



Allergenics

Test Report

Good Health

28 November 2018

Sleep and Mood Test

Contact us

Allergenics Health Assessment Services
PO BOX 60 156, Titirangi
Auckland 0642, New Zealand
Phone 0800 004 898
Email team@allergenics.co.nz

Contents

- Sleep and Mood Test 3

Sleep and Mood Test

Thank you for choosing our testing service for your Sleep and Mood Test. Before you continue reading through this report, we would like to share some important information with you regarding the delicate functions of sleep and mood. This will help you to better understand your results and the explanations in the report that follows.

Sleep is an extremely important part of the body's circadian rhythm or sleep/wake cycle. It is the period in which the body is able to reset and recover, and many of the body's physiological processes are only able to function during sleep. Some factors can disturb normal sleep patterns. These include:

- chronic illness
- stress and anxiety
- iron deficiency
- shift work
- stimulant use

Sleep disturbances can have far-reaching effects on your health. It contributes to fatigue and mood changes, disturbances in gastrointestinal and immune functions and affects hormonal function in general. Sleep disturbances come in different forms, the main ones being insomnia, sleep apnoea and restless legs syndrome. While many of the physiological triggers for sleep disturbances have been identified, chronic sleep disorders are notoriously difficult to treat. When considering treatment, both psychological and physiological triggers need to be addressed in order to help restore normal sleep patterns.

Mood disturbances also exhibit a host of physiological imbalances that are linked to hormone and neurotransmitter dysfunction and nutritional deficiencies. This is in addition to psychological triggers, many of which may be due to physiological imbalances rather than a life event. The most common forms of mood disturbances include depression and anxiety. Mood disturbances are also associated with a host of different chronic illnesses including chronic fatigue syndrome, fibromyalgia syndrome, irritable bowel syndrome and many more.

Both sleep and mood are under tight hormonal and neurotransmitter control, driven mostly by the hypothalamic-pituitary-adrenal (HPA) axis and limbic system in the brain. Imbalances in any of the organs, hormones, neurotransmitters and nutritional factors involved in maintaining healthy mood and sleep can provide a stress on the body and negatively impact on the functioning of the HPA and limbic systems.

The Allergenics testing method uses a unique energy measurement technology that can detect disruptions to normal energy patterns of the factors involved in healthy sleep and mood function. This information can help you identify possible areas of stress and assist you in understanding what may be triggering your sleep or mood disturbance.

If you have any additional questions relating to the results of your test or the explanation provided, please discuss these with a qualified natural health practitioner or with one of our healthcare consultants.

What we test for

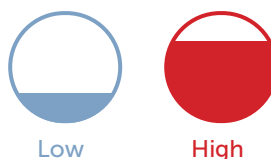
Hormones	Adrenaline, Cortisol, Melatonin.
Neurotransmitters	Adenosine, Dopamine, GABA, Histamine, Noradrenaline, Serotonin.
Organs and Body Systems	Adrenal Glands, Pineal Gland, Pituitary Gland, Thyroid Gland.

Specialised Nutrients	Calcium, Iron, Magnesium, Phenylalanine, Tryptophan, Tyrosine.
Vitamins	P5P.

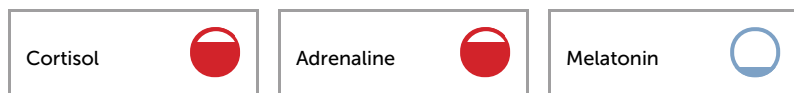
Your Test Results

This section provides you with the results of your test. It will tell you which hormones, neurotransmitters, body systems and specialised nutrients are in a state of imbalance, thus causing a stress to your body and possibly impacting on your mood and sleep.

