

Patient Details

Ms 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

Practitioner Details

Genova Diagnostics (Europe)
Parkgate House
356 West Barnes Lane
New Malden
Surrey
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Progesterone : Phase No Cycle

	Low	Typical	Elevated	
Luteal Phase : Unsupplemented Reference Range:	65.0 <100			pg/mL
Post Menopause : Unsupplemented Reference Range:		65.0 20 - 70		pg/mL
Oral : Supplemented Reference Range:	65.0 <100			pg/mL
Cream / Gel : Supplemented Reference Range:	65.0 <500			pg/mL

Oestradiol : Phase No Cycle

	Low	Typical	Elevated	
Luteal Phase : Unsupplemented Reference Range:	3.5 <4.0			pg/mL
Post Menopause : Unsupplemented Reference Range:		3.5 1.0 - 4.0		pg/mL
Oral / Patch : Supplemented Reference Range:	3.5 <5.0			pg/mL
Cream / Gel : Supplemented Reference Range:	3.5 <10.0			pg/mL

Progesterone / Oestrogen Balance

	Low	Typical	Elevated	
Ratio : Progesterone / Oestradiol Reference Range:		18.6 10.0 - 100		Ratio

Current Hormone Therapies: None
* Supplemented ranges represent hormone levels 10 hours after last dose.

Commentary

Progesterone levels are consistent with those typically seen post menopause.

Oestradiol level consistent with that typically seen post menopause.

The Progesterone to Oestradiol ratio (P/O) is within normal limits.



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Testosterone (Female)

Analyte	Result	Normal Range	Units
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Results & Ranges

Analyte	Result	Reference Range (pg/mL)
Testosterone (Female)	30.5	20 - 70

Commentary

(This area is currently blank for commentary.)



Estrogen Metabolism Assessment (Urine)

Menopausal

Patient: **Sample Report**

Order Number: A0040420

Genova Diagnostics

Completed: April 14, 2008

Received: April 04, 2008

Collected: March 29, 2008

Route Number: A085015

DOB: May 03, 1954

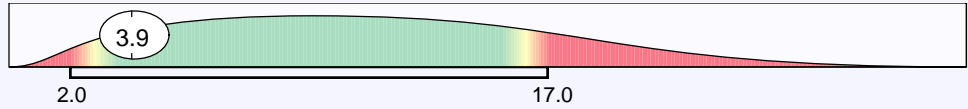
Sex: F

MRN: 0001166651

Estrogen Metabolism

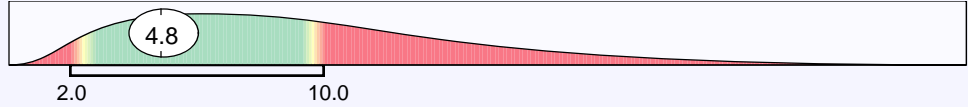
2-Hydroxyestrogen (2-OHE)

Ref Range
ng/mg creat



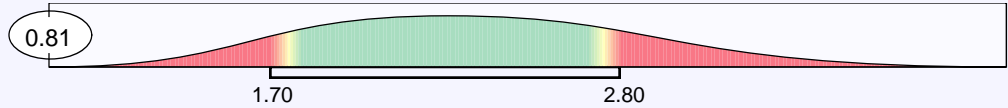
16-alpha-Hydroxyestrone (16-alpha-OHE1)

Ref Range
ng/mg creat



2-OHE:16-alpha-OHE1 Ratio

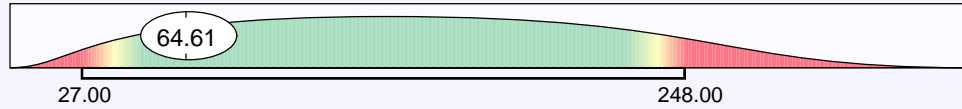
Ref Range



Creatinine

Creatinine

Ref Range
mg/dL



Reference Range Information

Reference ranges for 2-Hydroxyestrogen and 16alpha-Hydroxyestrone were determined with urine samples from menopausal women who were not using hormone-replacement therapy. The reference range for the 2-OHE: 16-alpha-OHE1 ratio was derived from the literature. The reference range for creatinine was derived from a population of pre- and post-menopausal women.

