

The diagnosis can be established by measuring [catecholamines](#) and [metanephrines](#) in plasma (blood) or through a 24-hour urine collection.

- **Blood tests:** Buters and others have suggested that analysis of free metanephrines ([metadrenalines](#)) (normetanephrine and metanephrine) in blood plasma is the most accurate test for detecting pheochromocytoma.
- **Urine tests:** Although this test is slightly less effective than plasma testing it is still considered highly effective in diagnosis. Usually the metabolites of [norepinephrine](#) and [epinephrine](#), [normetanephrine](#) (NMN) and [metanephrine](#) (MN), are found in relatively small amounts in normal humans. The increased excretion of these metabolites is indicative of the disease, but does not completely rule out other diseases which may cause the same excretion values.

Either surgical option requires prior treatment with the non-specific and irreversible alpha adrenoceptor blocker

Some of the biochemical diagnostic tests used include blood serum cortisol testing, 24-hour urinary free cortisol (UFC) testing, the [dexamethasone suppression test](#)

Once Cushing's syndrome has been diagnosed, the first step towards finding the cause is measuring plasma corticotropin concentrations. A concentration consistently below 1.1 pmol/L is classified as corticotropin-independent and does not lead to a diagnosis of Cushing's disease. In such cases, the next step is adrenal imaging with [CT](#).

After you take a dose of it, body should make less cortisol. That's the idea behind the test -- take some dexamethasone and see whether your cortisol level drops. Usually, the test is done overnight, but it can also be done over 2 days.

There are two doses you can take for the test: low dose and high dose. The low-dose test helps you find out if you have Cushing syndrome or not. You typically get 1 mg of dexamethasone.

Administration of [corticotropin releasing hormone](#) (CRH) can differentiate this condition from ectopic ACTH secretion. In a patient with Cushing's disease, the tumor cells will be stimulated to release corticotropin and elevated plasma corticotropin levels will be detected

A CT or MRI of the pituitary may also show the ACTH secreting tumor if present.

When taking a [blood test](#), the [aldosterone-to-renin](#) ratio is abnormally increased in [primary hyperaldosteronism](#), and decreased or normal but with high [renin](#) in secondary hyperaldosteronism.

Treatment includes [spironolactone](#), a [potassium-sparing diuretic](#) that works by acting as an [aldosterone antagonist](#).

Low-dose and high-dose variations of the test exist.<sup>[4]</sup> The test is given at low (usually 1–2 mg) and high (8 mg) doses of dexamethasone, and the levels of cortisol are measured to obtain the results.<sup>[1]</sup>

A low dose of dexamethasone suppresses cortisol in individuals with no pathology in endogenous cortisol production. A high dose of dexamethasone exerts negative feedback on pituitary neoplastic ACTH-producing cells (Cushing's disease), but not on ectopic ACTH-producing cells or adrenal adenoma (Cushing's syndrome).

#### **Dose**

A normal result is a decrease in cortisol levels upon administration of low-dose dexamethasone. Results indicative of Cushing's disease involve no change in cortisol on low-dose dexamethasone, but inhibition of cortisol on high-dose dexamethasone. If the cortisol levels are unchanged by low- and high-dose dexamethasone, then other causes of Cushing's syndrome must be considered with further work-up necessary. After the high-dose dexamethasone, it may be possible to make further interpretations.<sup>[5]</sup>