

Corey Haines

Marek Health

Lab Report



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05/29/1995

Lab Report

Thank you for choosing Marek Health for your diagnostic testing. This report was created just for you and is based on your individual blood test results in the context of your unique physiology. You may find that even small changes can significantly impact your health and well-being.

You will learn important information about your health and actionable recommendations in this report.

Marek Health is interested in helping you achieve optimal health, performance, and longevity.

You may notice that some of our recommendations are based on what we consider ideal blood ranges and may not match a typical "reference range." This is because we meticulously seek to achieve optimal lab values founded on evidence-based medicine and that of a young, healthy adult. We don't just want you to get by - we want you to look, feel, and perform at your peak year-round.

Although this document presents suggestions, all prescription decisions will ultimately be made at the discretion of your medical provider.

Disclaimer: Laboratory results provided to you are for informational purposes only and not intended to replace the care of a medical provider. All inquiries regarding the meaning or interpretation of the test results should be made to the ordering medical provider.



Sincerely yours,

Dr. Adam Hotchkiss

Clinical Researcher

Marek Health

Testosterone

Testosterone is the primary sex hormone in men.

Low testosterone is associated with earlier death, erectile dysfunction, impaired libido, cognitive impairment, muscle wasting, fatigue, depression, infertility, osteoporosis, and heart disease.

Testosterone is correlated with ASCVD risk, renal stress, hair loss, and prostate pathology.

Optimal testosterone levels result in increased muscle mass and strength, improved endurance, enhanced libido and sexual drive, improved mood, lowered cholesterol, increased bone mineral density, improved executive function and memory, improved sleep architecture, and insulin sensitivity.

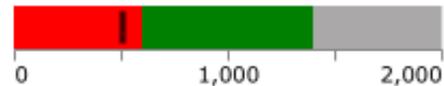
Total Testosterone (LC/MS)

Total Testosterone is a measure of the total amount of testosterone in your blood.

Result: 509.9 ng/dL

Optimal Range: 600-1400 ng/dL

Total Testosterone (LC/MS)



Recommendation:

TRT: Testosterone replacement therapy may be indicated to help you optimize your total and free testosterone. However, you will need to discuss this further to assess if you are a good candidate and explore the potential risks with your medical provider at your upcoming patient exam.

L-Carnitine: We recommend the use of injectable L-Carnitine to up-regulate your androgen receptor density, the receptors in which your testosterone and other androgens bind and exert effect.

If you want to learn more about L-Carnitine, we recommend the 'Injectable L-Carnitine eBook' by Alex Kikel.

Your medical provider will advise you on the optimal dose and frequency of injectable L-Carnitine at your upcoming patient exam.

Low-dose daily Tadalafil: Tadalafil is a PDE5 inhibitor designed initially as a blood pressure medication and later re-purposed to treat erectile dysfunction.

We recommend most patients use low-dose daily Tadalafil due to its wide array of health benefits. Tadalafil increases androgen receptor density, allowing you to maximize the effect of your endogenous or exogenous testosterone. Additionally, Tadalafil reduces aromatase expression, the enzyme that converts testosterone to estrogen. Hence Tadalafil can help

improve the T:E ratio.

It works by increasing blood flow to the entire body, including the brain, so not only does it improve erection quality but also pumps in the gym, hair growth, and cognition.

Tadalafil has also been shown to improve mood and positive affect, likely due to its potent antioxidant effects. It can increase both sexual desire and satisfaction as well as prevent and reverse benign prostatic hyperplasia.

Your medical provider will advise you on the optimal dose and frequency for your individual physiology at your upcoming patient exam.

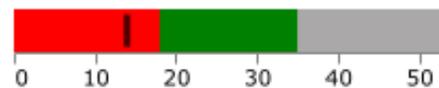
Free Testosterone

Free Testosterone is a measure of unbound testosterone, which is the testosterone that is not bound to SHBG or albumin, and is available to the body's tissues.

Result: 13.97 ng/dL

Optimal Range: 18-35 ng/dL

Free Testosterone



DHT

DHT is a tissue metabolite of testosterone with a stronger effect at the androgen receptor site. DHT is rapidly broken down within muscle tissue into weaker steroids; hence it is not very anabolic. However, DHT plays a vital role in sexual maturation, and after puberty, DHT supports healthy libido, mental drive, cognition, and immunity. DHT has a high affinity to sex hormone-binding globulin (SHBG), five times that of Testosterone. Elevated concentrations of DHT are observed in men with male pattern baldness and benign prostatic hyperplasia.

Total DHT (Dihydrotestosterone)

Total DHT is a measure of the total amount of DHT in serum.

Result: 25 ng/dL

Optimal Range: 20-60 ng/dL

Total DHT (Dihydrotestosterone)



Free DHT (Dihydrotestosterone)

Free DHT is a measure of unbound DHT, which is the DHT that is not bound to SHBG or albumin and is readily available to the body's tissues.

Result: 2.50 pg/mL

Optimal Range: 2-6 pg/mL

Free DHT (Dihydrotestosterone)



Recommendation:

DHT plays essential roles in mental drive, motivation, libido, and sexual function.

If seeking to mitigate hair loss risk, consider the use of topical, not oral, 5-alpha reductase inhibitors. We recommend a combination therapy of topical Dutasteride with topical Minoxidil. The former may help prevent hair loss, and the latter may induce hair growth. Because Dutasteride is greater than 500 daltons in size, it cannot easily pass through the skin barrier. When applied topically to the scalp, it will lower levels of DHT locally while not causing systemic 5AR inhibition. This will mitigate the theoretical neurosteroid deficiencies and side effects associated with low circulating 5AR activity and low levels of DHT.

Gonadotropins

Gonadotropins are hormones synthesized and released by the pituitary, which act on the testes to increase the production of sex hormones and stimulate production of sperm.

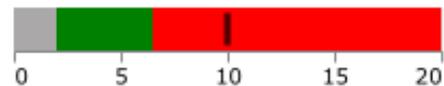
Luteinizing Hormone (LH)

Luteinizing Hormone (LH) is a signaling hormone that instructs the testicles to produce testosterone and supports spermatogenesis. When testosterone levels are low, the body will produce LH to raise testosterone. A low level of LH may indicate a pituitary issue. An excessively high LH level may indicate a problem with the testes' response to LH.

Result: 10.0 mIU/mL

Optimal Range: 2-6.5 mIU/mL

Luteinizing Hormone (LH)



Follicle Stimulating Hormone (FSH)

FSH is a signaling hormone to the testes and helps stimulate sperm production. A low level of FSH may indicate a pituitary issue. An excessively high FSH level may mean the testes are not functioning correctly.

Result: 4.1 mIU/mL

Optimal Range: 1.7-6.5 mIU/mL

Follicle Stimulating Hormone (FSH)



Hormone Assay

These tests measure levels of the critical hormones and androgens that play an essential role in governing masculinity, vitality, and fertility.

Prolactin

Prolactin is a hormone produced in the pituitary gland. Elevated levels in men can cause reduced sex drive, lack of energy, erectile dysfunction, and impaired fertility.

Result: 10.6 ng/mL

Optimal Range: 3.5-9 ng/mL

Recommendation:

Excess levels of Prolactin can cause symptoms of malaise, fatigue, low libido, and reduced sexual function.

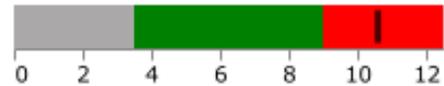
Often elevations in Prolactin are caused by the use of SSRIs, opioids (including Kratom), excessive THC intake, or sub-optimal thyroid function.

