LOW T NATION

TESTOSTERONE REPLACEMENT EBOOK

WHAT YOU NEED TO KNOW



LOW T NATION

This guide is distributed to educate and inform potential patients about the dangers of naturally Low Testosterone and the complexities and general misconceptions of Low-Testosterone Therapy. If you have any questions at all, or need clarification on anything, please do not hesitate to call us immediately. We offer FREE consultations to those who are interested in finding out if they are a potential candidate. Remember, Low-Testosterone is a dangerous condition leading to many of the dangerous, chronic diseases mentioned in this book. If you think you might have Low-T, we recommend that you have a medical determination of your overall hormonal health.

We also cover a few other topics that men interested in Testosterone Replacement are also typically interested in such as weight loss and peptide therapies.

To schedule a free consultation with one of our Providers, visit www.LowTNation.com or call 866.FixLowT.

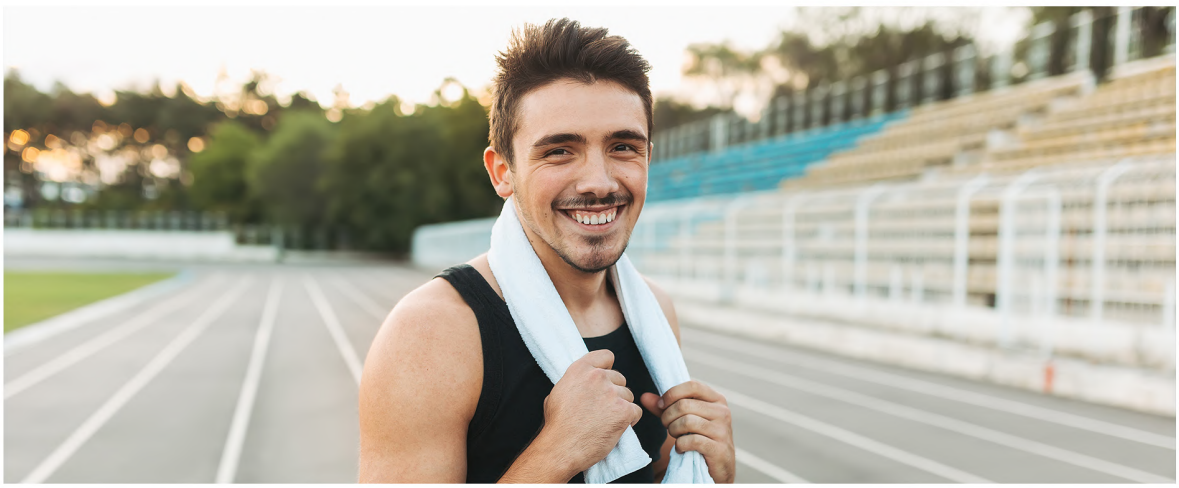
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WHAT "LEVEL" SHOULD I BE AT?

Testosterone replacement sometimes seems more about the numbers than about anything else. After all, what is low? Well, according to most labs, somewhere between 250 and 350. Well, what's high? According to those same labs, values between 900 and 1100 are at the high end of the range.



Only focusing on the numbers opens the door to treating patients in the wrong manner, as each patient's ideal level can differ tremendously. Some men in their absolute prime walked around with a Total Testosterone level of 550, while others walked around well over 1,100. You can easily see that if a doctor puts all his or her patients at the exact same level, it is going to do some of these gentlemen a huge disservice. The truth is, most of our patients are kept at quite different levels from one another and this reflects their individual physiology, medical history and current needs, and lifestyle goals.

Therefore, we incorporate a Start Low / Go Slow program. It is not healthy for the man who was at 550 Total Testosterone level in his prime to be walking around with a new level of 1100. It is also not healthy for the man who needs to be at 900 to be stuck at 450 because of a doctor's rigid adherence to a protocol that disallows individualized treatment. The diagnosing and prescribing should also be about the symptoms! After all, that is why you're being treated. By accompanying symptomatic relief, listening to a patient regarding their goals being met, along with the blood-work values, we can tell when a patient is at an optimal testosterone level without speeding past that level and administering too high of a dose. This is one of the foundational principles that sets us apart from most Hormone Replacement programs in the area.

