The Definitive Testosterone Replacement Therapy MANual

How To Optimize Your Testosterone For Lifelong Health and Happiness

JAY CAMPBELL

The Definitive Testosterone Replacement Therapy MANual
How to Optimize Your Testosterone For Lifelong Health And Happiness
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About The Definitive Testosterone Replacement Therapy MANual
Jay Campbell has helped thousands of men reclaim their health and masculinity with his Google Hangouts, articles and podcasts on the informed usage of Testosterone Replacement Therapy (also known as TRT).

In The Definitive Testosterone Replacement Therapy Manual: How to Optimize Your Testosterone for Long term Health and Happiness you will learn how to:
• Improve your metabolic health
• Increase your mental focus and cognition
• Eliminate feelings of indecisiveness and hesitancy
• Take control of your career while developing more self-confidence at home
• Reinvigorate your sex life and increase the intensity of your libido
• Significantly alter your body composition to one of greater muscle and less body fat
• Ward off the debilitating diseases of aging like diabetes, heart disease and Alzheimer’s
• Live a more energetic, empowered and fulfilling life

Men who understand and implement the scientific usage of TRT have dramatically changed their lives for the better by learning how to eliminate the symptoms of low testosterone.

**Preface**

If you are reading this right now you probably have a lot of questions in regards to testosterone and hormone replacement. Just like myself you're probably searching for answers from everything including its effects, how and what it does, how it's used, and every possible pro and con in using a hormone that at its core separates and defines what we are as Men and sets us apart from Women. I once had these questions, I searched the web up and down looking for answers while never being satisfied. That was until I came across Mr. Jay Campbell. After listening to and reading his articles I knew I finally found what I was looking for. A no nonsense, real look, into what exactly hormone replacement therapy is. The more I listened the more intrigued I became.

What I found was a documented diary into someone using hormone replacement as a medical necessity, through a physician, for over a decade, while providing and explaining everything from A-Z. The information was so profound, and moving for me that I eventually reached out to him with other questions and each time Jay would take the time to respond. Today I am very proud to call Jay a close friend.

The knowledge I now possess on hormone replacement and the endocrine system is light years beyond what most, including those in the medical field possess. Do yourself a favor, and save countless hours of searching like I did. This is the only source you need for understanding what testosterone and hormone replacement therapy is. And how much of a profound effect of how it can have on several aspects of your life. At the very least you will come away with an understanding and the knowledge you need if you choose to take the next step.

~Tony Monticone

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Next Steps
One Small Request

What Progressive Practicing Physicians Say About the Book

Less than 18 months ago I was slaving away, logging hours on the computer as I drafted GET SERIOUS, A Neurosurgeon’s Guide to Optimal Health and Fitness. Culminated from 30 plus years’ experience, its pages touch upon the various risk factors for age-related disease and their modification through practical application of strength training, dietary optimization, stress relief and hormonal therapies. In the context of the latter, the book is lacking in content. I was to a great degree apprehensive about broaching the subject in the wake of the 2013 JAMA study which vilified testosterone therapy. Better stated, I was nervous even though I had a great deal of personal (and overwhelmingly successful) experience with TRT. It was (and still is) an edgy topic. Why? Because there is massive gray area within which lay the overlap between health and ergogenicity or performance enhancement. Conjured are images of Lyle Alzado and Barry Bonds. The stigma of massive men, ‘roid rage and now due to the flawed study noted above, coronary artery disease and heart attack. Tons of inertia.
Now close your eyes and erase that deeply-etched slate, if only for a moment. Forget what you’ve been told and consider only the words of Jay Campbell. Allow him to
dispel the many TRT-associated myths while concomitantly describing the myriad benefits in the pages of this book.

A successful real estate agent in the Los Angeles area, Jay is a former physique competitor. He is passionate about health, his darling wife Monica with whom he blogs on FabFitOver40.com and his children. He is dissatisfied with the mean. The word “average” is simply not in his vocabulary. Only optimal is. He is intrigued by the science of performance enhancement, inclusive of both mental and physical aspects, in the context of health. He is not interested in compromising his health to attain the illusion of health as are bodybuilders. That’s not what Jay’s about. Nor is this book for that matter. This is not another steroid bible. In fact, many of their authors are now ghosts.

