Adrenal Fatigue and Hypothyroidism

Twenty first century living and the stresses that come along with it can have a major impact on the health of our mental, emotional and physical bodies. The adrenals and thyroid are 2 areas that can be greatly affected and often overlooked. In the world that we live in today, up to 20-40% of people experience hypothyroidism. The thyroid can be affected by many things, one of which is adrenal deficiency. Let’s take a look at the functions and effects of the adrenals first.

ADRENAALS

The adrenal glands sit on top of each kidney and consist of an outer cortex and an inner medulla. Of the 50 or so hormones the adrenals make, only cortisone and adrenaline are recognized by most people. Some of these hormones must be produced to preserve life, while others help resist stress. Other hormones from the adrenals control normal energy output (along with the thyroid) and govern the breakdown of stored energy into quick energy sources. The medulla produces epinephrine (or adrenaline) and nor epinephrine (or noradrenalin), which are specifically designed to help the body deal with stressful situations. The adrenals control the body’s potassium/sodium balance, which is vital for energy production. They also produce sex hormones in minute amounts, which is important for later years when the gonads drop or cease their production.

Adrenalin is manufactured in the interior of the adrenal gland, in an area called the adrenal medulla, and is stimulated directly by nerves from the sympathetic portion of the autonomic nervous system, which regulates ‘fight or flight’. The human body is organised so as to be able to respond immediately to threatening situations by generating a tremendous amount of energy in a hurry, which enables the person to run away quickly, or face the threat and fight it with a massive influx of chemical support. These chemicals increase blood pressure, heart rate and blood flow to the muscles, while mobilising sugars to burn. Nerve impulses from the brain cause the release of adrenaline from the adrenal gland, which helps you to react appropriately in immediate short-term stress situations (the fight or flight response).

Cortisol, another chemical from the adrenal gland, is made in the exterior portion of the gland, called the adrenal cortex. Cortisol, commonly called hydrocortisone, is the most abundant — and one of the most important — of many adrenal cortex hormones. Cortisol helps you handle longer-term stress situations.

In addition to helping you handle stress, these two primary adrenal hormones, adrenaline and cortisol, along with others similarly produced; help control body fluid balance, blood pressure, blood sugar and other central metabolic functions.
Adrenal insufficiency symptoms include; weakness, lack of libido, allergies, dark circles under the eyes, low blood pressure, low blood sugar, food and salt cravings, dizziness, muscle and joint pain, dry skin, poor sleep, cystic breasts, lines of dark pigment in the nails, low stamina, difficulty recuperating from stressors like colds or jet lag, tendency to startle easily, lowered immune function, depression, anxiety and premature aging.

A failing adrenal gland goes through a hyper phase before it becomes totally exhausted. In the 1950’s, the famous researcher Hans Selye divided the physiology of fight or flight into three phases. In the first phase ‘adaptation’, a person intermittently secretes slightly higher levels of the fight or flight hormones in response to a slightly higher level of stress.

The second phase, called ‘alarm’, begins when the stress is constant enough, or great enough, to cause sustained excessive levels of certain adrenal hormones. This can be the very earliest glimmer of what later can become stress-induced illness.

The third phase is called ‘exhaustion’, wherein the body’s ability to cope with the stress is now depleted. At this point, adrenal hormones plummet, from excessively high to excessively low. It is this latter phase of adrenal exhaustion that sometimes accompanies, or is confused with, low thyroid.

The fight or flight response is designed to deal with short term stressors, and once the danger is over, the body should naturally go back to a relaxed state and the adrenal gland returns the hormones back to normal. Unfortunately, in modern life we are continuously experiencing all sorts of stress for extended periods of time. This in turn causes the adrenal glands to continually pump out stress hormones. This type of lifestyle very quickly pushes people down the path towards ‘exhaustion’ phase. At this stage, we are tired, anxious and exhausted.

Blood sugar levels and our adrenals go hand in hand. Our body must maintain blood sugar levels within a fairly narrow band. When we are stressed, our adrenalin causes stored glucose in our liver and muscles to be released, raising blood sugar levels in order to feed cells, so they can respond with either ‘flight or fight’. If the glucose is not used up by the cells, the body will have to release insulin to reduce blood sugar levels again. This in turn can cause them to fall too low. Low blood sugar can then stress the adrenals again, forcing them to release adrenalin which raises blood sugar levels back to normal again.

Blood sugar imbalances cause energy dips during the day, dizziness and irritability and when not eating frequently, afternoon drowsiness, excess thirst and sugar cravings. More importantly, it stresses the adrenals and can lead to adrenal fatigue.
Certain foods can help or hinder adrenal function. Good suggestions are –

* Cut out or cut down all refined carbohydrates in food and drinks, as they create blood sugar imbalances which contribute to adrenal stress. They can also deplete the body of nutrients necessary for optimal health.

* Cut down or cut out alcohol and caffeine as these can stimulate and stress the adrenals.

