

ADDISON'S DISEASE

Definition

Addison's disease is a disorder that occurs when your body produces insufficient amounts of certain hormones produced by your adrenal glands. In Addison's disease, your adrenal glands produce too little cortisol and often insufficient levels of aldosterone as well.

Also called adrenal insufficiency, Addison's disease occurs in all age groups and affects both sexes. Addison's disease can be life-threatening.

Treatment for Addison's disease involves taking hormones to replace the insufficient amounts being made by your adrenal glands, in order to mimic the beneficial effects produced by your naturally made hormones.

Symptoms

Addison's disease symptoms usually develop slowly, often over several months, and may include:

- Muscle weakness and fatigue
- Weight loss and decreased appetite
- Darkening of your skin (hyper-pigmentation)
- Low blood pressure, even fainting
- Salt craving
- Low blood sugar (hypoglycaemia)
- Nausea, diarrhea or vomiting
- Muscle or joint pains
- Irritability
- Depression
- Body hair loss or sexual dysfunction in women

Acute adrenal failure (addisonian crisis)

Sometimes, however, the signs and symptoms of Addison's disease may appear suddenly. In acute adrenal failure (addisonian crisis), the signs and symptoms may also include:

- Pain in your lower back, abdomen or legs
- Low blood pressure
- Severe vomiting and diarrhea, leading to dehydration
- Loss of consciousness
- High potassium (hyperkalemia)

When to see a doctor

See your doctor if you have signs and symptoms that commonly occur in people with Addison's disease, such as:

- Darkening areas of skin (hyper-pigmentation)
- Severe fatigue

- Unintentional weight loss
- Gastrointestinal problems, such as nausea, vomiting and abdominal pain
- Dizziness or fainting
- Salt cravings
- Muscle or joint pains

Your doctor can help determine whether Addison's disease or some other medical condition may be causing these problems.

Causes

Addison's disease result when your adrenal glands are damaged, producing insufficient amounts of the hormone cortisol and often aldosterone as well. These glands are located just above your kidneys. As part of your endocrine system, they produce hormones that give instructions to virtually every organ and tissue in your body.

Your adrenal glands are composed of two sections. The interior (medulla) produces adrenaline-like hormones. The outer layer (cortex) produces a group of hormones called corticosteroids, which include glucocorticoids, mineralocorticoids and male sex hormones (androgens).

Some of the hormones the cortex produces are essential for life — the glucocorticoids and the mineralocorticoids.

- **Glucocorticoids:** These hormones, which include cortisol, influence your body's ability to convert food fuels into energy, play a role in your immune system's inflammatory response and help your body respond to stress.
- **Mineralocorticoids:** These hormones, which include aldosterone, maintain your body's balance of sodium and potassium to keep your blood pressure normal.
- **Androgens:** These male sex hormones are produced in small amounts by the adrenal glands in both men and women. They cause sexual development in men and influence muscle mass, libido and a sense of well-being in both men and women.

Primary adrenal insufficiency

Addison's disease occurs when the cortex is damaged and doesn't produce its hormones in adequate quantities. Doctors refer to the condition involving damage to the adrenal glands as primary adrenal insufficiency.

The failure of your adrenal glands to produce adrenocortical hormones is most commonly the result of the body

attacking itself (autoimmune disease). For unknown reasons, your immune system views the adrenal cortex as foreign, something to attack and destroy.

Other causes of adrenal gland failure may include:

- Tuberculosis
- Spread of cancer to the adrenal glands
- Other infections of the adrenal glands
- Bleeding into the adrenal glands

Secondary adrenal insufficiency

Adrenal insufficiency can also occur if your pituitary gland is diseased. The pituitary gland makes a hormone called adrenocorticotropic hormone (ACTH) which stimulates the adrenal cortex to produce its hormones. Inadequate production of ACTH can lead to insufficient production of hormones normally produced by your adrenal glands, even though your adrenal glands aren't damaged. Doctors call this condition secondary adrenal insufficiency.

Another more common cause of secondary adrenal insufficiency occurs when people who take corticosteroids for treatment of chronic conditions, such as asthma or arthritis, abruptly stop taking the corticosteroids.

Addisonian crisis

If you have untreated Addison's disease, an addisonian crisis may be provoked by physical stress, such as an injury, or illness.

Tests and diagnosis

Your doctor will talk to you first about your medical history and your signs and symptoms. If your doctor thinks that you may have Addison's disease, you may undergo some of the following tests:

- **Blood test:** Measuring your blood levels of sodium, potassium, cortisol and ACTH gives your doctor an initial indication of whether adrenal insufficiency may be causing your signs and symptoms. A blood test can also measure antibodies associated with autoimmune Addison's disease.
- **ACTH stimulation test:** This test involves measuring the level of cortisol in your blood before and after an injection of synthetic ACTH. ACTH signals your adrenal glands to produce cortisol. If your adrenal glands are damaged, the ACTH stimulation test shows that your output of cortisol in response to synthetic ACTH is limited or non-existent.
- **Insulin-induced hypoglycaemia test:** Occasionally, doctors suggest this test if pituitary disease is a possible cause of adrenal insufficiency (secondary adrenal insufficiency). The test involve checking your blood sugar (blood glucose) and cortisol levels at various intervals after an injection of insulin. In healthy people, glucose levels fall and cortisol levels increase.
- **Imaging tests:** Your doctor may have you undergo a computerized tomography (CT) scan of your abdomen

to check the size of your adrenal glands and look for other abnormalities that may give insight to the cause of the adrenal insufficiency. Your doctor may also suggest a MRI scan of your pituitary gland if testing indicates you might have secondary adrenal insufficiency.w

Coping and support

These steps may help you cope better with a medical emergency if you have Addison's disease:

- Carry a medical alert card and bracelet at all times: In the event you're incapacitated, emergency medical personnel know what kind of care you need.
- Keep extra medication handy: Because missing even one day of therapy may be dangerous, it's a good idea to keep a small supply of medication at work, at a vacation home and in your travel bag, in the event you forget to take your pills. Also, have your doctor prescribe a needle, syringe and injectable form of corticosteroids to have with you in case of an emergency.
- Stay in contact with your doctor: Keep an ongoing relationship with your doctor to make sure that the doses of replacement hormones are adequate but not excessive. If you're having persistent problems with your medications, you may need adjustments in the doses or timing of the medications.

Source: The Mayo Clinic

Contact us

Please feel free to contact your Aon Healthcare Consultant if you have any concerns. You may also contact the **Aon Resolution Centre on 0860 835 272 or e-mail: arc@aon.co.za** for further information.

We focus on communication and engagement, across insurance retirement and health, to advise and deliver solutions that create great client impact. We partner with our clients and seek solutions for their most important people and HR challenges.

We have an established presence on social media to engage with our audiences on all matters related to risk and people.

For more information from **Aon Employee Benefits** on healthcare, retirement benefits and a wide range of topics feel free to go to **www.aon.co.za** or follow us on:



The information contained in this clinical awareness communication is for educational purposes only, and is not intended a medical advice, diagnosis or treatment. If you are experiencing symptoms or need health advice, please consult a healthcare professional.