

# Hormone Imbalance Guide

## Instructions:

Use this guide in combination with the Hormone Imbalance Profile that assesses in great detail your hormonal imbalances.

Then review this guide in detail to make your own hormone balancing prescription. Please note that we will go in a lot more detail in the weeks to come to learn about each of the imbalances and even though you may be experiencing several of there, there is a systematic order of treating these imbalances that we follow in this program.

## Tests:

I've listed the testing options you should consider if you are very symptomatic in a certain area. If you desire, you can order any tests from us, including bloodwork (if you are located in Ontario) and urine testing if you are located anywhere in the world. **Contact us for more details.**

## Supplement Suggestions:

There are based on tried and tested interventions we've used with many women in our office struggling with each of the imbalances, on top of all being evidence based. Please keep in mind, these are only general recommendations based on symptoms. Make sure to review these recommendations with your health care provider first, especially if you are on other medications or have other co-existing health concerns.

You can purchase all these supplements over the counter, at most health food-stores and even online. Offering them though our office is solely for your own convenience. I've made sure to give you several options under each category with dosing ranges. You do not need to get ALL suggested supplements under each category that is elevated for you.

Dr. Inna Lokshin, ND, the Hormone Rebalance Centre (Lokshin Naturopathic Professional Corporation) assumes no responsibility for your use of this information, nor does this constitute a doctor-patient relationship. If you would like personalized recommendations, feel free to book a consultation with on the naturopathic doctors on our Hormone Rebalance team. **Contact us here for more details!**

## Summary Chart of Suggested Supplements Available from the Hormone Rebalance Centre:

Nutraceutical	Inflammation/Poor Detox	Excess Insulin	Excess Cortisol	Low Cortisol	Excess Estrogen	Low Estrogen	Low Progesterone	Excess Testosterone	Low Testosterone	Low Thyroid
Paleo Cleanse	X	X	X	X	X	X	X	X	X	X
Sensitol		X						X		
Adrenotone		X	X	X		X	X		X	X
Pure Fem Balance					X	X	X	X		
Thyroid Synergy										X

## Hormonal Imbalance #1: Inflammation/ Poor Detox

(high focus if score is >10)

### What it means:

While inflammation and poor detox are not necessarily one and the same, poor detox can lead to inflammation and hence the same interventions will kill two birds with one stone. Tackling inflammation can help optimize your fat-burning capabilities in the liver and muscle cells as well as reducing many uncomfortable symptoms related to hormonal imbalance. It's also important to remember that all the sex hormones get detoxified in the body by the liver. Therefore, if your detox processes are not at their best shape, this alone can be a major contributor to hormonal imbalance, which is why it's such a foundational step when it comes to tackling ALL hormonal concerns.

### Suggested testing options:

1. **Blood work:** Since "inflammation" is a bit of a general term that can appear in various biomarkers of the blood and urine, it is best to have a general complete blood count (CBC) done as well as more specific panels to assess different organ systems. This includes a cholesterol panel, blood glucose testing, kidney and liver function tests.

Additionally, particular biomarkers can be checked such as erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) and ferritin (stored iron) levels which would indicate if there is general inflammation in the body.

1. **Urine test:** This includes both a urinalysis as well as a DUTCH test. The [DUTCH \(Dried Urine Test for Comprehensive Hormones\)](#) test is beneficial because it is a comprehensive analysis of sex and adrenal hormones and their metabolites. It is useful to determine how the body's detoxification pathways are working (both phase I and phase II through assessment of these metabolites).

By looking at these different hormone break-down products, we can assess whether the body is metabolizing hormones using cancer protective or cancer-promoting pathways and whether someone may need.

If you would like any tests shipped to you, [contact us here!](#)