In contrast, Jay’s goal is longevity. He has come to realize through vast experience that hormonal optimization will stack the biochemical deck in his favor, switching on the genes associated with youth. Testimony to this is his awe-inspiring physique, a side-effect of optimal biochemistry and staunch attention to detail. Inspiring is his knowledge of hormone replacement and human physiology, which surpasses that of many of my medical colleagues. This he brings to you the reader in the pages of his much-needed and timely opus.

So open your eyes, read and digest Jay’s words. This book is the chapter that I was scared to write…

Brett Osborn, MD
Diplomate, American Board of Neurological Surgery
Diplomate, American Academy of Anti-Aging Medicine
CSCS, National Strength and Conditioning Association

It is a well-known aphorism that life is a journey. And like so many journeys when we are open minded and aware we stumble upon paths that enlighten us--whether physically, mentally, emotionally, or all of the above. That is what this book is to me—an enlightened path. Not all the readers of this book will look at it in this way and so my foreword may be more about the author, Jay Campbell, than the book itself. For those readers with whom my comments resonate--you will embrace the journey. I was introduced to Jay about three years ago. We exchanged emails about testosterone replacement therapy and bioidentical hormone treatment. I believe he felt like I was challenging him, coming at him as a mainstream physician. And some part of me was. But Jay was smart, knowledgeable, and resilient. He would come back to me with data. The exchanges became less combative and more cooperative! As my diet and training and nutrition began to evolve, so did my body. Jay was like a personal trainer pen pal. He helped me direct my extensive medical background, training and dieting experience with his to formulate a comprehensive knowledge base that anyone could benefit from. Hence, this book is the real deal. It
gives the reader years of medical research, experience from the gym, and a real world yet scientific understanding of TRT, delivered in a format which WILL HELP anyone wanting to help themselves.

This book is THE resource manual for professionals, strength trainers, athletes and anyone else wanting to utilize Testosterone safely and in the context of health and longevity.

Coming full circle, the book is like furtively reading the journals of countless scientists who have gathered their collective learnings and experiences. For anyone who reads this, they have already begun their journey. The path I stumbled upon when I found Jay Campbell is nothing short of a blessing.

Leonard A. Farber, MD
Clinical Director of Radiation Oncology of Lower Manhattan
Assistant Professor
NY Presbyterian Hospital/Weill Cornell Medical College
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About the Author

Jay Campbell
Jay Campbell is a champion male physique competitor and the co-founder of FabFitOver40.com—the number #1 site on the web for 'Fit over 40' information. Jay is also the Co-Founder of SOAR Seminars—a unique seminar that improves the aging process through optimizing biochemistry, utilizing the warrior mindset, and teaching proper strength training technique and mobility.

Jay is a 15 year Testosterone Replacement Therapy patient and recognized thought leader on Hormonal Optimization. Jay writes for Iron Man Magazine as one of the resident Anti-Aging Specialists. Along with wife Monica Diaz and Dr. Brett Osborn, they also produce a twice monthly webinar Health and Vitality Secrets for the Busy Professional, a live interactive forum for questions regarding Health, Fitness, Hormonal Optimization and Longevity.

Jay along with Nelson Vergel also hosts The Real Truth Men's Health Webcast - a monthly interactive discussion designed to help men achieve optimal health, fitness and vitality. Jay consults with men and women of all ages looking to optimize their health, fitness and well-being. Jay lives in Southern California with his wife Monica Diaz and is the father to two beautiful girls, Alexandra and Gabriella and bonus dad to Monica's daughter Alana and son Evan.

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(9) Our details
In this disclaimer, "we" means (and "us" and "our" refer to) Jay Campbell (Southern California; USA or any future addresses, temporary or permanent).
Acknowledgements

I could not have attempted to write let alone finish this book without the help of the greatest thing that ever happened to me—my unicorn and wife—Monica Diaz. Her enormous power and positive encouragement compelled me to work harder than I ever have before. She taught me the greatest form of acceptance—unyielding and unwavering love and gratitude.