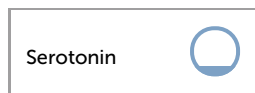
Reactive scale



Hormones



Neurotransmitters



Organs and Body Systems



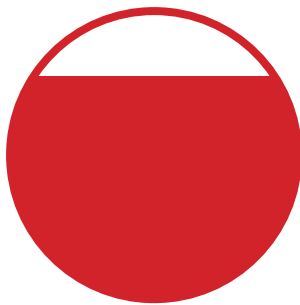
Specialised Nutrients



Deep dive into your significant results

Cortisol

Your reactivity: **Score 5: High**



Cortisol is a steroid hormone produced by the adrenal glands. It is released in response to stress and low blood-glucose concentrations. It functions mainly to increase blood sugar levels, suppress the immune system, aid in metabolism of carbohydrate, protein and fats, and it decreases bone density. Cortisol rhythms in humans are tightly controlled, cortisol levels peak in the morning and slowly decline as the day progresses. They are at their lowest at night. Cortisol production is extremely sensitive to both emotional and physiological stressors.

What This Means

Cortisol Imbalances:

Low Cortisol: A low cortisol level is usually associated with disorders of either pituitary or adrenal gland function.

High Cortisol: A high cortisol level is usually associated with chronic stress or a condition known as Cushing's syndrome.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Additional Information

Symptoms of Low Cortisol

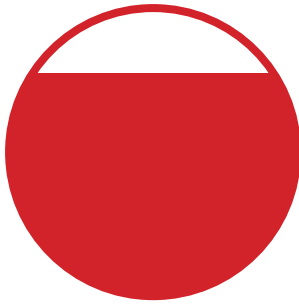
Low cortisol may lead to fatigue, digestive problems and low blood pressure. Low cortisol may also be a sign of a condition called Addison's disease.

Symptoms of High Cortisol

Chronically elevated levels of cortisol may contribute to digestive problems, obesity, sleep problems and depression. Elevated cortisol may also be a sign of a condition called Cushing's syndrome or the use of steroid medication.

Adrenaline

Your reactivity: **Score 2.5: High**



Adrenalin (also known as epinephrine) is a stress hormone produced by the adrenal glands. It prepares the body for the 'fight or flight' response, characteristic of acute stress. Adrenalin levels increase during times of stress and are usually increased during the day, while they are at their lowest during rest and sleep. It is most closely related with the hypothalamic-pituitary-adrenal system and can therefore impact on a wide range of other hormones and neurotransmitters of this system.

Our diets contain certain foods and compounds that may trigger adrenalin production. The main ones are the following: caffeinated drinks, citrus fruits, bananas, chocolate, cocoa and vanilla.

Additional Information

Symptoms of Low Adrenalin

Symptoms associated with this include fatigue and exhaustion.

Symptoms of High Adrenalin

During times of acute stress, elevated adrenalin levels may increase feelings of anxiety and impact on mood. Elevated adrenalin levels at night, triggered by anxiety and worrying thoughts, may impact on sleep quality and trigger insomnia. The adrenal glands may start to produce excess cortisol in an attempt of counter the effects of elevated adrenalin. This rise in cortisol may have long term health implications.

Adrenalin and Diet

Our diets contain certain foods and compounds that may trigger adrenalin production. The main ones are the following:

- Caffeinated drinks
- Citrus Fruits
- Bananas
- Chocolate
- Cocoa
- Vanilla

What This Means

Adrenalin Imbalances

Low Adrenalin: Low adrenalin levels are usually associated with disorders in adrenal gland function, most notably adrenal insufficiency and adrenal fatigue. A general decrease in adrenal hormone production will be noted, including adrenalin, noradrenalin, cortisol and DHEA.

High Adrenalin: Elevated adrenalin levels are indicative of acute stress.

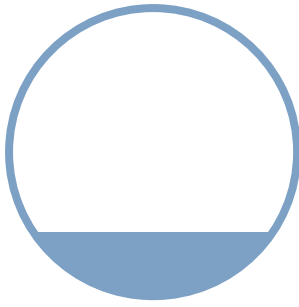
What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Tryptophan

Your reactivity: **Score -2.5: Low**



Tryptophan is an essential amino acid that the body cannot synthesise so it needs to be obtained from dietary sources. It is also synthesised by bacterial intestinal flora. Tryptophan is a precursor to 5-hydroxytryptophan (5-HTP) and the neurotransmitter serotonin. Serotonin may then be converted to melatonin, the sleep promoting hormone. Tryptophan is also required for the production of Vitamin B3 or niacin. Tryptophan is found naturally-occurring in many protein-rich foods. These foods include: animal proteins (red meat, chicken, turkey, fish), eggs, dairy products, soy bean, seeds, quinoa, banana.

