



*The most complete line of endocrine testing*

## ***Adrenocortex Stress Profile***

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### ***Why is this test important?***

Stress is unfortunately an integral part of "modern" life. Stress may arise from environmental, mental-emotional, or physiological causes. The adrenal hormones cortisol and DHEA are critical and allow the body to adapt to stress. If cortisol and/or DHEA become unbalanced, an individual may lose the ability to adapt effectively to stress. Abnormal cortisol and DHEA levels can result in numerous serious chronic disease symptoms.

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### ***What does this test involve?***

Four saliva samples are collected over a 1-day period, at 8 a.m., noon, 4 p.m. and midnight. DHEA is measured using the 8 a.m. sample. Cortisol is measured in all four samples to reveal its circadian rhythm.

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### ***What are the consequences of hormonal imbalances?***

Abnormal cortisol levels have been observed in chronic fatigue, depression, panic disorders, male impotence, infertility, PMS, menopause, anorexia nervosa, and sleep disturbances.

Long-term effects of elevated cortisol or of a low DHEA:cortisol ratio include fatigue, irritability, dysglycemia, central obesity, impaired immunity, and osteoporosis.

Low DHEA has been associated with immune dysregulation, arthritis, osteoporosis, insomnia, depression, fatigue, and decreased libido.

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# Cortisol

Analyte	Result	Suspect	Consider
Cortisol	Low	<ul style="list-style-type: none"> <li>Some degree of adrenal insufficiency</li> </ul>	<p><b>Lifestyle changes:</b> Stress reduction: chronic stress can fatigue the adrenals Rest, exercise, prayer, meditation, relaxation exercises</p> <p><b>Dietary changes:</b> Balance blood sugar: Lower calorie, high protein, high complex carbohydrate and high fiber diet</p> <p><b>Nutritional supplements:</b> High-grade multivitamin and mineral. Additional Vitamin C, Vitamin B5, Vitamin B6, and zinc, as indicated</p> <p><b>Herbal Support*:</b> "Adaptogenic" herbs: American or Korean ginseng (<i>Panax spp.</i>) Siberian ginseng (<i>Eleuthrococcus senticosus</i>) Withania (<i>Withania somnifera</i>) Miscellaneous herbs: Licorice (<i>Glycyrrhiza glabra</i>) to prolong the half-life of cortisol Sarsaparilla (<i>Smilax spp.</i>) is a cortisol precursor</p> <p><b>Glandular Support*:</b> Adrenal, pituitary, others as indicated</p> <p><b>Hormone therapy*:</b> Cortisol, DHEA, pregnenolone, as indicated</p> <p>*For herbal, glandular &amp; hormone therapy, it is important to preserve or restore circadian rhythm by dosing in morning. May give 1/3 to 1/2 of morning dose at noon. Dosing later than noon is not advised.</p>
	High	<ul style="list-style-type: none"> <li>Some degree of adrenal hyperreactivity or hyperfunction, in response to environmental, physiological, or psychological stress</li> </ul>	<p><b>Lifestyle changes:</b> Stress reduction, rest &amp; relaxation, prayer, meditation, regular exercise, blood sugar stabilization, sufficient sleep, elimination of food allergies and restoration of normal bowel function</p> <p><b>Nutritional supplements:</b> High-grade multi-vitamin/mineral. Additional Vitamin C, Vitamin B5, Vitamin B6 and zinc, as indicated Phosphatidyl serine may resensitize the hypothalamus and pituitary to cortisol negative feed back</p> <p><b>Herbal Support†:</b> Nervine and "calmative" herbs: St. John's Wort (<i>Hypericum</i>), Passionflower (<i>Passiflora</i>), Valerian (<i>Valeriana</i>), Skullcap (<i>Scutellaria</i>), and Hops (<i>Humulus lupulus</i>) Low dose adaptogens: Siberian ginseng (<i>Eleuthrococcus senticosus</i>) Withania (<i>Withania somnifera</i>)</p> <p>† In cases of high cortisol or low DHEA or low DHEA/cortisol ratio consider using nervine and adaptogenic herbs with divided dosing throughout the day.</p>