To Jim Brown- my one true mentor who counseled me for years behind the scenes when my doctors were unable. To Dr. Brett Osborn and Dr. Leonard Farber—thanks for being the most scientific gentlemen a guy could know. To Nelson Vergel for being a TRT pioneer and a man with a vision well ahead of its time. To Natalie Minh and Binais Begovic for giving me the forums and advice to platform my knowledge.

To all my family, friends and forum brothers, ex-wives, girlfriends, clients, and fitness industry peers, thank you for the assistance and intel you provided in our times together while researching for more than two decades.

Last but not least, thanks to my dear friend Cary Wan for masterminding this entire process and turning my fragmented intellect into a cogent and enlightening treatise on testosterone replacement therapy.

Introduction

In the past 25 years, we’ve been deluged with an endless stream of marketing gimmicks and hyperbolized ad campaigns in newsprint, magazines, television, radio and, most of all, the internet—all designed to sell the latest and greatest “testosterone booster” supplement. To my knowledge, nearly every one of them is a total scam. These products are nothing more than unproven snake oil sold to millions of unsuspecting men who believe and buy into the hype. Men who would do anything to look and feel better. The only thing these supplements have ever done is emptied the bank accounts of those swallowing their "magic pills."

In addition to stopping men from being deceived by the false claims of test booster supplement manufacturers, I wanted to create a definitive resource guide for all men seeking knowledge of legitimate testosterone products, replacement therapy and everything it entails. I had to also consider the greater sociopolitical climate and the controversy surrounding “testosterone” as the taboo and polarizing topic the media has made it out to be.

Whether you are reading this book already convinced of the merits of Testosterone Replacement Therapy (otherwise known as TRT throughout this book), or entirely new to the instrumental role testosterone plays in your life, there is a singular fact that
bears repeating; Testosterone is what makes men, MEN. The science of this is indisputable. Testosterone, when administered properly and in clinical dose fashion, has the potential to revitalize male life across every conceivable aspect of health. Whether it be increased musculature, improved metabolic health, or the improved cognitive and psychologic benefits, testosterone CAN BE your “silver bullet.” If you are one of the fortunate who has already sought out TRT and experienced its many benefits, this book will educate you to the bleeding edge of TRT science and strategy. It will be your bible for making the most informed decision possible when working with a progressive TRT physician and/or designing your own customized TRT therapy.

Or, you may be one of the millions whose natural testosterone levels have declined so dramatically that your “zest” for life no longer exists. Whether you’re in your 30s or younger, or even approaching "middle age," deep inside, you question whether it is your destiny to endure feeling this lousy. My book is proof positive your life does not have to be this way. Not only can it be avoided, it can be made nonexistent through the transformative power of testosterone replacement therapy. I encourage you to read on to understand how TRT can be your paradigm-changing solution for living an exciting and purposeful life.

Chapter 1: Is There A War On Men?

The truth about testosterone is hard to find. Although we supposedly live in an era when scientific inquiry thrives, many remain ignorant about the single most important hormone in the male body. If Aristotle were around, he would call this hormone the sine qua non of masculinity. Without this hormone, you are not a man. Indeed, transgender women who want to transition into men inject this drug. It is the hormone responsible for normal growth and development of male sex characteristics. Testosterone formulations were partially synthesized from a cholesterol base by Adolf Butenandt at Schering in 1935. For his work, he was awarded the Nobel Prize in Chemistry, which he shared with another steroid chemist, Leopold Ruzicka in 1939. Both testosterone and its derivatives quickly became the target of invention and application to both humans and animals during the golden age of testosterone chemistry (from 1950 to the mid-1960’s), with the development of ‘testosterone esters’; These were chemical compounds designed to slow down the breakdown of testosterone in the human body. Using testosterone esters allowed physicians to
harness these powerful tissue-building drugs to better study and effectively treat a variety of medical conditions, including hypogonadism, anemia, wasting diseases, burns, recovery from surgery and trauma, age-related frailty, and many others. Most professional bodybuilders, fitness competitors, pro athletes, celebrity actors, and political leaders who use testosterone are forced to conceal their use. They must pretend to be 100% natural, both to maintain their image and because the U.S. government classifies non-prescription testosterone use as a felony crime. The media won’t tell you the truth about TRT because the media is waging a war against testosterone. Regardless of why, the reality is testosterone levels in men are dramatically decreasing and have been for more than 20 years across the USA. It is imperative you attempt to consult with a doctor who knows what he or she is doing when prescribing TRT. Unfortunately, this eliminates a huge percentage of physicians. This book is not meant as a backhanded slight to the established medical community who otherwise attempt to offer help by prescribing wide-ranging protocols of TRT to their patients. Many are doing the best they can with limited information and long-term studies available to them.