Additional Information

Symptoms of Low Tryptophan

Symptoms of low tryptophan include mood imbalances, depression and other symptoms associated with serotonin deficiency.

Symptoms of High Tryptophan

Symptoms associated with this are the same as those associated with serotonin excess.

What This Means

Tryptophan Imbalances

Low Tryptophan: Low levels of tryptophan are rare and are mainly associated with eating a diet deficient in tryptophan-containing foods. Decreased intake of tryptophan may impact on the body's production of serotonin, and in turn, melatonin.

High Tryptophan: Elevated levels of tryptophan are rare. Increased levels are most likely due to supplementation with tryptophan or the compound 5-HTP, leading to increased serotonin production.

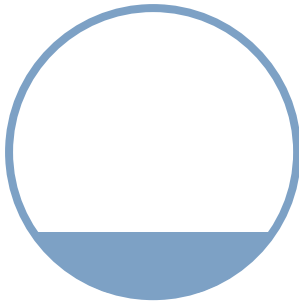
What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Thyroid Gland

Your reactivity: **Score -2.5: Low**



The thyroid is an important endocrine gland that is located in the neck. Its main function is to produce thyroid hormones from dietary iodine. These thyroid hormones serve several very important functions including regulating cellular metabolism, controlling the way in which the body uses energy and regulating the rate of function of other systems in the body. Problems with thyroid function are common and can be caused by genetic factors, iodine deficiency and autoimmune disease.

Additional Information

Symptoms of Low Thyroid Gland Function

The main symptoms associated with low thyroid gland function include fatigue, weight gain, mood changes, changes in the quality of hair, skin and nails, hair loss, changes in blood lipid profiles and cold intolerance.

Symptoms of High Thyroid Gland Function

The main symptoms associated with high thyroid gland function include sudden weight loss, shaking, palpitations and hair loss. Symptoms may mimic low blood sugar (hypoglycaemia) and anxiety.

What This Means

Thyroid Gland Imbalances:

High Thyroid Gland Function: Indicates chronic stress on thyroid function. This may be due to genetic factors, a deficiency in dietary iodine or autoimmune disease.

Low Thyroid Gland Function: Indicates acute stress on the thyroid gland. The most common cause of this is infection of the thyroid gland but it can also be indicative of thyroid hormone supplementation.

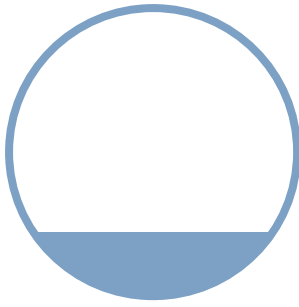
What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Pituitary Gland

Your reactivity: **Score -2.5: Low**



The pituitary gland is a small endocrine gland that sits under the hypothalamus in the base of the brain. It consists of two lobes, the anterior lobe and posterior lobe. The pituitary gland is considered to be the “master” gland in the body, secreting a range of different stimulating and inhibitory hormones which have an effect on other endocrine glands and tissues in the body. The pituitary gland is under the control of the hypothalamus. Problems with pituitary gland function can cause a host of different physiological effects in the body due to the gland’s broad range of action.

What This Means

Pituitary Gland Imbalances

Low Pituitary Gland Function: Indicates chronic stress on pituitary gland function. This may impact on a variety of different physiological functions in the body that are under hormonal control.

High Pituitary Gland Function: Indicates acute stress on the pituitary gland. This may impact on a variety of different physiological functions in the body that are under hormonal control.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Additional Information

Symptoms of Low Pituitary Gland Function

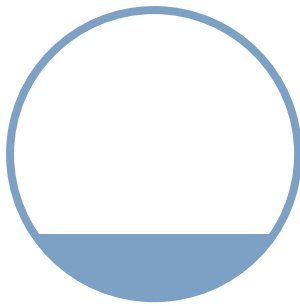
Low pituitary gland function may compromise functions such as blood pressure, growth, temperature regulation, fluid balance, thyroid gland function, adrenal gland function and pregnancy/childbirth processes.