P5P: P5P, the active form of Vitamin B6, plays important roles in dopamine synthesis. Dopamine, also known as Prolactin Inhibiting Hormone, combats prolactin excess by inhibiting the secretion of Prolactin in the pituitary. Additionally, P5P can help support sleep induction hence we recommend taking it at night before bed.

We recommend you supplement with 50-100mg of P5P per night.

A high-quality P5P supplement we recommend is available via Marek.

Prolactin



Cortisol

This test measures the "stress hormone" cortisol, which mobilizes the body's nutritional resources in stressful situations.

Result: 0.7 ug/dL

Optimal Range: 7-16 ug/dL

Recommendation:

Cortisol levels fluctuate significantly throughout the day. Hence, 'optimal' cortisol levels depend heavily on the time of day the blood sample was taken. If this blood test was taken in the morning, consider the recommendations

Cortisol



below. If this blood test was taken in the afternoon, your levels are likely normal/expected.

Cortex by Thorne: Chronic stress and/or stimulant abuse overworks the adrenal glands, leading to dysfunction. Stress negatively affects the ability of the adrenal glands to produce cortisol, which is important in maintaining healthy blood sugar levels, immune function, reproductive function, and overall physical and mental stamina. The adrenal glandular tissue extracts in Cortex, as well as other nutrients and botanicals in it, help support healthy adrenal function and restore cortisol levels, thereby helping to maintain immune function and a feeling of energy.

This high-quality vitamin blend is available via Marek Health.

Circadian rhythm: Cortisol is released in a circadian rhythm. A broken or inconsistent sleep cycle may contribute to increased levels of cortisol.

Focus on the following:

- Morning sunlight
- Consistent sleep schedule (set and stick to a bed-time, preferably before 11pm)
- Wake naturally with the sun (open your blinds, turn off your alarm)
- Avoid eating late at night (dinner should be at least 3 hours before bed-time)
- Avoid blue light at night (turn on night-shift on your electronic devices)
- Supplementation with melatonin 30-90 minutes before sleep

DUTCH: DUTCH test stands for Dried Urine Test for Comprehensive Hormones and involves the collection of a small amount of urine on filtered paper four times a day.

We recommend the DUTCH Adrenal panel. This test can be performed from the comfort of your home and is the most accurate way to measure adrenal health.

This will provide valuable information into your patterns of cortisol and cortisone release throughout the day. It also provides important information on DHEA-S, and cortisol/cortisone metabolites such as a-THF, b-THF, and b-THE.

DUTCH testing and interpretation is available via Marek Health.

SHBG (Sex Hormone-Binding Globulin)

Sex Hormone Binding Globulin (SHBG) is a protein made in the liver that binds to sex hormones, helping to regulate, stabilize, and transport them.

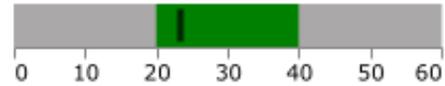
Insufficient SHBG is associated with hormonal fluctuations, faster excretion of sex hormones, insulin resistance, and dyslipidemia.

Excessive SHBG concurrent with low total testosterone may result in impaired androgenic signaling.

Result: 23.4 nmol/L

Optimal Range: 20-40 nmol/L

SHBG (Sex Hormone-Binding Globulin)



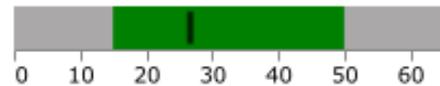
Estradiol, Sensitive

Estradiol or E2 is the main biologically active form of estrogen and is just as important in men as testosterone.

Result: 26.7 pg/mL

Optimal Range: 15-50 pg/mL

Estradiol, Sensitive



Neurosteroid Profile

Neurosteroids are steroid hormones synthesized locally within the CNS and play important biological roles in mood, mental drive, metabolism, cognitive function, sleep architecture, and sexual function.

Pregnenolone

Pregnenolone is the master neurosteroid. It is the precursor to DHEA, Progesterone, and other neurosteroids. Pregnenolone has pro-cognitive effects, enhances memory, increases motivation, prevents fatigue, and improves stress tolerance. Pregnenolone also plays an important role in immunity. Low levels of Pregnenolone are associated with brain fog and increased Alzheimer's disease risk.

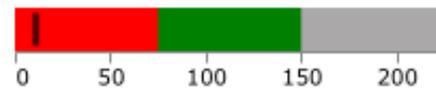
Result: 11 ng/dL

Optimal Range: 75-150 ng/dL

Recommendation:

Low levels of Pregnenolone are associated with increased risk of Alzheimer's disease and impaired cognitive function. We recommend you begin supplementation with an oral sustained release Pregnenolone formulation. Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Pregnenolone



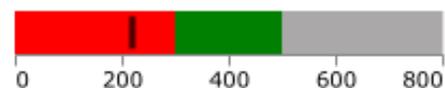
DHEA-S (Dehydroepiandrosterone Sulfate)

DHEA is the master sex hormone necessary for libido, energy levels, and immune function. It's the body's natural counterbalance to stress hormones like cortisol. Sufficient levels of DHEA are associated with improved cardiovascular health, reductions in visceral fat, improved mood and wellbeing, enhanced memory, improved sleep architecture, and blood glucose control.

Result: 220.0 ug/dL

Optimal Range: 300-500 ug/dL

DHEA-S (Dehydroepiandrosterone Sulfate)



Recommendation:

Low levels of DHEA-S are associated with impaired stress tolerance, fatigue, and type II diabetes. We recommend you begin supplementation with an oral sustained release DHEA formulation.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

A combination therapy of DHEA with Pregnenolone may be advised.

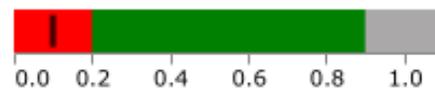
Pregnenolone is a neurosteroid, similar to DHEA, that plays important roles in cognition and memory. If levels of DHEA-S are low, often Pregnenolone levels are also low as DHEA is produced from Pregnenolone.

Progesterone

Progesterone is a neurosteroid that has powerful effects on sexual health and libido. Progesterone's metabolites, such as allopregnanolone, are potent GABAA agonists with anxiolytic, pro-sleep, anti-depressive, pro-libido, and nootropic effects.

Result: 0.1 ng/mL

Optimal Range: 0.2-0.9 ng/mL

Progesterone**Recommendation:**

Low levels of Progesterone are associated with poor sleep architecture, reduced libido, impaired sexual function, and anxiety.

In men, we tend to avoid supplementing with Progesterone directly as it may lead to negative feedback on the pituitary output of LH, leading to reduced levels of Testosterone.

Instead, we recommend supplementing with an oral sustained released Pregnenolone formulation. Pregnenolone is a master neurosteroid that will downstream convert to Progesterone as needed.

Pregnenolone has additional benefits on cognitive and executive function and may lead to increased levels of Testosterone.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Men with low Progesterone, and a history of anxiety, are more prone to the side effects associated with systemic 5AR inhibition. If seeking to mitigate male pattern baldness risk, we recommend avoiding oral Finasteride/ Dutasteride and instead opting for topical Dutasteride.

Growth Hormone Profile

Screening for disorders of growth hormone secretion and dysfunction.

IGF-1 (Insulin-Like Growth Factor I)

IGF-1, or Insulin-Like Growth Factor 1, is our best biomarker for human growth hormone (HGH) status.

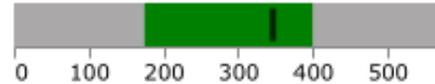
HGH is a hormone that stimulates growth, cell division, and regeneration and plays an important role in body composition and bone strength.