## Suggested nutraceuticals to consider:

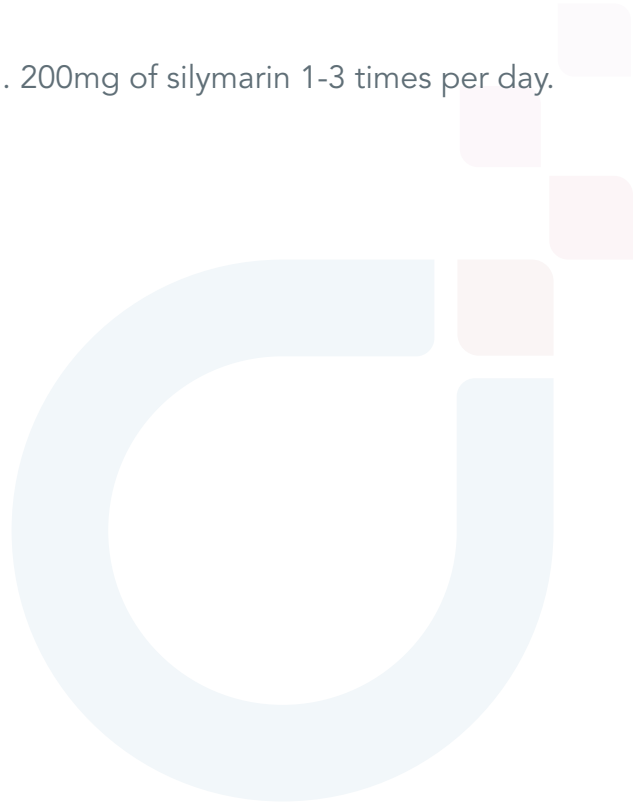
1. **Paleo Cleanse:** by Designs for Health - 1-2 scoops per day in a shake. This product is a plant-based (pea protein) powder that comes in combination with nutrients that support both phases of liver detoxification. It is good for vegans/vegetarians, and those on a keto-genic-type diet as it only contains 5g of carbohydrate per scoop.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/PaleoCleanse-Powder\\_2](http://catalogue.designsforhealth.ca/PaleoCleanse-Powder_2)

If you would like this or any other supplement shipped out to you, **contact us here!**

2. **Turmeric** - has anti-inflammatory, antioxidant, and hormone-balancing effects. 500-1,500 mg/day, away from food.
3. **Milk thistle** - a key botanical for liver detoxification. 200mg of silymarin 1-3 times per day.



## Hormonal imbalance #2: Excess Insulin

(high focus if score is >8)

### What it means:

A high score in this category indicates excess insulin or insulin resistance. This could be a major barrier to your weight loss efforts and could be strongly correlated with any abdominal weight. Simply put, excess insulin signals your body to store fat and blocks the use of your existing fat stores for fuel by the body. Insulin dysregulation also plays a key role in adrenal problems, as insulin and cortisol are best of friends. You cannot balance one without balancing the other.

### Suggested testing options:

1. **Blood work:** fasting insulin and glucose. This will help give a baseline of how the body is working to metabolize glucose and use insulin. Testing HbA1C may also be useful to determine how significant insulin resistance is, as it measures the "average status" of your blood sugar balance in the last 3 months.

### Suggested nutraceuticals to consider:

1. **Sensitol** by Designs for Health: Take 2 capsules two times per day.

Sensitol is a formulation of both isomers of inositol (myo-inositol and D-chiro-inositol), with alpha-lipoic acid.

Both these forms of inositol have been studied to support normal insulin function in the body, improving insulin sensitivity and blood sugar regulation. Alpha-lipoic acid is an antioxidant which similarly stimulates use of insulin to aid with glucose metabolism. It can be supplemented on its own in higher doses, as described below.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Sensitol\\_3](http://catalogue.designsforhealth.ca/Sensitol_3)

If you would like this or any other supplement shipped out to you, **contact us here!**

2. **Chromium picolinate** - a key mineral involved in regulating the body's response to insulin and its deficiency can lead to insulin resistance. 200mcg 1-3 times per day before food for better blood sugar balancing.
3. **Alpha-lipoic acid** - similar to chromium, it improves the cell's response to insulin and has been shown to have favourable effects on blood sugar balance. 200mg 1-3 times daily with or without food.



## Hormonal Imbalance #3: Excess Cortisol

(high focus if score is >9)

### What it means:

Cortisol, our fight or flight hormone, consumes your muscles rather than fat stores during stressful situations. Therefore, chronically high stress levels lead to weight gain and muscle loss, along with sugar dysregulation.

This is a critical hormone that impacts every other hormone directly, which is why we recommend some form of adrenal support to ALL women. Cortisol also slows your metabolic rate and has a direct impact on your thyroid, further impeding your weight loss efforts.