Symptoms of High Pituitary Gland Function

High pituitary gland function may lead to elevated blood pressure, increased growth, disorders of temperature regulation and fluid balance, altered thyroid gland function, altered adrenal gland function and and disruptions to pregnancy and childbirth processes

Phenylalanine

Your reactivity: **Score -3: Low**



Phenylalanine is an essential amino acid that the body cannot synthesise so it needs to be obtained from dietary sources. It is an important precursor in the production of the amino acid tyrosine, which goes on to produce the neurotransmitters dopamine, noradrenalin and adrenalin. Tyrosine also important for the synthesis of thyroid hormones and the skin pigment melanin.

Phenylalanine is found naturally occurring in many protein-rich foods. These include animal proteins, dairy products, egg, legumes, soy bean and soy products, nuts and seeds.

Additional Information

Symptoms of Low Phenylalanine

Symptoms of low phenylalanine levels include mood changes, reduced alertness, fatigue, sluggishness, reduced appetite and vitiligo.

Symptoms of High Phenylalanine

High phenylalanine is rare and is most commonly associated with PKU. The symptoms associated with this are quite diverse, affecting a number of bodily processes.

What This Means

Phenylalanine Imbalances

Low Phenylalanine: Low levels of phenylalanine are rare and are mainly associated with eating a diet deficient in phenylalanine-containing foods. Low phenylalanine levels can affect a number of processes in the body due to its numerous effects on hormone and neurotransmitter synthesis.

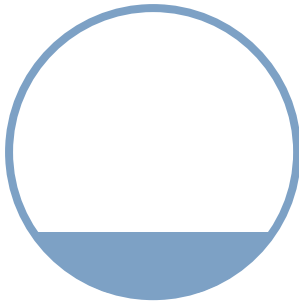
High Phenylalanine: Elevated levels of phenylalanine are rare and is mainly associated with a condition called Phenylketonuria (PKU). This is a genetic disorder characterised by an inability of the body to utilise phenylalanine. Elevated levels may also be seen with phenylalanine supplementation, commonly found in mood support supplements.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Serotonin

Your reactivity: **Score -3: Low**

Serotonin is a neurotransmitter/hormone found in a variety of areas in the body including the brain, gastrointestinal system, central nervous system and blood platelets. It constricts smooth muscle, transmits impulses between nerve cells regulates cyclical body functions and is a major neurotransmitter involved in mood balance, well-being and happiness. Most serotonin is found in the gastrointestinal tract. Serotonin cannot cross the blood-brain barrier and all serotonin used in the brain needs to be produced in the brain. The serotonin system in the brain acts with the dopamine system to regulate normal and abnormal behaviour.

Requirements for Serotonin Production: Tryptophan, Pyridoxal-5-Phosphate (P5P)

Additional Information

Symptoms of Low Serotonin

Reduced brain serotonin has been linked to depression, insomnia, anxiety, negative thoughts, obesity, anorexia, pain syndromes, fibromyalgia syndrome and migraine headaches.

Symptoms of High Serotonin

Highly elevated serotonin levels may result in a condition called 'serotonin syndrome'. Symptoms may include diarrhoea, nausea, headache, vomiting, shivering, agitation, restlessness, confusion, changes in heart rate, high fever and irregular heart beat.

What This Means

Serotonin Imbalances

Low Serotonin: Low brain serotonin levels may result mainly from low dietary intake of the amino acid tryptophan, Vitamin B6 and psychological factors that occur in childhood. Other factors include poor diet, nutritional deficiencies, hormone imbalances, inadequate sunlight, lack of exercise, stress, digestive problems, lack of exercise, inflammation, infections, blood sugar imbalances, smoking and alcohol use.

High Serotonin: High serotonin is most commonly caused by the use of SSRI anti-depressant medications or the use of natural serotonin precursors such as tryptophan and 5-HTP.

