



# Adrenal Stress Profile (Saliva)



46-50 Coombe Road  
New Malden  
Surrey KT3 4QF

63 Zillicoa Street  
Asheville, NC 28801 USA

Patient: **Order Number:**  
DOB: Completed:  
Sex: F Received:  
MRN: Collected:

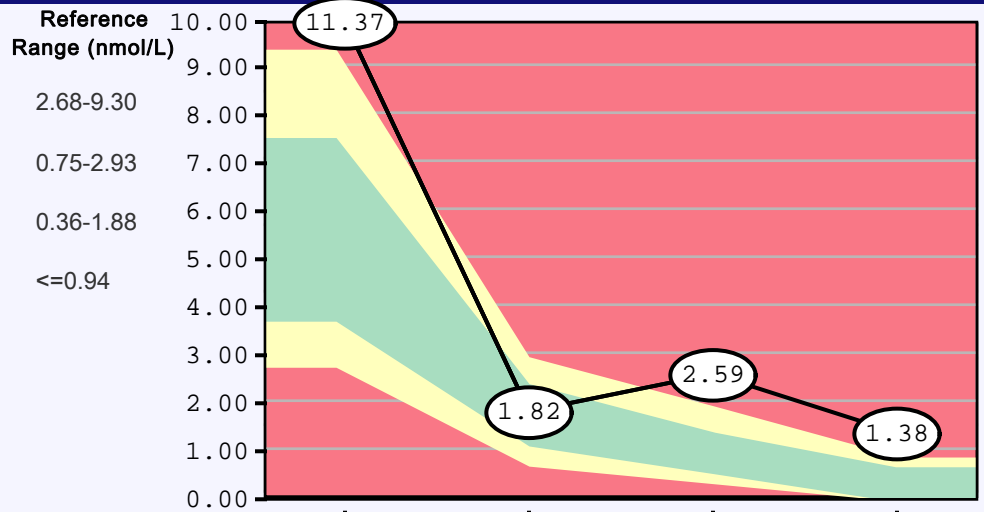
## Salivary Cortisol and DHEA

### Cortisol Levels

Sample	Value	Status	Reference Range (nmol/L)
Sample 1 Post Awakening	11.37	H	2.68-9.30
Sample 2 (+ 4 - 5 Hours)	1.82		0.75-2.93
Sample 3 (+ 4 - 5 Hours)	2.59	H	0.36-1.88
Sample 4 (Prior to Sleep)	1.38	H	<=0.94
Sum of Cortisol	17.160		

### DHEA Level

DHEA : Cortisol Ratio	0.02	L	0.05-0.32
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Sample	Reference Range (nmol/L)
Sample 1	2.68-9.30
Sample 2	0.75-2.93
Sample 3	0.36-1.88
Sample 4	<=0.94

**Cortisol Reference Limits - nmol/L**

Hormones	Value	Reference Range (nmol/L)
DHEA Sample 1 (am)	0.18	0.25-2.22

Testing performed by Genova Diagnostics, Inc. 63 Zillicoa St., Asheville, NC 28801-0174

## Commentary

Please note the cortisol reference ranges have been updated due to a change in the assay manufacturer.

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.

Cortisol reference ranges are based on samples collected over one day during the following time periods (+/- 2hrs):

- #1: 7AM - 9AM
- #2: 11AM - 1PM
- #3: 3PM - 5PM
- #4: 10PM - 12PM

Results for samples collected outside the recommended time period should be interpreted with caution as the stated

## Commentary

reference range may not apply.

For the patient:

This profile measures the levels of cortisol and DHEA and provides an evaluation of how cortisol levels differ throughout the day. Cortisol levels typically peak shortly after rising and are at their lowest after the onset of sleep. Cortisol is involved in many important functions in your body, including the metabolism and utilization of proteins, carbohydrates and fats, your body's response to physiological or psychological stress, and the control of inflammation and proper blood sugar levels. Cortisol also helps maintain proper blood pressure, normal nerve and brain activity and normal heart and immune function. DHEA also plays a role in the metabolism of protein, carbohydrates and fats, and works with cortisol to help maintain proper blood sugar levels. DHEA helps regulate body weight, blood pressure and immune function, and is used by the body to make the hormones, testosterone and estradiol. Too much or too little of cortisol or DHEA can lead to illness, and it is important that these two hormones be in balance with each other.

For the Physician:

In this profile, Sample 1 (Post awakening) cortisol level is significantly elevated. Because cortisol levels are typically at their peak shortly after awakening, morning cortisol may be a good indicator of peak adrenal gland function. High morning cortisol levels suggest a degree of adrenal hyperfunction in regard to peak circadian activity, stress being the most common inducer. High cortisol levels cannot be sustained and are often a precursor to adrenal fatigue. Other possible causes of high salivary cortisol include heavy exercise, pregnancy, hypoglycaemia, smoking, obesity, depression, alcoholism, and if significantly elevated, adrenal hyperplasia or Cushing's syndrome.

Sample 2 cortisol level is within the reference range. Mid-day 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. Mid-day cortisol levels within reference range suggest a component of normal adrenal function in regard to adaptive response.

Sample 3 cortisol level is above the reference range. Afternoon cortisol levels may be a good indication of glycaemic control exerted by the adrenal gland since they represent a postprandial sample. High afternoon levels suggest a degree of adrenal hyperfunction with increased adrenal assistance in glycaemic control. Other possible causes of high salivary cortisol include stress, heavy exercise, pregnancy, smoking, obesity, depression, alcoholism, or if significantly elevated, adrenal hyperplasia and Cushing's syndrome.

Sample 4 cortisol level is above the reference range. Late-night cortisol levels may be a good indication of baseline adrenal gland function since they typically represent the lowest level during the day. High late-night cortisol levels suggest a degree of adrenal hyperfunction with regard to baseline circadian activity. Possible causes of elevated late-night cortisol include stress, heavy exercise, pregnancy, hypoglycaemia, smoking, obesity, depression, alcoholism, and the use of glucocorticoids. Significantly elevated late-night cortisol levels are considered a reliable indicator of Cushing's syndrome, especially if coupled with a reduced circadian rhythm.

DHEA is below the reference range. 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 DHEA 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.

A low DHEA: cortisol ratio is generally associated with chronic stress and hypothalamic-pituitary-adrenal imbalances. While often observed in individuals as they age, it may also be associated with cognitive and mood disorders,

**Commentary**

anxiety, and depressive symptoms. DHEA levels in women tend to decrease more rapidly with aging (especially between 50-60 years of age) than DHEA levels in men.