### Suggested testing options:

1. **Blood work:** am cortisol - note that this is not a great marker to truly assess your cortisol production as it measures only one sample in the day, in what should be a pattern. However if it's really high or low it will give you some indication of your imbalances.
2. **Saliva:** 4-point cortisol and cortisone testing will give you a good idea of your daily stress hormone production. It's better than blood work however it does not measure as complete a picture as does urine testing.
3. **Urine test:** we recommend the DUTCH (Dried Urine Test for Comprehensive Hormones) to test 5-point daily free cortisol (active hormone) and free cortisone (inactive hormone) in a 24 hour period, total cortisol (to assess your total reserved), melatonin, DHEA (anti-stress hormone), and conversion index to measure the balance between the different stress markers in the body. This is by far the most comprehensive test to assess stress hormones.

If you would like any tests shipped to you, [contact us here!](#)

## Suggested nutraceuticals to consider:

1. **Adrenotone** by Designs for Health: 1 capsule twice per day (3 if you scored very high in this category). Best taken in the morning with food; do not take at bedtime. Take for at least 1 month to notice a difference and up to 3.

Adrenotone is a combination of adaptogenic herbs and nutrients which are known to contribute to rejuvenating the adrenals (the glands which manufacture cortisol). This product is designed to help support healthy cortisol levels, hypothalamic and pituitary function (HPA axis), and catecholamine production (dopamine, norepinephrine, and epinephrine). This supplement is based taken in the morning with breakfast to support healthy energy levels throughout the day.

This is a very balancing formula that can help both high and low cortisol production. To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Adrenotone-90\\_2](http://catalogue.designsforhealth.ca/Adrenotone-90_2)

If you would like this supplement shipped to you, **contact us here!**

2. **B-vitamins** - these are easily depleted with stress, sweating (which is why athletes need extra), as well as the birth control pill. B5, is especially important for the stress response. Take 200-500 mg of B5 and 50-100mg of B6 daily. It is advisable to take them in a combination in a high quality B-complex formula.
3. **Ashwagandha**: This botanical, also known as the "Indian ginseng" has been used in Ayurvedic practice for years to increase vitality and decrease mental and physical exhaustion. It works to balance cortisol levels in the body, making us more resilient to stress. Recommended dose in supplement form is between 300-600mg, standardized to 1.5% withanolides and prepared from the root.



## Hormonal imbalance #4: Low Cortisol

(high focus if score is >6)

### What it means:

This is the more advanced stages of adrenal fatigue and burn-out and is a consequence of a long-standing heightened stress response, which results eventually in depleted resources to produce cortisol. In this state, the adrenals simply can't keep up with your day to day demands and ongoing large demand to produce cortisol and adrenaline.

This does not mean the adrenals literally shut down (like the ovaries when you go through menopause), but it does indicate that nutritional reserves are low and hence production of cortisol is declined, resulting in chronic fatigue, loss of stamina, weakened immune system and overall sense of burn-out.

### Suggested testing options:

See Hormone Imbalance #3: Excess Cortisol, same recommendations apply.

If you would like any tests shipped to you, [contact us here!](#)

### Suggested nutraceuticals to consider:

1. **Adrenotone** by Designs for Health: 1 capsule twice per day (3 if you scored very high in this category). Best taken in the morning with food; do not take at bedtime. Take for at least 1 month to notice a difference and up to 3.

Adrenotone is a combination of adaptogenic herbs and nutrients which are known to contribute to rejuvenating the adrenals (the glands which manufacture cortisol). This product is designed to help support healthy cortisol levels, hypothalamic and pituitary function (HPTA axis), and catecholamine production (dopamine, norepinephrine, and epinephrine). This supplement is based taken in the morning with breakfast to support healthy energy levels throughout the day.

This is a very balancing formula that can help both high and low cortisol production. To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Adrenotone-90\\_2](http://catalogue.designsforhealth.ca/Adrenotone-90_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **B-vitamins** - these are easily depleted with stress, sweating (which is why athletes need extra), as well as the birth control pill. B5, is especially important for the stress response. Take 200-500 mg of B5 and 50-100mg of B6 daily. It is advisable to take them in a combination in a high quality B-complex formula. ination in a high quality B-complex formula.
3. **Vitamin C** - the highest concentration of this vitamin in the body is in the adrenal glands and it plays a critical role in replenishing you adrenal reserves. 1000-1500mg daily with food.
4. **Adrenal glandulars** - these are adrenal gland extracts that are meant to serve as natural cortisol replacement therapy. They are safe to take and do not require a prescription but they are animal based and for some can be too stimulating. 1-2 capsules on waking and 1 in the afternoon. These are best to take if you've actually tested to confirm that your cortisol levels are truly low.