Reference Intervals for Menopausal Women

Analyte	Reproductive Range (Luteal)	Unsupplemented Menopausal Range	Patient Result
2-Hydroxyestrogen	3.0 - 33.0	2.0 - 17.0	3.9
16-alpha-hydroxyestrone	4.0 - 24.0	2.0 - 10.0	4.8

Commentary

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

Estrogen Metabolism

Estrogen metabolism is an important measure of hormonal balance. While literature refers to the involvement of hydroxyestrogens in a number of conditions, levels shown in this test are not diagnostic of any specific medical condition. High or low levels of the hydroxyestrogens, or an elevated or depressed ratio should be evaluated in relation to the patient's total history, physical, and clinical presentation.

2-hydroxyestrogen (2-OHE) levels are within the reference range. These urinary metabolites of estrogen (about 80% from estrone, and 20% from estradiol and estriol) appear to represent a beneficial direction in estrogen metabolism. Normal levels of 2-OHE imply a balanced metabolism and a decreased likelihood of breast cancer, cervical dysplasia and osteopenia. Urine levels of 2-OHE are responsive to dietary changes and other factors that modify estrogen metabolism, including a high-fiber diet, exercise, and reasonable intake of cruciferous vegetables, soy products, and omega-3 oils, with limited intake of saturated fat. Changes in 2-OHE may be particularly important for women to monitor as their hormone status changes due to contraceptives, estrogen replacement therapies, diet, or exercise regimen.

16alpha-hydroxyestrone (16alpha-OHE1) is within the reference range. Normal or low levels are generally viewed as a beneficial finding since high levels of this metabolite of estrone may be linked to conditions such as lupus, breast cancer, and obesity. Exercise and dietary intake of cruciferous vegetables, soy, and fish oil (EPA) all appear to be of potential benefit increasing levels of 2-OHE and thereby keeping the levels of 16alpha-OHE1 normal or low.

The **2-OHE: 16alpha-OHE1 ratio** appears from the literature to be a useful gauge of estrogen metabolism. A low ratio may be associated with increased likelihood of estrogen-dependent diseases such as breast cancer and lupus. Ratios of greater than 2.0 are generally thought to reflect healthy estrogen metabolism. There are numerous modifiers of this ratio, which primarily function to alter the levels of 2-OHE. These include intake of indole-3-carbinols from cruciferous vegetables, flaxseed, soy, omega-3 fatty acids, and exercise. It is to be emphasized that some individuals appear to have a paradoxical response to treatments that typically would raise the 2-OHE; therefore, follow-up testing is strongly suggested.

On the other hand, an elevated 2-OHE: 16alpha-OHE1 ratio may be associated with an increased likelihood of osteopenia. Attention to bone loss processes in the urine is perhaps warranted in individuals with a very high 2-OHE: 16alpha-OHE1 ratio.

Urine creatinine concentration is within the reference range. Under certain conditions such as dehydration, excessive fluid intake, diuretic use, or abnormal metabolic states, the "spot" urine creatinine value from this sample may not be representative of average renal flow.

Adrenal Stress Profile (Saliva)

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Date Of Report: 18/06/2008

Salivary Cortisol and DHEA - Age Group 14 - 40

Cortisol Levels

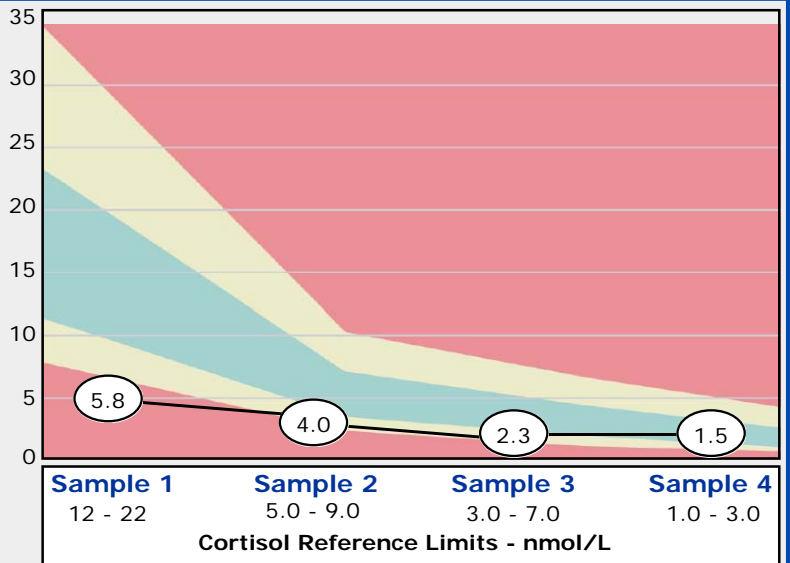
	Inside Range	Outside Range	
Sample 1 Post Awakening	<input type="text" value=""/>	<input type="text" value="5.8"/>	L
Sample 2 (+ 4 - 5 Hours)	<input type="text" value=""/>	<input type="text" value="4.0"/>	L
Sample 3 (+ 4 - 5 Hours)	<input type="text" value=""/>	<input type="text" value="2.3"/>	L
Sample 4 (Prior to Sleep)	<input type="text" value="1.5"/>	<input type="text" value=""/>	
Total Daily Cortisol	<input type="text" value=""/>	<input type="text" value="13.6"/>	L
	Range 21 - 41 nmol/L		