# DHEA

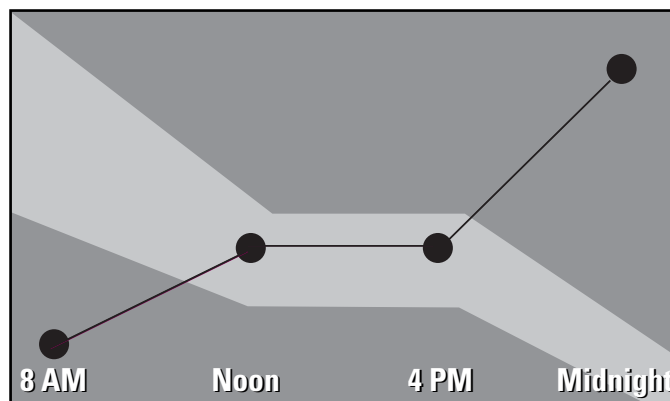
Analyte	Result	Suspect	Consider
<b>DHEA</b> (Dehydroepiandrosterone)	Low	<ul style="list-style-type: none"> <li>A physiological response to stress, with shifting of the steroidogenic pathway to cortisol at the expense of DHEA</li> </ul>	<ul style="list-style-type: none"> <li>Consider lifestyle, dietary, and herbal options outlined under HIGH CORTISOL</li> <li>DHEA or pregnenolone supplementation may be warranted</li> <li>Consider measuring testosterone and/or estradiol levels and intervene if necessary</li> </ul>
	High	<ul style="list-style-type: none"> <li>An abnormal physiological response to stress, with shifting of the steroidogenic pathway to DHEA at the expense of cortisol</li> <li>Rule out exogenous supplementation</li> <li>Rule out polycystic ovary syndrome</li> </ul>	<ul style="list-style-type: none"> <li>Consider lifestyle, dietary and herbal options as outlined under LOW CORTISOL</li> <li>Consider measuring testosterone and/or estradiol levels and intervene if necessary</li> </ul>

## DHEA/Cortisol Ratio

	Result	Suspect	Consider
	Low	<ul style="list-style-type: none"> <li>A physiological response to stress, with shifting of the steroidogenic pathway to cortisol at the expense of DHEA</li> </ul>	<ul style="list-style-type: none"> <li>Consider lifestyle, dietary, and herbal options outlined under HIGH CORTISOL</li> <li>DHEA or pregnenolone supplementation may be warranted</li> <li>Consider measuring testosterone and/or estradiol levels and intervene if necessary</li> <li>Support immune function, if indicated</li> </ul>
	High	<ul style="list-style-type: none"> <li>An abnormal physiological response to stress, with shifting of the steroidogenic pathway to DHEA at the expense of cortisol</li> </ul>	<ul style="list-style-type: none"> <li>Consider lifestyle, dietary and herbal options as outlined under LOW CORTISOL</li> <li>Consider measuring testosterone and/or estradiol levels and intervene if necessary</li> </ul>

## If Altered Circadian Rhythm of Cortisol

	Suspect	Consider
	<ul style="list-style-type: none"> <li>Dysglycemia since cortisol will be secreted in response to a drop in blood sugar</li> <li>Disrupted sleep cycles</li> <li>Altered negative feedback of the HPA Axis</li> </ul>	<ul style="list-style-type: none"> <li>Lifestyle, diet and herbal options as outlined under LOW CORTISOL</li> <li>Assess melatonin levels and treat accordingly</li> <li>Phosphatidyl serine may resensitize the hypothalamus and pituitary to cortisol negative feedback</li> <li>The essential fatty acid DHA to improve cellular receptor function of the HPA axis</li> </ul>



Normal Circadian Rhythm Range of Cortisol

Example of "classic" altered circadian rhythm.  
Other variations possible.

Altered circadian rhythms can occur when morning and night values are reversed or when any afternoon or evening values are abnormally high

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