

What is androgen deficiency?

Androgen deficiency is a medical condition caused by problems with your body's ability to make [testosterone](#). Either the hormonal signal that tells your testis to make testosterone, or the ability of your testicles to make testosterone, is not working properly.

Androgens are necessary for normal development, health and wellbeing, so androgen deficiency can have wide-ranging effects.

Having a lower-than-normal testosterone level does not necessarily mean you have androgen deficiency. Low testosterone can be caused by short-term or long-term illnesses, such as an infection or [diabetes](#).

Androgen deficiency affects between 1 in 20 and 1 in 200 men^{1,2}.

Symptoms of androgen deficiency

If you have androgen deficiency, you might:

- Lack energy
- Have poor concentration
- Feel depressed
- Feel weak
- Have decreased muscle mass and strength
- Put on fat
- Feel forgetful
- Have trouble sleeping at night or be sleepy during the day
- [Get erections less often than normal](#)
- Have a [low sex drive](#).

More specific signs of androgen deficiency that your doctor may look for include:

- Very small testes
- A lack of sperm, causing [infertility](#)
- Impaired sexual maturation, including sparse facial and body hair
- A more feminine body fat distribution
- [Gynaecomastia](#) and soreness of breast tissue can also occur.

Causes of androgen deficiency

The most common cause of androgen deficiency is a genetic condition called [Klinefelter syndrome](#), which goes undiagnosed in up to 75% of men who have it⁴.

Androgen deficiency is caused by problems with testosterone production by the testicles. This can be due to the testicles themselves not working properly (known as primary hypogonadism), or because there's a problem with the production of the [hormones](#) that control the testicles' function (secondary hypogonadism).

Primary hypogonadism can be caused by genetic abnormalities, [undescended testes](#), testicular injury, some types of infections (e.g. mumps) or other diseases (e.g. haemochromatosis).

Secondary hypogonadism can be caused by some genetic syndromes (e.g. Kallmann's syndrome), disease, or injury to the pituitary gland at the base of the brain.

Diagnosis of androgen deficiency

Your doctor will need to order tests to diagnose androgen deficiency. This usually begins with a blood test.

Treatment of androgen deficiency

How androgen deficiency is treated depends on whether it's due to primary or secondary hypogonadism.

Management of primary hypogonadism involves testosterone replacement therapy using capsules, injections, skin patches, creams or gels, and is very effective at relieving symptoms of androgen deficiency.

Management of secondary hypogonadism involves medical care to deal with the underlying cause, often with testosterone replacement therapy.

Health effects of androgen deficiency

Along with the signs and symptoms listed above, in the long term androgen deficiency increases your chance of developing [osteoporosis](#), which increases your risk of breaking bones. Androgen deficiency also makes you more likely to be diagnosed with a metabolic disease, like [diabetes](#)².

What to do about androgen deficiency

If your test results suggest you have androgen deficiency, your doctor will refer you to an endocrinologist or urologist to confirm the diagnosis. Involving additional specialists ensures you get the best treatment possible and makes the medication you'll need more affordable.

Questions to ask your doctor about androgen deficiency

- Could my symptoms be caused by something other than androgen deficiency?
- Are there any lifestyle changes I can make to minimise the effect androgen

deficiency has on my health and wellbeing?

- If I need testosterone treatment for my androgen deficiency, what tests will I need to make sure the treatment is working?
- What are the side effects of testosterone treatment for androgen deficiency? How are these monitored?

References

[1] Handelsman, 2007. Update in Andrology. The Journal of Clinical Endocrinology & Metabolism

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[3] Bhasin et al., 2010. Testosterone Therapy in Men with Androgen Deficiency Syndromes: An Endocrine Society Clinical Practice Guideline. The Journal of Clinical Endocrinology & Metabolism.

[4] Crawford et al., 2017. Klinefelter syndrome. Nursing children and young people.

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Updated on 23 March 2021