## Hormonal imbalance #5: Excess Estrogen

(high focus if score is >6)

### What it means:

This is one of the most common imbalances we see in women these days, especially over the age of 40. This is likely a combination of greater exposure to environmental estrogen toxins the older we get, as well as progesterone declining, which exacerbates the effects of estrogen in the body.

Not only is this a bothersome imbalance that causes many of the common period-related concerns, but it can also be a dangerous one if left untreated as it serves as a risk factor for obesity and cancer.

### Suggested testing options:

1. **Blood work:** Estradiol, FSH, and LH on day 3 of the menstrual cycle. Progesterone should be tested on day 19 of your cycle.
2. **Saliva hormone testing:** Testing sex hormones through saliva gives a better representation of how much hormone is in the tissues of the body; thus, determines what is actually being used. This is usually done on day 19 of your menstrual cycle.
3. **Saliva hormone testing:** the DUTCH (Dried Urine Test for Comprehensive Hormones) is our favourite test for the most comprehensive and complete look of sex hormones, and all hormones for that matter. The Sex Hormone Panel measures levels of all three forms of estrogen (estrone, estradiol and estriol) as well as their metabolites. Estradiol is the most used form of estrogen by the body, but it is important to consider the others as well.

The metabolites are something that can only be tested through urine but can shed a lot of light as to why many times everything appears “normal” despite you having symptoms. If your body does not detoxify of estrogens properly, this alone can be the reason for many symptoms, even if your total production of estrogen is not necessarily high.

If you would like any tests sent out to you, [contact us here!](#)

## Suggested nutraceuticals to consider:

1. **Fem-Guard Balance:** by Designs for Health- Take four capsules per day with food (a few hours before and/or after taking other medications). Take up to 3 months

This product contains a mixture of botanicals and other nutrients that support healthy levels of female hormones. It is a great balancing formula for those with both high or low estrogen, as it contains DIM to help detoxify and clear estrogens, and black cohosh which will modulate low estrogen levels.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/FemGuard-Balance-120\\_2](http://catalogue.designsforhealth.ca/FemGuard-Balance-120_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **DIM** - DIM supports a healthy balance of estrogen in the body, and specifically helps phase 1 detoxification of hormones. Although this is naturally found in cruciferous vegetables (ie. broccoli, cauliflower), additional supplementation at 100 mg per day up to 3 months may be beneficial for those with high estrogen symptoms and/or poor metabolite detoxification.
3. **Magnesium and B vitamins** - both magnesium and B-vitamins are useful because they help support specifically phase II liver detoxification of hormones. phase II is the phase which converts the harmful metabolites from phase I into a water soluble form so they can be excreted from the body by urine and feces.

Magnesium (glycinate form is easier on the bowels) taken at a starting dose of 200 mg per day. Taking a B-complex is the best way to get all B-vitamins, but ensure that the activated (ie. methylated) forms of the vitamins are in the complex.

## Hormone imbalance #6: Low Estrogen

(high focus if score is >7)

### What it means:

Too little estrogen for a woman's age can be just as detrimental as excess estrogen. While it's common for estrogen to decline in the years preceding menopause (known as perimenopause), this decline is the cause of many symptoms.

If your estrogen levels are lower than what they should be for a woman your age, there are actual risk factors for that such as declining memory, bone loss and cardiovascular disease. Estrogen helps our cells respond better to insulin and hence a decline in levels can contribute to insulin sensitivity.

### Suggested testing options:

See Hormone Imbalance #5: Excess Estrogen, same recommendations apply.

If you would like any tests sent out to you, **contact us here!**

### Suggested nutraceuticals to consider:

1. **Fem-Guard Balance:** by Designs for Health- Take four capsules per day with food (a few hours before and/or after taking other medications). Take up to 3 months.

This product contains a mixture of botanicals and other nutrients that support healthy levels of female hormones. It is a great balancing formula for those with both high or low estrogen, as it contains DIM to help detoxify and clear estrogens, and black cohosh which will modulate low estrogen levels.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/FemGuard-Balance-120\\_2](http://catalogue.designsforhealth.ca/FemGuard-Balance-120_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **Sage** - One trouble symptom of low estrogen is easily sweating, or hot flashes. This cooling botanical may be incredibly helpful if these are a predominant symptoms. Take 400 mg once per day on an empty stomach. Can also be drunk as a tea several times per day.
3. **Consider bio-identical estrogen replacement cream** - (more on this topic in the Estrogen module). This requires testing, a prescription and needs to be overseen by a practitioner has experience prescribing this cream.