WHAT IS HCG AND WHY DO I NEED IT?

HCG (Human Chorionic Gonadotropin) is a drug that is extremely close (almost bio-identical) to Luteinizing Hormone, which is the hormone that signals a man's body to produce testosterone.



When a man has plenty of Testosterone in his body, such as when he's on a Testosterone Replacement Therapy, his own natural or endogenous production stops, sometimes almost completely. This is an issue for two reasons. First, the reduction in the patient's own production reduces overall Testosterone levels which will require more exogenous Testosterone (a stronger prescription) to keep you at your optimal level. Secondly, because the testicular function is not being utilized any longer, the tissue can atrophy, shrink, and become permanently damaged. This concept is the root of the old, inaccurate saying that "Once you start testosterone replacement, you can never stop". When it's done wrong, unfortunately for those patients, they will produce almost nothing if they ever need to stop the therapy.

HCG will eliminate both issues by keeping your own natural production completely optimized thereby reducing the total amount that we must prescribe to keep you optimal. Again, not only does HCG prevent the atrophy and shrinkage, it normally optimizes your own natural production to a level higher than before your prescription.

Please make sure to stay compliant with your HCG. Failure to do so not only can but WILL impact the overall success of the therapy and possibly cause permanent testicular shrinkage and loss of natural testosterone production.

THE IMPORTANCE OF COMPLIANCE

With Testosterone Replacement, it is very important to stay as compliant as possible with your prescription. The reason for this is that the male body is extremely sensitive to imbalances in testosterone and estrogen. If you are not taking the medications as directed on regular intervals, it places undue stress on your system while it tries to cope with the yo-yoing effect of the intermittent levels of hormones.

Another issue with being non-compliant is that in the event something does begin to go awry with your body's response to your prescription, diagnosing and troubleshooting exactly what is wrong is almost impossible. This is because your body will react differently to the same prescription if it's administered haphazardly and inconsistently. This makes your doctor's job much tougher when trying to determine the next appropriate course of action and can delay that optimal state of being that you're searching for.

Another aspect to consider regarding compliance is convenience. When life is hectic, it gets harder and harder to remain compliant when the program you are on is very inconvenient. Make sure to choose a clinic that either drop-ships the prescription to your home or is very close to your home or work. We find that busy schedules and long commutes account for most of the compliance issues.

So, please make all efforts to stay on your appropriate intervals and to continue to take your HCG and estrogen blockers (if prescribed) to make absolutely sure you are staying as optimal as possible.

If you have any questions about your prescription intervals, always contact your provider immediately.



HOW TO CHOOSE A DOCTOR

When it comes to Male Hormone Replacement, in our opinion, you have 2 choices. Utilize a doctor who has undergone extremely specific, very credible continuing education in the area of Testosterone Replacement OR use a doctor whose specialty encompasses the male endocrine system such as an Endocrinologist. Most family practitioners simply do not have the training necessary to perform testosterone replacement from medical school. This is the reason so many men are put on programs without utilizing HCG, estrogen blockers or even having appropriate medical supervision.



When consulting with your doctor of choice, always ensure they have had additional education specifically in the Testosterone Replacement vertical. This will help guarantee that you will be medically managed using the appropriate criteria and none of the old wives' tales that so many practitioners still, unfortunately, diagnose and prescribe with.

You will want to ask your practitioner of choice a few questions to make sure that they are the most qualified option:

1. **Have you had any testosterone replacement training since medical school?**
If they have had none, we recommend looking elsewhere.

2. **What co-travelers do you normally accompany a testosterone prescription with?**
If they do not mention HCG and possibly estrogen blockers, you will want to

find someone who does. They may also mention Clomid to eliminate sperm count reduction. Basically, you want to avoid a program that simply gives you testosterone only.