IGF-1, produced by HGH via the liver, stimulates muscle growth, protein synthesis, and lipolysis.

Result: 347 ng/mL

Optimal Range: 175-400 ng/mL

IGF-1 (Insulin-Like Growth Factor I)



Thyroid Function

The thyroid is a gland just below the Adam's apple. It releases thyroid hormones that govern your energy and metabolism.

The pituitary stimulates the thyroid gland through a hormone called Thyroid Stimulating Hormone (TSH).

Insufficient thyroid hormone production leads to excessive TSH, which acts as a stress signal on the thyroid gland. Chronically elevated TSH may lead to goiter and increase the risk of thyroid cancer.

TSH (Thyroid Stimulating Hormone)

TSH is the signal the body produces when the body is not receiving sufficient levels of thyroid hormone. High levels of TSH indicate there are insufficient levels of thyroid hormone, and metabolism is not running optimally; hence there are often correlating symptoms of fatigue.

Result: 1.730 uIU/mL

Optimal Range: 0.25-1.5 uIU/mL

Recommendation:

Elevations of TSH occur when the body requests more thyroid hormone than your thyroid gland can produce. The failure of the thyroid gland may occur due to age-related decline, excessive oxidative stress, auto-immune conditions such as Hashimoto's, or chronic nutrient deprivation.

Thyroid Support Complex: You may benefit from supplementing with the necessary co-factors for healthy thyroid function, such as Zinc, Selenium, Iodine, etc. Thyroid Support Complex is an essential blend of these micronutrients combined with B12, Tyrosine, Bacopa, Forskolin, and other botanicals to support healthy thyroid function and reduce symptoms of fatigue.

This high-quality vitamin blend is available via Marek.

TSH (Thyroid Stimulating Hormone)



Free T4 (Free Thyroxine)

T4, or Thyroxine, is the inactive thyroid hormone produced by the thyroid gland using iodine. T4 is converted via the liver and other tissues to the active T3 thyroid hormone as needed, and T3 drives metabolism. Aging impairs the conversion of inactive T4 > active T3, resulting in impaired metabolism.

Result: 1.39 ng/dL

Optimal Range: 1.5-3 ng/dL

Recommendation:

Thyroid Support Complex: You may benefit from supplementing with the necessary co-factors for healthy thyroid function, such as Zinc, Selenium, Iodine, etc. Thyroid Support Complex is an essential blend of these micronutrients combined with B12, Tyrosine, Bacopa, Forskolin, and other botanicals to support healthy thyroid function and reduce symptoms of fatigue.

This high-quality vitamin blend is available via Marek.

Free T4 (Free Thyroxine)



Free T3 (Free Triiodothyronine)

T3, or Triiodothyronine, is the active thyroid hormone; its job is to regulate metabolism, body temperature, and heart rate. Optimal levels of T3 improve brain function, insulin sensitivity, muscle growth, fat loss, and mood. Insufficient FT3 levels are associated with a slowed metabolism, weight gain, low body temperature, muscle loss, depression, fatigue, hair loss, constipation, and dry skin.

Result: 2.6 pg/mL

Optimal Range: 3.5-5 pg/mL

Free T3 (Free Triiodothyronine)



Low levels of T3, the active thyroid hormone, can impair optimal metabolism and energy levels. Additionally, T3 is necessary for LDL receptor expression. Low levels of T3 can lead to increases in atherogenic proteins such as ApoB and Lp(a), therefore increasing heart disease risk.

Recommendation:

Thyroid Support Complex: You may benefit from supplementing with the necessary co-factors for healthy thyroid function, such as Zinc, Selenium, Iodine, etc. Thyroid Support Complex is an essential blend of these micronutrients combined with B12, Tyrosine, Bacopa, Forskolin, and other botanicals to support healthy thyroid function and reduce symptoms of fatigue.

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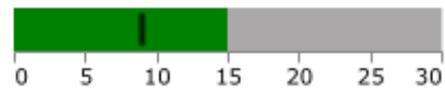
Thyroid Peroxidase (TPO) Ab

TPO antibodies are a surrogate marker for a thyroid-related autoimmune disorder such as hashimotos or graves' disease.

Result: <9 IU/mL

Optimal Range: <15 IU/mL

Thyroid Peroxidase (TPO) Ab



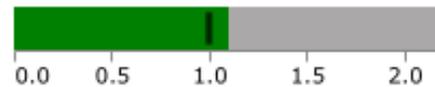
Thyroglobulin Antibody (TgAb)

TgAb antibodies are a surrogate marker for a thyroid-related autoimmune disorder such as hashimotos or graves' disease.

Result: <1.0 IU/mL

Optimal Range: <1.1 IU/mL

Thyroglobulin Antibody (TgAb)



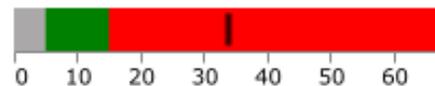
Reverse T3 (RT3)

Reverse T3, or RT3, is an inactive form of T3 produced in the body, particularly during periods of stress. Under certain conditions, the conversion of T4 is diverted toward RT3 and away from T3. This may occur during fasting, starvation, illness such as liver disease, and during times of increased psychological stress.

Result: 33.9 ng/dL

Optimal Range: 5-15 ng/dL

Reverse T3 (RT3)



Recommendation:

Reduce Systemic Inflammation: Later in this report, you will find targeted

strategies to help reduce and resolve systemic inflammation.

Metabolic Health

Broad screening metabolic tests to determine insulin sensitivity and metabolic health.

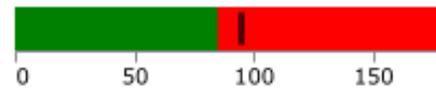
Glucose

Serum glucose is a snapshot of the levels of glucose in your blood. High levels of glucose indicate insufficient insulin secretion or poor insulin sensitivity.

Result: 95 mg/dL

Optimal Range: <85 mg/dL

Glucose



HbA1c (Hemoglobin A1c)

HbA1c measures the glycation of red blood cells and provides an average indication of your blood glucose levels over the previous 2-3 months, reflective of the expected lifespan of your red blood cells. Elevated hbA1C levels indicate blood glucose levels have been high, and you may be at risk for developing type II diabetes.

Result: 5.6 %

Optimal Range: 4-5.2 %

HbA1c (Hemoglobin A1c)



Recommendation:

CGM: We recommend all patients at Marek use a continuous glucose monitor, such as the FreeStyle Libre, for at least two weeks so they can see in real-time the effect diet, exercise, and sleep quality have on blood glucose levels and how that correlates to mood, energy, and cognition. The device attaches to your body, usually the upper arm, and takes ongoing measurements of glucose that are sent directly to your phone.

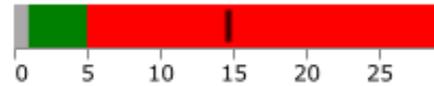
Cardio: We recommend introducing 45 minutes of zone 2 cardiovascular exercise four times per week. Zone 2 could be defined in many different ways; we refer to the biological definition: the highest level of output you can produce while keeping below the lactate threshold (2mmol/L). Unless you are willing to check your lactate while exercising, which can be expensive, a good

approximation is steady-state cardio at 85% of your maximum heart rate. It should be challenging but possible to hold a conversation while exercising, if you are struggling to speak at all, you are likely pushing things too hard.

Insulin

Insulin is a hormone released to transport glucose inside the cell. Elevated levels of insulin may indicate insulin resistance, a precursor for type 2 diabetes.