If you would like to have a consultation with one of the doctors on our team, [contact us here!](#)



## Hormone imbalance #7: Low Progesterone

(high focus if score is >6)

### What it means:

This is one of the most common imbalances among women of all ages, especially after the age of 35 as women may not ovulate with every period and this is the only way progesterone is produced in the body. To make matters worse, pregnenolone is a common precursor to both cortisol and progesterone, therefore under chronic stress, there is a phenomenon called “the cortisol steal effect”. This is where the body will favour making cortisol over progesterone, further fueling this deficiency. This is why many women get worse PMS and menopausal symptoms in times of high stress.

Progesterone helps balance the effects of estrogen in the system as well as being a natural sleep-aid, anti anxiety compound and metabolic stimulator. Balancing this hormone will go a long way in your overall well-being!

### Suggested testing options:

Should always be checked in combination with estrogen, therefore see See Hormone Imbalance #5: Excess Estrogen, same recommendations apply.

If you would like any tests sent out to you, [contact us here!](#)

### Suggested nutraceuticals to consider:

1. **Fem-Guard Balance:** by Designs for Health- Take four capsules per day with food (a few hours before and/or after taking other medications). Take up to 3 months.

This product contains chaste-tree (also known as Vitex agnus-castus-Fruit), a botanical often used for many concerns ranging from infertility to PMS support, irregular periods and symptoms of menopause. It is involved in LH (luteinizing hormone), FSH (follicle stimulating hormone) and progesterone regulation in the body, making it an effective intervention for someone with low progesterone, excess estrogen, missed or delayed ovulation and can even be considered for prevention of miscarriages.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/FemGuard-Balance-120\\_2](http://catalogue.designsforhealth.ca/FemGuard-Balance-120_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. Evening Primrose oil - considered to be a progesterone enhancing compound. Take 1000-2000 mg daily.
3. Consider bio-identical progesterone cream - (more on this topic in the Progesterone module). This requires testing, a prescription and needs to be overseen by a practitioner has experience prescribing this cream.

If you would like to have a consultation with one of the doctors on our team, **contact us here!**





## Hormonal imbalance #8: Excess Testosterone

(high focus if score is >4)

### What it means:

While this is not a common imbalance for majority of women, those who struggle with it can be greatly bothered. Excess testosterone can be the result of excess sugar and carbs in the diet, in combination with excess testosterone being produced by the adrenals. This metabolic state is often associated with PCOS (Polycystic Ovarian Syndrome).

Too much testosterone also increases insulin resistance, which translates to weight gain as well as male-pattern hair loss (on the scalp) and hair growth (on face and chin). It's also important to note that excess testosterone can be converted to estrogen through the aromatase enzyme, so if you struggle with excess estrogen, it's important to rule out if excess testosterone is a contributing factor.

### Suggested testing options:

1. **Blood work:** Free testosterone, total testosterone and DHT. DHT, or dihydrotestosterone, is an androgenic metabolite of testosterone, and is often a good biomarker of symptoms of imbalanced testosterone (ie. male pattern hair loss).
2. **Saliva hormone testing:** Testing sex hormones through saliva gives a better representation of how much hormone is in the tissues of the body; thus, determines what is actually being used. However DHT needs to be checked separately and saliva does not assess for testosterone metabolism like urine testing does.
3. **Urine test:** the DUTCH (Dried Urine Test for Comprehensive Hormones) is our favourite test for the most comprehensive and complete look of sex hormones, including testosterons. Urine looks at all metabolites of testosterone, as well as DHEA (an important androgen that is the precursor to testosterone) and 5-alpha reductase enzyme.

This is another case of when your high testosterone symptoms may not match your “basic testing” that show everything is normal. Excess activity of this enzyme commonly results in excessive testosterone symptoms, even if testosterone is not actually high and is an enzyme that must be addressed to truly resolve the symptoms.

