe I’m biased), **better if you don’t use vegetable oils**, in order to maintain the Polyunsaturated / saturated ratio. Especially don’t fry the oil.

8.- **Garlic will help**, use it to cook. My brother used to eat it raw years ago when he read something about how much healthy it was, I could smell him from miles away and pointing my nose in the right direction I knew beforehand when he was coming to visit, I thought I became Daredevil, then I was disappointed while sewing my costume, what a downer.

9.- **Some fruit is ok** here and there but don’t go overboard too (I know, it sounds strange) so don’t go “all fruit all the time”, that will make no good, because, in the end, it is sugar with water (and yes, vitamins and antioxidants, that’s because some fruit is ok and sweets are not), it depends very much on the fruit, but berries must be your preferred choice, if it’s season, eat as much as you want.

10.- **Cod liver oil** is a heaven-sent food, and maybe you will need to supplement with zinc if necessary.

11.- **Alcohol is as out as you can**, especially beer, and especially binge drinking. You can cut your veins now.

12.- **Cheat once a week or once in a while** (but try your best with excessive drinking). You know, life is there to enjoy it, a friend’s mother bakes a chocolate cake that must be what they serve in heaven (without the insulin spike) and it will not kill us, on the contrary. If you are on holidays with your family or it’s your birthday, my opinion is “don’t be a diet fundamentalist” (and a downer).

You will eat healthy most of the time, so you can afford some cheating, you deserve it and it won’t mess with you because it will be an exception, not the usual thing. But remember, make it an exception.

If you take a look you will see a diet that has it all (but grains) as the main components, and everything is natural, not coming from a box with a trillion of conservatives, it’s real natural food, in fact is what a hunter-gatherer or ancient caveman and warriors probably ate, and it’s no coincidence again that, if
we want to be like testosterone driven warriors hunters, we must eat like them, and leave donuts out of the equation.

Lifestyle 1: stress and rest

Do you remember another friend of us called cortisol? Of course you remember, it appeared in the alcohol section.

When we are stressed our body releases that hormone in order to cope with hard times. Cortisol is made in the adrenal glands (where some of testosterone is made too).

When cortisol rises due to a stressful situation, testosterone lowers, and when the situation returns to normal our hormone levels do the same thing.

Our body is really wise, if we are running from that predator, or getting ready for battle, chances are we are not very worried (for some nanoseconds at least) about sleeping with our neighbor's daughter.

When we climb the tree and the lion gets bored, or we get back victorious from the field of battle, then cortisol leaves the spotlight and here it comes our beloved testosterone again, our body knows it's time to return to normalcy because she is impressed by our physical prowess, hiding from the enemy behind every allied warrior we found.

But you know how modern life is, lions don't interrupt us so frequently any more when we are sitting in the throne every morning... But our jobs suck, our bosses are dumb, other drivers are idiots, we are bombarded (i.e. Brainwashed) by depressing “information”, the economy is a bitch and we live in a hurry.

Constantly.

We are conquering more physical maladies than ever but mental illnesses are our new insufferable roommates.

Everyone is stressed all the time, and what does it means?

Cortisol levels are way up baby, what means that testosterone levels are down when we are stressed or mentally drained.

So our new task in our lifestyle is lowering cortisol. And it means RELAX.

To do that the first thing we need is sleeping enough, sound and well. Getting enough rest is critical for our testosterone, because it's mainly made at night, so better we don't mess with that in order to keep our morning glories.

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If you suffer some sleep deprivation the next evening your cortisol levels will rise, what means other parts of your body will have more problems to do the same. That levels can increase between 37% (partial sleep deprivation) and 45% (total deprivation).

Lowering stress is easier said than done, I know, but practicing a sport we like, having hobbies, a life beyond our job, meditation, yoga or whatever works for you has to be done.

For me it’s physical activity, meditating, making sure I go out and chat with other human beings… those are important things, keep your mind occupied with things that you enjoy, make a list of what’s cool for you and start doing more of that.

And by the way, an information diet is one of the best decisions I’ve made in my life, I turned off news and TV years ago, I rarely read papers now (if something important happens you will know, believe me) and when I read them it’s because I want to know what movies are playing in theaters…

I know some situations are not easy, personally I’m a little bit obsessive so when I started to know about this issue (for example) I worried more, but when I knew something could be made, in the end I decided to change my lifestyle and worry was the seed of motivation.

Probably if we are stressed every day maybe it’s time for a change NOW, because I don’t know about you, but last time I checked I had only one life…

Lifestyle 2: move!

If we want healthy testosterone levels we must lose weight if we have too much, we have to stay fit and even pack some muscle.

I think this is not a surprise right?

Again if we want to be like fierce warriors-hunters, with healthy testosterone levels, we must look like one, and the best way to look like a warrior is, oh surprise, being like one. (Shocking, I know).

That means adopting his lifestyle. And the lifestyle of a warrior does not include staring at your computer all day with one hand in a bag of Doritos and the other… well, wherever you put it when you are surfing the web.

A warrior has an active life, a warrior stays fit and ready for battle.

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28 Sleep loss results in an elevation of cortisol levels the next evening. Leproult, Rachel; Copinschi, Georges; Buxton, Orfeu; Van Cauter, Eve. Sleep: Journal of Sleep Research & Sleep Medicine, Vol 20(10), Oct 1997, 865-870.

http://www.increase-testosterone.info
If we are too skinny or we can draw the world map in our bellies, chances are our testosterone levels are low\textsuperscript{29}.

Staying in your weight and some types of training and exercise will boost your testosterone as we will see, meanwhile eating the wrong foods and staying trapped in the sofa contributes to our castration, so the first thing we have to know is that we got to get fit, but before you go to the treadmill, keep reading please.

**Lifestyle 3: the right kind of exercise to optimize testosterone**

If we want our testosterone back we got to move, what means exercise, but stop lacing your running shoes and hear me a little more, because the exercise you are probably thinking about won’t get your testosterone back, on the contrary.

Running forever will lower your testosterone\textsuperscript{30}, distance runners show significantly lower levels of T… there are more studies regarding the issue\textsuperscript{31} and I can see a sigh of relief in many of you that, like me, find the treadmill so boring and time consuming that you want to kick it when you see it.

We want to lose body fat because, as we know, it hinders our testosterone, well, traditional “cardio” or endless jogging is not the most optimal way\textsuperscript{32} (I reference only one of the countless studies) for many it will destroy the joints and lower the testosterone before it touches the fat.

If we want to lose fat we must understand that diet and hormonal balance will have much greater effect than exercise and, above all, much greater effect than running or traditional “cardio” (jogging, cycling, etc.)

I mean, for me (about 145 pounds) twenty minutes of jogging can burn about 130 Kcal (yes, I searched that on Internet), I can recover that eating one single cookie! So if I had to lose fat with “cardio” I should jog until everybody around me speaks chinese.

\textsuperscript{29} Mood changes, body mass index and bioavailable testosterone in healthy men: results of the Androx Vienna Municipality Study. Kratzik CW, Schatzl G, Lackner JE, Lunglmayr G, Brandstätter N, Rücklinger E, Huber J.

\textsuperscript{30} Reduced Serum Testosterone and Prolactin Levels in Male Distance Runners. Garry D. Wheeler, MS; Stephen R. Wall, MA; Angelo N. Belcastro, PhD;David C. Cumming, MB, ChB

\textsuperscript{31} Testosterone Is Significantly Reduced in Endurance Athletes without Impact on Bone Mineral Density L. Maimouna, S. Lumbrosoc, J. Manettad, F. Parisc, J.L. Leroux, C. Sultanc


[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
So what kind of exercise will rise the hormone?

Well, this is not an easy question, studies have shown that weight lifting (resistance training, pumping iron or whatever you want to call it) increases testosterone\(^{33}\), WHEN done in a certain way (acute and heavy) which promotes muscle building, due to the presence of more testosterone. We saw previously how resistance training and high fat meant higher levels of T too.

So we are going to lift heavy (but not too heavy) weights and, above all, we will need long recovery periods, because overtraining is going to cause lower levels of testosterone and higher levels of cortisol (as we saw cortisol is one of the antagonists of testosterone, so resting is critical).

Resistance training, but not often and with long periods of resting, does not sound too bad and it will make wonders for our physical appearance, bone density and aging.

Because many testosterone problems come from aging chances are that many of you reading this are middle-aged men. Resistance training will take away years from your appearance and will improve posture.

I’m not an expert in sports and I’m not a role model, by far, I practice Mixed Martial Arts (amateur and without dreams of fighting in a cage, I’m old, the less violent person you will ever meet and I don’t like violence, paradoxical I know) and I lift weights twice a week (a brief session with compound movements that engage many muscles) but I don’t want to be a bodybuilder and they are complementary exercises to condition myself for my sport, they gave me a much better image when combined with diet, but I’m not a fitness model and I don’t want to be one.

Besides that I do, once a week (maybe two), high intensity interval training, which is (too) very useful for my practice.

If you want to lose waist inches “traditional cardio” is not the most optimal way, look instead for interval training and intensity (I searched the calories and cookie thing in the Internet, do the same with this). Brief intense exercise (like sprinting) with long recovery times (that will depend on your age, etc.) are the best way.

Do you want the best thing possible? I can not recommend enough the book “Body by science” by Doug McGuff, buy it, follow what it says and you will be optimizing everything.

By the way, as you imagine, the book goes contrary to “traditional wisdom” and almost everything you knew about exercise, but if you are still reading this (and you didn’t print it only to be able to burn it) you will be thinking that, as Mark Twain would say: “Whenever you find yourself on the side of the majority, it is time to pause and reflect”.

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The shocking turn of events

I changed my diet, I was in the middle of totally changing my lifestyle, getting enough rest most of the time, being smart with exercise, taking it easy with alcohol, etc. and I got good results, really, but not all that I wanted, I wanted all my energy back, I wanted my focus, my motivation, my drive and I wanted some more morning erections that, well, they were kind of returning but not very much, it was getting better but something was missing, something was not entirely right, I could sense I had to push one more button that I had not discovered, yet.

And then it happened, almost by “chance” as many important things in life do, and in about two or three weeks of making that little change, everything turbocharged to the stars.

One problem with this is that, unlike the rest of this report, I’m not saying that this is a scientific truth proven by many studies, unfortunately I can assure you that everything is damn obscure and shady about this issue, which, in my books, it’s a big red warning sign to start.

One day I stumbled into an Internet forum researching about testosterone and some guy talked about his problems in bed and… Aspartame.

Yes, aspartame, the artificial sweetener that substitutes sugar and is present in every diet soda and many other things we buy, like low fat products and other “fake” foods.

“Aspartame? What the hell? Is that thing dangerous? Why they put it on food if it’s so dangerous? It can not be”.

After saying that I remembered all the other things in this report, so I took a magazine, carefully rolled it and proceeded to hit myself in the head for displaying so much idiocy in so few words.

Some more guys got into the conversation and commented about their aspartame experiences too and how it affected their masculinity.

You know, an Internet forum is not exactly the most accurate way to get information (sorry to break the news), but I decided to go deeper, to see if there is some scientific proof to it. I wanted to watch with my own eyes and think for myself, as I did with every point in this material.

And I did it, because I was religiously drinking two cans of diet soda daily for almost two or three years, and I was a compulsive sugar-free chewing-gum eater since I can remember, I always had one in my mouth, those were my guilty pleasures and I thought nothing was wrong with something that was as caloric as water or a simple chewing-gum.

As I researched more another unpronounceable word was added to my dictionary: excitotoxins.

Basically they are toxins that excite our nerve cells so much that they die. Things like glutamate or aspartate (present in, oh surprise, aspartame) do that.

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As men we can think that our brain is not a deadly target, if you take a look it’s clear that we don’t tend to use it very much, so we may think that this issue (and zombie outbreaks) are not a serious threat for males, but seriously, it can be a real problem.

If you go to the studies many of them conclude that aspartame is safe, well, better said, aspartame is not safe, is a toxin, we know that, but our “normal” daily dosage seem harmless.

In fact some controversy sparked in the Internet, aspartame was venom and it was regarded as a hoax but so much noise was made that a new study chimed in to stop the controversy and saying that even large dosages of aspartame were safe\textsuperscript{34}.

Well, this was becoming confusing but it seemed that there was no reason to worry (you know even when aspartame is clearly a toxin, but it seems ok to put that in ourselves), then I read this at the end of the press release of the study I’ve just referenced.

\textit{“The study was conducted at MIT’s CRC. Electro-encephalograms were done at the Beth Israel-Deaconess Medical Center in Boston. This work was supported by a grant from the NutraSweet Co. to the Center for Brain Sciences and Metabolism Charitable Trust.”}

Wait.

What?

Nutrasweet? I’m not american so I did not recognize the name at first, but it didn’t sound very independent, then I saw that Nutrasweet makes aspartame, but you know, you can not question the business ethics of a multimillion dollar company right?

I used again the rolled magazine and I decided to know more.

One of the main points in its defense is that the blood barrier protects our beloved brain from the excess of neurotoxins like aspartate and glutamate, if they pass they can kill certain neurons, allowing too much calcium into the cells if the reach them, but, supposedly, they don’t pass.

So we eat toxins, but our brain is protected. Fair enough, because that’s true (at least to a point), our bodies are wise even when we are idiots, but take a look at this:

Small children don’t have the barrier fully developed (at least they advice against sugar-free stuff and children, in a very little font size, of course), some conditions can damage the barrier (mmmh, not good), some physicians I read said that it does not fully protect against all the glutamate or aspartate (damn, I don’t know if it’s entirely true, but this seems fishy) and, above all, one thing we know for certain is that not every part of our brain is protected by the blood barrier…

What?