Insulin



Result: 14.7 uIU/mL

Optimal Range: 1-5 uIU/mL

Recommendation:

CGM: We recommend all patients at Marek use a continuous glucose monitor, such as the FreeStyle Libre, for at least two weeks so they can see in real-time the effect diet, exercise, and sleep quality have on blood glucose levels and how that correlates to mood, energy, and cognition. The device attaches to your body, usually the upper arm, and takes ongoing measurements of glucose that are sent directly to your phone.

Cardio: We recommend introducing 45 minutes of zone 2 cardiovascular exercise four times per week. Zone 2 could be defined in many different ways; we refer to the biological definition: the highest level of output you can produce while keeping below the lactate threshold (2mmol/L). Unless you are willing to check your lactate while exercising, which can be expensive, a good approximation is steady-state cardio at 85% of your maximum heart rate. It should be challenging but possible to hold a conversation while exercising, if you are struggling to speak at all, you are likely pushing things too hard.

Medications: There are multiple options for improving insulin sensitivity. Your medical provider will assess which one of the medications listed below is suitable for your individual physiology during your upcoming patient exam.

Option #1:

Metformin: Metformin is used to help control blood glucose and restore insulin sensitivity. It works to decrease hepatic glucose production, decrease intestinal absorption of glucose, and improve insulin sensitivity by increasing peripheral glucose uptake. It may reduce levels of inflammation, reduce oxidative damage and induce autophagy. It is well known in some circles as a longevity drug.

This therapy may be associated with poor sperm health; it may not be a viable option if you wish to have children within the next 12 months.

Alternately, the use of Berberine may be recommended.

Option #2:

Semaglutide: Semaglutide is the premiere GLP-1 agonist, which stimulates the feeling of being full and enhances insulin sensitivity leading to weight loss. It was recently shown that a once-weekly injection of Semaglutide alongside lifestyle intervention caused a 33lbs weight loss in patients compared to only 6lbs of weight loss in a comparative group with only lifestyle intervention. Other potential benefits of Semaglutide are neuroprotection, enhanced fertility, and improved sleep. Additionally, Semaglutide has been shown to regenerate beta cells and restore pancreas health, leading to potential lifelong improvements in blood glucose control.

Note: If you have an elevated BMI, or struggle with appetite control, Semaglutide is the preferred treatment option.

Heart Health Profile

Atherosclerosis is the buildup of cholesterols, fats, and other products in the artery walls. The arterial walls can become calcified, and macrophages present can decrease stability. The plaque that builds can obstruct blood flow. Atherosclerosis often has no symptoms until a plaque ruptures or the build-up is severe enough to block blood flow and cause a stroke.

Chronically elevated lipids, glucose, blood pressure, and inflammation can contribute to the development of atherosclerosis and associated heart disease risk.

ApoA1 (Apolipoprotein A-1)

ApoA1 is the nucleating protein around which HDL forms during reverse cholesterol transport. It's also known as good cholesterol.

Result: 137 mg/dL

Optimal Range: 160-200 mg/dL

ApoA1 (Apolipoprotein A-1)



Recommendation:

You may be familiar with HDL-Cholesterol (so-called "good cholesterol"), this measurement is outdated and not a great predictor of cardiovascular disease risk. HDL-Cholesterol is an umbrella measurement for ApoA1, ApoA2, and ApoC3. Whereas apoA1 is beneficial to cardiovascular health, ApoC3 is instead regarded as pro-atherogenic.

ApoA1 is a marker for the particles that are actually beneficial to cardiovascular health and is a superior marker to test, treat and monitor to reduce CVD risk.

Monitor: We will re-check your ApoA1 levels during your follow-up diagnostic tests in 2-3 months and every six months after that. To reduce heart disease risk, the goal is to increase your ApoA1 levels to above 160 mg/dL.

EPA/DHA Ethyl Esters: These Omega-3 fatty acids have broad health benefits on cardiovascular and brain health. Both EPA and DHA have been shown to up-regulate the expression of the ApoA1 gene, increasing the production of ApoA1 and reducing heart disease risk. In studies, high doses of EPA/DHA have been shown to reduce the risk of major cardiovascular events such as heart attacks by 25%.

We recommend you begin supplementation with 4 grams of pharmaceutical grade Omega 3 Ethyl Esters per day, which your medical provider can

prescribe in your upcoming patient exam. We recommend this form of Omega-3 supplementation as it's been thoroughly vetted for mercury and oxidation, unlike many over-the-counter supplements.

Ezetimibe: Ezetimibe is the modern lipid-lowering agent of choice. It is distinct from other medications such as statins as it does not inhibit cholesterol synthesis. Ezetimibe works by selectively inhibiting the intestinal absorption of cholesterol. It is very well tolerated and has been shown to significantly decrease markers associated with cardiovascular disease, such as apolipoprotein B, lipoprotein(a), and triglycerides. It also substantially increases ApoA1, or good cholesterol. It also may have protective effects against non-alcoholic fatty liver disease and lower stroke risk. Additionally, Ezetimibe has been shown to cause significant reductions in inflammatory markers such as CRP. Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

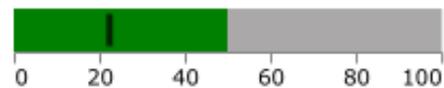
Lipoprotein(a)

Lipoprotein(a) or Lp(a) is also an LDL however it carries the apo(a) protein attached to the apolipoprotein(B) particle. Lp(a) is smaller and denser allowing it to lodge into arterial walls easier, hence Lp(a) has emerged as an independent risk factor for atherosclerosis and heart disease. Levels of Lp(a) are largely genetically influenced.

Result: 22.4 nmol/L

Optimal Range: <50 nmol/L

Lipoprotein(a)



Triglycerides

Triglycerides are a measurement of fats in the blood, which can harden and thicken the arterial walls increasing the ability of bad cholesterol to build up and increasing the risk of atherosclerosis.

Result: 168 mg/dL

Optimal Range: <90 mg/dL

Triglycerides



Recommendation:

Triglycerides are a measurement of fats in your blood. Elevated levels of Triglycerides are primarily mediated by diet. Elevations can lead to the hardening of arteries and are associated with an increased risk of heart disease.

Diet: Reduce intake of saturated fatty acids, such as those from fatty cuts of red meat or full-fat dairy. Instead, opt for leaner cuts of beef or lite dairy options, and consider replacing those dietary fats with non-heated polyunsaturated or monounsaturated fats such as cold-pressed extra virgin olive oil, raw low-mercury fish, or avocado.

Choline: Increase intake of choline-rich foods, such as beef liver, or supplement with choline to reach at least 550mg of choline per day. This is because choline is essential for transporting Triglycerides away from the liver; a deficiency of choline in combination with elevated Triglyceride production will increase the risk of non-alcoholic fatty liver disease (NAFLD).

We recommend you begin eating 2-3oz of beef liver daily.

If you are unable or unwilling to eat beef liver, we recommend supplementation via oral or injectable administration. Both administration options are available via Marek.

EPA/DHA Ethyl Esters: These Omega-3 fatty acids have broad health benefits on cardiovascular and brain health. EPA and DHA have been shown to reduce Triglyceride levels and reduce heart disease risk significantly.

We recommend you begin supplementation with 4 grams of pharmaceutical grade Omega 3 Ethyl Esters per day, which your medical provider can prescribe in your upcoming patient exam. We specifically recommend this form of Omega-3 supplementation as it's been thoroughly vetted for mercury and oxidation, unlike many over-the-counter supplements.

Low-dose Aspirin: This simple over-the-counter medication has shown to be

effective in treating hypertriglyceridemia by lowering the production of Triglycerides within the liver.