If you would like any tests sent out to you, **contact us here!**

## Suggested nutraceuticals to consider:

1. **Sensitol** by Designs for Health: Take 2 capsules two times per day. Sensitol is a formulation of both isomers of inositol (myo-inositol and D-chiro-inositol), with alpha-lipoic acid. Not only does it help improve insulin sensitivity and blood sugar balance, but it's also been shown to help reduce testosterone levels in women and restore ovarian function and ovulation in women with PCOS.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Sensitol\\_3](http://catalogue.designsforhealth.ca/Sensitol_3)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **Saw -Palmetto** - this herb inhibits the conversion of testosterone to DHT, the more powerful androgenic metabolite. 160mg 1-2 times per day.
3. **Fem -Guard Balance by Designs for Health** (see Hormone Imbalance #5: Excess Estrogen). This formula contains Chrysin, which helps stop aromatase activity, the enzyme that converts testosterone into estrogen. If you struggle with both high estrogen and testosterone, this may be a great pick for you.

If you would like this supplement, or any others, shipped to you, **contact us here!**

## Hormonal imbalance #9: Low Testosterone

(high focus if score is >5)

### What it means:

Low testosterone in women can result in declining motivation, decreased sex drive as well as muscle loss and bone loss. It's not an easy imbalance to pick up on from symptoms alone as it correlates to many symptoms common with "aging" and menopause. However, similar to other hormones, a decline in testosterone can contribute to an increase in body fat and should be tackled as part of your overall hormone balancing efforts.

### Suggested testing options:

See Hormone Imbalance #8: Excess Testosterone, same recommendations apply.

If you would like any tests sent out to you, **contact us here!**

### Suggested nutraceuticals to consider:

1. **Adrenotone** by Designs for Health: 1 capsule twice per day Best taken in the morning with food; do not take at bedtime. Take for at least 1 month to notice a difference and up to three times per day.

Adrenotone is a combination of adaptogenic herbs and nutrients which are known to contribute to rejuvenating the adrenal glands. The main claim to these glands is production of cortisol (our stress hormone), but they actually also produce some of the body's testosterone. For this reason, if these glands are underfunctioning, it can result in low testosterone! This supplement is based taken in the morning with breakfast to support healthy energy levels throughout the day.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Adrenotone-90\\_2](http://catalogue.designsforhealth.ca/Adrenotone-90_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **Tribulus terrestris** - studies suggest it can boost DHEA production, which gets converted to testosterone, as well as luteinizing hormone (LH), which can help boost testosterone. Take 500-1000mg a day on an empty stomach.
3. **Zinc** - is a mineral that both helps maintain testosterone levels in the blood, as well as inhibit the enzyme aromatase, which converts testosterone to estrogen, hence helping the body keep more of it. 25-50mg daily with food.



## Hormonal Imbalance #10: Low Thyroid

(high focus if score is >6)

### What it means:

The thyroid hormones regulate our metabolic rate, meaning how proficient we are at burning calories. It directly affects our digestion, weight, energy, muscle activity, heart rate, skin and hair health, memory, mood and many other processes.

By the time the thyroid hormone is impacted, cortisol is almost always a contributing hormone to its imbalance, therefore often by addressing cortisol levels first, the thyroid hormones can stabilize.

### Suggested testing options:

1. **Bloodwork** - TSH, free T3, free T4, anti-TPO, anti-Thyroglobulin. Review the cortisol section testing if you have an existing thyroid condition.

### Suggested nutraceuticals to consider:

1. **Thyroid Synergy by Designs for health** - Take 2 caps per day with meals.

This product contains a mixture of ingredients which maintain thyroid health from different mechanisms and hormone pathways. It improves thyroid hormone production, as well as the conversion of these hormones to their active, usable form (T3). Additionally, it helps support cortisol (our stress hormone) balance to further help that conversion of thyroid hormones.

To learn more about its safety and specific ingredients, read here:

[http://catalogue.designsforhealth.ca/Thyroid-Synergy-120\\_2](http://catalogue.designsforhealth.ca/Thyroid-Synergy-120_2)

If you would like this supplement, or any others, shipped to you, **contact us here!**

2. **Ashwagandha** - this herb may increase both T3 and T4 and appears to boost thyroid function. Take 750-1000mg twice daily.
3. **L-Tyrosine** - this amino acid is a direct precursor of thyroid hormone in the body. Consider taking 1,000mg on rising, before breakfast. Do not take if you have high blood pressure.