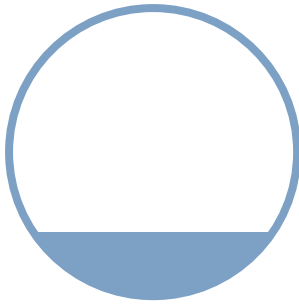
What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Adrenal Glands

Your reactivity: **Score -3.5: Low**



The adrenal glands are small triangular-shaped glands located at the top of the kidneys. The hormones they produce are vital to the body's metabolism and physiology. The outer part of the gland (cortex) produces the steroid hormones cortisol, testosterone and aldosterone while the inner part (medulla) produces the fright-or-flight stress hormone adrenalin and noradrenalin. While serious diseases of the adrenal gland are uncommon hormone output by these glands can very quickly become compromised, leading to a hormonal imbalance. Notable causes of this include acute and chronic stress, lifestyle factors, dietary habits, ageing and imbalances in brain neurotransmitters.

What This Means

Adrenal Gland Imbalances

Low Adrenal Gland Function: Indicates chronic stress on the adrenal glands. Some causes include chronic stress and anxiety, chronic illness, recreational drug use, chemical and toxin exposure, genetic factors and poor dietary habits.

High Adrenal Gland Function: Indicates acute stress on the adrenal glands. This can be due to recent stress or trauma, the use of certain medications and dietary factors.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Additional Information

Symptoms of Low Adrenal Gland Function

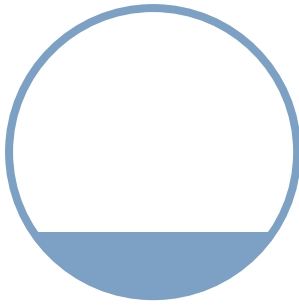
Symptoms associated with lowered adrenal function include fatigue, exhaustion, weight gain, carbohydrate intolerance, reduced thyroid activity, brain fog, libido changes, mood changes, chronic allergy and recurrent infections.

Symptoms of High Adrenal Gland Function

Symptoms associated with elevated adrenal function include low-grade inflammation in the body, immune system imbalances, over-active immune response, allergies, increased anxiety and sometimes weight loss or weight gain.

Pineal Gland

Your reactivity: **Score -4: Low**



The pineal gland is a small cone-shaped endocrine gland found in the brain. Its main function is to produce melatonin from serotonin. Melatonin is the sleep modulating hormone. During slow wave sleep (SWS), the pineal gland converts its serotonin stores into melatonin. This production allows the brain to move into rapid eye movement or REM sleep. The pineal gland may also have a regulatory effect on the sex hormones follicle stimulating hormone (FSH) and leutinizing hormone (LH). The pineal gland is sensitive to light and magnetic fields.

What This Means

Pineal Gland Imbalances:

The pineal gland, unlike most other areas of the brain, is not protected by the blood-brain barrier. This means that substances in the body can easily affect its function. Elevated levels of fluoride are known to affect pineal gland function. Electromagnetic fields affect pineal gland function, serotonin activity and ultimately melatonin production. Elevated levels of SSRI anti-depressant medication may also inhibit melatonin production. Night shift work, sleep deprivation, fluctuations in light and inadequate darkness can affect pineal gland function. Blind individuals may also experience impaired pineal gland function.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. Low pineal gland function may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Additional Information

Symptoms of Low Pineal Gland Function

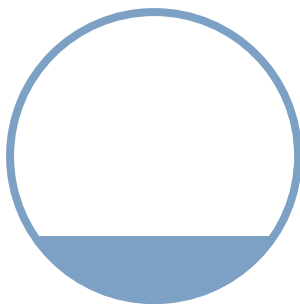
Low pineal gland function may affect the production of melatonin, which may impact negatively on sleep patterns. It may also contribute to lowered female hormone production, fertility problems and disruptions to the menstrual cycle.

Symptoms of High Pineal Gland Function

High pineal gland function is rare and is usually associated with pineal gland tumours. Symptoms associated with this include headaches, seizures, nausea, vomiting, disturbed memory and visual problems.