What parts?

\textsuperscript{34} Aspartame: neuropsychologic and neurophysiologic evaluation of acute and chronic effects. PA Spiers, L Sabounjian, A Reiner, DK Myers, J Wurtman and DL Schomer

http://www.increase-testosterone.info
The Area postrema, a zone made to detect toxins and send the signals that say “vomit, you dumbass, you are taking toxins”. Ok, I get it, it’s logical to leave that out because it has to feel the effects to raise the alarm.

The pineal gland, that needs to secrete and send to the blood the hormones that influence our circadian rhythms (you know, the sleep/wake cycles). Well, I don’t appreciate that much, good sleep is good testosterone.

The Posterior Pituitary Gland, because their hormones must reach the bloodstream too (wait a minute, some things are making a connection, I can hear the rusty gears of my brain moving).

The Median eminence of the hypothalamus, that’s the link between the hypothalamus and the pituitary gland. Again it’s not protected because hormones secreted by the pituitary gland gather there and have some drinks before being secreted into the bloodstream.

You read that and your sleepy neurons sparked like a Christmas tree because they remembered something I said in the beginning… Yes! The hypothalamus is the funny animal that gives the order to create testosterone! Right? And then the order goes to the pituitary gland!

Well, right, it’s not the animal, but damn right, the hypothalamus passes the initial hormones to the pituitary gland to get the cycle of testosterone started. Read again the part of how testosterone is made.

And that very mechanism is not protected by any blood barrier, so it’s quite possible that the bastard mess directly with the commander in chief of our manliness.

I went deeper, and aspartame does very nasty things, like methanol (i.e. Wood alcohol) in the body when taken, that alone is a good reason to kick it, but I wanted to know how it specifically related with testosterone, because it’s real that it’s a neurotoxin (no one denies that) and precious parts of the brain (the ones related with testosterone) are not protected, were my logical suspicions right?.

I came to a study about rats and aspartame, the conclusion was that their pituitary glands and hypothalamus were messed up thanks to the substance, so the testosterone production went very badly because the mechanism responsible of testosterone (the circuit of LH hormones, etc.) went to hell\(^35\).

The rats were in a prepuberal stage (they were becoming adult rats) and I quote the study.

“*The degenerative aspects of brain and pituitary observed in Aspartame-treated rats suggests that it is reasonable to assume that the same infant-to-adult relationship would be true for the Aspartame consumption in humans to children in the prepubertal period of development, especially.*”

\(^{35}\) ULTRASTRUCTURAL ASPECTS CONCERNING THE HYPOTHALAMUS-PITUITARY COMPLEX REACTIVITY FOLLOWING CHRONIC ADMINISTRATION OF ASPARTAME IN JUVENILE RATS.

Constantin PUIÇĂ, Constantin CRĂCIUÎN, Mircea RUSU, Mihai CRISTESCU, Maria BORSA, Ioana ROMAN Biological Research Institute, Cluj-Napoca. Babes-Bolyai University, Electron Microscopy Center, Cluj-Napoca. University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca

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So there is scientific evidence that support that aspartame is not so harmless to our beloved hormone, and that I was not misguided with my early suspicions about the damn toxin messing up with the testosterone creation mechanism in its very same starting point.

I decided to drop every gram of aspartame just because it’s a toxin, but this added weight to my quest for recovery. So goodbye forever guilty pleasures, it was not nice to know you… bastards.

I tossed completely diet sodas and chewing gum, I was going to be my own study subject, and two or three weeks after dropping aspartame the results turbocharged. I awoke some mornings with a gigantic tent in my sheets (well, you are a man, you know I had to say that at one point or another, and no, it’s not gigantic at all, but it was alive and kicking, again), my penis seem larger and healthy again when resting, instead of shy and retracted, and my mood, my drive, my focus multiplied again fueled by the change of lifestyle and the absence of excitotoxins.

I was consuming a good aspartame daily for years (I even noted other side effects sometimes, like constant sweet sensation in my mouth, that altered how other food tasted, but I never gave it credit for anything, much less testosterone problems) and I can feel that I’m not fully recovered yet, but I know one thing, dropping aspartame was a multiplier to all of this.

If you don’t mess with aspartame you have been smarter than me, if so, try for yourself, I don’t especially want to be sued by some sweetener corporation so I just say: “try and you will see”.

And (for the first time in this pages I’m going to ask that) trust me, I know that I’m not the only one that after quitting started recovering his manhood.

My body, turbocharged by what’s in these pages and without that sneaky saboteur, is going at it again, because he is wise even when I’m an idiot.
Part II. Mastering the Art, going deep into the rabbit hole to optimize testosterone even more

We have seen the basics, you follow them and your testosterone will improve naturally, not only science says that, I can assure that personally, it has made wonders for me.

And once I discovered how important was this issue I did not stop, I wanted to know everything, and I mean everything, even those things that you can not find anywhere.

And the next pages are the result, where you will find some of the most intriguing and fascinating things about testosterone and how it’s related, for example, with our mind, our mindset and our personality.

From now on we enter master territory, we will talk more about diet, in order to optimize it, about lifestyle, where you will find the best “hacks” to reap the best results you can with minimal effort, and you will find things that are influencing your testosterone and (I bet) you did not know it.

But beware, all of this won’t be useful if you don’t have the basics well covered, we must get that right from the beginning. If our diets are full of testosterone killers or our lifestyle keeps us awake and stressed, the things you are going to see won’t make miracles.

But if get the basics then we can go beyond, perfecting this and reaping more rewards, you have my word, it will be worthy.

Oh, and, as always, nothing here is pure invention, it’s backed by science.

Let’s go then.
The main thing about our diet is that it’s not really a “diet”, not in the sense that it’s a rigorous discipline where you must count calories or be subject to strict rules, personally I can’t stand that and I think it’s doomed to failure from the beginning.

Fortunately this is a way of of life and a way of eating, where we load our bodies with real natural food that encompasses a huge range of things, from every fish to meat, eggs, and as many vegetables as you want… in fact it’s the most natural way of eating, without processed junk full of sugar and artificial additives.

And, rejoice, because one thing we must do, above all, is not to restrict calories.

Never. If we starve ourselves we will fail.

I’ll explain that because, to some, it can seem contradictory due to the necessity of being fit in order to optimize testosterone.

If we are overweight we must lose weight, that’s a given because it’s time to be warriors again, but strict caloric restriction will make our testosterone plummet, so it’s very important we don’t cut the fuel that our body needs and that we don’t starve our way to get thin.

For example, one study[36] measured testosterone in soldiers consuming a low calorie diet (1800 kcal), a moderate one (3200 kcal, they were soldiers making soldier things, so that’s moderate), or a high one (4200 kcal/day eating like a locust plague or something). The ratios between fats, carbs, etc. were similar. Then they put the soldiers through 5 nice days in hell with prolonged exercise and bad sleep.

As you can expect testosterone lowered in every group of soldiers, in these same pages you can see the effects of rest and stress in testosterone, but here is the key: those on the low calorie diet lost 50% of testosterone, while those on moderate and high calorie diets only lost 20%.

As we can see caloric restriction has a profound effect on testosterone, and we don’t want that.

Wrestlers (and fighters) tend to cut weight prior to their fights, they lose lots of body fat in the previous weeks and they cut weight very aggressively the previous days (mainly losing water), in order to fit into their weight class limits and then recover some of that weight (through rehydration) and compete with some weight advantage when fight day comes.

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The thing is, when competition is ahead they cut fat and carbs, so they get ripped, but studies have shown that this rapid fat loss (mainly through caloric restriction and avoiding carbs) decreases their testosterone levels, hard.\textsuperscript{37}

Those levels are recovered after the season, when they can eat fat again and go back to higher caloric diets.

So even when we are trying to lose weight, it’s very important that we don’t put our bodies through severe caloric restriction.

Our body is amazing, and if acute caloric restriction happens, our metabolism will start the necessary adaptive response: i.e. “We are in starvation mode baby”, where all resources are aimed to keep us alive because it seems there is not many food available around us (we are basically as evolved as a paleolithic man) so reproduction and similar processes are put on the back burner.

When hunger happens other things seem more important than testosterone and, logically, hungry times are not the best to make children. Like in war times, testosterone will have to wait.

Besides that if we are in “starvation mode” our body tries to preserve as much energy as it can, shutting down processes and slowing our metabolism. That’s the reason many people starves and don’t get thin or get an unhealthy thinning and look.

We don’t want our bodies in starvation mode, so never try to get thin through hard caloric restriction.

If we are overweight and we want to lose weight, the optimal way is follow the natural diet laid here, move from the couch and it will happen.

Of course if we are eating 6000 kcal/day (probably due to a deadly Oreo - Doritos combo) and playing Halo all the time, then yes, we must eat less, but if we cut carbs, we start to move and we maintain a good calorie intake not starving ourselves, we will get thin, but more importantly, fit.

In fact, if we cut carbs, probably we will get thinner even if we don’t move and we don’t restrict calories.

Bottom line: you don’t need to restrict calories to get fit and every diet that tries to optimize testosterone must have enough calories. Don’t obsess about this number, one of the best things about eating this way is that I’m not standing in the supermarket like a fool trying to calculate numbers (I’m standing reading labels but at least I’m not counting, I’m really bad at it).


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Diet 7: is vegetarianism a good choice if we want high testosterone?

I met once a beautiful British girl that was vegetarian, we went to an “all veggie” restaurant and, although it was my first time (insert first time jokes if you are as childish as I am) I kind of liked the experience, but I did not see myself as one of her tribe.

Don’t get me wrong, I know that if I see how meat is manufactured, probably I would throw up and try to become the vegan emperor of the galaxy, so I choose not to look, it can seem hypocritical but I’m far from perfect.

Vegetables must be present in every meal and there are no limits to their consumption in our diet, but meat is a critical part of the testosterone diet, due to its fat, other nutrients like zinc and because there seems to be a connection between meat and testosterone.

You remove it from the equation and testosterone lowers, no matter what other things you try to eat.

And I hate to say this (mainly because that British girl was really cute) but vegetarian diets are not the most adequate to optimize testosterone, so we must add that meat to the table.

Some vegetarians quote studies that show how their adherents have greater testosterone levels than omnivores (in fact some organizations make suggestive ads saying that vegetarian have better sex according to science, relying in those studies and some others).

One example of that “proof” is this one\(^\text{38}\). One of the conclusions is that vegans involved in that study had 7% more testosterone than omnivores, but we know better and if we read the whole conclusion instead of cherry picking what interest us, we can see that the number refers to Total Testosterone, but vegans had 3% less free testosterone (the one that matters) and 23% more SHBG (remember that acronym? It’s the hormone that binds with testosterone and renders it unusable for our purpose, not good).

If we go deeper in the rabbit hole we find studies like this\(^\text{39}\), where men fed with a vegetarian diet released less testosterone at night (the critical phase of testosterone generation).

\(^{38}\text{Testosterone, sex hormone-binding globulin, calculated free testosterone, and oestradiol in male vegans and omnivores. Key TJ, Roe L, Thorogood M, Moore JW, Clark GM, Wang DY. Cancer Epidemiology Unit, Imperial Cancer Research Fund, Radcliffe Infirmary, Oxford.}\)

\(^{39}\text{Effect of a vegetarian diet and dexamethasone on plasma prolactin, testosterone and dehydroepiandrosterone in men and women Peter B. Hill, a and Ernst L. Wyndera}\)
Because we remove important food from the equation vegetarian diet tends to have deficiencies in these fronts: vitamin B12, vitamin D, omega-3 fatty acids, calcium, iron, and zinc.

Starting to see a pattern?

If you go one by one almost everything has to do with testosterone.

Vitamin D is a given (there is a whole section here dealing with that), fatty acids are another cornerstone, zinc is our weapon of choice against estrogens, low iron is related to low testosterone, too and not only by that study referenced in the footnotes, other reached similar conclusions.

Regarding calcium, well, athletes supplemented with calcium saw higher levels of testosterone that the ones without the extra calcium, so it seems to be another testosterone booster in our arsenal.

The relationship with vitamin B12 is not so direct, but you know, that vitamin has to do with the metabolism of every damn cell in our body and just slightly low levels can provoke depression, fatigue and lack of drive in general.

As we can see, going vegetarian is playing with the core components of our testosterone, and even a fast search in literature shows that there are many studies showing that those ads about sex and vegetarians can be a little misguided, because, in general, vegetarians show lower levels of testosterone, ranging between 31% and 36% depending on the study.

And then, there is the meat connection.

There is something about meat that raises testosterone, even some ovo-lacto-vegetarian diets (that add milk and eggs, and with them come some cholesterol and fats that help our cause) don’t make the cut, meat is still a key piece, you can learn more reading the works of Lou Schuler (“The Testosterone Advantage Plan”) or Jim Thorton in his article “Maximum Testosterone.” (Men’s Health. April, 2005).

Let’s wrap this and remember one basic point that we saw when we started talking about diets: low fat and high fiber diet gave lower testosterone levels than high fat diets, and you know what’s the very definition of a vegetarian diet?

Yes. Low fat and high fiber.

So Laura, honey, sorry, you were cute but vegetarian won’t make the cut (unless we visit a slaughterhouse in some future date).