3. What lab tests do you run?

In order to ensure you are a good fit for the program, the following panel is usually deemed necessary. Any tests above and beyond are great, but these are the basics. If these are not being performed, this doctor will not know all he needs to know in order to prescribe testosterone to you. LABS: Complete Blood Count (CBC), Comprehensive Metabolic Panel (CMP), Lipid Panel, Free and Total Testosterone, Prostate Specific Antigen (PSA), Luteinizing Hormone (LH), Follicle Stimulating Hormone (FSH), Estradiol.

4. How often do you check bloodwork when a patient is on the program?

Legally, 12 months is the limit. Anywhere from 4-12 months is the appropriate answer. We prefer a 6-month interval just to be safe.

5. How will I administer the program?

Keep in mind that utilizing a program that requires injections performed in the clinic each and every week is a time consuming and burdensome approach. We prefer the program to be administered at home, this way the patient always has access to the testosterone when it's time for a shot. Patients using the in-clinic approach miss on average one out of four shots per month. Again, as we discussed earlier, compliance is a must when on testosterone.

6. Is the program paid with Insurance or Cash?

Believe it or not, clinics that run a cash service can generally offer the same program for much cheaper and it's far more convenient. First, insurance will not allow for drop shipping of the injections. This means four trips to the clinic per month, four co-pays each month, four days out of work plus the time it takes to travel to the clinic, get the injection, and get back. Also, insurance will not cover the HCG and estrogen blockers, so that means more cash out of pocket each month and more inconvenience to acquire those. Couple that with the fact that on average, one shot is missed per month, the cash program is superior in our opinion.

7. What level should I be at?

This is somewhat of a trick question. As we discussed earlier, there should not be a numerical target when prescribing testosterone. If the practitioner discusses the resolution of your symptoms as their target, they're on the right path. If they discuss actual numbers as a target, then you might want to consider a different practice. The only exception to this is if this practitioner has a baseline testosterone lab test from you from a date you felt no Low-Testosterone symptoms.

LOW TESTOSTERONE AND HEART DISEASE

Deficiencies in testosterone have been strongly linked with heart disease. A group of Ghent University Hospital researchers recently reviewed all studies they could find, ranging in date from 1971 to 2013, with the objective of looking at associations between testosterone and heart disease. They observed an increasing number of studies showing a strong link between low testosterone and incidence of cardiovascular disorder, and even cardiovascular mortality.



Numerous studies have shown that adequate levels of testosterone are required in order to maintain youthful metabolic processes in your body. Testosterone enables HDL to remove extra cholesterol from the arterial wall and take it to the liver to be cleared. It accomplishes this through increasing hepatic lipase enzyme, which is what your liver needs to properly dispose of this cholesterol. Regardless of careful lifestyle choices made to prevent cholesterol from building up on these walls, testosterone is still necessary for processing and removing bad cholesterol exposure. Often statin drugs are prescribed to people with cardiovascular disease to lower LDL, a lipoprotein whose job is to transport cholesterol from the liver to the arteries. However in the likely event that the patient is a male with low testosterone, he will be unable to remove the excess buildup this creates, which is why these drugs often don't seem to work.

Low testosterone creates heart problems in older males with preexisting heart problems; but low, unhealthy levels of testosterone also pose threats to the heart health of younger patients and patients without heart issues. Older men are unable to reverse their existent heart problems, while younger males should be regulating their testosterone levels to prevent cardiovascular issues in the future. Two groups of men under 45 were studied, one group of men with pre-existing coronary artery disease and one without. In the group of men without CAD, even just moderately reduced levels of testosterone yielded a 3.3 times higher risk for eventually developing CAD. Despite all the convincing evidence, there are many doctors still questioning and sometimes ignoring the value Testosterone Replacement Therapy has in maturing men, which leads to countless unnecessary heart attacks, strokes, and mortalities. Even patients without existing heart problems should make certain to maintain healthy levels of testosterone.