Melatonin

Your reactivity: **Score -4: Low**



Melatonin is a neurohormone produced by the pineal gland in the brain. Its production involves the amino acid tryptophan and the neurotransmitter serotonin. It is partly responsible for maintaining the body's sleep-wake cycle or circadian rhythm. It is produced in response to darkness and inactivated by exposure to both natural and artificial light. Melatonin may assist in promoting a healthier sleep.

Melatonin production also takes place in the gut and other locations in the body. Melatonin also protects the body against oxidative stress. Melatonin release by the pineal gland in response to darkness is dependent on the action of norepinephrine. It is affected by imbalances in cortisol where higher than normal levels of cortisol at night can affect its production and activity.

What This Means

Melatonin Imbalances

Low Melatonin: The main cause of melatonin deficiency is a lack of sleep or any conditions that disrupt sleep e.g. shift work, late nights, jet lag, alcohol consumption at night, caffeine consumption at night, stress, exposure to light, changes in blood sugar levels and electromagnetic radiation. Melatonin is strongly affected by elevated cortisol levels (due to stress) and its production decreases significantly with age.

High Melatonin: The main cause of melatonin excess is excessive supplementation with this hormone.

What To Do Next

Low Score (-0.5 to -10): Scores within this range indicate chronic stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the long-term. Nutritional supplementation may be required.

High Score (0.5 to 10): Scores within this range indicate acute stress of a particular nutrient, neurotransmitter, hormone or organ in the body. This may negatively impact on to energy, sleep and mood function in the short term. Nutritional supplementation may be required.

Additional Information

Symptoms of Low Melatonin

Symptoms of low melatonin include sleep problems, mood changes, symptoms of low thyroid hormone activity, intestinal symptoms (intestinal pain, colitis), restless legs syndrome and increased ageing.

Symptoms of High Melatonin

Symptoms of high melatonin include seasonal affective disorder (SAD), daytime sleepiness, impaired mental and physical performance, hypothermia and high levels of prolactin.

Your Supplement Prescription

Name: Good Health

Date: 28 November 2018

Dear Good,

Upon reviewing your test results we recommend the following supplements program.

BioPractica — ProBiome Powder (D-Lactate free)

Bio-Practica ProBiome powder is a lactate-free probiotic supplement that contains highly therapeutic, scientifically documented probiotic strains, which are safe and effective for all ages. It supports healthy gastrointestinal function, immune system function and is useful after antibiotic use.

Dosage: Infants under 6 months: Take 1g (half of a metric teaspoon) once daily. Children 6 months to 12 yrs: Take 1g (half of a metric teaspoon) once or twice daily. Adults: Take 2g (1 metric teaspoon) once or twice daily or as directed by your healthcare practitioner.

Price: \$39.60

Orthoplex — S.F.M. Xcell 60 caps

Orthoplex S.F.M. Xcell contains nutrients that may help to support healthy thyroid and adrenal function, and may support the body during times of stress.

Dosage: Take 1 tablet twice daily, one hour before meals with fruit juice, or as recommended by a healthcare practitioner.

Price: \$45.50

BioPractica — RejuvaSleep Forte

BioPractica RejuvaSleep Forte is a herbal formulation that may assist with sleep disturbances. It may promote a restful sleep, assist in alleviating sleep-onset and sleep-maintenance insomnia, and help to alleviate mental stress, nervousness and restlessness.

Dosage: Take 1-2 tablets daily or as directed by a healthcare practitioner.

Price: \$36.40

To order your prescription please contact Natasha on info@ghealth.co.nz who will take care of this process for you. If you would like assistance with interpreting your results or additional dietary advice, please feel free to contact us to make an appointment at team@allergenics.co.nz

What To Do Next

1. Order Your Prescription

You may have received a nutritional supplement prescription with your test report. The recommended prescription may assist in bringing your body back into balance, together with all other recommendations in your report. Please order your prescription by contacting Natasha on info@qhealth.co.nz

2. Consult With A Healthcare Practitioner

If you would like to further discuss your test results with a qualified healthcare professional, please contact us for a list of practitioners in your area.

3. Retesting

We recommend retesting at least 6 months after first implementing any dietary or nutritional changes. Please contact us if you require any further information on retesting.