Your medical provider will assess if you are a good candidate for Aspirin and advise you on the optimal dosing protocol for your individual physiology during your upcoming patient exam.

Tesamorelin: Tesamorelin is a growth hormone releasing hormone designed to lower visceral fat specifically. It has powerful effects on lowering Triglycerides and is well tolerated. A short four-month course of Tesamorelin may be indicated to help quickly restore healthy Triglyceride concentrations. You will need to be assessed by your medical provider during your upcoming patient exam to determine if this therapy is right for you.

Fenofibrate: Fenofibrate is the premier drug in its class. This medication is used specifically to lower the levels of fats in the blood and reduces Triglycerides by 46+%, therefore, reducing pancreatitis and heart disease risk.

Your medical provider will advise you on the optimal dose and protocol for your individual physiology during your upcoming patient exam.

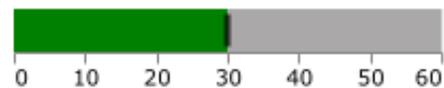
VLDL Cholesterol

Very low-density lipoprotein is a type of "bad cholesterol" because it helps cholesterol build up on the walls of arteries. It is made primarily of triglycerides.

Result: 30 mg/dL

Optimal Range: <30 mg/dL

VLDL Cholesterol



C-Reactive Protein (CRP)

C-Reactive Protein (CRP) is a marker of inflammation status and a surrogate marker for cardiovascular disease risk.

Result: 1.49 mg/L

Optimal Range: <0.75 mg/L

C-Reactive Protein (CRP)



Recommendation:

Elevations in CRP indicate some recent inflammatory action within the body. The most important thing is finding out if this elevation is transient or chronic, as chronic elevations in CRP are far more worrisome. We will re-check your high sensitivity C-Reactive Protein levels during your follow-up diagnostic

tests in 2-3 months.

EPA/DHA Ethyl Esters: These Omega-3 fatty acids can help lower inflammatory cascades, resulting in CRP reductions.

More importantly, EPA/DHA can help resolve the source of inflammation itself. EPA/DHA are direct pre-cursors to resolvins, termed 'specialized pro-resolving mediators (SPMs) that act locally at sites of inflammation or damage to restore normal cellular function.

We recommend you begin supplementation with 4 grams of pharmaceutical grade Omega 3 Ethyl Esters per day, which your medical provider can prescribe in your upcoming patient exam. We recommend this form of Omega-3 supplementation as it's been thoroughly vetted for mercury and oxidation, unlike many over-the-counter supplements.

L-Carnitine: This amino acid, mainly known for improving androgen sensitivity and endurance, is very effective at reducing oxidation stress and inflammation. Multiple human studies show significant CRP reductions.

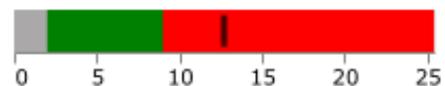
We recommend injectable L-Carnitine, as oral L-Carnitine may be associated with an increased risk of heart disease due to elevations in TMAO via interactions with gut microbiota. Administration via injections skips the gut and therefore mitigates this theoretical risk.

Your medical provider will advise you on the optimal dose and protocol for your individual physiology during your upcoming patient exam.

Homocysteine

Elevated homocysteine blood test levels are a risk factor for cancer and cardiovascular disease and may also be elevated in cases of malnutrition, B12, or folate deficiency. Elevations in homocysteine may indicate issues with methylation status, and potentially MTHFR gene mutations.

Homocysteine



Result: 12.7 umol/L

Optimal Range: 2-9 umol/L

Recommendation:

High homocysteine levels are associated with CAD, Alzheimer's disease, dementia, Parkinson's disease, blood clots, cancer, and stroke.

Elevations in Homocysteine may indicate impaired methylation status. Often this is caused by, in descending order of likelihood, MTHFR, MTR, MTRR, or CBS mutations. If you wish to seek genetic testing, we recommend screening

for MTHFR mutations that impair your ability to break down homocysteine and are associated with an increased risk of heart disease. Genotyping is available via Marek through LabCorp.

Micronutrients: With optimal micronutrient status, you can overcome these genetic mutations' effects on the methylation cycle. We recommend supplementing with specific forms of B12 (methylcobalamin), Folate (6S]-5-methyltetrahydrofolate), Vitamin B2 (Riboflavin), and Vitamin B6 (P5P) to support healthy methylation. These vitamins are included at efficacious doses in the Homocysteine Support Complex vitamin blend and are clinically proven to reduce Homocysteine levels.

Homocysteine Support Complex is available via Marek, and we recommend you begin supplementation.

Creatine: Creatine supplementation does more than just pump up your muscles. It can lower the demand for methylation and help to increase the methyl pool leading to reduced Homocysteine production. Additionally, Creatine may help improve cognitive performance. We recommend you begin supplementing with 5 grams of Creatine Monohydrate daily.

TMAO (Trimethylamine N-oxide)

TMAO is produced by gut microbiota and oxidation after ingestion of choline or L-Carnitine. Switching patients from oral L-Carnitine supplements to injectable L-Carnitine is preferred for this reason as it bypasses gut microbiota.

Elevations in TMAO are associated with heart disease, which may be caused by impaired reverse cholesterol transport - impairing the effectiveness of HDL-C (good cholesterol).

Result: <3.3 uM

Optimal Range: <6 uM

TMAO (Trimethylamine N-oxide)



Fibrinogen (Factor I) Activity

Fibrinogen is a clotting factor and an acute phase reactant, meaning levels may rise sharply in any condition that causes inflammation or tissue damage. Studies show elevations are associated with increased risk for atherosclerotic vascular disease. While fibrinogen levels are elevated, they may increase the risk of developing a blood clot.

Result: 331 mg/dL

Optimal Range: 200-400 mg/dL

Fibrinogen (Factor I) Activity



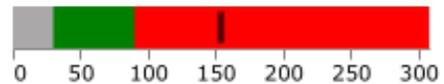
LDL Cholesterol

LDL Cholesterol, also known as "bad cholesterol", carries cholesterol from your liver around your body. It is dangerous when it is small or sticky because it can cause a build up of plaque in the arterial walls.

Result: 154 mg/dL

Optimal Range: 30-90 mg/dL

LDL Cholesterol



Recommendation:

L-Carnitine: L-Carnitine is an amino acid required in fatty acid oxidation. It works via increasing cholesterol transport, allowing cholesterol to be metabolized for energy, which lowers lipids such as LDL-C and aids in the reduction of body fat, and increases energy and stamina.

More importantly, L-Carnitine prevents the oxidation of LDL-C and reduces inflammatory cascades that are directly implicated in atherosclerosis.

We recommend injectable L-Carnitine over oral supplementation as gut microbes have been shown to significantly impact L-carnitine metabolism and convert it into metabolites such as TMAO, linked to increased atherosclerosis risk.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Ezetimibe: Ezetimibe is the modern lipid-lowering agent of choice. It is distinct from other medications such as statins as it does not inhibit

cholesterol synthesis. Ezetimibe works by selectively inhibiting the intestinal absorption of cholesterol. It is very well tolerated and has been shown to significantly decrease markers associated with cardiovascular disease, such as LDL-C, lipoprotein(a), and triglycerides. It also substantially increases HDL-C, or good cholesterol. It also may have protective effects against non-alcoholic fatty liver disease and lower stroke risk.

