Accession No:



#### **Practitioner Details**

Genova Diagnostics (Europe) Parkgate House 356 West Barnes Lane New Malden Surrey KT3 6NB

Testosterone (Saliva)

#### **Patient Details**

Mr Sample Report Parkgate House 356 West Barnes Lane New Malden Surrey KT3 6NB

Client ID No:	IWX500220	
Accession No:		
Patients DOB:	02/03/1965	
Sample Date:	12/05/2008	
Date Of Report:	12/05/2008	

Testosterone (Male)					
Analyte	Result		Normal Range	Units	
Results & Ranges					
		Analyta Boforonco Pango (ng (ml.)			
		Analyte	Kelelence Ka	ange (pg/mil)	
Testosterone (Male)	120	Testosterone	120.0	70 - 250	

Commentary	
Peported By: NRA	

Accession No:



# **Practitioner Details**

Genova Diagnostics (Europe) Parkgate House 356 West Barnes Lane New Malden Surrey **KT3 6NB** 

# Adrenal Stress Profile (Saliva)

# Patient Details

Mr Sample Report Parkgate House 356 West Barnes Lane New Malden Surrey KT3 6NB

Client ID No:	IWX500220	
Accession No:		
Patients DOB:	02/03/1975	
Sample Date:		
Date Of Report:	18/06/2008	

#### Salivary Cortisol and DHEA - Age Group 14 - 40 35 I Inside Outside **Cortisol Levels** Range Range 30 Sample 1 Post Awakening 5.8 E 25 Sample 2 (+ 4 - 5 Hours) 4.0 20 Sample 3 (+ 4 - 5 Hours) 2.3 15 Sample 4 (Prior to Sleep) 1.5 10 **Total Daily Cortisol** 13.6 L 5.8 5 4.0 2.3 1.5 Range 21 - 41 nmol/L 0 Sample 1 Sample 2 Sample 3 Sample 4 **DHEA Levels** 5.0 - 9.0 12 - 22 3.0 - 7.0 1.0 - 3.0 Cortisol Reference Limits - nmol/L Sample 2 (am) 0.26 L Reference Range (nmol/L) Hormone Sample 3 (pm) 0.25 L 0.26 DHEA Mean 0.40 - 1.47 **DHEA : Cortisol Ratio** 1.88 L DHEA: (1.88) 2.0 - 6.0 Cortisol Ratio

# Adrenal Stress Stage

Exhaustion Stage: This is generally a state of insufficient production of adrenal hormones after multiple years of persistent stressors with insufficient coping mechanisms. Patients usually present with fatigue, poor energy and immune system hypofunction. They may exhibit chronic anxiety. In some patients this represents impaired response to shorter-term stressors (i.e. overreactivity to short term stress). Adrenal support and restoration measures, as well as identification and balancing of major stressors are indicated. This state should not be confused with Addison's disease, which is a near absence of adrenal hormones, and is a medical emergency.

### Commentary

Reported By: NRA

#### Commentary

#### DEVIATIONS FROM THE NORMAL CORTISOL RHYTHM

The Morning cortisol level is below the normal range. Morning cortisol may be a good indication of peak adrenal gland function since they represent peak cyclic activity. Low morning cortisol levels suggest a degree of adrenal hypofunction.

The noon cortisol level is below the normal range. Noon cortisol levels may be a good indication of adaptive adrenal gland function since they represent the adrenal glands' response to the demands of the first few hours of the day. Low noon cortisol levels suggest a degree of adrenal hypofunction with decreased adaptive response.

A Low afternoon cortisol is suggestive of suboptimal adrenal functioning.

# DEVIATIONS IN DHEA PRODUCTION

Decreased DHEA levels may be seen in thyroid disorders, cardiovascular disease, obesity, reduced immunity, rheumatologic diseases, and excess cortisol production, or with administration of pharmacological doses of glucocorticosteroids. Low levels are indicative of a lowered capacity to endure physiological or psychological stress/trauma/injury, and may present with abnormal immune response, with increased incidence of autoimmune disease.

# **GENERAL INFORMATION FOR PATIENTS**

# General:

An important part of any abnormal stress response, should include identifying and reducing the cause(s) of stress. The body interprets physiological stressors, such as lack of sleep, imbalanced blood sugar levels or intensive athletic training, in the same way as psychological stress due to bereavement or divorce for example. Adrenal function is significantly influenced by blood sugar levels, therefore much of the dietary advice below aims to stabilise levels of sugar in the blood.

#### Dietary:

• Never skip meals! Ensure that you eat at least every 3 or 4 hours, taking healthy snacks as necessary. Small, regular meals help to maintain energy levels and mood, while decreasing tiredness, irritability and fat storage.

 Avoid highly refined foods such as white bread/ pasta/ rice, chocolate, biscuits, sweets or anything with added sugars. Hidden sugars are also included in many cereals, breads, tinned produce, and processed/ packaged foods. Replace processed foods with the unrefined foods, such as wholemeal bread, brown rice, oats and rye. Note that excess alcohol can also cause imbalanced blood sugar levels.
Tropical fruit (melon, grapes, banana etc), dried fruit and fruit juices can also be very sugary, therefore only a very limited intake of these should be allowed. Instead include other fruit such as

cherries, berries, apples and pears, which are less 'sweet'.