A study of patients with chronic heart failure injected 10 men (average age 62) with a placebo and 10 men with testosterone over the course of 12 weeks. At the end of that time, when compared with the placebo group, the testosterone group had lower symptom scores, enhanced moods, improved blood measurements of heart function, and amazingly they were able to walk 3.5 times further. Overall, physical capacity, health, and quality of life were improved drastically with just 12 weeks of consistent Testosterone Treatment for these men.

A recent study analyzed the blood of 2,416 men aged 69-81 (whom had not received any hormone-affecting treatments). Men suffering from low testosterone were found to be two times as likely to have already had cardiovascular problems compared to the high testosterone men. They also had higher prevalence of hypertension, diabetes, and body fat mass. These men were followed for just over five years. The men falling in the highest quartile of testosterone levels (categorized for this study as 5.5 ng/mL or higher, with the average level being 6.79 from MedicineNet) had a lower risk of having any cardiovascular problems by 30%. Additionally, the risk of stroke was 24 lower among those with higher testosterone. Any patient with a testosterone level below that had a significantly higher risk, which tells doctors the baseline level testosterone should be kept above for preventative heart health.

Researchers for this study solely utilized a technique to measure testosterone that is mass-spectrometry-based, which gives a much more accurate reading

of testosterone levels than other testing methods used in prior studies. This is one reason you sometimes find conflicting research. Another reason for these contradictions is the statistical, scientific mistake of not accounting for other risk factors. In this study researchers were sure to adjust for other independent risk factors known to affect cardiovascular disease, which still resulted in the same decrease in risk of cardiovascular events for men with higher testosterone levels.

It cannot be completely ruled out that failure to maintain good health creates a confounding correlation between low testosterone and cardiovascular issues. There are, however, compelling findings from numerous studies providing evidence that there is in fact causation. There are even more compelling findings that show the immense, damage reversing benefits to overall health, heart health, and quality of life that should not be ignored. The good news is restoring testosterone levels to ranges that maintain youthful and healthy metabolic processes is easily accomplished through Testosterone Replacement Therapy.

LOW TESTOSTERONE AND CANCER

There are long-standing false beliefs about the correlation between risk of prostate cancer and higher levels of testosterone/Testosterone Treatment. The old belief was that low testosterone was protective of cancer. Additionally, giving a man, with (undetected) prostate cancer, low testosterone treatment would be like “pouring gasoline on a fire”.



Medical opinion has dramatically shifted. It was discovered long ago that low testosterone actually increases risk for prostate cancer. Unfortunately, it takes an immense amount of time to fix such a widely accepted medical myth.

So, what are the facts? Dr. Abraham Morgentaler has done extensive research of every study ever performed/published (as well as performed his own studies) regarding prostate cancer and hormone levels, and has found that:

-Low testosterone is not protective against cancer; conversely it actually may increase your risk.

-Risk of prostate cancer is not increased from high levels of testosterone in the blood.

-Even in men with high risk for prostate cancer, Testosterone Replacement Therapy does not increase the risk of prostate cancer.

Think about it; if higher levels of testosterone were increasing the risk of prostate cancer, wouldn't rates of prostate cancer be highest among men in their 20's when testosterone levels are at their all-time high? But we don't see this. Actually, the older a man gets, the higher his risk for prostate cancer gets while his testosterone levels are simultaneously decreasing.

In 1997, Dr. Morgentaler began taking biopsies prior to administering Testosterone Treatment to his patients, based on the false belief that the therapy would cause pre-existing cancer to grow. His results were shocking.

There were an alarming number of his patients with supposed-protective low testosterone that already had prostate cancer, 6 in 33 to be exact. This raised a red flag, causing him to question what he had always been taught and doctors everywhere accepted as fact. He broadened his study to 77 men suffering from low testosterone, which still yielded 14% prevalence rate of prostate cancer.