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40 Low Testosterone and Anaemia in Men with Type 2 Diabetes
Mathis Grossmann; Sianna Panagiotopolous; Ken Sharpe; Richard J. Maclsaac; Sophie Clarke; Jeffrey D. Zajac; George Jerums; Merlin C. Thomas

Diet 8: the cholesterol factor

Let’s talk about cholesterol, because with those fatty pork ribs in our diet you will be thinking that your cholesterol will go through the roof and this book wants to secretly kill you.

None of the above will happen (at least not because of this way of eating) but I’d say that if you have very low cholesterol probably your testosterone will suffer and, more importantly, your well being and even your life expectancy will suffer too.

What? Do I deserve being lashed in public for saying that? Maybe if we hear too much TV and follow “popular wisdom”.

I know that, nowadays, cholesterol is the villain and they should send a SEAL Team to get it, but all this “information” bombarded by every media and TV ad under the sun is based in what’s called the “lipid hypothesis”, one of the two hypothesis to explain atherosclerosis.

Even if you heard this term for the first time you know that hypothesis perfectly, it’s the tune singing that cholesterol is going to kill you because high quantities relate to atherosclerosis and, in the end, heart failure.

Since this is not a book about coronary health, I’m just going to pinpoint some facts, we will focus in what are most interested (testosterone) and if you want to know more I will tell you where to look (beware, you will be really pissed when you discover how they lie to us, again, but, as always, think for yourself).

First things first, let’s talk about words and meanings, I know it sounds boring but it’s important.

An hypothesis is not a proven theory, in fact we use the term hypothesis when we can’t establish a theory. It’s important to remember that they are not synonyms.

If we think something can be true but we can not prove it using the scientific method we call it hypothesis, so yes, this means that the lipid hypothesis is exactly that, an unproven fact, they would love to call it lipid theory because that would mean it’s a scientific truth, but they can’t.

The hypothesis was made in 1850 and nowadays it’s still a hypothesis.

Another important (and beautiful) thing about the scientific method is that it’s not a matter of consensus.

I mean, if I say “all crows are black” and everybody agrees because they made observations and every bird seen was black, but one or two people come to me with white crows, I can not say anymore that “crows are black” because there is contrary evidence so I’m mistaken and it’s not a scientific truth.
It does not matter that 98% observes black crows, if someone finds that there are white crows my scientific theory about every crow being black is wrong and no longer a valid theory from the science standpoint.

Ok, nice, what do you want to say?

The main point is that there is solid and numerous proof that the lipid hypothesis is not right and that the “information” we receive about cholesterol, and how it’s the king of demons, is mistaken to say the least.

Let’s tackle some myths.

We are obsessed avoiding dietary cholesterol, and we see labels stating that some food has 0% cholesterol like if it’s some kind of accomplishment, and we toss the egg yolks (one of the best things you can eat) because we are told they are serial killers, but the thing is: the majority of cholesterol is made by your liver, it can make 1000mg a day, even if you don’t eat anything at all in your diet.

If you lower you cholesterol intake through diet, the liver will compensate making more, not because he’s an idiot with a gun that is going to kill us by accident, but because cholesterol is one of the most important and needed substances in our body, not a poison. Yeah, I know it’s shocking to hear that, but every basic book of medicine can tell you that.

It has to do with almost everything that happens inside our body and, of course, it has to do with testosterone (remember, testosterone, as other anabolic hormones, is made from cholesterol).

An another thing that they don’t tell us. We can manipulate cholesterol levels through diet, but the effects are minimal.

In this study, for example they concluded, and I quote:

“But a 50 per cent decrease in dietary cholesterol will produce an average decrease in the serum of only about 7mg/100ml. For the purpose of controlling the serum level, dietary cholesterol should not be completely ignored but attention to this factor alone accomplishes little”.

In layman terms, dietary cholesterol is not the main key to our inner levels of the substance, but even with that evidence they tell us to obsess with avoiding dietary cholesterol when it accomplishes almost nothing.

Another widespread “healthy” advice is changing animal fats with vegetable fats to reduce cholesterol. Is this true?

Yes it is, but, again, take a look at this study, where participants followed those dietary advices that are given by the health authorities in many countries. The result regarding cholesterol levels?

42 The Interrelated Effects of Dietary Cholesterol and Fat upon Human Serum Lipid Levels
William E. Connor,† Daniel B. Stone,‡ and Robert E. Hodges

0% to 4% reduction.

Wow, just wow, it’s true but they don’t tell it’s an irrelevant truth.

You try to fight cholesterol and fats in your diet and your body basically reacts giving the finger and producing more by itself, because, again, it’s needed, a lot.

Besides that there is evidence supporting that high fat diets not necessarily raise cholesterol levels, they can and they do, but not always.

We are not nomad tribes anymore, but some little groups of this kind still exist, the Samburu, for example, and the Masai, that eat basically meat and raw milk.

Samburu people eat more than twice the animal fat than the americans and their cholesterol levels are significantly lower, about 170 mg/dl\textsuperscript{44}, meanwhile, our good Masai friends eat meat and nothing but meat and milk. Fiber, vegetables and the like are not common to say the least.

Their cholesterol levels? Like American levels… cut in half\textsuperscript{45}.

There is more evidence among other tribes that don’t follow western ways of eating but “unhealthy” diets with tons of meat and fatty milk and have ridiculously low levels.

Main point to remember: there is contrary evidence, so what they say it’s gospel truth about cholesterol is not, in fact, it seems a bunch of… well I’ll try to keep these pages clean.

How can we lower cholesterol then if diet is not effective?

Only through drugs called statins. A multimillion dollar industry indeed.

These drugs effectively lower cholesterol and it’s not strange that evidence is surfacing about statin treatment and low testosterone\textsuperscript{46}. I quote:

“Our data demonstrated that statin therapy might induce an overt primary hypogonadism and should be considered as a possible confounding factor for the evaluation of testosterone levels in patients with ED.”

\textsuperscript{44} Shaper AG. Cardiovascular studies in the Samburu tribe of northern Kenya. American Heart Journal

\textsuperscript{45} Mann GV, Shaffer RD, Sandstead HH. Cardiovascular disease in the Masai. Journal of Atherosclerosis Research 1964

Statins do really kick our cholesterol between the legs, killing your libido\textsuperscript{47} in the process (and erections if you are a man) because they induce low serum testosterone levels, mainly due to intracellular cholesterol depletion\textsuperscript{48}.

Take a walk and look for statins side effects, you will find quite a list, but most importantly, optimizing testosterone levels and statins are not compatible things.

And this is not the only side effect of statins, that create several problems while they try to fix one (that it’s not even a problem, as some evidence shows). In fact statins improve cardiovascular health but some scientists start to see that it may not be because the cholesterol lowering effect.

With all this evidence the main question here is: “do we really want to lower our cholesterol levels?”

Some evidence shows that elder people with high cholesterol lives more\textsuperscript{49}, it seems that low cholesterol can be worse than high levels against some infectious diseases\textsuperscript{50} and even allergies\textsuperscript{51}.

Ok, but what about heart disease? I can live with an allergy but not without a heart…

We are constantly told that high cholesterol will give us atherosclerosis, clogging our veins. That question was first studied by Kurt Landé in 1936. Conclusion?

They could not find any relationship between cholesterol levels and atherosclerosis\textsuperscript{52}.

Again they tried to answer the question with 800 war veterans between 60-69 years (the time when atherosclerosis tend to show and mess with us), no relationship again\textsuperscript{53} with cholesterol levels.

Meanwhile the studies that vilified cholesterol are a bit flawed to say the least.

I could go on and on, but this is about testosterone, so if you want to dig more, read, for example, “The cholesterol myth” or “Ignoring the awkward” by Dr. Uffe Ravnskov. If you read Gary Taubes’ works (recommended before in the first part of this work) you will see too that there is evidence (and quite compelling) that cholesterol is not our worst enemy, but a needed substance.

\textsuperscript{47} Statins and Erectile Dysfunction: Results of a Case/Non-Case Study using the French Pharmacovigilance System Database. Authors: Do, Catherine; Huyghe, Eric1; Lapeyre-Mestre, Maryse2; >Jean Louis Montastruc,; Bagheri, Haleh

\textsuperscript{48} Is decreased libido associated with the use of HMG-CoA-reductase inhibitors? L. De Graaf, A. H. P. M. Brouwers, W. L. Diemont


\textsuperscript{50} Jacobs D and others. Circulation 86, 1046–60, 1992.

\textsuperscript{51} Pesonen M and others. Clin Exp Allergy 2007

\textsuperscript{52} Landé KE, Sperry WM. Human atherosclerosis in relation to the cholesterol content of the blood serum. Archives of Pathology 1936;22:301-312.

\textsuperscript{53} Paterson JC, Armstrong R, Armstrong EC. Serum lipid levels and the severity of coronary and cerebral atherosclerosis in adequately nourished men, 60 to 69 years of age. Circulation 1963;27:229-236
First time I was introduced to this I could not believe it, in fact the mind programming in my head was so strong that even with tons of evidence I was afraid to contradict my TV and her stupid ads.

If you want to know more search for that, look the works of Ancel Keys and other cholesterol bashing papers and remember to think for yourself. I believe that, in time, this mistake will be corrected, in fact they are constantly changing the tune, which is a suspicious signal.

First, all cholesterol was bad, then there were two cholesterol kinds, the “good one” (HDL) and the “bad one” (LDL), then they said that cholesterol level was not the important thing, the ratio between LDL / HDL was... All of this because more and more evidence is showing that cholesterol is not bad, our obsession trying to lower it at all costs is.

I hope one day the multimillion industries and those who took Ancel Keys too much seriously give up for our health’s sake, but I won’t hold my breath.

For our purpose, i.e. Testosterone, here it is another nail in the coffin of cholesterol craziness: testosterone and HDL cholesterol have a positive relationship\(^{54}\) (i.e. They go up or down hand in hand).

Personally, when I had my lowest cholesterol levels, I had my energy levels and libido living in the basement, and without any intention to go up and get to work...

I know, it’s scary to go against the grain in this, every friend, every ad and every person that does not bother to wonder why they say what they say will want to bury you alive if you say something about this.

As someone said: “If you tell a lie big enough and keep repeating it, people will eventually come to believe it”\(^{55}\). And that’s what happens, but I love scramble eggs and will eat them, not only because they are good for my testosterone, but good in general.

Diet 9: the other common toxin in our food

We saw the aspartame issue and how it smells from miles away, but it’s not the only excitotoxin that should be worrying us.

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\(^{54}\) Endogenous Testosterone and Serum Lipids in Middle Aged Men. Mäkinen JI, Perheentupa A, Irlaja K, Pöllänen P, Mäkinen J, Huhtaniemi I, Raitakari OT.

\(^{55}\) That “someone” was Joseph Goebbels Reich Minister of Propaganda in Nazi Germany from 1933 to 1945, it seems that his theories are, unfortunately, alive and well.

http://www.increase-testosterone.info
Monosodium Glutamate, MSG or Sodium Glutamate (you can name it like you want, it’s equally bad) is the other additive to avoid if we want to optimize testosterone.

MSG is similar to Aspartame, it can mess with our brain and our manhood so we must kick it out.

Bad news is that it’s widely used in the food industry because it enhances flavour, so again when we buy something that comes in some kind of receptacle, we have to see if our “friend” glutamate is present.

Because the food industry is so “smart” they don’t tend to write “glutamate” in the label (they don’t write “suspicious poison” either, so don’t expect to see that).

In Europe (where I live) they put the “E number”, a code for additives, so the label of some foods read like a math test, in other countries the put the number, without the E.

Bottom line: if you see Glutamate, MSG, Monosodium Glutamate, E-621 or simply 621, leave what you have in your hands.

Other sneaky tactics to write Glutamate without saying it is anything with the word ‘protein’ or ‘yeast’ attached to it such as ‘Hydrolysed protein’ or ‘Autolysed yeast’, if you see that, proceed with caution, same thing applies with the words ‘seasoning’, ‘natural flavour’, ‘flavour enhancer’…

Oh, and another detail, some manufacturers arrange the list of ingredients in a way where the sentence “flavour enhancer” is split in two lines, so it’s less obvious. Lame trick, I know.

The safest way is, for the nth time, going natural. Most processed foods (even those aimed to babies) use flavour enhancers.

If you go out you have a good chance to find glutamate in what you eat. Japanese and Chinese cuisine, and fast food restaurants tend to use glutamate for almost everything, so beware if you start this crusade.

Diet 10: what you should know about fruit

In order to master the details of our high testosterone diet let’s take a look at fruit. If you were paying attention probably you saw in the first part that the fruit issue was referred with a lukewarm: “take some fruit” and that an expected “take as much fruit as you can” advice was nowhere to be found.

Testosterone-wise fruit is in some kind of “grey zone” and I hate that because I’m a fruit junkie.
I’m not going to say that fruit is bad, in fact it’s good for many reasons and you should take it in a balanced diet (I do), but I’d say too that it’s better if you don’t go crazy with it because, in the end, it’s sugar and water.

Of course it has antioxidants, vitamins and minerals, but, in the end we can have all those important nutrients through veggies without the sugar issue (and especially one type of sugar called fructose, we will talk later about that).

Another important thing is that not all fruit was created equal. Every fruit has different percentages of the different types of sugar (fructose, glucose and sucrose) so not every fruit is perfect for our purposes.

For example if you look to the composition of several kinds of fruit you will see that berries have low levels of the different types of sugar and low glycemic index, but lots of antioxidants, vitamins and other good stuff, so, in general I’d say that if it’s berries season, eat plenty (I love them), but other fruits, like cherries or raisins are much more loaded with sugar, if you take a cup of raisins you will consume much more fructose and glucose.