This book is one of the first of its kind to attempt to create a better resource for TRT-prescribing physicians and their patients. It offers the hard-earned wisdom and calculated advice of men who have used TRT productively for more than a decade under the aid and clinical supervision of experienced and forward-thinking doctors. This advice is backed by highly relevant scientific research, citation and data to clearly substantiate truth from widely held myths and misbeliefs.

My book displays an unbridled passion for molecular biology, biochemistry and endocrinology, but is written for all men to easily understand. A book that dispels all the TRT misnomers and conventional beliefs held by far too many men for too long. A book which offers scientific yet practical TRT information no aging man should be without.

No one person or corporation owns the author of this book. I can and will tell you the truth about testosterone. Are you ready to learn how TRT can improve your life in every conceivable fashion?
This is not a book about Anabolic Steroids. There have been plenty of authoritative books written by superb researchers and scientists about using Anabolics. This book is a resource guide written for men on how to use testosterone productively for life. It provides crystal-clear strategies designed to optimize physical and mental performance while enjoying the benefits of TRT. There is a difference between testosterone use versus abuse.

Chapter 2: Becoming an Empowered Man through Optimal Blood Testosterone Levels: The Physical Benefits

Why Men Need More Testosterone
My mission in writing this book is helping to create powerful, driven, confident men who want the most out of their lives. By raising your testosterone level to the highest end of the optimal range through legitimately prescribed testosterone, you’ll ensure your life is enhanced in almost every capacity imaginable. This book will analyze and dissect the various accepted TRT protocols to provide you with the latest and most cutting-edge research available. I will also point out the pros and cons of choosing the counsel and aid of a TRT-prescribing doctor while also working with them via the
route of self-administration (when approved and instructed by your prescribing physician).

When people ask why they should consider having their testosterone measured, the only answer worthy of the question is “to understand if you’re functioning optimally as a man.” Although controversy remains regarding indications for testosterone supplementation in men due to a lack of large-scale, long-term studies assessing the benefits and risks of TRT, reports from thousands of men and their doctors prescribing TRT indicate it often produces a wide range of benefits. In fact testosterone usage has never been significantly widespread, as the number of patients with a testosterone prescription rose from 1.3 million people in 2010 to 2.3 million in 2013. These numbers are obviously not reflective of the global male population base using TRT without a prescription. It's estimated there are about 6 million people (without a prescription) using anabolic and/or androgenic steroids (including testosterone) or human growth hormone (HGH) every year.

According to the U.S. Census Bureau, approximately 15 million men have low testosterone levels also known as Andropause. Shockingly, only 5% to 10% of these men will seek treatment. ‘Male hypogonadism’ as it’s also known is a recognized medical condition which remains underdiagnosed by many doctors. Hypogonadism is often underdiagnosed for the following reasons:

1. Men don’t report it to their doctors because they are embarrassed due to their symptoms being sexual in nature. Additionally, they are conditioned to accept these symptoms as being a typical result of ‘old age’ and thus uncorrectable.

2. Men present with nonspecific symptoms such as lack of motivation, depression, listlessness, etc. Rarely is low testosterone suspected as the source for these symptoms.

3. There isn’t a definitive biochemical test for hypogonadism.
4. There is a distinct lack of physician awareness of the condition. Many doctors do not understand what blood tests to order and how to effectively identify the symptoms of a testosterone deficiency.