The average rate for men with normal PSA was usually found to be between 02, the highest study reporting 4.5. He also followed 55 of his patients that did not have prostate cancer while receiving Testosterone Treatment for one year, 20 of which were at high risk for developing cancer. He found that only one high-risk

patient and zero normal risk patients developed cancer, which is a very low rate.

As a result of his findings being so controversial, before publishing them Dr. Morgentaler began researching every study he possibly could find.

The myths surrounding testosterone and prostate cancer began from a study by Dr. Higgins in 1941, which consisted of only 3 men. The findings from one of these three men were not reported, and one of the other two men had been previously castrated (his hormones were previously altered). Thus, the myths, which medical decisions have been based on for over 70 years since, come from the results of one patient. "Dr. Huggins's assertion that higher testosterone caused greater growth of prostate cancer, repeated for so long and accepted as gospel, were based on almost nothing at all!" There is another old study (published in 1981) that is widely cited and backs the myth which showed that (specifically) men with metastatic disease had a higher risk for prostate cancer after they received Testosterone Treatment, however only four men in the study had not received some type of prior hormonal treatment (either castration or estrogen), all of which showed a positive response to the Testosterone Replacement Therapy.

At the end of reviewing the three prior studies claiming that higher testosterone meant higher risk of cancer, Dr. Morgentaler found major flaws in all of them. "Shockingly, the very publications cited so regularly to demonstrate a dangerous relationship between testosterone and prostate cancer contained evidence that this was not true."

In nearly 30 longitudinal studies published (to date) examining the relationship between prostate cancer and hormones, he found that not one study was able to show any direct relationship between the level of testosterone in the patient's blood and the risk for that patient developing prostate cancer. The men that had cancer did not have higher levels of testosterone than the men that did not have cancer. Among the men beginning studies without cancer, those with the highest amounts of testosterone were not at any higher risk to develop cancer than those with low testosterone. Occasionally a study would find a small correlation between one hormone level and cancer risk, however each finding was unable to be replicated in any of the other studies. Amazingly, no human study was able to show a correlation between high testosterone and high risk of prostate cancer.

In 2006, Dr. Morgentaler and Dr. Rhoden continued with another study. Their new findings were concurrent with previous ones, as well as provided further evidence that those with low testosterone are at a higher risk of prostate cancer. The degree of deficiency of testosterone was directly correlated with the degree of risk for prostate cancer. Men with testosterone levels in the bottom third were at a two times higher risk for developing cancer as men that were in the upper third. Other recent studies (from all over the world) have continued to back these findings up. One study showed that the lower the testosterone level, the more aggressive the tumor. A study in 2006 showed that the levels of testosterone in the blood and the levels of testosterone in the prostate are not as related as we once thought. Increasing the level of testosterone in the blood, after a certain point, does not increase the level of testosterone in the prostate.

Like a sponge, the prostate will absorb up to a certain amount of testosterone, but once it reaches its cap it will not soak up any more, regardless of an increase in testosterone in the blood. Overall, the risk for men with PSA values that are less than 4 ng/mL (the average level is about 6.79, with normal ranges being between 2.7 to 10.7, from MedicineNet) is 1 in 7 for developing prostate cancer.

Some men do still develop prostate cancer after beginning Testosterone Treatment. But as Dr. Morgentaler points out, if you switched laundry detergents at the same time you began the therapy, would you assume that was the cause of development? Of course not! The reason people automatically assume causation to be Testosterone Replacement Therapy is because of all the old bad science causing us to be predisposed to this false belief. The truth is that prostate cancer and testosterone treatment are both common in men in the US that fall in a certain age range, so some will still end up developing cancer. If it was actually increased testosterone from Testosterone Replacement Therapy that was encouraging the cancer to grow, there would certainly be numerous studies (or at least one!) showing the rates of cancer being higher in men receiving the therapy, but there aren't. Unfortunately, the unduplicated findings from a 1941 study of two men (one having been castrated) have prohibited many men from getting the Testosterone Therapy they need, but we are hoping to change that!