We have seen the sugar - insulin - testosterone relationship, so if you go overboard with fruits loaded with sugar (and especially you don’t cut other sources of sugar and carbs) they can hinder our efforts in that front, besides that I think it’s time to talk about a special type of sugar, called fructose, we commonly know it as “fruit sugar” and for some reason we tend to think that maybe it’s healthier because the name seems more “natural”.

It’s not.

Fructose is not metabolized in our body the same way that glucose (the “common sugar” as we know it), in fact fructose is easily converted into fat (much easier than glucose) especially abdominal fat, which is not good for our purposes (abdominal fat is an independent predictor of insulin sensitivity and other bad conditions to our testosterone), but one of the worst effects is that fructose raises triglycerides56, and that’s not good, believe me.

Testosterone has an inverse relationship with triglycerides57 (it’s not the only one study that highlights that inverse relationship, take a look at this one too58) so this means that if triglycerides go up our dear testosterone goes down.

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57 Endogenous Testosterone and Serum Lipids in Middle Aged Men. Mäkinen JI, Perheentupa A, Irjala K, Pöllänen P, Mäkinen J, Huhtaniemi I, Raitakari OT. Department of Clinical Physiology, University of Turku, FIN-20520 Turku, Finland


http://www.increase-testosterone.info
Fructose has been related to insulin resistance and metabolic syndrome too, and if we remember those conditions are natural testosterone predators.

At the end of the day fructose is sugar, a very special kind of it, so it does what we can expect from sugar and then some more.

But let’s be honest here, as always the problem is not fructose “per se” but how much we eat in our modern western diet.

In fact the main source of fructose in our diets is not fruit, but table sugar (50/50 glucose and fructose when eaten) and sweetened beverages, sodas and desserts.

One of the common ingredients in sodas is high-fructose corn syrup (HFCS) that has a lot of (surprise) fructose, so it’s not strange that when they took a look at sweetened beverages they saw that, as expected, raised triglycerides.

The fructose we ingest due to fruit will rarely harm us (unless we become “fruitarian” or something like that, changing vegetables or meat by fruit, a decision that will ruin our testosterone by the way). Mother nature is wise, she wanted us to eat fruit and it packed fructose with fiber (although it depends on the kind of fruit) but when we invented sodas, fruit juices (pure crap) and fructose sweeteners like corn syrup, things started to change and we loaded ourselves with too much fructose, which is essentially very bad.

So some fruit is ok in our diets, above all avoid dried fruits, if you make some natural juice some day is not bad, but you are removing fiber and the triglyceride mechanism can be reinforced (I remember how Tim Ferriss, in his book the 4 hour body experimented with orange juice and how his triglycerides raised).

These are some good fruits with low sugar (in their several incarnations) that we can consume without worrying.

Avocados, tomatoes (yes, tomato is a fruit, a berry), other kinds of berries (blueberries, strawberries…), papayas, nectarines, lemons or grapefruit.

In general (and if you have good health especially regarding diabetes or insulin resistance) I would not sweat about fruit for our testosterone purposes, I love fruit and I take it, but it’s wise to know all this things about fructose and don’t overload our diet with them.

Other things will be more important for our purposes than strictly controlling fruit, if we don’t take table sugar, juices (especially industrially made), desserts or sweetened sodas and beverages, it’s difficult that we find fructose problems.

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59 J of Nutr, Sep 1998, 128(9):1442-1449, "Long-Term Fructose Consumption Accelerates Glycation and Several Age-Related Variables in Male Rats", Boaz Levi and Moshe J. Werman

60 Dietary fructose and the metabolic syndrome. Miller A, Adeli K.


http://www.increase-testosterone.info
Besides that controlling fruit can be a little bit crazy because some fruits have a low glycemic index (because the main sugar present is fructose, and it does not raise insulin) but if too much fructose is present another nasty things (triglycerides) can be triggered.

Of course if you are overweight and looking to lose some weight, you have insulin resistance, metabolic syndrome or fructose malabsorption then follow your doctor’s orders and be more careful with this issue, trying to go with vegetables in order to obtain the much needed vitamins and antioxidants.

**Diet 11: supplements, the real truth according to science**

Ah, the magic pills that promise everything…

When I’m talking about supplements I’m referring to substances that are not commonly acquired through diet. We saw that vitamins, zinc, I3C, etc had a positive impact in our testosterone levels and they can be easily acquired if we have a diet with meat, vegetables, etc.

In this section we will see some other substances that are not so easy to get through “normal” diet, so we would need special supplements to get them.

My personal philosophy about supplements is that, as much as I can, I try to get by without them, my goal is trying to optimize my levels and my health in a natural sustainable way, not depending on external pills that maybe or maybe not available when needed.

On the other hand the supplement business is a multimillion dollar machine, they tend to be expensive and, depending on the country, regulations can be a shady issue, not knowing if those capsules of “unicorn horn” that you bought from an online shop are really what you expect them to be, or they are made from dust and powdered kittens in some dark evil lab.

As I said in previous pages, I think it’s much better to eat the food that provides a substance instead of taking a supplement, quoting this review study\(^\text{62}\) of the U.S. Army about diet and physical performance:

“Research into the potential advantages of dietary supplements has generally not proved advantageous when compared to eating a well balanced diet”.

\(^\text{62}\) Diet and physical performance\(^\text{62}\) Scott J. Montain, Andrew J. Young. Military Nutrition Division, US Army Research Institute of Environmental Medicine, Natick, MA 01760-5007, USA

[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
But, that’s only my personal opinion, as always you are free to do what you want and in my quest to obtain higher testosterone levels I took a look to the science behind the most widespread supplements, because, oh surprise, marketing and truth don’t go hand in hand.

One more thing, we are leaving off the table Androgel and other direct testosterone supplementation for obvious reasons, if we take testosterone our testosterone levels go up, that’s a no brainer, although with this approach, and given enough time, our testes stop making their own testosterone, which is a serious issue.

Ok let’s see what’s the truth about some famous supplements.

**Tongkat Ali, also know as Eurycoma longifolia or “malaysian gingseng”**.

This is a traditional herb used by malaysians to increase sexual desire.

Several scientific studies in animals swear by its efficacy as you can see here\(^{63}\), here\(^{64}\) or here\(^{65}\), they used rats in several conditions (rats and humans are similar, don’t tell me you are surprised) and, besides increasing sperm quality, sexual desire etc, it affected testosterone levels, in a good way.

One of the studies used middle aged rats and some review papers like this\(^{66}\) express the opinion that it should be studied more because its possible impact in middle aged men.

So it seems that there is some scientific promise backing tongkat ali (remember, in animals) because it seems too that there are no nasty side effects involved.

**Yohimbine**

This is an herb known by its aphrodisiac effects, and also known by giving some not so good side effects in some people.

Several studies show that it can be useful in cases of mild to moderate erectile disfunction. This one\(^{67}\) concludes that the positive effects overweight possible risks and this one\(^{68}\) found the herb much more effective than the placebo alternative.

But beware, we are talking about erectile disfunction, not testosterone levels.

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\(^{63}\) The effect of Eurycoma longifolia on sperm quality of male rats. Chan KL, Low BS, Teh CH, Das PK.

\(^{64}\) Influence of Eurycoma longifolia on the copulatory activity of sexually sluggish and impotent male rats. Zanoli P, Zavatti M, Montanari C, Baraldi M.

\(^{65}\) Effects of Eurycoma longifolia jack on laevator ani muscle in both uncastrated and testosterone-stimulated castrated intact male rats. Ang HH, Cheang HS.

\(^{66}\) RECENT STUDIES ON APHRODISIAC HERBS FOR THE MANAGEMENT OF MALE SEXUAL DYSFUNCTION A REVIEW. NEELESH MALVIYA1, SANJAY JAIN1, VIPIN BIHARI GUPTA2 AND SAVITA VYAS3

\(^{67}\) Yohimbine for erectile dysfunction: a systematic review and meta-analysis of randomized clinical trials. Ernst E, Pittler MH.

As far as I know there is no evidence that Yohimbine is related with higher testosterone, so if your testosterone interest is aimed beyond sex (to obtain more drive, focus, physical performance or general well being) Yohimbine does not seem the first place to go.

**Tribulus Terrestris**

This is another plant that pops up when you are looking for testosterone supplements.

Some bodybuilders, for example, swear by this herb regarding their muscle gains and others say it’s a waste of time. As always the best option is looking for scientific studies.

This one\(^{69}\) saw promise in managing the erectile disfunction in primates, rabbits and rats, all of them saw big increases in testosterone levels, but when they tried to see the effects in humans (young men) the differences in testosterone between those who took the herb versus the placebo group were insignificant\(^{70}\), concluding that it was not worthy.

One of the problems with supplements is that they are not widely studied, so you can’t see if there is a lot of evidence showing one thing and maybe other studies are flawed, so in this case, and at least in healthy young men, it seems that it does not work very well.

**Avena Sativa (Wild Oat Extract)**

Another traditional aphrodisiac with some urban legends attached about not allowing the SHBG do its thing and ruin our party, so taking it would give us more free testosterone.

Personally I’ve not found anything related with testosterone levels, some studies claim that alleviated stress in rats or something like that, but nothing about testosterone, so not worthy.

**Saw Palmetto**

This herb is sometimes marketed as aphrodisiac and sometimes as a remedy for androgenic baldness (that’s related with testosterone in some ways that are not the focus of this work) and there seems to be some effects with prostate growth but nothing about testosterone levels (it does not seem to raise them)\(^{71}\) or altering them in some useful way for us.

So, bad luck because it does not seem effective for baldness either.

**Magnesium**

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\(^{69}\) The hormonal effects of Tribulus terrestris and its role in the management of male erectile dysfunction – an evaluation using primates, rabbit and rat. Kalamegam Gauthaman, Adaikan P. Ganesan

\(^{70}\) The aphrodisiac herb Tribulus terrestris does not influence the androgen production in young men V.K. Neychev, a, and V.I. Mitev1, a. Department of Chemistry and Biochemistry, Medical University, 2 Zdrave str., Sofia-1431, Bulgaria


[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
Magnesium is related to more free testosterone\textsuperscript{72}, I include in this section but we should obtain magnesium from our diet without trouble.

Vegetables or fruits like avocados, and nuts, like almonds, have magnesium, so if we follow the diet we should have not problems in this department.

**Maca (Lepidium meyenii)**

Maca root can be found in sexual supplements and is one of the so called “herbal viagras”, you know, since the blue pill popped up many herbs and roots want to be proclaimed as such.

The thing with maca is that it does not help with testosterone (“In conclusion, treatment with Maca does not affect serum reproductive hormone levels” this study\textsuperscript{73} reads) and it does not exert androgenic effects\textsuperscript{74}.

So, again, it does not seem worthy.

Magic pills don’t seem so magic after all.

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**Lifestyle 4: battle: xenoestrogens**

Battle xenoestrogens is not the title of the next summer blockbuster where humans fight some strange aliens to avoid their total annihilation... But it could be, because as we saw xenoestrogens are chemical components that get into our bodies, mimic estrogens and then cause their effects, and not the good kind of effects.

In women they are related to breast cancer and other very nasty things, in men they have an estrogenic effect much worse than natural estrogens (that tend to be more subtle and short living), basically messing with your sexual performance, sperm count and the other usual suspects of too much female alien hormones running around.

Give them more time and they wipe out our gender while they give cancer to our women.

So xenoestrogens must be a battle front because they are really bad guys, but before you get ready for the alien invasion gathering cans and ammo, know this, they are here (you can say this with a creepy tone), they have invaded our planet already… And they are everywhere, so you can panic now.

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\textsuperscript{72} Magnesium effect on testosterone–SHBG association studied by a novel molecular chromatography approach. L. Excoffona, Y.C. Guillaume, a, , M.C. Woronoff-Lemsia and C. Andréa

\textsuperscript{73} Effect of Lepidium meyenii (Maca), a root with aphrodisiac and fertility-enhancing properties, on serum reproductive hormone levels in adult healthy men. G F Gonzales, A Córdova, K Vega, A Chung, A Villena and C Góñez

\textsuperscript{74} Lepidium meyenii (Maca) does not exert direct androgenic activities. Bogani P, Simonini F, Iriti M, Rossoni M, Faoro F, Poletti A, Vissoli F.
Worst part?

We “invited” them, in fact we created them, our modern society with their modern stuff, like plastic and chemicals, made this possible, because xenoestrogens come from there.

As we said too, it’s an issue not fully researched yet, but probably when the smoke clears it’s not going to be a good sight.

Ok, the fight is on, I get it, so what do we do?

Well, basically fill ourselves with antioxidants to counteract their cancer growing abilities (another reason to load our diet with tons of veggies and some fruit), read again the estrogen part and include in your diet antiestrogenic food and the best way to directly deal with them is to avoid those nasty bugs, which is, by the way, virtually impossible unless you live in a cave in the middle of nowhere.

But we can do things to minimize the exposure, and these are some guidelines.

Prepare yourself because you are going to go really caveman here.

1) Try to avoid parabens and phenoxyethanol.

First time I read this I thought, “ok, I don’t know what it is, but I don’t think I’m eating or using something with that funny name”.

Then I saw that parabens are present in almost every cosmetic product you can imagine, from shampoo to deodorant, mainly because it has antifungic and preservative properties.

“So no deodorant?”

Yeah, I know, why do you want more testosterone if every woman can smell you (and run) from twenty miles?