I believe the estimated number of 15 million men with symptoms of low T is drastically underestimated. There are men seemingly everywhere who dress, walk, and talk effeminately. It is now commonplace to see men who are riddled with estrogenic fat deposition. To say it is an underdiagnosed problem would be an understatement.

Any man reading this book should find comfort in the reams of recent scientific and anecdotal data espousing the benefits of TRT. But more importantly you should feel supremely confident you are following the advice of those who have mastered the art of TRT from every level of physical and mental significance. Men who now live with benefits so numerous and life-enhancing it is imperative to give those contemplating TRT a clearer picture of what to expect.

**Testosterone Decreases Body Fat**
Testosterone is essential to the regulation of insulin, glucose, and fat storage. As testosterone levels plummet, so does your body’s ability to process the insulin, glucose, and fat. Simply put, a decrease in T levels is directly correlated with an increase in fat storage.

To make matters worse for obese men, an increase in fat also lowers T levels. The fatter you become the lower your testosterone. This brutal cycle is a huge contributor to the obesity pandemic sweeping the world. In obese males there is increased aromatase activity, which irreversibly converts testosterone to estradiol, resulting in decreased testosterone and elevated estrogen levels. However, obese and high body fat men alike can break this cycle by undergoing TRT, as testosterone is lipolytic (i.e. fat burning). Studies have also shown that one of the positive benefits of testosterone treatment is a decrease in adiposity also known as fat storage. I discuss the role of testosterone, aromatase, and obesity much more in Chapter 9.

Testosterone Increases Muscle Mass
Testosterone is an essential muscle-building hormone. Testosterone is the basis of muscle, of strength, and the source of what makes men powerful. Testosterone builds muscle by increasing muscle protein synthesis. What does that mean? It means if you exercise with weights while using testosterone you'll build larger muscles and increase your overall strength.

It is important to understand that a clean diet and a sound resistance training program are absolutely necessary to maximize the potential benefits of TRT. I discuss this much more in Chapters 11 and 12.
Testosterone Improves Heart Health

Until very recently, researchers have been divided on the topic of how testosterone affects heart health. Some researchers have claimed high T levels are linked to heart disease while others have found low T is responsible for an increased risk of heart ailments. Ultimately, there is convincing evidence maintaining superlative T levels can help prevent cardiovascular disease. “Help” is the keyword here. The benefits that come with healthy testosterone levels, not testosterone alone, are what allows the heart to maintain its strength. I offer much more information about testosterone and its effect on the heart and vascular networks later in Chapter 9.

The hyperbolic fear about testosterone replacement therapy causing increased CVD (cardiovascular disease) events in otherwise normal and healthy men is unsupported. There is little data or proof substantiating the national TV, newsprint,
and internet ads you’ve likely seen from legal groups and attorneys claiming TRT increases the risk of heart attacks, stroke, CVD, etc. Absurdly, the foundational study that prompted this CVD risk witch hunt came from a clinical trial (TOM trial) investigating the use of a topical TRT in men over 65 with limited mobility—men who could barely walk or move on their own. The preponderance of evidence clearly indicates an increased risk of cardiovascular disease and death in general, in men with low or low normal testosterone blood levels. TRT when dosed and maintained to optimal levels offers no increased risk of CVD and may in fact offer CVD protection. Later in Chapter 10 and also in the interview with Dr. Brett Osborn in Chapter 13, I will back up this assertion with the most relevant and recent research data.

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**Testosterone Increases Bone Density**

Men can be at risk of bone diseases as well, and low testosterone is surely a causative factor. Testosterone is indisputably linked to bone health. It increases bone density and impedes the bone resorption that comes with age. It has been noted that men who suffer from bone disease usually have low testosterone. The last thing any man wants is to end up with a deteriorated hip or spine—completely limiting their movement and range of motion in later life. If you want ideal bone health into your later years, you owe it to yourself to improve your testosterone levels.

**Testosterone Combats Alzheimer’s Disease and Improves Cognition**
Studies show many older men with mild cognitive issues suffer from low testosterone. Many of these men eventually develop Alzheimer’s. At the University of Southern California, researchers noted that increasing T levels in older men stalled the development of Alzheimer’s. This has led scientists to speculate maintaining healthy testosterone levels may actually prevent Alzheimer’s. There is clear and substantial evidence TRT improves memory as men age. If you are an aging man and interested in preserving your memory well into your golden years, it’s a very good preventative measure to ensure your testosterone levels are optimized.