LOW T AND FAT GAIN

While it has been known for some time that obesity causes low testosterone, over more recent years there has been an increasing amount of evidence that the converse is also true, that low testosterone causes obesity. In a study of nearly 2,000 men, the New England Research Institute found the single strongest predictor for low testosterone was not overall health or age, but actually belly fat. When comparing men with a baseline average testosterone level of 6 ng/mL to 3 ng/mL (the average being 6.79, from MedicineNet), another study found a 36% increase in body fat. Fat gain due to low testosterone can affect men as early as their twenties. Obesity and low testosterone reinforce each other, creating a vicious circle that makes it seemingly impossible for men with low T to shed weight.

Testosterone has a large affect on many aspects of metabolism, including fat regulation, insulin, and glucose. Exactly how is not known, but testosterone directly prevents the creation of fat cells. Low testosterone is heavily linked with insulin resistance (inability to properly process carbs). Thus begins the weight gain cycle. Low testosterone makes it easier to put on belly fat. That fat contains an enzyme, aromatase, which converts testosterone in to estrogen. Excess estrogen causes men's bodies to slow down natural production of testosterone. The fat burns up the existing testosterone more rapidly. The decreased level of testosterone in the body encourages further accumulation of belly fat, and so it continues. Men with low testosterone get sucked in to a spiral of imbalanced hormones and weight gain.



There are more ways this cycle can cause men to be unhappy with their body image. Testosterone also leads to a decrease in muscle mass. A study by Kaiser Permanente showed that over 4.5 years, men with higher testosterone levels lost significantly less muscle mass than those with lower testosterone. Men may have been previously active or may just want to do something about their poor health/ weight gain, but the lethargy associated with low testosterone makes it even harder to get to the gym. Even if they are able to get there, their stamina will likely be much lower. As a result of the fat gain/muscle loss cycle they are stuck in they will find it much harder to see results, making it even more discouraging to return.

Healthy levels of testosterone are crucial in maintaining metabolic health. An increase in testosterone level can encourage increase in muscle and decrease in fat without doing any diet or exercise. Gettingtestosterone levels back to normal helps to increase insulin sensitivity and build muscle. Even if a male is considered average weight, metabolic health isn't about a number on a scale. It is about good balance between muscle and fat. Testosterone Replacement Therapy has been incredibly beneficial for men with low testosterone trying to regain control of their body, some of which may have experienced disappointing failed attempts through diet and exercise. A German study (concluded in 2013) followed men with low testosterone while they received Testosterone Replacement Therapy for a duration of five years. They saw an average weight loss of 36 pounds and 3.5 inches off the waist! The negative effects low testosterone has had on your body can easily be reversed through Testosterone Replacement Therapy.



LOW TESTOSTERONE AND DIABETES

Incidence of diabetes in the United States has been growing at an alarming rate, with almost 25% of the population over 60 having a diagnosis. It is estimated that of children born in the US today, 1 in 3 will eventually be diagnosed diabetic. Low testosterone is strongly linked with diabetes. Approximately half of men with diabetes have low testosterone, which is two times as likely to have low T as those without diabetes. Testosterone Replacement Therapy has been a promisingly successful approach to prevent, control, and potentially even reverse diabetes and other blood sugar related health problems. There are many studies showing improvements in blood sugar levels and obesity among diabetic, low-testosterone men receiving TRT. The benefit of the therapy on long-term blood sugar control can lead to less men dependent on dialysis, reduced morbidity and mortality, and less health care costs. Testosterone Replacement Therapy can enable these men to live longer, better quality lives.

Testosterone is known to help your body respond to insulin. Men suffering from low testosterone show increased rates of insulin resistance, which is when the body isn't using its created insulin properly and can't process carbs. Cells are unable to absorb glucose as they should, causing a surplus of glucose in the blood as well as a need to produce excess insulin in order to keep normal blood sugar levels. Along with increasing risk for health problems such as heart disease, insulin resistance also can lead to diabetes (type II). Additionally, Dr. Edward M. Lichten says, "It is possible the secondary role of testosterone could be not only to accelerate not only the conversion of glucose to stored cellular glycogen in the blood, but also to reverse the process when needed, thus accelerating the conversion of stored tissue glycogen to serum glucose. This could explain my observation that diabetic men on testosterone injections seem to be protected from hypoglycemia related coma and death."



