

TESTOSTERONE

Noninvasive Saliva Testing for Hormonal Balance



NONINVASIVE HORMONE SALIVA TESTING

Generally speaking, hormones found in the bloodstream are mostly (95–99%) bound to carrier proteins (hormone-binding globulins, albumin). In this form they are unavailable for use by target tissues in your body. When experiencing symptoms of excess or deficiency, we look to measure those free (1–5%) of unbound hormones.¹

Unlike blood testing, hormone testing using saliva is not only easy and pain-free, it also has the unique ability through sensitive molecular testing to accurately measure the current bioavailable amount of hormone available to your body's target tissues. **For this reason, saliva testing better relates to specific symptoms of excess and deficiency.**

Hormones exist in delicate harmony with one another—partners in an important and intricate balancing act. When levels are in balance, body systems are generally stable. When levels fall out of balance, normal function may be disrupted. Knowing the signs, understanding the symptoms, and testing helps to support and maintain a normal, healthy, and directed hormonal balance as well as help keep other possible chronic disorders and diseases at bay.

Testosterone levels should be monitored 3 to 6 months after initiation of treatment.²

SYMPTOMS & EFFECTS OF UNBALANCED TESTOSTERONE

HIGH

MEN

- Aggressive
- Irritable
- Acne/oily skin
- Worsening obstructive sleep apnea
- Increase in muscle mass
- Lower sperm count/production
- Shrunken testicles

WOMEN

- Excess acne/oily skin
- Abnormal hair growth
- Male pattern hair loss
- Deepening of voice
- Enlarged clitoris
- Smaller breast size
- Irregular or no menstrual cycle
- Weight gain
- Prolonged infertility
- Insulin resistance (post-menopause)
- Increased muscle mass

LOW

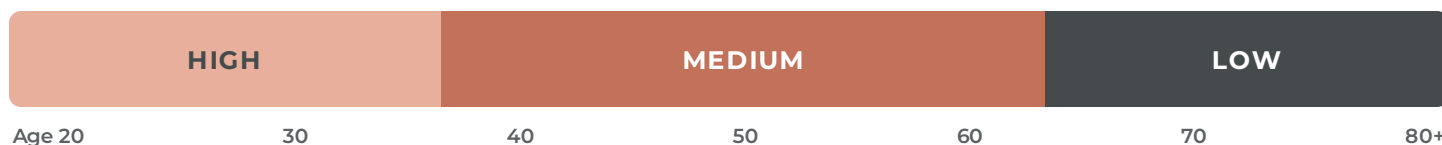
MEN

- Loss of muscle
- Hair loss
- Low sex drive
- Low energy
- Weight gain
- Depression
- Loss of motivation
- Reduced testicle size
- Sleep disturbances
- Erectile dysfunction
- Difficulty building muscle
- Brittle bones

WOMEN

- Thinning hair
- Drier skin
- Low/no sex drive
- Loss of muscle mass
- Increased body fat
- Increased anxiety
- Depression
- Brittle bones
- Sleep disruption
- Vaginal dryness

AVERAGE TESTOSTERONE LEVELS BY AGE



Testosterone levels naturally decline with age. Levels are generally highest through a person's 20s and 30s, taper to a medium range through the 40s and 50s, and trend lower from the 60s onward. Individual levels vary, which is why baseline testing and monitoring matter.

Why do we need testosterone?

Testosterone is a hormone produced by the male and female reproductive organs and adrenal glands. It is essential for the development of sexual characteristics, including muscle mass and bone density. It also plays a critical role in the formation of male reproductive organs such as the testes and prostate gland.³

Are low testosterone levels dangerous?

Testosterone plays an important role in physical and mental health, causing depression and irritability. Low levels of testosterone can display weakened bones, higher fat percentage, and reduced muscle strength.⁴

How often should you get testosterone testing after the initial report?

To identify potential imbalances and to determine how effective hormonal treatment is, testosterone levels should be monitored. This should be done typically every three to six months. This ensures that the levels are within the desired range.⁷

What is the importance of understanding your testosterone levels?

It is important for patients to be informed about their testosterone levels. This helps them identify any underlying medical conditions and make informed health choices.⁸

Does the saliva test sample need to be sent in for analysis immediately? Will it need to be stored at a specific temperature?

After collecting a saliva sample using the SimplyTest saliva collection kit, testing samples will be preserved and stabilized safely inside the collection device at room temperature for over 10 days. It is strongly recommended, however, to mail samples to the lab for testing the same or next day.

References

1. Bikle DD. The Free Hormone Hypothesis: When, Why, and How to Measure the Free Hormone Levels to Assess Vitamin D, Thyroid, Sex Hormone, and Cortisol Status. JBMR Plus. 2020 Nov 2;5(1):e10418. doi:10.1002/jbm4.10418. PMID: 33553985; PMCID: PMC7839820.
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4255853/>
3. Huo, S., Scialli, A. R., McGarvey, S., Hill, E., Tügetimur, B., Hogenmiller, A., Hirsch, A. I., & Fugh-Berman, A. (2016). Treatment of Men for "Low Testosterone": A Systematic Review. PLoS One, 11(9). <https://doi.org/10.1371/journal.pone.0162480>
4. Morgentaler, A., Traish, A., Hackett, G., Jones, T. H., & Ramasamy, R. (2019). Diagnosis and Treatment of Testosterone Deficiency: Updated Recommendations From the Lisbon 2018 International Consultation for Sexual Medicine. Sexual medicine reviews, 7(4), 636–649. <https://doi.org/10.1016/j.sxmr.2019.06.003>
5. Keevil, B. G., MacDonald, P., Macdowall, W., Lee, D. M., Wu, F. C., & NATSAL Team (2014). Salivary testosterone measurement by liquid chromatography tandem mass spectrometry in adult males and females. Annals of clinical biochemistry, 51(Pt 3), 368–378. <https://doi.org/10.1177/0004563213506412>
6. Paduch, D. A., Brannigan, R. E., Fuchs, E. F., Kim, E. D., Marmar, J. L., & Sandlow, J. I. (2014). The laboratory diagnosis of testosterone deficiency. Urology, 83(5), 980–988. <https://doi.org/10.1016/j.urolgy.2013.12.024>
7. Fui, M. N. T., Dupuis, P., & Grossmann, M. (2014). Lowered testosterone in male obesity: Mechanisms, morbidity and management. Asian Journal of Andrology, 16(2), 223–231. <https://doi.org/10.4103/1008-682X.122585>; Goldman, A. L., Bhasin, S., Wu, F. C. W., Krishna, M., Matsumoto, A. M., & Jasuja, R. (2017). A Reappraisal of Testosterone's Binding in Circulation: Physiological and Clinical Implications. Endocrine reviews, 38(4), 302–324. <https://doi.org/10.1210/er.2017-00025>
8. Ho, C. K. (2011). Testosterone testing in adult males. The Malaysian Journal of Pathology, 33(2), 71–81.
9. Cunningham, G., & Toma, S. (2011). Why is androgen replacement in males controversial? The Journal of Clinical Endocrinology & Metabolism, 96(1), 38–52. <https://doi.org/10.1210/jc.2010-1658>