DHEA Levels

Sample 2 (am)	<input type="text" value=""/>	<input type="text" value="0.26"/>	L
Sample 3 (pm)	<input type="text" value=""/>	<input type="text" value="0.25"/>	L

DHEA : Cortisol Ratio

<input type="text" value=""/>	<input type="text" value="1.88"/>	L
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Hormone	Reference Range (nmol/L)
DHEA Mean	0.40 - 1.47
DHEA: Cortisol Ratio	2.0 - 6.0

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

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.

Commentary

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 predisposition 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.

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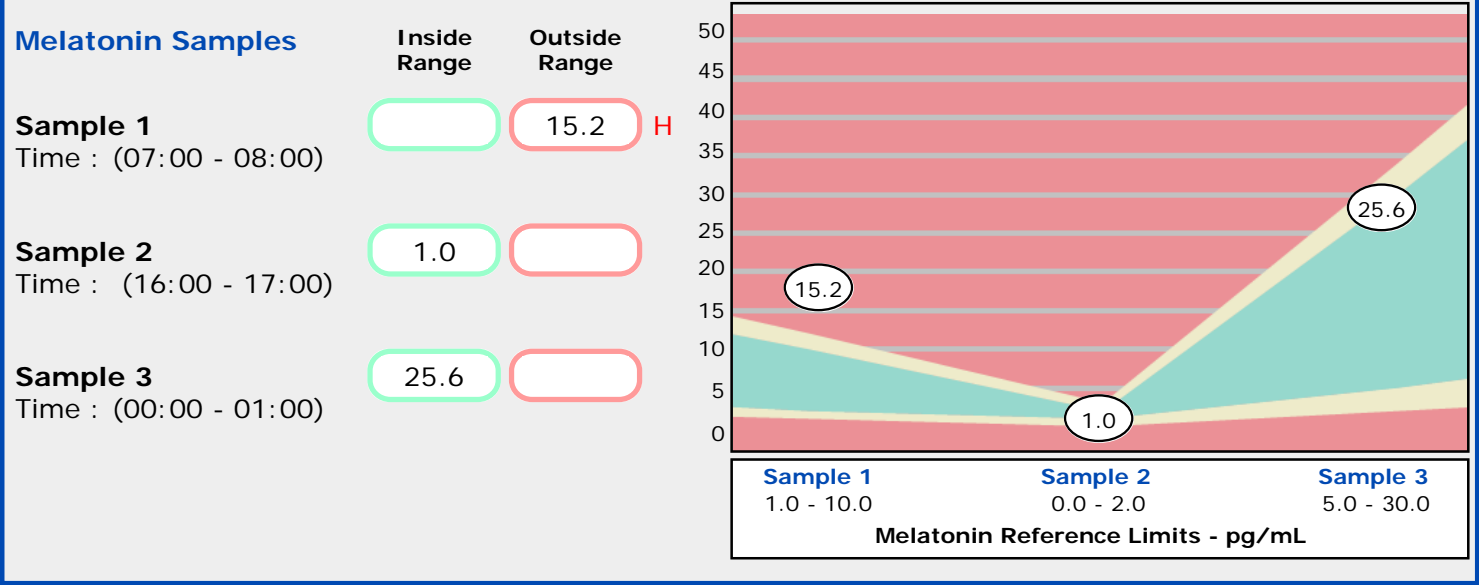
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Date Of Report: 09/05/2008

Salivary Melatonin



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

Commentary

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 stimulate 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.