A 2013 study of 300 men, some obese some not, showed that 44% of males suffered from both low testosterone and type II diabetes, while only 33% had low testosterone and no diabetes diagnosis. 25% of those with both conditions fell in the not-obese category, showing that the association between low testosterone and insulin resistance is not only related to weight.

It is possible that poor lifestyle decisions increase the risk simultaneously for the two conditions, and scientists are not entirely certain which causes which, but there a compelling amount of research showing the positive effects Testosterone Replacement Therapy has on management (and potential reversal) of diabetes and other like conditions.

LOW TESTOSTERONE AND MOODS

Mental health doctors started noticing a substantial percentage of men with depression also had low levels of testosterone. Urologist Dr. Robert Brannigan noted, "We see many men who have been treated clinically with antidepressants, when in turn their underlying problem is low testosterone." Shown to significantly affect mood, low testosterone can take a huge toll on a man's mental health in many different forms. Lethargy and difficulty sleeping cause irritability. A man suffering from low testosterone can feel less masculine as a result of weight gain, loss in muscle mass and strength, and decreased sex drive (along with other sexual problems). Overall, men with low testosterone are much more likely to suffer from depression. Counter intuitively to what you might be predisposed to believe, researchers observing many species of male animals with low T noticed that rather than being quiet and calm, they were more prone to confrontation and fighting. This is likely due to a dip in opioids in the brain crucial for elevated moods. Nearly 4,000 men over the age of 70 involved in a study showed that men with the lowest levels of testosterone were more than two times as likely to suffer from depression. This study did control for other independent variables known to have an effect on depression, such as general health, age, weight (obesity), and others.

Testosterone Replacement Therapy, when administered correctly by expertly trained physicians, can significantly favorably affect mood. This isn't a slow improvement, either. Most patients notice a difference in as little as days or weeks. In addition to elevated mood, patients report feeling calmer and better able to focus while on Testosterone Replacement. Our Testosterone Replacement

Therapy is uniquely more successful than other testosterone boosting programs since you self-administer your medications which are shipped directly to your home. Having the task of driving to the clinic for your weekly testosterone shots, you are likely to miss/delay many visits due to unforeseen conflicts. This causes frustration, anxiety and other issues to worsen due to the up and down spiking of your testosterone level. The convenience of our program ensures consistency, and the consistency ensures this will not happen, and your quality of life should be improved in many areas, not only your mental state.



LOW TESTOSTERONE AND OSTEOPOROSIS

Once over the age of 50 men are more likely to break a bone directly attributed to osteoporosis than they are to develop prostate cancer; one in every four men will have this occur. Low testosterone is known to be the leading cause of osteoporosis among men. Playing a crucial role in maintaining youthful body processes, testosterone is partially responsible for maintaining good, strong bones. In testosterone deficient men, Testosterone Replacement

Therapy has proven to improve bone density; managing testosterone levels cuts down on the risk of ever developing osteoporosis tremendously.

As you age, new bone is grown to replace your old bone. Low testosterone disturbs this reconstruction process. Stimulated bone mineralization, thinning of your bones, loss of muscle mass, and higher bone turnover rates are some of the ways low testosterone levels contribute to the risk of osteoporosis and decreased solidity of bones. In one study, men with testosterone levels in the lowest quartile had a risk 2.5 times higher for non-spine fractures than men in the highest quartile. The lower your testosterone, the slower your bones will be rebuilt, the lower your bone density will be thus increasing your risk for osteoporosis.