Chapter 3: Testosterone and A Fulfilled Life

Testosterone Will Improve Your Confidence with Sexual Partners
In the animal world, high testosterone levels have been shown to be linked to dominance in the battle for mates. The same is true for humans. Studies have shown when two men were instructed to vie for the affections of a woman, the man's aggression, ability to direct the interaction, and chances of attracting the woman were associated with their testosterone levels before the task. So there is truth in the idea that boldness is a powerful key to attracting potential mates. There is little doubt testosterone is responsible for this boldness.

Improving your testosterone level can increase your ability to approach suitors and build quick rapport. From an evolutionary biology standpoint, women sense and are attracted to higher testosterone in men and enjoy communication with males who give off an aura of high T. There is even research indicating women smell higher testosterone and seek it out during various points of their menstrual cycle. Knowing this, if you struggle with approaching women or dating, why would you not want to investigate the route of testosterone replacement therapy (TRT)?

**More Testosterone Equals Heightened Sex Drive and Libido**
There's an entire industry devoted to correcting low libido and erectile dysfunction through artificial chemicals. Supplementing with TRT can dramatically increase sex drive and improve the quality and quantity of erections. Testosterone is the most powerful male sex hormone, and many male sexual issues can be reversed through a testosterone improvement regimen. Unfortunately, many men who otherwise suffer from low Testosterone, are routinely scripted Viagra or Cialis and an anti-depressant when they present to their doctor with a lowered libido. Astute TRT physicians need to learn how to decipher whether a patient has a lack of desire or a real life inability to perform (low T). As will be stated continually in this book - symptoms and then blood panels MUST be taken into account before cavalierly dispensing erectile dysfunction and mood altering medications.

**Testosterone Will Improve Your Mindset**
Many men today are buried under the dark soil of depression and it is abundantly clear that low testosterone levels are to blame. Sadly, scientists are stuck trying to figure out a biological riddle akin to the chicken or the egg: does low testosterone cause depression, or does depression cause low testosterone? Despite this confusion, research demonstrates that men undergoing testosterone treatments have reported improvements in mood and other issues related to depression. Many of these same men have overwhelmingly improved their psychological capacity, giving them a feeling of reclaiming their life. In fact, the brain fog exhibited by men suffering from testosterone deficiency, is often eliminated completely upon implementing an intelligent TRT protocol. The fastest noticeable positive effects of TRT is clearer thinking and an improved mood.

The Competitive Edge from Testosterone
Testosterone is responsible for the masculine need for victory and challenge. It also greatly speeds up reaction times, improves eyesight and endurance and produces feelings of invulnerability.

In fact, one study shows a man’s testosterone levels are predictive of whether he will persevere through defeat or give in when faced with a challenge.

Think of the times in your life when you’ve experienced the “thrill of victory” when one of the sports teams you watched or played on won a big game. It’s quite exhilarating. The same might be felt in the business world when achieving a big sale or finalizing a huge deal. There is documented scientific evidence showing testosterone increases exponentially for days in men after winning a game or achieving a great feat. Imagine having those feelings as a part of your day-to-day life when using TRT.

**Take Risks, Achieve Status**
Testosterone has been linked to risk-taking and higher status in men. Men with high testosterone and high status tend to be more risk-averse than their low testosterone, low status brethren. Studies indicate this is because these men have more to hold onto than their low status brothers, as evidenced by the benefits summarized above. Interestingly, testosterone levels are noted to increase after every victory a person experiences. This trend of increases creates a positive loop where the high testosterone victor may triumph over an opponent with more skill but less testosterone.

**Optimal Testosterone, Your Most Powerful and Enlightened Self**
When you have higher levels of testosterone your ability to be ultra-confident in your decisions and take decisive action is exponentially increased. You are assertive and purposeful in all that you do and say. Your decisions empower you to behave in ways others find attractive.