Additionally, Ezetimibe has been shown to cause significant reductions in inflammatory markers such as CRP.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

ADMA (Asymmetric Dimethylarginine)

Asymmetric dimethylarginine (ADMA) is a naturally occurring by-product of protein methylation. ADMA reduces your body's ability to produce nitric oxide, a molecule that helps maintain a healthy endothelium. Hence, elevations in ADMA may increase risk of cardiovascular disease, erectile dysfunction and kidney disease. Moreover, elevations in ADMA are significantly associated with atherosclerosis. ADMA levels become elevated in the presence of high LDL cholesterol and homocysteine.

Result: 112 ng/mL

Optimal Range: <90 ng/mL

Recommendation:

Risk Factors: Levels of ADMA are often elevated due to high levels of homocysteine and/or ApoB/LDL Cholesterol. Addressing any elevations of these risk factors via recommendations listed above are highly recommended to lower ADMA levels and attenuate atherosclerosis risk.

Cardio: We recommend introducing 45 minutes of zone 2 cardiovascular exercise four times per week. Zone 2 could be defined in many different ways; we refer to the biological definition: the highest level of output you can produce while keeping below the lactate threshold (2mmol/L). Unless you are willing to check your lactate while exercising, which can be expensive, a good approximation is steady-state cardio at 85% of your maximum heart rate. It should be challenging but possible to hold a conversation while exercising, if you are struggling to speak at all, you are likely pushing things too hard.

ADMA (Asymmetric Dimethylarginine)



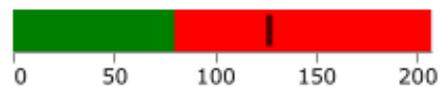
Low-dose daily Tadalafil: ADMA reduces nitric oxide synthesis therefore resulting in endothelium dysfunction and risk of atherosclerosis. Tadalafil can attenuate this effect as it powerfully increases nitric oxide levels. Your medical provider will assess if this therapy is right for you at your upcoming patient exam.

Telmisartan: Telmisartan is an angiotensin receptor blocker (ARB) traditionally used to lower blood pressure. A recent study on Telmisartan showed it significantly lowered ADMA levels. Your medical provider will assess if this therapy is right for you at your upcoming patient exam.

ApoB (Apolipoprotein B)

ApoB is present in all atherogenic lipoproteins, including LDL, Lp(a), intermediate-density lipoprotein (IDL), and very low-density lipoprotein (VLDL) remnants. It's also known as bad cholesterol.

ApoB (Apolipoprotein B)



Result: 127 mg/dL

Optimal Range: <80 mg/dL

Recommendation:

You may be familiar with LDL-Cholesterol (so-called "bad cholesterol"), this measurement is outdated and not a great predictor of cardiovascular disease risk. That is because LDL-Cholesterol is a surrogate marker for the cholesterol concentration, while ApoB is a marker for the particles that are actually atherogenic.

Elevated ApoB is a superior marker to test, treat and monitor to reduce CVD risk.

Monitor: We will re-check your ApoB levels during your follow-up diagnostic tests in 2-3 months and every six months after that. The goal is to reduce your ApoB levels to below 80 mg/dL to reduce heart disease risk.

L-Carnitine: L-Carnitine is an amino acid required in fatty acid oxidation. It works via increasing cholesterol transport, allowing cholesterol to be metabolized for energy, which lowers lipids such as ApoB and aids in the reduction of body fat, and increases energy and stamina.

More importantly, L-Carnitine prevents the oxidation of ApoB and reduces inflammatory cascades that are directly implicated in atherosclerosis.

We recommend injectable L-Carnitine over oral supplementation as gut microbes have been shown to significantly impact L-carnitine metabolism and

convert it into metabolites such as TMAO, linked to increased atherosclerosis risk.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Ezetimibe: Ezetimibe is the modern lipid-lowering agent of choice. It is distinct from other medications such as statins as it does not inhibit cholesterol synthesis. Ezetimibe works by selectively inhibiting the intestinal absorption of cholesterol. It is very well tolerated and has been shown to significantly decrease markers associated with cardiovascular disease, such as apolipoprotein B, lipoprotein(a), and triglycerides. It also substantially increases ApoA1, or good cholesterol. It also may have protective effects against non-alcoholic fatty liver disease and lower stroke risk.

Additionally, Ezetimibe has been shown to cause significant reductions in inflammatory markers such as CRP.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Rosuvastatin: This is the premier drug of its class. It works to reduce cholesterol synthesis via HMG-CoA reductase inhibition.

Statins can be incredibly effective medications for reducing CVD risk, however, they can also potentially come with side effects. We aim to attenuate the risk of side effects by opting for the minimal effective dose and recommending Rosuvastatin, which does not pass the blood-brain barrier.

Your medical provider will assess if you are a good candidate for Rosuvastatin and advise you on the optimal dosing protocol for your individual physiology during your upcoming patient exam.

If you begin statin therapy, we recommend co-supplementation with CoQ10 and Vitamin K2 MK-7.

HDL Cholesterol

High-density lipoprotein cholesterol (HDL-C) or "good" cholesterol is known to decrease the risk of heart attack and stroke by removing "bad" cholesterol from the blood. HDL-C helps to remove cholesterol from the peripheral tissues and vessel walls to the liver for processing and metabolism into bile salts.

Result: 52 mg/dL

Optimal Range: >40 mg/dL

HDL Cholesterol



Cancer Screening

Cancer screening for early detection of potential markers of cancer.

PSA (Prostate Specific Antigen)

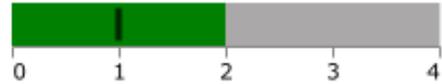
Prostate-Specific Antigen (PSA) is a protein produced in the prostate. Elevations in PSA are a marker of prostate cancer or other prostate dysfunction such as benign prostatic hyperplasia (BPH).

PSA levels above 4ng/mL may indicate the need for re-testing, a prostate exam, and potentially a biopsy.

Result: 1.0 ng/mL

Optimal Range: <2 ng/mL

PSA (Prostate Specific Antigen)



Blood Studies

The complete blood count is a broad screening test to check for such disorders as anemia, infection, and many other diseases. It is a group of tests that examine the blood and its constituents. Results from the tests provide a broad picture of your health.

Platelets

Responsible for blood clotting and healing. A high count can indicate a risk of thrombosis, whilst a low count can lead to easy bruising.

Result: 286 x10E3/uL
Optimal Range: 175-425 x10E3/uL

Platelets



Reticulocyte Count

Reticulocytes are newly produced, relatively immature red blood cells (RBCs). A reticulocyte test determines the number and/or percentage of reticulocytes in the blood and is a reflection of recent bone marrow function or activity.

Result: 1.4 %
Optimal Range: 0.6-2.6 %

Reticulocyte Count



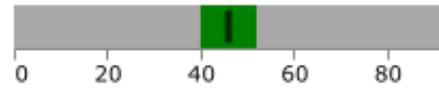
Hematocrit (HCT)

Hematocrit is a measurement of the proportion of the blood that is made up of red blood cells and is dependent on the number and size of the red blood cells. A low hematocrit may be a sign of excessive bleeding or iron deficiency. Elevated Hematocrit can increase the risk of heart attack or stroke.

Result: 46.0 %

Optimal Range: 40-52 %

Hematocrit (HCT)



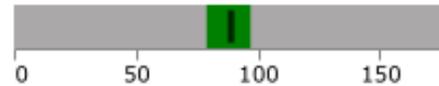
MCV (Mean Corpuscular Volume)

The mean red blood cell volume, mean corpuscular volume or MCV, is an evaluation of the average size of each red blood cell.