It seems that parabens have a very weak estrogenic effect and that concentrations found in products are not significant or they don’t even enter our body, but all of this is not clear and we are exposing ourselves to parabens constantly and everyday.

Some brands make paraben free deodorants and hygiene products, look for them or go no deodorant (and probably see your social life ruined, but you decide, I do it many times it’s not so hard if your hygiene is good…)

Take a look at your bathroom and start reading ingredients, you will see lots of words that end with paraben like methylparaben.

So first step is go natural in your hygiene, being metrosexual can help to become non sexual, better be a (showered) caveman.

2) Try to avoid plastic and use glass like our grandfathers.

Yeah, plastic, everything is plastic today and some components that may be present, like Bisphenol A or Phthalates (with those names you know they are the bad guys in the movie) are being banned or researched more because they are nasty little critters.
Especially avoid heated plastic, if you use your magnetron (it’s your microwave oven, but magnetron is a way cooler name, and real) use glass, plastics can transmit xenoestrogens to you water or food, especially when they are hot.

So, bye bye tupperware.

**3) Try to avoid perfumes.**

They use our phthalate friend, that can be found too in baby lotions and powders, most scents are petroleum based, go natural.

**4) If you can, go organic and grass-fed in your food.**

Organic food does not taste much better, it’s expensive and nutritionally-wise it’s the same than non-organic varieties, but pesticides, herbicides and the like are a big no no in our battle against xenoestrogens, they will go to your body and block your testosterone.

I like how, in this study for example, they show you that widely used pesticides had an unknown endocrine effect and when they studied them deeper anti-androgenic effects showed everywhere… but you know, they are widely used even when they had no idea of possible consequences when they started.

I can understand that some people is greedy and evil, and they try to hide information, but many times is plain and simple stupidity like in:

“We don’t know what this venom can do in our bodies, what do we do? Research about it?”

“No man, approve it so it becomes widely used”.

If you can not avoid it, at least wash well your veggies, you will lose some nutrients in some cases, but it will be a necessary sacrifice.

On the other hand animals are fed with estrogens to give more milk and eggs, so milk, eggs and meat from non grass-fed animals can be a source too. A downer, I know, no matter how hard you try it’s impossible to get it right, but we must do what we can.

**5) Prepare to be fried because you will be taking a look to sunscreen.**

It can contain benzophenone-3, homosalate, 4-methyl-benzylidene camphor and I’m going to stop because it’s getting depressing.

Solution instead of memorizing names and become blind reading ingredients written in those tiny fonts?

Again, go natural.

Sun is good for your testosterone as we saw, just don’t burn yourself thanks to the holes we are making in the atmosphere.

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My two cents? Be smart, don’t overexpose, put on you t-shirt, your cap after a reasonable time and you will be fine.

6) Use water filters.

I know this is becoming a paranoid survivalist adventure, and yes you are going to get a ton of funny looks from your friends when you go out “no deodorant” style and your filtered water bottle.

Personally I must say I don’t use this but I’m the messenger here, xenoestrogens can come from water through old copper pipes, for example.

7) Don’t use teflon pans.

Your non-stick cookware coated with Teflon can cause problems if heated too much, which is, well what we do constantly with them.

Try to use vintage pans (I know, they are a pain in the ass…).

8) Beware insecticides.

I know you are not going to shoot them in your face or spray your coffee, but I’m just saying.

My experience with this is start small, maybe finding a paraben free deodorant and 100% natural soap, stop putting tons of perfume except in some special event and use glass again, you can do those things right now and you will even save money.

From there you can escalate and buy some organic eggs or something like that, be smart in this battle and don’t lose your social circle becoming a paranoid with only a filtered water bottle as friend.

Lifestyle 5: sex and testosterone

Testosterone is one of the main pieces involved in sex drive, in fact many men start to worry about testosterone when things are not what they used to in that department (me being one of those), so I think it’s important to see how sex and testosterone levels are related, because we can learn a couple of things that will help us in our personal quest and, above all, we can ditch some myths.

Abstinence and testosterone

Do you think you can raise your levels abstaining until you explode?

Let’s take a look first at the relationship between ejaculation and testosterone. Normally when we are in a dry spell and we start growing watermelons between the legs we unleash with fury next time we have the chance to get laid, so it’s not crazy to think that maybe abstaining from sex will increase our hormone levels.

http://www.increase-testosterone.info
But it does not seem so, according to a Chinese study with 28 brave men testosterone levels don’t change very much during abstinence, but when the 7th day arrived there was a spike (145.7% more testosterone, which means a lot).

Don’t rejoice very much though, because the 8th there was a severe decrease, nullifying the effects of the previous day.

After that there were not significant changes in Testosterone levels.

There is a lack of studies about this issue, but it seems that abstinence is not a very good technique to increase testosterone, the 7th day trick is good, if you are a juggler and can use it for some purpose, but for a sustainable goal, abstinence is not the answer and certainly not very useful.

**Masturbation and testosterone**

What about the opposite trend? What happens to your testosterone if you masturbate frequently?

Well it seems that not very much, according this study.

I quote: “masturbation had no significant effect on plasma testosterone levels in seven subjects”.

I can hear the sighs of relief from here.

**Sexual intercourse, stimulation and testosterone**

According the same study quoted above: “testosterone levels in samples taken during and immediately after sexual intercourse were significantly higher than those found under resting conditions. A significant difference was not apparent between testosterone measurements taken before and after orgasm, and coitus did not appear to affect plasma luteinizing hormone levels”.

This means that when you are at it your body is wise and starts pumping testosterone to the battle front, if you are excited testosterone flows, it happens even if the stimulation is merely psychological, which is an elegant way of saying: “porn”.

You start watching the movie and you will see an average increase of 35% in testosterone, the maximum levels will be reached 60–90 minutes after the end of the film.

The control subjects that saw a neutral non sexual (and probably boring) film saw no increase, but most interestingly is that in another study (with similar results in the erotic and neutral films) the unfortunate group that saw an stressful film about dental surgery (yay, my favorite genre) experienced decreased levels.

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76 A research on the relationship between ejaculation and serum testosterone level in men. Jiang M, Xin J, Zou Q, Shen JW.

77 STUDIES ON THE RELATIONSHIP BETWEEN PLASMA TESTOSTERONE LEVELS AND HUMAN SEXUAL ACTIVITY. C. A. FOX, A. A. A. ISMAIL, D. N. LOVE, K. E. KIRKHAM and J. A. LORAINE

78 Psychosexual stimulation and plasma testosterone in man. Karl M. Pirke, Götz Kockott and Franz Dittmar

79 Changes in saliva testosterone after psychological stimulation in men. Dirk H. Hellhammer, Walter Hubert and Thomas Schürmeyer

[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
One more time stress is one of the worst enemies, so better we stop watching the news. Meanwhile sex is good, if you want higher levels do it, and much better if you practice it instead of just seeing.

According a curious study\textsuperscript{80} in one of the biggest sex clubs in the United States, samples were collected in men involved in sexual intercourse and observers of sex acts. Those who did it had significantly higher increases (72\%) than those who were mere voyeurs (11\%).

Conclusion?

Sex improves health and one of the main reasons is that testosterone production is stimulated\textsuperscript{81}. Do it as much as you can, life is short.

Lifestyle 6: better than Viagra, free and now with 0\% B.S.

If this title did not make you roll your eyes I don’t know what does it, but it’s true, really.

This is not a book about sex or erectile dysfunctions, I know, testosterone encompasses almost everything and is a key to general well being, but let’s be honest, many of you started to worry about testosterone because you saw that you were not the man you used to be in bed, especially in the erection department, that was my case too, because the other symptoms (lack of focus, passion and drive) were not related in my mind until I started to know more about testosterone.

The thing is, in that quest I stumbled upon a couple of studies that really made an impact, they claimed that something you can do in minutes, for free and while you are watching T.V., is as effective as Viagra to improve your erections.

What?

My bullshit detector goes wild with sentences like that, but there seems to be some legit claims and, above all, it costs nothing to try, no secondary effects and no big efforts, so in my books that is much better.

That “miraculous” something are pelvic floor exercises a.k.a. Kegel exercises.

Those exercises were aimed mainly to women that recently had a child.

It does not seem so manly after all, but you know, evacuating a human being between the legs is a feat that leaves some consequences, one of them is that the pelvic muscles get a little loose and it

\textsuperscript{80} Salivary Testosterone Levels in Men at a U.S. Sex Club. Escasa MJ, Casey JF, Gray PB.

\textsuperscript{81} Is sex just fun? How sexual activity improves health. Jannini EA, Fisher WA, Bitzer J, McMahon CG.
can lead to some urine incontinence, so those exercises were aimed to strengthen those muscles and avoid leakages.

But, so it seems, they help with erectile disfunction too. A lot.

In a study with 55 men that had erectile disfunction, Kegel exercises were prescribed and these were the results: after 3 months they performed better than the control group and after 6 months, were definite results were collected, 40% of them had regained normal erectile function, 35,5% of them improved, and 24,5% didn’t show better results.

Now, erectile disfunction can be caused by a lot of things, in this case 75,5% of those who tried Kegel got better, I think this is wonderful because it’s a long term solution and it’s a natural thing, you won’t depend on an expensive pill with side effects whose overall success is… 70%.

So I don’t know about you, but count me in.

That study is not alone, Dr. Frank Sommer (you can search for it) made tests with Kegel, viagra and placebo. 124 men were divided into three groups. When collecting results, the winner was the Kegel group, with 80% of positive results, followed by the viagra group (74%) and finally the poor placebo group (18%).

It always amaze me that in these studies the placebo group, that believes some kind of medicine that works is being administered, gets better even when they are taking glucose capsules.

The thing is, it seems to work, and it’s much better than Viagra (no side effects, no costs, always ready to work without having some pill at hand…) why it’s not recommended instead (or with) the blue pill is a mystery for me, but as always I have faith in the strong ethics of mega-corporations (if mega-corporations don’t care about us, who is going to do it?) So the reason must be something else (and yes that was again sarcasm).

I know what you are thinking, how it’s done.

There is a lot of information in the Internet, and even Dr. Sommer has a book about you can take a look (search for Vigorrobic), but I will tell you exactly what and how they did it in the first study, because it’s the scientific approach that gave results.

I quote:

“The pelvic floor exercises were taught by a skilled physiotherapist who instructed the men to tighten their pelvic floor muscles as strongly as possible (as if to prevent flatus from escaping), to gain muscle hypertrophy.”

“During pelvic floor muscle training attention was placed on the ability to retract the penis and lift the scrotum, to make sure the bulbocavernosus and ischiocavernosus muscles were working strongly. Emphasis was placed on gaining a few maximum contractions (three when lying, three sitting, and

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82 Pelvic floor exercises for erectile dysfunction. GRACE DOREY, MARK J. SPEAKMAN, ROGER C.L. FENELEY, ANNETTE SWINKELS and CHRISTOPHER D.R. DUNN. The Somerset Nuffield Hospital, Taunton, and University of the West of England, Bristol, U
three standing) twice daily rather than prolonged repetitions. Some submaximal pelvic floor work was advised while walking, to increase muscle endurance. Men were also taught to tighten their pelvic floor muscles strongly after voiding urine whilst still poised over the toilet, as a way of working the bulbocavernosus muscle to eliminate the urine from the bulbar urethra.”

So there you have it, that’s exactly the natural method that worked.

And if you want to go deeper, Dr. Sommer recommends “core training” (i.e. Abs exercises, but not only abs, but all the core muscles in your body below the chest). It seems to be as effective as Kegel, but, of course, if you are exercising because you are now a man with high testosterone, you can do both and reap all the rewards, search for core exercises when creating your routine.

By the way, Dr. Sommer studied cycling and it does not seem the best sport for our best buddy. Just saying.

Lifestyle 7: hacking relaxation

Let’s remember this: if cortisol goes up, testosterone goes down. And cortisol goes up when we are stressed, a situation that, last time I checked this crazy life we live, was almost present all the time.

In the first part the answer to this was: Relax.

I know, much easier said than done.

We are men, and probably we are busy, so the idea of meditating with our legs crossed and our eyes closed is not very seductive, I get it. Personally I do it, and it’s an enjoyable experience, but I get it, we want it all, we want it now and we don’t want frustration and discipline.

When you are speaking about relaxation, things like fast, easy and lack of discipline don’t fit well, but there is hope for us, modern cavemen, hope that comes from some strange terms.

Binaural beats and isochronic tones.

I think we should spend free days and quality time with those we love in nice places, but if we want to relax, we don’t have much time and we don’t want to become eastern monks, binaural beats can hack our way towards relaxation and bliss.

And no, this is not new age “hocus pocus”, this is science, as always in these pages.

Binaural beats are apparent sounds that are played through headphones, the trick is this: every headphone plays the tone in a different frequency, for example the left headphone plays 200Hz and the right headphone plays 250Hz. In this case the binaural beat would have a 50Hz frequency.

Yeah? Great. So what?

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Well, with this auditory trick we can induce what’s called Brainwave entrainment or brainwave synchronization, meaning that when our brain is trying to make sense of the different frequencies that is receiving in each ear, he tunes with the frequency of the binaural beat.

In case you don’t know our brain emits waves.

Gamma waves, for example, are those above 40Hz and are linked to problem solving, alertness, etc. But if the wave is between 7-13Hz it’s called and Alpha wave and it’s the frequency of our brain when it’s calmly relaxed in front of the ocean.

Basically with binaural beats we have a way to tune our brains in the desired frequency, just like a radio and without years of training in the Himalaya Mountains.