• Ensure plenty of protein, such as lean meat, chicken, fish, eggs, beans, lentils, nuts and seeds, are included with each meal. Protein helps to slow the release of sugar into the blood stream.

Stimulants such as tea, coffee and cigarettes may provide a temporary energy boost, however these not only deplete many essential nutrients, but always reduce energy levels in the long run. Aim to drink at least 1 - 1½ litres of filtered/ bottled water throughout the day, which can include herbal teas.
Nutrients that specifically support the adrenal glands are vitamin C, found in most fresh fruit and vegetables. Magnesium is dramatically depleted in times of stress, and symptoms of a deficiency often include fatigue, anxiety, insomnia and a predispostion to stress. Include plenty of dark green leafy vegetables, wholegrains, nuts and seeds to supply adequate levels of magnesium. The B-complex vitamins can help to support adrenal function, particularly vitamin B5, which directly supports adrenal cortex function and hormone production. Sources include wholegrains, nuts and seeds.

#### Lifestyle:

• Good quality sleep is of utmost importance for long-term health and regeneration. Few people can cope with less than 7 or 8 hours of sleep per night, and those who regularly undersleep are almost always less efficient, not more. To promote proper sleep, keep regular sleeping patterns and ensure the bedroom is dark enough with adequate ventilation. Do not work in the bedroom.

• Make sure that food is eaten in a relaxed environment, and chewed thoroughly to promote optimum digestion and absorption of nutrients.

• Regular exercise is very beneficial for relieving stress and decreasing negative emotions such as worry or anxiety. However in patients with significantly depleted adrenal hormones, intensive cardiovascular exercise will further deplete adrenal reserves. Gentle exercises such as yoga, pilates, swimming and brisk walking are all excellent alternatives and are often calming in themselves.

• Regular relaxation needs to be built into ones daily life. Reading, bathing, massage and listening to music can promote relaxation, but watching the TV does not! Activities such as tai chi and meditation are extremely beneficial at reducing stress.

• Counselling or other therapies may be beneficial for those having to cope in the face of severe stressors.

Accession No:



### **Practitioner Details**

Genova Diagnostics (Europe) Parkgate House 356 West Barnes Lane New Malden Surrey KT3 6NB

# Melatonin Profile (Saliva)

### **Patient Details**

**Mr Sample Report Parkgate House** 356 West Barnes Lane New Malden Surrey **KT3 6NB** 

Client ID No:	IWX500220	
Accession No:		
Patients DOB:	02/03/1975	
Sample Date:		
Date Of Report:	09/05/2008	



# Commentary - General

Melatonin is the major hormone secreted by the pineal gland and is a key modulator of seasonal and circadian biorhythms. The synthesis and secretion of melatonin is controlled by a circadian clock in the hypothalamus and is synchronised by the light/dark cycle. The production of melatonin is inhibited by daylight and occurs during darkness. Melatonin is therefore inherently involved in the timing of functions such as sleep, mood, reproduction and immune sytem activity. Melatonin also not only acts as a hormone, but also as a potent antioxidant and is one of the most powerful scavengers of free radicals.

# Commentary - Specific

Reported By: NRA

# MELATONIN RHYTHM INTERPRETATION GUIDELINES

This profile reveals a disturbance in the circadian rhythm of melatonin. This may bring about inhibition of ovulation, mood disorders, and/or a decreased body temperature.

#### Suspect:

1. An extended nocturnal phase, which may increase the duration of melatonin secretion and precipitate a phase shift in the onset of melatonin production.

- 2. Melatonin supplementation, or supplementation of its precursor, tryptophan.
- 3. Other substances that may increase melatonin:

DRUGS which may stimultate melatonin production: Fluvoxamine, Despiramine, most MAO inhibitors. HERBS which may rise melatonin levels: St. Johns Wort (an MAO inhibitor), Cannabis sativa (marijuana). FOODS high in tryptophan (melatonin precursor): Spirulina seaweed, soybean, cottage cheese, chicken liver, pumpkin seeds, turkey, chicken, watermelon seeds, almonds, peanuts, brewer's yeast, malted milk, milk, yoghurt.

- 4. Decreased metabolism of melatonin by the liver.
- 5. Increased risk for mood disorders, such as Seasonal Affective Disorder (SAD) and mania.

#### **Consider the following Actions:**

- 1. Increase morning exposure to bright light, to lower melatonin production.
- 2. Reduce or avoid melatonin and/or tryptophan supplements.
- 3. Re-evaluate use of medications, herbs and dietary intake of melatonin-enhancing foods.

4. Modify exercise routine if induced melatonin levels are not desired (daytime exercise can increase melatonin levels)

5. Evaluate liver metabolism for inadequate sulphation and/or glucuronidation using the Detoxification Profile.

6. In cases of depression and other mood disorders, rule out other possible causes.