Result: 89 fL

Optimal Range: 79-97 fL

MCV (Mean Corpuscular Volume)



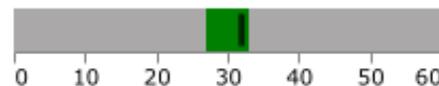
MCH (Mean Corpuscular Hemoglobin)

Mean corpuscular hemoglobin (MCH) is a calculation of the average amount of hemoglobin inside a single red blood cell.

Result: 32.0 pg

Optimal Range: 27-33 pg

MCH (Mean Corpuscular Hemoglobin)

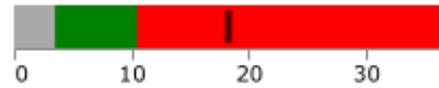


WBC (White Blood Cells)

White blood cells, or leukocytes, function as phagocytes of bacteria, fungi, and viruses. Responsible for fighting infection. A high count can indicate recent infection and even stress, whilst a low count can result from vitamin deficiencies, liver disease, and immune diseases.

Result: 18.3 x10E3/uL

Optimal Range: 3.5-10.5 x10E3/uL

WBC (White Blood Cells)

Liver Health

Your liver processes drugs and alcohol, filters toxic chemicals, stores vitamins, and minerals, and makes bile, proteins, and enzymes. This liver function test examines enzymes and other markers for evidence of damage to your liver cells or a blockage near your liver that can impair its function.

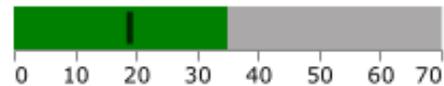
AST

Aspartate aminotransferase (AST) is an enzyme created mainly by the liver and the heart. High levels can indicate damage to your liver caused by alcohol, drugs, or hepatitis.

Result: 19 IU/L

Optimal Range: <35 IU/L

AST



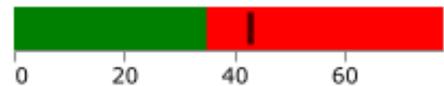
ALT

Alanine aminotransferase (ALT) is an enzyme mainly produced by the liver. A good indicator of liver damage caused by alcohol, drugs, or hepatitis. Recent exercise can cause a transient rise in ALT.

Result: 43 IU/L

Optimal Range: <35 IU/L

ALT



ALP (Alkaline Phosphatase)

Alkaline phosphatase (ALP) is an enzyme located mainly in the liver and the bones. High levels can indicate liver disease or bone growth. Low levels may indicate a zinc deficiency.

Result: 92 IU/L

Optimal Range: 40-120 IU/L

ALP (Alkaline Phosphatase)



Bilirubin

Bilirubin is a protein and natural by-product of red blood cell breakdown. Any increase in the body's synthesis or retention of bilirubin may result in jaundice. Elevations in Bilirubin may indicate Gilbert's Syndrome or liver damage.

Result: 0.4 mg/dL

Optimal Range: <1.2 mg/dL

Bilirubin



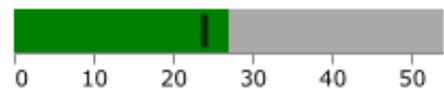
GGT

Gamma-glutamyltransferase is a liver enzyme which can be used as a surrogate marker for liver stress.

Result: 24 IU/L

Optimal Range: <27 IU/L

GGT



Kidney Function

Your kidneys help maintain blood pressure, keep the blood's acid-base level within a healthy range, and filter the blood so nutrients are absorbed, and waste is passed out of the body as urine. Your kidney function reflects how well your kidneys are filtering your blood. Abnormal kidney function could result in the accumulation of waste products in the body, which can cause fatigue, headaches, nausea, and more.

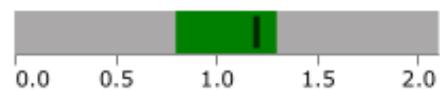
Creatinine

Creatinine is the break-down product of creatine phosphate in muscle and is usually produced at a fairly constant rate. Creatinine is filtered by the kidneys, therefore elevations may indicate kidney dysfunction. Creatine supplementation can increase serum Creatinine levels.

Result: 1.20 mg/dL

Optimal Range: 0.8-1.3 mg/dL

Creatinine



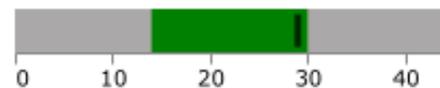
Blood Urea Nitrogen (BUN)

Blood Urea Nitrogen (BUN) is used to measure kidney function and is an indicator of dietary protein intake. BUN reflects the ratio between the production and clearance of urea in the body. Urea is formed in the liver during protein metabolism.

Result: 29 mg/dL

Optimal Range: 14-30 mg/dL

Blood Urea Nitrogen (BUN)



Uric Acid

Chronically elevated uric acid levels can lead to gout, kidney stones, kidney damage, arthritis, bone erosion, and increased cancer risk.

Uric acid may be elevated due to excessive dietary fructose or purine consumption, metabolic syndrome, or kidney dysfunction. Uric acid can deposit itself as crystals throughout the body which causes inflammation and damage to the surrounding tissue.

Result: 5.1 mg/dL

Optimal Range: 2.5-5 mg/dL

Uric Acid



Recommendation:

Elevated Uric Acid levels can contribute to high blood pressure and the development of gout.

Diet: We recommend reducing the intake of purine-rich foods such as alcohol and bacon. We also recommend limiting fructose intake to only that from whole fruits, avoiding fruit juices and fructose-rich soft drinks.

Taurine: Taurine is an amino acid naturally found in meat, fish, and dairy. Supplementation with Taurine has been shown in several animal and human studies to significantly lower Uric Acid levels and reverse hyperuricemia. Taurine is a potent anti-oxidant with a wide range of health-promoting effects.

A high-quality Taurine supplement is available via Marek Health.

Sleep apnea: Sleep apnea is a common cause of elevated Uric Acid. Discuss sleep apnea risk and at-home testing with your medical provider during your upcoming patient exam.

Monitor: We will re-test Uric Acid levels during your follow-up diagnostic lab tests in 2-3 months.

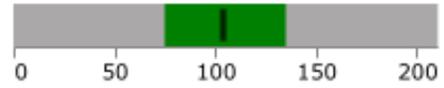
SDMA (Symmetric Dimethylarginine)

Symmetric dimethylarginine (SDMA) is an isomer of ADMA (Asymmetric dimethylarginine) and a valuable marker of kidney function. Elevations in SDMA may indicate kidney damage.

Result: 104 ng/mL

Optimal Range: 75-135 ng/mL

SDMA (Symmetric Dimethylarginine)



Vitamin Status

Broad screening vitamin testing to assess vitamin status and proactively treat deficiency.

Vitamin D (25-OHD)

Although called a vitamin, vitamin D (25-OHD) is actually a steroid hormone. It is essential for bone strength, mineral absorption, and immune function.

Result: 59.8 ng/mL

Optimal Range: 60-100 ng/mL

Vitamin D (25-OHD)



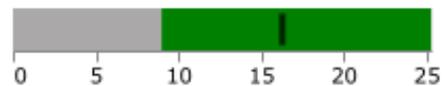
Folate

Found naturally in food, such as green leafy vegetables. Folate (vitamin B9) plays a role in the synthesis of DNA and is important for the production of red blood cells.

Result: 16.3 ng/mL

Optimal Range: >9 ng/mL

Folate



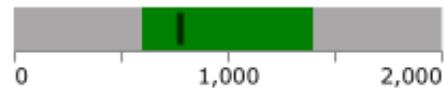
Vitamin B12

Vitamin B12 is a water-soluble vitamin that plays key roles in protein metabolism, brain function, formation of healthy red blood cells (RBCs) and white blood cells (WBCs), repair of tissues, and supports DNA synthesis.