Cool hah?

This is not new, binaural beats are known since 1839, but nowadays we are starting to see how practical this effect can be.

First time I saw this I thought it was another lazy system for credulous people that would not work, you can not push a button and manage your brain like your laptop. But it seems I was wrong.

Some studies are showing that they can really be used to improve performance and mood\textsuperscript{83}, and this pilot study\textsuperscript{84} concluded that there is truth that deserve to be explored further.

I’ve used them, and I don’t know how much placebo effect was involved, but they seem to work well. It’s a weird sound that can be played in the background of songs, soothing melodies or nature noises (mainly because some people can’t stand very well a binaural beat playing by itself, personally I have no problem).

If you search for free binaural beats in the Internet you can find mp3 files for almost every mood you need, because they are made in almost every frequency you will want.

Of course our main goal is relaxation, but eventually I use some others to focus on my work, for example.

There are commercial products too, or even smartphone apps (some free, some paid), but the main point here is that you can relax pushing a button and without painful yoga positions.

You will only need some of those downloaded sounds, something to play them and headphones (the effect is lost without headphones, the left and right ear must receive different frequencies).

Another alternative to trigger Brainwave Entrainment are the isochronic tones, regular beats of a single tone similar to monaural beats.

\textsuperscript{83} Binaural Auditory Beats Affect Vigilance Performance and Mood. James D. Lane Stefan J. Kasian Justine E. Owens and Gail R. Marsh

\textsuperscript{84} Binaural beat technology in humans: a pilot study to assess psychologic and physiologic effects. Wahbeh H, Calabrese C, Zwickey H.

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One of the main advantages over binaural beats is that the interference pattern that produces the beat is outside the brain so you don’t need headphones for synchronization to be effective.

Like with binaural beats you can search and download these tones.

It’s more difficult to find studies about these tones, in general this is a field that needs more research, but it is demonstrated that isochronic tones can trigger brainwave entrainment and that Brainwave Entrainment is a promising technique to get positive results as you can see in this review study\(^85\), so in my books it’s worth a try.

In fact it’s pressing a button, it can not get better than that.

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**Lifestyle 8: hacking exercise, maximum results in less time according to science**

As I told you I’m not an expert in exercise and, as always, consult a physician before starting any sport activity.

As said in the first part I practice MMA as a hobby, some resistance training and general physical conditioning, mainly aimed to perform better in my sport, but the same principle of seeing by myself what was true and what’s myth in the exercise department has given me some advantages and, above all, allowed me to ditch harmful and useless fitness advice (i.e. Running forever is what makes you thin and “cardio” ready).

For the purposes of this book we will want these goals with exercise:

1. **Contribute to lose weight excess and body fat.**

Diet is our main ally here and we must get it right to see results, but exercise helps too.

Remember, if you want to be a warrior you will have to look like one.

2. **Directly optimize testosterone.**

As we saw some kinds of exercise like weight lifting do that, but above all I think it’s more important not to hinder our efforts with widespread exercise “wisdom” that will destroy our hormone levels.

In fact it’s easy to overtrain and destroy our testosterone, so smart exercise is what directly optimizes testosterone.

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\(^{85}\) _A COMPREHENSIVE REVIEW OF THE PSYCHOLOGICAL EFFECTS OF BRAINWAVE ENTRAINMENT_  
Tina L Huang; Christine Charyton Alternative Therapies in Health and Medicine; Sep/Oct 2008  
[http://www.increase-testosterone.info](http://www.increase-testosterone.info)
3.- **Improve our moods and psychological state, reducing our stress.**

It has been widely demonstrated that some exercise and sport activities do both things, here is one example with Tai chi[86], but there are tons of supporting evidence.

If you kill yourself with some boring activity that you don’t enjoy, and feel forced because summer is there and you have to lose weight, you will get the opposite effects, and as you saw stress, exhaustion and testosterone don’t mesh well.

But if you choose an activity you enjoy and you can consider “play” instead of torture, you will have very good psychological effects that will allow you to feel better and improve testosterone in the process, because you will sleep well, feel fantastic and be more relaxed.

4.- **Improve confidence and self-image.**

We are physical beings, if our body is right and looks right, we feel better and if you don’t see how self-image or confidence fit in the testosterone equation wait for the critical part regarding mind and psychology, your jaw will be dropped.

Exercise will help to give you that confidence and better self-image, resistance training will improve your posture and muscles, and you will be working the body-mind feedback mechanism toward healthy levels of testosterone (don’t worry we will soon see that in detail).

5.- **Improve general physical well being and cardiac health.**

Those two things are related with testosterone and sex performance (don’t lie, you are here because of that).

Cardiovascular health and testosterone have a long and strong relationship, in fact testosterone can inhibit male atherosclerosis[87], relaxes arteries[88] and aorta[89] and according angiographies, the lower the testosterone, the larger the extent of heart disease[90] (more proof here[91]).

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[86] The Effects of Tai Chi Chuan Relaxation and Exercise on Stress Responses and Well-Being: An Overview of Research. Erica S. Sandlund and Torsten Norlander


http://www.increase-testosterone.info
On the other hand in men aged 26-40 years with a history of heart attack, plasma levels of DHEA are significantly decreased. Tons and tons of evidence show that cardiac wellness and our favorite hormone are interlaced, so we will want to keep that relationship healthy, seeing benefits in both sides of the equation, thanks to smart and good physical activity.

In order to achieve those goals these are the best hacks in exercise according to science and my own humble experience, some of them are not very widespread, even more, they will go against traditional "wisdom" (a good thing by the way) but check them out, they really work and they are scientifically proven.

**High Intensity Interval Training (HIIT)**

Forget long boring cardio training, you can do only four minutes of exercise instead (no kidding) and increase more your aerobic and anaerobic capabilities, improving your whole cardiovascular state. With HIIT you have the best of both worlds and it’s a superior way of training, because not only you won’t develop a bit your anaerobic performance with traditional cardio (not even if you jog forever) but HIIT increases the Resting Metabolic Rate during the next 24 hours, what means that you will be burning more calories after a brief HIIT session than if you run endlessly for hours. By the way weight training has a similar effect regarding metabolism activation after exercise.

High Intensity Interval training has been found more effective in weight and fat loss, and in fact this study points to more effectiveness to reduce obesity in long treatments due to greater HADH activity in the HIIT group (HADH activity suggests an increased fatty acid oxidation potential within the muscle).

So yes, once again traditional wisdom is wrong and we are wasting a lot of time without obtaining more benefit.

**Meet Izumi Tabata**

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And four minutes was no exaggeration, one of the classical HIIT exercises is the Tabata Protocol, where you do 20 seconds of ultra-intense exercise followed by 10 seconds of rest, you repeat that exercise/rest pattern 8 times, so if you do the math you finish a Tabata protocol after 4 minutes.

The thing is, during the 20 seconds of exercise you must give all that you can, and I mean all. They are only 4 minutes, but they call it 4 “minutes in hell”, and it’s true, I do it and when you adequately perform this method you can not even talk during the 10 seconds pauses (if you can, you are not pushing hard enough in the 20 seconds intervals).

With Tabata you will think you have invented time travel too, because seconds don’t pass, they laugh while pointing at your distorted face of suffering.

This method comes from the studies\textsuperscript{97} of Izumi Tabata, that used this protocol to train the Japanese olympic speed skating team.

The group trained four times a week with this protocol and they did a normal day of steady-state training, another group was doing their normal routine of five days with steady-state training.

Results? Both groups reached similar levels of conditioning, in fact the Tabata group started from a lower point so they gained more and they were the only group to develop the anaerobic capabilities.

It’s easy to imagine the faces of the other teammates when the Tabata group arrived, did 4 minutes and they packed to go home.

Tabata used stationary bikes and the 20 seconds had to be done hard, I mean, they were olympic athletes and most of them, in the fourth round, were exhausted, so if you are smiling after the first round you are not doing it well, you won’t obtain miracles from four minutes if you don’t give it all.

If you don’t have a bike, don’t worry, you can do sprints, hit a heavy bag as fast as you can (I do that) or if you don’t have space, a bag, etc, I humbly recommend an exercise called “Mountain climbers” (search some video in the Internet), that is quite well known in MMA conditioning, it’s easy to do in a confined space and it fits perfectly with Tabata.

Some people uses dumbells or do resistance exercises in those 20 seconds, personally I think it’s crazy, because you don’t have to focus on technique here, you have to do explosive motions, as many and as fast as you can, so those movements will be rabid and clumsy, you want to do it fast not focusing on technique or any other thing. Very fast crazy movements and weights are a recipe for disaster and injuries.

**Little Method**

The other well known HIIT protocol is the Little Method, where you do intense exercise during 60 seconds (not as intense as Tabata) and 75 seconds of rest.

This cycle is repeated between 8-12 times, depending of your conditioning, but as you can see in about 20 minutes (8 minutes of real exercise) you are finished.

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According to the Little’s study, individuals training this way three times a week, obtained similar gains to what you expect from five hours a week of steady-state training, so you do about 24 minutes a week of effective exercise and you obtain the same that with 5 hours of running, plus improved anaerobic capabilities (useful when you have to run from you father’s girlfriend) and minus the wear and tear of the joints that affect endurance runners and make even climb a stair a painful experience when they reach their middle age.

Oh, and without the testosterone lowering effects of long endurance training, let’s not forget the purpose of these pages.

Look for Tabata and Little in the web and apply it.

One last important note. One of the worst things we can do, testosterone-wise, is combining intense training with long periods of time.

Our sprints or conditioning exercises must be short, not only we reap the rewards without killing ourselves, but if we do long and intense running (for example) our testosterone levels will suffer even more that if we run at a moderate pace for extended periods of time. More is not better in this case.

One of the main points of exercise is that it must be fun for you, it must feel like play, in this way you will stick to it, you will reap the physical rewards and you will reap the psychological rewards, everything pushing in the same direction, a healthy hormonal balance.

So there is no need to burn your gym membership (you will need it for your resistance training) or do other activities if you enjoy walking, jogging or running, in order to optimize results and reduce unnecessary pain and testosterone, here you have some of the best exercise hacks you can apply, as always scientifically proven.

I discovered them researching this paper and I must tell you, they work, they are easy but they are virtually unknown.

1.- Walk uphill if you want to burn more energy.

You can reduce the speed of your training and burn more fat if you do it in an upward inclination, you can do it outside climbing a hill or you can adjust your treadmill, elliptical machine, etc.

In this study they discovered that:

“Walking at the slower speed of 33.3 m / min at a higher grade of 30% is effective as much as the level running at 116.6 m / min, and more effective than brisk level walking at 91.7 m.min to improve cardiorespiratory fitness”.


99 Plasma cortisol, androstenedione, testosterone and luteinizing hormone in running exercise of different intensities. K. Kuoppasalmi, H. Näveri, M. Härkönen and H. Adlercreutz

100 Influence of higher-grade walking on metabolic demands in young untrained Japanese women. Hasegawa H, Inui F.
They did it with untrained women, but it works with everybody. In fact there is some kind of formula to calculate how many more calories you burn adding inclination to your training (you can search for it in the web), but it seems, as seen in this other study\textsuperscript{101}, that it’s not so linear and direct, in fact it can be even better.

Outdoor running is most optimal than flat treadmill running, but you can easily mimic outdoor exercise with a mere 1\% incline in your treadmill, as you can see in this experiment\textsuperscript{102}.

\textbf{2.- Walk backwards}

Let’s keep freaking out other people in the gym. After setting you machine almost vertical, now you will do your walking backwards.

I quote this interesting study\textsuperscript{103}:

“Backward walking on a treadmill at 67.0 m/min (2.5 mph) and grades of 5\%, 7.5\%, and 10\% elicits a greater percent \(\text{HR(max)}\) and percent \(\text{VO2(max)}\) than does forward walking under the same conditions and, if incorporated into sustained training regimens, would be expected to improve aerobic endurance”.

And now the icing of the cake.

\textbf{3.- Use your arms and you will burn 55\% more.}

Have you seen those machines that allow you to exercise arms when you are running or walking? Use them.

According this other study\textsuperscript{104}: “using the arms while walking on a dual action treadmill increases the energy costs an average of 55\% above normal walking”.

\textbf{4.- Walking is most optimal than jogging.}

I swear I see some people jogging at a pace that is even slower than their walking speed, really.

And it happens that: “walking at speeds \(\geq 8.0\ \text{km/hr}\) resulted in rates of energy expenditure that were as high or higher than jogging at the same speeds. Also, the higher rates of energy expenditure during walking as compared to jogging at speeds greater than 8.0 \text{km/hr}\) were associated with higher heart rates, RER, RPE and plasma lactate response”\textsuperscript{105}.

\textbf{5.- Running is most optimal than cycling to burn fat.}

\textsuperscript{101} Energy cost of walking and running at extreme uphill and downhill slopes. Alberto E. Minetti, Christian Moia, Giulio S. Roi, Davide Susta, and Guido Ferretti

\textsuperscript{102} A 1\% treadmill grade most accurately reflects the energetic cost of outdoor running. Jones AM, Doust JH

\textsuperscript{103} The effects of graded forward and backward walking on heart rate and oxygen consumption. Hooper TL, Dunn DM, Props JE, Bruce BA, Sawyer SF, Daniel JA.

\textsuperscript{104} Energy costs of walking on a dual-action treadmill in men and women. Butts NK, Knox KM, Foley TS.

\textsuperscript{105} Energy expenditure during walking and jogging. Greiwe JS, Kohrt WM.

