

About Stress

Our physical responses to stress are fairly well understood: the hypothalamus and pituitary glands in the brain direct the adrenal glands to release cortisol, catecholamines, cytokines and neuropeptides to prepare us to fight or take flight. The body expects stress to be short-lived, which means cortisol is supposed to act quickly and over a short period of time. When stress continues and cortisol and other stress chemicals continue to be produced in excess, health problems often follow.

In fact, more than 70% of disease is thought to be stress-related, so identifying and treating individuals experiencing chronic stress is essential. By testing cortisol in hair, we can see cortisol levels over a month or more, which is useful for understanding whether chronic stress is an issue.

Heart Disease: Elevated hair cortisol levels in men may predict future risk for heart disease. For individuals with congestive heart failure, higher hair cortisol levels are associated with more severe disease. And, high hair cortisol levels are more common in individuals who have been diagnosed with heart disease and type II diabetes than a normal healthy population.

Anxiety: Studies have shown that patients suffering from Generalized Anxiety Disorder have hair cortisol levels approximately half that of those without an anxiety disorder. Low levels of cortisol are associated with increased muscle pain, fatigue and allergies.

Chronic Pain: Research shows that individuals with chronic pain have much higher hair cortisol levels than those who are pain-free. Elevated cortisol levels over time may also contribute to other health issues.

Chronic Disease: Accelerated progression of chronic diseases like AIDS and heart disease have been linked with stress.

Depression: Research shows that people with depression tend to have higher hair cortisol levels. However, this does not necessarily mean that having high hair cortisol would make someone more at risk for depression.

Why Test Hair Cortisol?

- Hair cortisol offers a longer-term view of cortisol levels in tissue than saliva, urine or blood. Just one centimeter of hair shows cortisol levels over a one month period.
- Hair cortisol is useful when it is inconvenient or impractical to do a saliva or 24 hour urine test.
- Because cortisol is the major stress hormone produced by the adrenal glands, measuring cortisol levels is a good way to find out about adrenal functional.
- Hair cortisol levels reflects cortisol levels in the body, even when cortisol is being supplemented.
- Preliminary research links high hair cortisol to metabolic syndrome and heart disease.
- Chronic stress may accelerate the progression of chronic illnesses, and seeing the long-term cortisol levels in hair



Cortisol

Cortisol is released from the adrenal glands. Signals from the hypothalamus and pituitary glands in the brain initiate the release of cortisol from the adrenal glands in response to normal daily demands, and/or in response to a real or perceived stress.

Daily Function

Cortisol naturally rises first thing in the morning to help support our energy requirements for the coming day. Cortisol raises blood pressure and increases blood glucose first thing in the morning, both of which make getting out of bed a lot easier.

Response to Stress

Cortisol is also one of several chemicals produced in response to significant stress. When cortisol is released in response to a stressor, low-priority activities like fertility and immunity are suppressed to focus on immediate survival in response to significant stress.

Information is for educational purposes only. It is not meant as medical advice and any treatment decisions should be made with the knowledge or consent of your healthcare professional.

Results

Rocky Mountain Analytical reports the hair cortisol level and also graphs the result as a percentile, which shows how your result compares to a group of normal, healthy individuals. We ask for health information on the requisition to help us learn what low, high and normal levels mean in the context of different health conditions. The answers you provide to the health questions help us interpret the results as they relate to your health concerns.

Normal: A normal hair cortisol in someone who feels well most of the time suggests that the adrenal glands are functioning normally. However, cortisol levels can pass through 'normal' on the way to high or low, so it is important to work with a healthcare professional who understands adrenal function and takes a thorough health history.

High: Your healthcare professional is in the best position to determine the meaning of a high hair cortisol level for your specific health circumstances.

Low: Your healthcare professional is in the best position to determine the meaning of a low hair cortisol level for your specific health circumstances.



Why Test?

Good health has a lot to do with maintaining balance: the right balance of work and play, the right balance of nutrients in the diet, and the right balance of hormones.

Hormone imbalance may be a result of illness, or may produce symptoms and biochemical changes that eventually lead to illness.

Rocky Mountain Analytical is committed to offering laboratory tests that identify hormone imbalances and other conditions - so they can be corrected before disease develops!

Chronic Stress & Lifestyle

- Sleep is important. At least 8 hours of sleep are needed to properly rest the adrenal glands. It is important not to watch television or review work or other stressful materials in bed as these activities may raise cortisol levels.
- Eat fewer refined carbohydrates like bread and high-sugar foods. Refined carbohydrates cause insulin to be released. Insulin release triggers the release of more cortisol, which causes further stress on the adrenal glands. So, stick to complex carbohydrates like fruits, vegetables and whole grains.
- Eliminate caffeine. Caffeine stimulates the release of adrenaline and noradrenaline; adrenal hormones that increase the stress response.
- Manage stress as best you can. Take time during the day to relax with meditation, yoga, or some other quiet activity.
- Regular exercise helps with managing stress. It is important to note however that excessive exercise or over-training for athletic events may contribute to abnormal cortisol levels.

About Us

Rocky Mountain Analytical was founded in 2002 with a mission to offer tests that focus on early identification and prevention of disease.

Rocky Mountain Analytical is an accredited medical laboratory located in Calgary, Alberta. Accreditation means tests performed by Rocky Mountain Analytical are regularly reviewed for quality, accuracy and reproducibility by the College of Physicians & Surgeons of Alberta.

Ask your healthcare professional whether a test is right for you.

Supplements for Adrenal Support

- Supplements are important for supporting the adrenal glands. Supplements your healthcare professional may recommend include vitamins, minerals, adaptogenic herbs, amino acids and nutraceuticals.
- Purified adrenal extracts from animal sources, which contain natural substances that help support the function of the adrenal glands, may also be recommended.
- Your healthcare professional can devise a protocol for you to get you started on the path to wellness.



Rocky Mountain Analytical
Changing lives, one test at a time

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