Result: 780 pg/mL

Optimal Range: 600-1400 pg/mL

Vitamin B12



Magnesium (RBC)

A magnesium test is used to measure the level of magnesium in the blood. Abnormal magnesium levels can occur in conditions that affect the functioning of your kidneys or intestines.

Low levels of magnesium are associated with stress, anxiety, hormone dysfunction, and poor sleep.

Result: 5.1 mg/dL

Optimal Range: 4.8-6.8 mg/dL

Magnesium (RBC)



Iron Studies

A broad range of tests to determine iron status provides a detailed evaluation of your iron levels within the body and how well a protein called transferrin is carrying iron through your body in the blood.

Iron is an essential component of hemoglobin used to transport oxygen to cells in the body.

Insufficient iron or abnormal iron metabolism may result in anemia with symptoms of fatigue, weakness, hair loss, cold hands/feet, etc.

Excess iron can become toxic to cells, usually the liver and sex organs, causing oxidative damage.

Iron

Iron is an important component of hemoglobin, the substance in red blood cells that carries oxygen from your lungs to transport it throughout your body.

Hemoglobin represents about two-thirds of the body's iron. If you don't have enough iron you can't make hemoglobin. However, excessive levels of iron can become toxic to cells.

Result: 94 ug/dL

Optimal Range: 40-150 ug/dL

Iron



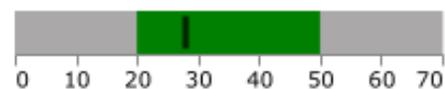
Iron Saturation

This test measures the amount of iron bound to transferrin. Low levels typically indicate iron deficiency, and high levels can indicate iron overload.

Result: 28 %

Optimal Range: 20-50 %

Iron Saturation



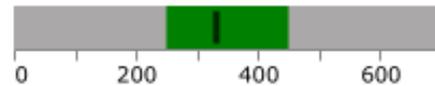
Total Iron-Binding Capacity (TIBC)

Total iron-binding capacity or sometimes transferrin iron-binding capacity is a medical laboratory test that measures the blood's capacity to bind iron with transferrin.

Result: 332 ug/dL

Optimal Range: 250-450 ug/dL

Total Iron-Binding Capacity (TIBC)



Unsaturated Iron-Binding Capacity (UIBC)

The UIBC test determines the reserve capacity of transferrin, i.e., the portion of transferrin that has not yet been saturated with iron. UIBC also reflects transferrin levels.

Result: 238 ug/dL

Optimal Range: 125-350 ug/dL

Unsaturated Iron-Binding Capacity (UIBC)



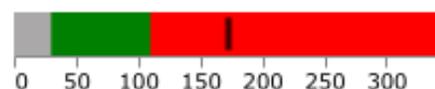
Ferritin

The ferritin concentration within the bloodstream reflects the amount of iron stored in your body. Ferritin is also an acute-phase reactant, hence elevations may indicate inflammation.

Result: 173 ng/mL

Optimal Range: 30-110 ng/mL

Ferritin



Recommendation:

Elevations in Ferritin without concurrent elevations in Iron levels may indicate an inflammatory response. Ferritin is an acute-phase reactant and marker of chronic elevation. It is nonspecifically elevated in many inflammatory conditions, including liver damage, NAFLD, NASH, kidney disease, rheumatoid arthritis, other autoimmune disorders, and acute infection.

Monitor: We will re-test your ferritin levels during your follow-up diagnostic lab work in 2-3 months. If levels remain elevated, it likely indicates you are experiencing chronic, not acute, inflammation and will give us further clues on

treatment modalities.

EPA/DHA Ethyl Esters: These Omega-3 fatty acids can help lower inflammatory cascades resulting in reductions in Ferritin and other markers of inflammation.

More importantly, EPA/DHA can help resolve the source of inflammation itself. EPA/DHA are direct pre-cursors to resolvins, termed 'specialized pro-resolving mediators (SPMs) that act locally at sites of inflammation or damage to restore normal cellular function.

We recommend you begin supplementation with 4 grams of pharmaceutical grade Omega 3 Ethyl Esters per day, which your medical provider can prescribe in your upcoming patient exam. We specifically recommend this form of Omega-3 supplementation as it's been thoroughly vetted for mercury and oxidation, unlike many over-the-counter supplements.

Glutathione injection: Glutathione is a tripeptide present in every cell of the human body that plays crucial roles in the detoxification and antioxidant systems in cells. Because low Glutathione levels in cells have been found to increase the risks of disease, direct injection of Glutathione is used to treat patients with acute and chronic inflammation for a wide variety of conditions. Glutathione has been shown to lower inflammatory markers such as Ferritin, CRP, and GGT.

Additionally, Glutathione may effectively fight against neuroinflammation, and there are anecdotal reports of users finding nootropic and mood-enhancing benefits.

Your medical provider will advise you on the optimal dose for your individual physiology during your upcoming patient exam.

Urinalysis

A urine test is used to check for protein or blood in your urine and check for any signs of infection. Protein in your urine may mean that your kidneys are not filtering your blood well enough, and blood in the urine can be a sign of kidney disease.

Note: Urinalysis tests will only be displayed if abnormal results are found.

Specific Gravity

Specific gravity is a measure of how concentrated the particles are in your urine. A higher-than-normal concentration often is a result of not drinking enough fluids.

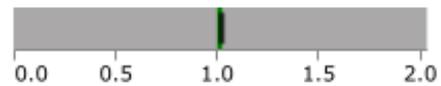
Result: 1.026 -

Optimal Range: 1.005-1.030 -

Recommendation:

Elevations in specific gravity usually indicate dehydration. Ensure you consume at least 1 gallon of fluids per day, preferably water.

Specific Gravity



pH (Acidity)

The pH level indicates the amount of acid in urine. The pH level might indicate a kidney or urinary tract disorder.

Result: 6.5 -

Optimal Range: 5-7.5 -

pH (Acidity)



Blood

Blood in your urine requires additional testing. It may be a sign of kidney damage, infection, kidney or bladder stones, kidney or bladder cancer, or blood disorders.

Result: Negative -
Optimal Range: Negative -

Urobilinogen

Urobilinogen is a metabolite of bilirubin. Elevations of urobilinogen in the urine may be a sign of liver disease, such as hepatitis or cirrhosis, or certain types of anemia.

Result: 0.2 mg/dL
Optimal Range: 0.2-1 mg/dL

Urobilinogen



Bilirubin

Bilirubin is a product of red blood cell breakdown. Usually, bilirubin is carried in the blood and passes into your liver, where it's removed and becomes part of bile. Bilirubin in your urine might indicate liver damage or disease.

Result: Negative -
Optimal Range: Negative -

Protein

Low levels of protein in urine are typical. Small increases in protein in urine usually aren't a cause for concern, but larger amounts might indicate a kidney problem.

Result: Negative -
Optimal Range: Negative -

Glucose

The amount of sugar (glucose) in urine is typically too low to be detected. Any detection of sugar on this test usually calls for follow-up testing for diabetes.

Result: Negative -
Optimal Range: Negative -

Ketones

As with sugar, any amount of ketones detected in your urine could be a sign of diabetes and requires follow-up testing. Ketones may also be elevated while eating a ketogenic diet or after prolonged fasting.

Result: Negative -
Optimal Range: Negative -

Nitrites

Nitrites, a product of white blood cells, in your urine might indicate a urinary tract infection.

Result: Negative -

Optimal Range: Negative -

WBC Esterase

WBC esterase, a product of white blood cells, in your urine might indicate a urinary tract infection.

Result: Negative -

Optimal Range: Negative -