\url{http://www.increase-testosterone.info}
Running will spend more energy than walking, obviously, but it happens that the same intensity in exercises does not yield the same results in fat oxidation if you run or if you use a bike.

Running is most optimal than cycling for fat burning\(^{106}\), something proven in kids too\(^{107}\) so if you are going to kill yourself do it running and you will leave a thinner corpse.

6.- Listen to music

I can tell you first hand that if you are going to enter the (brief) hell of intense training, time will distort and the stopwatch will seem like the nastiest asshole you have met, due to its habit of not counting seconds while you are in your HIIT routine.

Your mind will try to trick you and slow the pace, not giving it all and not reaping the rewards, but it happens that you can counteract the effect, and if you use fast paced music you will perform better\(^{108}\).

In my humble experience my rounds skipping rope (another typical boxing/MMA exercise, a very good one by the way, and very manly no matter what you think) can be endless if done in silence or fly fast with some good music, but it has to be music you really like in order to get the time distortion benefit\(^{109}\).

Lifestyle 9: hacking sleep

If we want high testosterone we need to sleep well, this is one of the critical components in our strategy and we touched it briefly when we spoke about relaxation, but it goes beyond mere relaxation.

It’s so important in itself that it deserves to be explained better and, above all, take a look at what works to really sleep well and sound.

To make testosterone you need deep sleep, do you remember the study with soldiers and low calorie diets?

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\(^{106}\) Higher fat oxidation in running than cycling at the same exercise intensities. Capostagno B, Bosch A.

\(^{107}\) Comparison of fat oxidation over a range of intensities during treadmill and cycling exercise in children. Zakrzewski JK, Tolfrey K.

\(^{108}\) Effects of music tempo upon submaximal cycling performance. Waterhouse J, Hudson P, Edwards B.

\(^{109}\) The effects of music on time perception and performance of a driving game. Cassidy GG, Macdonald RA.

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Another similar study\textsuperscript{110} was made with Norwegian recruits, where they took a low calorie diet, they had to do hard physical activities and, besides that, they were much more severely sleep deprived (1-3 hours of sleep) to make their lives a little more miserable.

The toll in their testosterone levels was much greater than in the other study we referenced here: between 60\% - 80\% of testosterone said goodbye during that hell of a “training course”.

And that’s not only because high cortisol levels (due to lack of sleep) interact with testosterone, but because testosterone is made when you sleep, in fact: “peaks of testosterone occurred in conjunction with or adjacent to periods of REM sleep”\textsuperscript{111}.

To explain this further I quote another research paper:

“Fragmented sleep resulted in a significant delay in testosterone rise […] During fragmented sleep, nocturnal testosterone rise was observed only in subjects who showed REM episodes. Our findings indicate that the sleep-related rise in serum testosterone levels is linked with the appearance of first REM sleep. Fragmented sleep disrupted the testosterone rhythm with a considerable attenuation of the nocturnal rise only in subjects who did not show REM sleep”\textsuperscript{112}.

So if you wake up frequently (because of stress or apnea for example), can’t sleep deeply or don’t give enough time to your body to enter REM phases, not only cortisol appears as a player, but the very manufacturing mechanism of your testosterone is messed up.

To make matters worse, lack of good sleep is a key factor in insulin resistance\textsuperscript{113} and diabetes, two of the supervillains in our testosterone movie.

In fact it’s a risk factor of overweight and metabolic syndrome\textsuperscript{114}, because not only affects the glucose metabolism, but the appetite and the energy expenditure are altered too, and not in a good way. So yes, sleep well and you will get thinner.

Don’t take this lightly because just one night\textsuperscript{115} of partial sleep deprivation induces insulin resistance even in healthy people.

\begin{thebibliography}{99}
\bibitem{110} Androgenic hormones during prolonged physical stress, sleep, and energy deficiency. PK Opstad. Norwegian Defence Research Establishment, Division for Environmental Toxicology, Kjeller.
\bibitem{112} Disruption of the Nocturnal Testosterone Rhythm by Sleep Fragmentation in Normal Men. Rafael Luboshitzky, Ziva Zabari, Zilla Shen-Orr, Paula Herer and Peretz Lavie
\bibitem{113} Sleep loss: a novel risk factor for insulin resistance and Type 2 diabetes. Karine Spiegel, Kristen Knutson, Rachel Leproult, Esra Tasali, and Eve Van Cauter
\bibitem{114} The metabolic consequences of sleep deprivation. Kristen L. Knutsona, Karine Spiegelb, Plamen Peneva, Eve Van Cauter

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Ok, sleeping is a game changer in every front we are fighting, so how can we do it so deep that our carefree snoring shakes the foundations of our house?

Well, one of the keys is our lifestyle.

If we hate our jobs, we live stressed, we don’t have a clear conscience or we worry too much about unimportant things (you will recognize them because they are those who won’t matter when you are in your deathbed, and that encompasses almost anything we worry), we won’t have consistent good nights, no matter how well we master the next techniques.

If we fix our lifestyle and live more fulfilled days many of our sleep problems will be gone, but to master the art of sleeping I have to introduce to our new german friend: Zeitgeber.

Zeitgeber means “time giver” or “synchronizer” and it’s any external cue which synchronizes our inner clock, that goes with the natural 24 hours cycle with dark and light phases.

So a zeitgeber is anything that can influence that inner clock: the most powerful zeitgeber known to every being in this planet is light, of course. Observe animals in their natural environment, light (or lack of) is the main influencer of their activity and sleep cycles.

Other zeitgebers are food, social interactions or temperature (next time a hot summer won’t let you sleep you can raise you clenched fist and curse the damn zeitgeber for not letting you sleep, you will be still awake and your wife will think about divorcing, but at least you will point fingers in the right direction).

The thing is, in the same way a hot night does not let us sleep, if we don’t have good sleep we can use zeitgebers to our advantage.

Some classic advice is right: no caffeine, no big meals prior to bed, total darkness, good temperature, don’t activate yourself with stressful or demanding activities before bed (that’s another zeitgeber, or cue that says to your body it needs to be awake), the casual relaxing herbal tea, using bed only for sleep and sex, comfortable bedding, etc.

I don’t have many problems in the sleep department, but these are the best “hacks” that give me good restorative sleep.

1.- Going to sleep and waking up at the same time every day.

One of the main points to make this effective is doing it the weekends too, I know it’s not easy if you have a social life and go out at night, but try.

Eating your meals at the same time during the day is important too, you are giving your body zeitgebers with food, so if you delay supper, your body follows the clue and may delay sleep.

2.- Prepare my task list the day before.

I had a very unproductive habit, I jotted down my job tasks first thing in the morning, I woke up and I was in the bathroom thinking about what I had to do that day, many times you go home and you have in your head the next day duties, and that’s a bad thing, you use mental strength to remember that

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when it’s much better give them closure jotting down everything in a paper, agenda, organizer software or whatever system you use to your productivity.

Emptying my head and noting everything in some place I know I can trust and I won’t forget allowed my head to rest and sleep well, without some important rogue thought wandering. When you finish your day job give closure to the next day tasks writing them, make that the final habit before you finish instead of doing it first thing in the morning.

3.- Meditate.

When I had problems to sleep I meditated, lying in my bed, and soon after that I finally slept and I had the best restorative nights (many times I fell asleep before ending my meditation).

I still do it now when I don’t fall asleep fast and it seems science back up that technique.

Cancer patients (who have sleep trouble as a side effect of the treatments) reduced significantly their sleep problems with Mindfulness meditation\(^\text{116}\), yoga helped to chronic insomniacs\(^\text{117}\) and mixing mindfulness meditation with cognitive-behavior therapy also gave good results\(^\text{118}\).

Meditation reduces arousal and improves sleep, it’s scientifically sound and I can personally swear by this.

If you don’t meditate, fine, remember what was said in the “hacking relaxation” section, push the button and use it to your advantage here.

4.- A little snack prior to bed.

Tim Ferriss comments in his web about this technique. Eating 150-250 calories of low glycemic food (food that you will have in your house if you follow the diet) can help with morning fatigue or headache due to poor sleep.

These symptoms can be triggered by low blood sugar due to overnight fasting. Personally I don’t experience that but I heard it gives good results to some.

\(^{116}\) Impact of mindfulness-based stress reduction (MBSR) on sleep, mood, stress and fatigue symptoms in cancer outpatients. Linda E. Carlson and Sheila N. Garland

\(^{117}\) Treatment of Chronic Insomnia with Yoga: A Preliminary Study with Sleep–Wake Diaries. Sat Bir S. Khalsa

\(^{118}\) Combining Mindfulness Meditation with Cognitive-Behavior Therapy for Insomnia: A Treatment-Development Study. Jason C. Onga, Shauna L. Shapiro and Rachel Manberc

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The fascinating (and unknown) link between mind and testosterone

Prepare yourself, we enter in one of the most fascinating things about testosterone... and apply what you will learn here, you will have more hormone levels and a more fulfilling life, so ignore this at your own risk.

There is a bond between mind and testosterone and it goes beyond the relationship with stress and cortisol.

Yes, some other very interesting psychological links have been studied and scientifically verified, and it does not have to do with visualizing yourself being a stud or some other self help nonsense.

We will see a complex relationship between our psychological mechanisms and the hormone, but they can be summed in one thing:

Become an alpha male and you will have more testosterone.

Normally you would think that those with high testosterone end being the alpha males of their “packs”, and usually that's true. But as we will see it can be a two way street, what means that if we start developing some alpha male traits our testosterone will rise.

Beware, times have changed, we don’t become dominant in the tribe hitting everybody with a club until they recognize us as their king, but we can work in other characteristics that don’t mean jail time and will give us a more satisfactory life in the process.

In fact, nowadays, being the leader of the pack is accomplished through social intelligence, true leadership (meaning they want to follow because they feel better around us, and not because of coercion), charisma and, of course, hustle.

Let’s see what attributes we must develop to optimize testosterone.

**Alpha Male Trait 1.- Be in the company of attractive women**

If beautiful girls are around us our testosterone level increases\(^\text{119}\), but beware again, you are more prone to take physical risks, trying to impress them walking with your hands and not backing down from the challenge of that 7 foot guy with muscles like bricks.

Another caveat, we will be even dumber when we talk with them, yes, that seems impossible but it’s true.

\(^{119}\) The Presence of an Attractive Woman Elevates Testosterone and Physical Risk Taking in Young Men
Richard Ronay and William von Hippel

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Psychologist Dr George Fieldman, a member of the British Psychological Society, says that it reflects the fact that men are programmed to think about ways to pass on their genes, so:

“When a man meets a pretty woman, he is what we call reproductively focused”, two nice words to say that we can not think about other things that don’t include one bed and lots of sweat.

You will take more time to solve problems and do intellectual things too if a women is there, but I’m sure that many of us will think that this IQ castration is not a problem at all, so maybe joining (and going to) that gym full of hot women is not a bad idea.

Alpha Male Trait 2. - Win

Studies have shown that during competitive activities, like judo\textsuperscript{120}, wrestling\textsuperscript{121} or tennis\textsuperscript{122}, winners showed raised testosterone, meanwhile losers had lower levels.

Winning is good for your testosterone, and some very intricate and fascinating conclusions can be achieved from these and other studies about competing, winning, general social status and testosterone, because yes, status and dominance have to do with your levels.

Bear with me a little, and you will find very interesting facts that we can use to optimize our hormones.

In those competitions individuals with previous high Testosterone were more prone to win (in the end, more testosterone means more athletic capabilities so that's not a surprise) and everybody experimented increased levels of the hormone prior to competition, again a normal response, if you are going to compete your body increases our testosterone along with cortisol (we can see how wise is our body here, this is a situation where even antagonist hormones rose together because of the imminent struggle).

Here comes the very fascinating fact, those who had a better image of themselves (i.e. Those who thought they won because they were good and not because the referee helped them or the other guy tripped with himself, for example), experimented higher levels and kept their testosterone higher during seasons and prior to next bouts.

This gives us another piece of the puzzle:

If you have a high self-esteem and you believe you are good, then your testosterone will be higher.

Meanwhile if you don’t believe in yourself and you think your victory was a fluke or you think you won’t replicate that in your next competition, your testosterone will be lower.

We will wrap all this up nicely, but here is another fancy term to say in your next dinner and believe you are the king of the wisdom (when everybody else is bored to tears): “implicit power motive.”

\textsuperscript{120} Effects of competition and its outcome on serum testosterone, cortisol and prolactin. Suay F, Salvador A, González-Bono E, Sanchis C, Martínez M, Martínez-Sanchis S, Simón VM, Montoro JB.


\textsuperscript{122} Testosterone, and winning and losing in human competition. Booth A, Shelley G, Mazur A, Tharp G, Kittok R.
Implicit power motive is the “non-conscious disposition to experience having impact on others as rewarding”, in layman terms it means that you feel rewarded if what you do has influence in others, dominating them.

There are two kinds of power motive: personalized and socialized.

Individuals with highly personalized implicit power motive receive reward from asserting direct dominance over other people (e.g. You are one of the judokas or wrestlers in the study and you win, directly asserting your dominance of the other guy who lost and is screaming in pain while you are grinning).

On the other hand those with highly socialized implicit power motive receive reward from having impact through social means (e.g. A rock star that influences people, many of them remotely and without even knowing it, using his talent, instead of making everybody tap with your submissions one by one).

Ok, why is this important?