Testosterone Replacement Therapy reduces loss of calcium and slows down the thinning of bones in men suffering from low testosterone. Studies have shown improvement of bone density and trabecular architecture in the bones of testosterone deficient males because of receiving TRT. If you have low testosterone and are suffering from osteoporosis or worried about your risk or overall bone health, talk with one of our physicians about the many ways Testosterone Replacement Therapy can benefit you.

PEPTIDE THERAPIES

Peptide Therapy is an amazing new frontier in medicine that is quickly changing the landscape of how doctors manage health (not sickness) for many of their patients. Peptide therapy encompasses many categories of health. Weight

loss, cognition, HGH production, tanning, sexual function just to name a few.

At Low T Nation, we are seeing amazing results with two HGH peptides, Ipamorelin/CJC-1295 and Ibutamoren (MK-677). Both peptides increase HGH and IGF-1 in the body naturally and safely. These hormones are incredibly powerful in the areas of muscle gain and fat loss and ensure bones and organs stay healthy and strong. They work equally well in women and men as well. The research on HGH peptides is showing incredible results and very few concerns because the HGH created is natural and created in natural pulses and not huge spikes of exogenous hormone. The extreme nature of the exogenous injections causes prolactin spikes, cortisol spikes, blood sugar/insulin spikes and hyper-physiologic levels of IGF-1. These sides effects can cause adrenal fatigue, diabetes, organ growth, flat bone growth and more. These side effects are drastically reduced if not completely mitigated using the peptides.

Ipamorelin/CJC-1295 combines two peptides into one vial. The CJC-1295 component is a mimic of Growth Hormone Releasing Hormone (GHRH) which kicks off the body's production of HGH. The Ipamorelin component helps maintain this process longer in the body by inhibiting the production of the hormone somatostatin which shuts the HGH production process down. The drawback to this combo is that it's administered daily via subcutaneous injections. The primary advantage over Ibutamoren is that the hunger side effect is completely mitigated.

Ibutamoren (MK-677) is a mimic of the ghrelin hormone. This hormone also kicks off the production of HGH in the body similarly to CJC-1295. It is a powerful hormone and comes with a side effect that actually benefits some patients tremendously. The primary side effect is extreme hunger in some. If a patient is trying to lean out or lose fat, obviously this is probably not the better choice because it is easy to out-eat the benefits of the therapy. However, for patients looking to gain mass and are struggling with the caloric requirements to add muscle as fast as possible, this peptide can be incredibly beneficial.

We have also had fantastic results for both male and female patients dealing with sexual dysfunction by utilizing a peptide called **PT-141**. PT-141 works on women by activating the mPOA terminals in the brain thus increasing sexual arousal in an incredibly significant manner. Many studies are also showing that many women will average somewhere around a 30% increase in orgasm

intensity and possibly up to a 100% percent increase in orgasm frequency. Men are also benefitting from PT-141 with erection quality increases that are also equally measurable and impressive. This peptide used by both members in a relationship is showing amazing promise as a sexual therapy option not previously available to practitioners.

WEIGHT LOSS

Weight loss is a complicated and frustrating process for so many. Here at Low T Nation, we have developed a strategy to meet the patient at exactly where they are in the process and not squeeze them into a one-size fits all program based on some profit model that doesn't account for the individual patient in their current journey.

Struggles in weight loss come in many areas. Voids in education, deeply engrained poor habits, emotional hang ups, metabolic deficiencies, inactivity, nutritional mistakes, and general health misinformation just to name a few. We evaluate each patient and try to understand exactly what is missing from their current approach and offer a tailored program to remedy the situation.

Our overarching motto for any of our weight loss plans is sustainability. We can definitely help a patient lose weight fast, but those options are short term in nature and the patient should always know that anything geared to lose weight fast is never the right plan for long term weight loss and health. Short term successes are key to long term commitment to a health and wellness lifestyle.

Our solution can consist of any combination of the following: nutritional education, appetite suppressants, meal plans, weight loss peptides, micronutrient deficiency supplementation, accountability coaching, counseling, and personal training options. These various options allow us to create a tailor-made program to meet the exact requirements for each patient.