Supplementing with testosterone will help a beta-male become more assertive giving him more alpha like characteristics. It will make an alpha male more focused, determined and a leader among his peers.

There are many people who espouse theories on raising testosterone naturally. While it’s true tweaking your diet and nutritional supplement protocol to optimize your testosterone can offer some help as can certain posture improvement exercises, nothing is as powerful or universally proven as using pharmaceutical TRT. Especially utilizing one of the TRT protocols recommended in the pages of this book.

Chapter 4: The Science of Testosterone 101: Why Men MUST Understand Their Endocrinology

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What is Testosterone and How is It Made?

Testosterone is a hormone both males and females need in the right amount to function properly, not only physically but mentally. Our focus is on men who don’t want to live within what is defined as the “normal range” of testosterone. Even more important is preventing men from experiencing the symptoms of low testosterone. It is not the purpose of this book to offer a deep analysis of the male endocrine and reproductive system. I will offer a quick and simple explanation of what testosterone is and how it works in men.

Testosterone plays many different roles as we age. In early development it is vital for brain, sex, and bone formation. Later in life, it’s important for brain chemistry, maintaining muscle mass, and sexual function.

Your body has regulation systems in place to keep things operational. For example if you eat sugar, your body has chemical receptors that pick up the increase of glucose in your bloodstream and in
response release insulin to regulate your blood sugar and maintain homeostasis. The same happens with testosterone production.

Your brain will send a chemical sign to the hypothalamus saying it needs some testosterone made. The hypothalamus will in turn release a messenger called gonadotropin (GnRH) that is picked up by the pituitary gland. This causes the pituitary gland to release luteinizing hormone (LH) and follicle-stimulating hormone (FSH). These will be recognized by the Leydig cells in the testes to synthesize testosterone. The testosterone is then released where it will be bound to sex hormone-binding globulin (SHBG) and albumin or will remain in its free form and in turn find targeted cells to bind with.

There is a negative feedback loop known as the Hypothalamic-Pituitary-Testicular-Axis (HPTA) also now known as the hypothalamic–pituitary–gonadal axis (HPGA) that will send messages to the pituitary saying there is enough testosterone in the system. The pituitary will in turn slow production of LH and eventually FSH. Testosterone will be reduced into a number of other metabolites that serve important functions such as dihydrotestosterone (DHT) or estradiol (E2). I will discuss these in much more depth later in the book in Chapter 10.

Why Do You Stop Producing Optimal Levels of T?

As we age our body isn’t as efficient with maintaining proper testosterone production and our homeostasis level is set too low. This could be in response to an injury such as damaged testes. Blunt trauma (a strike) accounts for 75% of testicular injuries. These can occur from getting kicked, hit by a baseball, motorcycle/bicycle accident, etc. The honest truth which few others have the courage to write about is our horrific environmental situation. All around the world men’s endocrine systems are being bombarded via the increase in environmental pollutants, contaminants and particulates in the air produced by industrial factories, smog and emissions from cars, etc. Men are under siege from hormonal suppressing phytoestrogens (such as soy protein by-products), and a host of other toxins as a direct result of modern day societal living.
Exposure to *phthalates*, which are found in many plastics is “feminizing” boys by blocking normal male testosterone. Even men’s sperm counts are falling due to exposure to pesticides, endocrine-disrupting chemicals like bisphenol A (BPA), and the many other toxins increasingly pervading our water and food supplies. Phthalates are now a horrific modern day problem for not only men, but also women and children. There is now animal and human evidence that exposure to phthalates (chemicals found in plastics and personal care products) is associated with reduced androgen levels and associated disorders.

Regardless of the cause, when this happens you will eventually have such low levels of testosterone you'll start to feel differently, both mentally and physically over time. And before you know it, you’ll feel “old” and nothing like you used to when you were “young”.

Once a man has reached this low level of testosterone and if fortunate enough to be diagnosed by a physician, he is classified as being hypogonadal. The most recent accepted data is half of all men over the age of fifty are classified as hypogonadal. As I have already stated, it is clear from societal observation this number is significantly underestimated. For the purposes of keeping it simple to understand, there are two forms of diagnosed hypogonadism:

- **Primary Hypogonadism** results from defects of the gonads. Luteinizing hormone (LH) and/or follicle stimulating hormone (FSH) are usually elevated, meaning the problem is in the testicles.