According the fascinating studies of Oliver Schulteiss\(^{123}\), those who had a high personalized implicit power motive (i.e. You are competitive and you like to assert your dominance directly to other people) increase their testosterone levels when they win something (and they learn more too about the activity, so in the next test or competition they are likely to perform better).

Meanwhile those persons with highly socialized implicit power motive (the artist archetype) didn’t have much effect in their testosterone levels when winning (nor they learnt better from the experience).

So all this means that your self image and your personality type influence your testosterone levels.

You will have higher levels if you believe in yourself, you are one of those who like competition and you win in what you try to do.

Last time I checked that sounded like an alpha male to me.

Ok, I hear you.

What if you are one of those shy nice guys that don’t punch other people in the face for fun, or don’t drive in fast and furious car races?

It does not matter. Really, this is having an influence too whether you like or not.

Because surprisingly, winning even a chess game increases testosterone\(^{124}\), so you don’t have to leave your taxidermy classes and sign with the UFC, it’s a way of life and a way of being that applies to almost everything.

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\(^{124}\) Testosterone and Chess Competition. Allan Mazur, Alan Booth and James M. Dabbs Jr. Social Psychology Quarterly

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What’s more important, you don’t even have to win yourself, fans of winning sport teams saw their testosterone levels raised and guess what happened to fans of the losing teams?

Yes, they experienced lower levels after the defeat of their team.

One fast tip, if you want to win more try to use the home advantage, everybody knows that there is some kind of advantage when they play at home.

Well, that’s not some unknown mystery, it’s related to territoriality and how it increases testosterone because the teams that play at home have higher levels of testosterone than teams playing away, and going beyond, when teams play against an “extreme” rival instead of a “moderate” rival, testosterone levels are higher too.

You can use this to your advantage. If you “play” in familiar territory (in a competitive game, negotiation, etc) you will have an edge because your testosterone will rise more, and if you are competing against your main nemesis that stole your high school sweetheart, instead of going against that cool dude that bought you a drink, your testosterone will come to help you knock the asshole that you can’t stand.

These studies about mind, winning, losing and testosterone reinforce the new and important field that deals with psychology, status in a group and testosterone, something that puts on the table the next step in our alpha male quest.

Trait 3.- Have a high social status.

This does not necessarily mean that you become the next president of your country, but humans are meant to live in groups, and there is always an implicit rank in every group of people, always.

You can tell who is the leader (or leaders, self appointed or not) in every bunch of friends that you see next time you hang out in a venue.

It’s unavoidable and not a bad thing, we are what we are, someone is always the one who talks more, decides where to go or what to do most of the time, and some others are those who always follow, talk less, laugh at the jokes of others…

When you are in your group and you lead them (deciding what to do this weekend, for example) you are asserting your dominance directly (don’t misread this and use submission maneuvers to go to the beach, or you won’t have a group next weekend), you have then an implicit high social status, and this comes with some interesting consequences.

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125 Testosterone changes during vicarious experiences of winning and losing among fans at sporting events Paul C. Bernhardt, James M. Dabbs Jr, Julie A. Fielden and Candice D. Lutter

126 Primal Urge to Protect Home Turf Might Be a Factor When Athletes Play Home Games. By Miranda Hitti

127 Testosterone, territoriality, and the ‘home advantage’. Nick Neave, and Sandy Wolfson

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According to the works of Newman, Sellers and others\textsuperscript{128} individuals with high testosterone are more sensitive to social status than those with lower levels (i.e. High testosterone individuals are worried about the status and those who follow don’t care so much).

When the higher testosterone people see that their social status is recognized, they gain more testosterone from winning and doing things right as we saw (it’s a constant feedback mechanism), but if they are “demoted” to a low social status they perform worse in cognitive tests.

This means that if you have high testosterone but you are in a group where you are the “omega male” (for example you just joined a martial arts gym and you have the least knowledge of the pack, or you perform a cognitive test where you are clearly the bottom feeder in your group, because the researchers stated it clearly as in the study referenced) your high testosterone is a problem and you will perform worse in the tasks that if you had lower testosterone.

So low status in a group is no good for you if you have high levels of hormone.

Another interesting point is that when the individuals were given the opportunity to significantly improve their status through a cognitive test, those who had high testosterone performed better, in this case testosterone helped because there is a great opportunity to jump ahead of the pack and become the alpha.

Let’s wrap all of this again:

With high testosterone you will be more prone to be an alpha male, but you become more sensitive to your social status too, if for some reason you lose your rank, or you are in a group where you are not the alpha you will perform worse and will be generally dumber and clumsier, except for those challenges that will allow you to recover or gain your alpha male status.

Then your testosterone will help you again and you will rise to the occasion.

Of course these tests must not imply verbal fitness, if we have high testosterone our better words will be grunts and growls, especially when we talk to attractive women, but you have seen that in yourself before so it’s no surprise.

Ok, this is fine and dandy, you may think, because this happens to high testosterone people, but I’m not there so all these things bored me to tears, don’t even apply to me and is not even useful.

Wrong my friend.

If you think so, think again, because maybe you are now a low testosterone guy but you will likely increase it following these pages so you will become more sensitive to the psychological implications laid here, meaning that when you start increasing your testosterone your well being (physical and psychological) will give you better self image and optimism (I can personally assure you that), you will feel more capable of doing things, you will start more projects due to motivation and you will take more risks, and if you are getting some wins and reach some goals you will be activating the


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psychological mechanism that rewards you with more testosterone (because you became a man with higher levels and you are winning sometimes),

Sooner or later you will be putting in motion the rewarding feedback mechanism, so this will have an effect in you.

Because of increasing levels of testosterone you are more likely to make decisions and talk in those endless work meetings, meaning that you will start to lead your social group, job peers, etc.

In this way you are going deeper into this psychological rabbit hole, becoming more sensitive to social status and trying to maintain it, because you will have more rewards in that way.

Bottom line: if you increase your testosterone you will start a virtual circle in motion where all these things will start to apply, and they are important to maintain and improve those high levels, so don’t neglect it.

With more testosterone you will be more alpha and you will want to keep that.

In fact this is not a deeply studied field yet but it shows that it’s a two way street, as Allan Mazur (one of the leading scientists in this field) says:

“Testosterone not only affects behavior but also responds to it”.

Your testosterone levels will depend on your behavior too, you will need to overcome any low testosterone problem through diet and lifestyle, after that mastering the craft has to do with your actions as well.

High testosterone makes you a natural alpha male but doing some things that an alpha male does (like being around attractive women, competing, raising your status and winning even at chess) also improves your testosterone.

So if you are not a natural alpha (mainly because your testosterone is not high or you are psychologically very shy, something that will badly influence your testosterone by the way) you should try to be one.

Be a leader, believe in you, take decisions, risk more (not your house, but maybe talking to that cute girl), in fact when you raise your testosterone through diet and lifestyle you will start to do these things naturally, so reinforce that.

Maybe you are not there yet, but you can “fake it until you make it”, take a look at how this is a two way street: even the stupid fact of acquiring a “power pose” will raise your testosterone levels and I’m not kidding129.

That’s it, you pose like Darth Vader, standing erect (insert your joke here), hands in your belt and like you are the king of the universe for some brief moments and even if you are the biggest wussy on earth your testosterone levels will raise.

129 Brief Nonverbal Displays Affect Neuroendocrine Levels and Risk Tolerance Dana R. Carney, Amy J.C. Cuddy and Andy J. Yap

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Probably if you do this a saturday night with full Vader costume at the coolest bar in town your testosterone should rise to infinite levels, but this is not proven by science… yet.

Hell, even holding a gun in your hand can increase testosterone\textsuperscript{130}.\textsuperscript{130}

This is a natural and well known phenomenon called embodiment, where the body status affects your mental status. For example if you smile for some moments you will start to feel better, even if it’s a very bad day. Same thing applies here, you put your body in some positions (i.e. You fake it) you are triggering mental and bodily changes that make the “fake it until you make it” one big truth.

As we can see not everything is purely chemical, your mind, your beliefs, your actions, psychology and social status influence testosterone.

I think this is one of the most important chapters, and I want to really burn it into you, because it made a difference on me.

Be a leader (understanding that a leader inspires people, making them feel good so they naturally want to be in your company, because they enjoy the moments, you never bully your way to leadership).

Believe in yourself.

Win (start with small goals and tackle them, seeing some easy success, you will ride that wave to greater things because success breeds success)

Don’t be pushed around or kept down, this is important because if you allow this you will lower your testosterone.

Take a look at your body language improving it.

Enjoy women (or whatever turns you on) and…

If you are in the starting point, don’t worry, fake it, you will make it soon.

How testosterone (greatly) influence your chances of getting laid

Do you think the mind-testosterone connection was intriguing? Wait for this, I wanted to leave this to the grand finale…

\textsuperscript{130} Guns, Testosterone, and Aggression. An Experimental Test of a Mediational Hypothesis. Jennifer Klinesmith, Tim Kasser and Francis T. McAndrew

\url{http://www.increase-testosterone.info}
Let’s take a look at another fascinating effect of testosterone in the most important issue: sexual selection, i.e. How testosterone it’s going to influence your attractiveness to the other sex and your chances of getting laid.

No kidding, really, it’s very important and you should keep reading.

First question: is testosterone going to make you more attractive and handsome?

The answer is yes and no.

Yes because testosterone (plus exercise) will help you to gain more muscle, lose more fat and in general being more fit and young looking, all these traits convey attractiveness.

And no because high testosterone will give you a face that will be considered more masculine and dominant, but not necessarily more attractive.

If you have a handsome face you will be still handsome because you will seem less like a chubby buddha and more like an iron jaw warrior, but if you are ugly like me, don’t expect waking up like Brad Pitt.

Ok, testosterone is not a miracle that will change our mugs, but did you go to the endnotes and read the title of the last study referenced? It says:

“Testosterone is associated with mating success but not attractiveness or masculinity in human males”.

So testosterone won’t make our faces more attractive but it will improve our chances of getting laid.

I can see from here how you suddenly developed bug eyes (by the way, bug eyes are not an attractive trait).

Why is that?

Because testosterone will make us more extraverted, more dominant and more prone to take risks, we will try more and will try harder, and those are predictors of success getting the girl, in fact they are better predictors than pure attractiveness.

In the study above they analyzed a high fertility society (trying to nullify the effects of widespread modern contraception measures in western societies, so they could see unadultered reproductive success) and they saw that men in the top percentages of extraversion had 29% more testosterone than the rest, and extraversion was (I quote): “the only personality dimension predicting men’s mating and reproductive success in this population”.

131 High salivary testosterone is linked to masculine male facial appearance in humans. Ian S Penton-Voaka, Jennie Y Chenb

132 Testosterone is associated with mating success but not attractiveness or masculinity in human males Marianne Peters, Leigh W. Simmons and Gillian Rhodes

133 Personality and testosterone in men from a high-fertility population. Alexandra Alvergnea, Markus Jokelac, Charlotte Fauried and Virpi Lummaaa
Men and women with more testosterone behave with others in a more direct and engaged way\(^{134}\), and taking a look to more works by Allan Mazur\(^{135}\) (that we saw in the mind-testosterone section) we discover that dominant human male teenagers copulate earlier.

Dominant males, not handsome “babyface” males.

This don’t necessarily means that we will get any girl we want, but we will have more success (mainly because we will try more overcoming the verbal impairment we suffer in front of a cute girl) and, above all, it shows how hormones play a very important, and unconscious, role in sexual selection.

In fact that you get the girl or not may well be determined by her menstrual cycle.

Yep, depending on the day you try you will have a greater probability of getting a yes. Again I’m not kidding.

It seems that women tend to prefer “a male face on the masculine side of average”\(^ {136}\) (ok, no big surprise that heterosexual women tend to choose men who look like men), but if they are in their fertile days then they prefer more masculine “testosterone-chiseled” faces.

Maybe this will surprise you but it’s a well known scientific fact, supported by a good quantity of studies: preferences in women change according their hormonal state.

For reproductive purposes only, women prefer dominant masculine men in their fertile days, because those men can predict healthier strong children with more probabilities of perpetuating genes because, besides better health and as we saw, those children will have more chances to get laid.

Pure evolution at work, many times we believe that we are very advanced beings, but nature, genes and evolution have the upper hand, wether we want to realize that or not.

I quote another fascinating conclusion of that study:

“An examination of individual differences revealed that women who scored low on a ‘masculinity’ test (Note from me: they did not preferred masculine males) showed a larger menstrual shift, had lower self-esteem, and differed in their choice of male faces for dominance and short-term mates. The results are interpreted as support for a hormonal theory of facial attractiveness whereby perceived beauty depends on an interaction between displayed hormone markers and the hormonal state of the viewer”.

They said it, not me.
What if a woman is not in her more fertile days? Then testosterone and perceived masculinity in our faces won’t especially help us\(^\text{137}\).

This is an unconscious process, in fact many things relating attraction are unconscious and things like oral contraceptives in women (basically a hormone storm in a pill) can alter those preferences\(^\text{138}\).

So there you have it, increasing testosterone means increasing chances of success, now I finally see you dusting your dumbbells and buying vegetables and meat, so I have only one thing more to say, the best of luck to you, in everything, and thank you for reading, really.

All the best.

Derek.

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\(^{137}\) Female preference for male faces changes cyclically: Further evidence. I.S Penton-Voak, Ph.D.a, D.I Perrett, Ph.D.a

\(^{138}\) Female social and sexual interest across the menstrual cycle: the roles of pain, sleep and hormones. Guillermo CJ, Manlove HA, Gray PB, Zava DT, Marrs CR.

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