* Eat plenty of vegetables, beans or pulses for fibre as this can balance blood sugar.

* Protein foods such as lean meats, eggs, fish, nuts and seeds can balance blood sugar.

* Foods high in essential fatty acids such as avocado, nuts, seeds, fish/fish oils can balance blood sugar and are anti-inflammatory.

Lifestyle factors are also important such as getting plenty of rest and good quality sleep. Reduce toxic load from all sources, physical, emotional and environmental. Do not underestimate the stress on the body that toxic chemicals have, and aim to reduce this as much as you possibly can. Exercise with moderate to low intensity as stressed adrenals can become exhausted if you are doing a lot of high intensity training. Keep a positive attitude. Negative emotions are constantly draining to our system so we should try to maintain a good attitude at all times.

Herbs and Nutrients which may Benefit the Adrenals

The adrenals need good levels of Vitamins C, B2, B3, B5 and B6 to maintain optimal function.

A good quality multivitamin/mineral formula with all of the B vitamins is recommended.

Also herbs which may also have a benefit are Astragalus, Siberian Ginseng, Rehmannia, Goji, Cistanche, Withania and Polygonum.

**Astragalus** – may be beneficial in the following circumstances

- Low immune system, low vitality (kidney yin/yang deficiency), slow tissue healing and regeneration, organ prolapsed, viral infections, cardiovascular stress, chronic fatigue syndrome

**Siberian Ginseng** – may be beneficial in the following circumstances

- Exhaustion, low immune system, insomnia, mild depression, stress, adrenal deficiency, aching in the lower back or knees, inflammation

**Rehmannia** – may be beneficial in the following circumstances
- Skin rashes, fevers, anaemia, weakness, tinnitus, adrenal exhaustion, low immune system, inflammation

**Goji (Lycium barbarum)** – may be beneficial in the following circumstances

- Antioxidant deficiency, hormonal imbalances, poor liver and kidney function, back and knee weakness and/or pain, high stress, Goji contains many nutrients which are necessary for adrenal support

**Cistanche** – may be beneficial in the following circumstances

- Aching knees, infertility, poor blood quality, low vitality (kidney yin/yang deficiency), constipation

**Withania** - may be beneficial in the following circumstances

- Anaemia, adrenal deficiency, inflammation, nervous system stress

**Polygonum** - may be beneficial in the following circumstances

- Inflammation, indigestion, low vitality, weak lungs

*A liquid mineral formula* would help to raise mineral levels enabling the adrenals to work more efficiently.

With any deficiency or illness, ensuring gut function is optimal is a must and a good *probiotic/prebiotic formula* will help to improve the digestion, thereby increasing nutrient absorption, and also help to increase the general immune system, which begins in the gut wall.

**THYROID**

Hypothyroidism refers to low thyroid gland function. The hormones of the thyroid gland regulate metabolism in every cell of the body, so a deficiency of thyroid gland will affect virtually all body functions. The severity of symptoms in adults ranges from extremely mild deficiency states (subclinical hypothyroidism) that are barely detectable to severe deficiency states that are life threatening (myxedema).

Most cases of hypothyroidism are based on low levels of thyroid hormone in the blood. It is ideal to have thyroid hormones as well as TSH levels tested to determine whether it is primary or secondary hypothyroidism. About 95% of all cases of hypothyroidism are primary, meaning the problem is with the thyroid gland and not the pituitary gland. The cause of primary
hypothyroidism in 96% of those diagnosed, is a deficiency of iodine, possibly resulting in an enlarged thyroid gland known as a goiter.

Cholesterol and triglyceride levels may increase in even the mildest forms of hypothyroidism, causing an increase in the risk of serious cardiovascular disease.

Other problems which may be created by hypothyroidism are – muscle and joint pain, shortness of breath, constipation, impaired kidney function, dry rough skin and dry brittle hair, depression, weakness and fatigue, forgetfulness, infertility and menstrual irregularities.

Certain foods that are known as goitrogens can affect the uptake of iodine and need to be reduced in the diet of someone with hypothyroidism. These are – cabbage, broccoli, turnips, mustard, cassava root, soybeans, peanuts, pine nuts, millet and brussel sprouts.

Certain chemicals and lifestyle factors can also affect the function of the thyroid such as – cigarette smoke, pesticides, exposure to environmental toxins, thiocyanate foods (apples, sorghum, walnuts and almonds), sodium fluoride and high levels of oestrogen. A deficiency of essential fatty acids, zinc, selenium and iodine will also negatively impact on low thyroid levels.

Low iron levels and excess copper levels have been shown to create a hypothyroid condition.

As well as supporting the adrenals, other things that may help to support the thyroid are Vitamins A, B2, B3, B6 C and E. The minerals iodine, selenium, zinc are important as well as the amino acid tyrosine. (Tyrosine should not be given to patients on anti-depressant medications as it can raise the blood pressure).

This information is given as general advice only. Please see a qualified health professional for advice on treatments and diagnoses.

Bibliography


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