- **Secondary Hypogonadism** results from hypothalamic or pituitary defects. Luteinizing hormone (LH) and/or follicle stimulating hormone (FSH) are normal or low, suggesting the problem is in the brain, i.e. a disruption in the HTPA/HPGA.

Many doctors classify ‘normal aging’ as the cause of secondary hypogonadism. This author refuses to accept getting softer, weaker, depressed and having a low libido as ‘normal’ and healthy aging. Why would you or any man you know for that matter want to feel this way? Especially knowing there was a way to keep your testosterone elevated to optimal levels for life through the intelligent and scientific usage of TRT.

**Chapter 5: How Do I Know I Need TRT?**

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As a voracious researcher of the most recent and relevant medical studies, while at the same time utilizing TRT for more than a decade under close Doctor supervision, I’ve come to realize there are crucial factors necessary to consider when making the decision to proceed with TRT.

The Ethical Dilemma of Testosterone-Pick Your Side

One of the biggest challenges men face is overcoming any moral qualms they have before undergoing TRT. It is my duty to explain there is absolutely nothing morally wrong with restoring your testosterone levels back to “above normal” levels or better.
Testosterone is a naturally occurring hormone in both the male and female endocrine system. The fact that a naturally occurring hormone, essential to the development of every human being on planet Earth, is controlled and demonized – is absurd. But this is the paradigm we find ourselves in. As a sovereign adult male, it is your responsibility to turn lemons into lemonade.

There are no limits to the factors working AGAINST you—stress, diet, pollution, age, popular culture, etc. If you don’t stand up for yourself, who else will? This is a silent pandemic. The vast majority of men aren’t even aware low testosterone is an issue. Your friends and family, and likely even yourself, have been conditioned through the mass media to believe “using testosterone is cheating”, “drugs are bad” and “getting old is just an accepted part of life”.

While this book is not meant to be a treatise disputing the current war on drugs – let me put it to you this way:

• If you had a headache, would you swallow an Aspirin tablet so you can stop your head from pounding?

• If you have High Cholesterol and need Lipitor, would you take the drug to reduce your cardio-vascular risk factors?

• If you have unbearable pain and can only get around in a wheelchair for the rest of your life unless you got a hip replacement, would you allow a surgeon to replace your joints so you can walk again?

If you answered “yes” to any of these questions, then please understand the morality is no different when restoring the hormone that best defines your masculinity. It’s just like waking up in the morning and making a cup of coffee so you can start your day with a little caffeine. TRT is a scientifically proven and acceptable treatment. While it has not yet gained widespread social acceptance, remember great men never follow the herd. You owe it to yourself to consider the program outlined in this book.

**Testosterone Declines with Age**
This is a difficult factor to tackle especially in light of the “Beta Male Syndrome” many young men in their late teens and early 20’s are experiencing today. Ten years ago, I generally would have recommended TRT no sooner than 35 years old but it’s becoming more and more apparent low testosterone is a significant problem in men of all ages—especially younger ones.

For any man under the age of 30 with symptoms of low T, you must find a doctor willing to measure your blood panels and selectively examine your presenting symptoms. Especially if your testosterone is proven to be low or low-normal. Any young man below the age of 30 wanting to embark on a course of TRT should do their homework. I have written this book as a step-by-step guide for men of all ages but I’d be a fool to not tell much younger men to proceed cautiously and learn as much as possible before embarking down the path of TRT.

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The younger you are and especially if your goal is to father children, your doctor should FIRST consider alleviating the stressor or cause of your hypogonadal state. This is preferable to placing a drug in your body (T) which can seize control and or shut down your endocrine system (your body’s natural production of testosterone). If this fails, the next step would be prescribing medications that attempt to raise T (which are not disruptive (or minimally so) of your body’s natural production of
testosterone. These medications are written about in depth later in the book in Chapters 9 and 10.

End of this sample Kindle book.

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