

WMA

Testosterone replacement or supplementation

Dear Athlete,

Each year we have a number of applications from men for a TUE for testosterone replacement or supplementation.

These requests are sent to three doctors on a panel. The doctors must abide by the WADA TUEC Guidelines. **WMA does not make decisions for TUEs outside of the WADA guidelines.**

Here are the WADA TUEC Guidelines (Taken from the WADA website): Medical information to support the decisions of TUE Committees for male hypogonadism

Organic primary hypogonadism may be due to:

1. Genetic abnormalities
 - a) Klinefelter's Syndrome and variants (i.e. 47, XYY/46, XY)
 - b) Dysgenetic testes
 - c) Myotonic dystrophy
2. Developmental abnormalities
 - a) Cryptorchidism
 - b) Congenital anorchia.
3. Direct testicular trauma, bilateral orchiectomy, testicular torsion.
4. Orchitis – severe bilateral with subsequent testicular atrophy due to mumps or other infections.
5. Radiation treatment or chemotherapy.
6. 46,XY DSD due to defects in testosterone biosynthesis (formerly male pseudohermaphroditism).
7. LH/hCG receptor defects.

Organic secondary hypogonadism may be due to:

1. Genetic abnormalities of pituitary and hypothalamus
 - a) Congenital isolated hypogonadotropic hypogonadism (IHH), including Kallmann Syndrome
 - b) Congenital isolated LH deficiency
 - c) Congenital pituitary defects causing multiple pituitary hormone deficiency (MPHD) complex congenital syndromes.
2. Pituitary or hypothalamic tumors
 - a) Adenomas
 - b) Prolactin secreting pituitary tumor resulting in hyperprolactinemia
Craniopharyngioma
3. Infections
4. Iron Overload Syndromes

- a) Hemochromatosis
- b) Hemoglobinopathies
 - i) β -Thalassemia
 - ii) Sickle cell disease.
- 5. Structural, destructive and infiltrative disorders of the pituitary or hypothalamus
 - a) CNS developmental abnormalities, infection
 - b) Granulomatous diseases
 - c) Lymphocytic hypophysitis.
- 6. Anatomical problems of the pituitary or hypothalamus
 - a) Pituitary stalk section
 - b) Hypophysectomy
 - c) Pituitary-hypothalamic disease
 - d) Severe or repeated traumatic brain injury causing pituitary dysfunction.
- 7. Hypogonadotropic Hypogonadism combined with adrenal insufficiency (X-linked adrenal hypoplasia (AHC)).

Functional causes of hypogonadism (The list is representative of observed conditions and not necessarily complete).

1. **Functional hypogonadism may be due to:**
 - a) Severe psychological/emotional stress
 - b) Obesity (WHO grade III or IV – BMI>30)
 - c) Untreated obstructive sleep apnea
 - d) Overtraining, malnutrition/nutritional deficiency, eating disorders
 - e) Medication such as opioids, androgens, anabolic steroids, GnRH analogues, selective androgen receptor modulators, (SARMs), glucocorticoids, progestins, estrogens, medication-induced hyperprolactinemia
 - f) Chronic systemic illness (kidney, liver, lung, heart failure, diabetes mellitus, malignancy, inflammatory joint disease, HIV infection, Crohn's disease, inherited metabolic storage diseases)
 - g) **Aging/Late onset hypogonadism (LOH)**
 - h) Alcohol excess
 - i) Cannabinoid abuse.
2. **Varicocele is not a cause of organic hypogonadism and not an acceptable diagnosis for TUE for testosterone treatment.**
3. **Andropause is not an acceptable diagnosis for TUE for hypogonadism. TUE should only be approved for hypogonadism that has an organic etiology. TUE should not be approved for androgen deficiency due to functional disorder.**

To help to make this simpler, for those who find the guidelines technical, here are some key points.

1. A low testosterone is NOT of itself an indication for a TUE. Any test results offered would NOT to be considered until a diagnosis has been made using the WADA guidelines.
2. The WADA guidelines are very clear. TUEs must only be offered to those who have a diagnosis of ORGANIC PRIMARY HYPOGONADISM or ORGANIC SECONDARY HYPOGONADISM. It must not be offered to **FUNCTIONAL HYPOGONADISM**, whatever the cause.
3. The definitions of these conditions **are as defined by WADA and NOT by the applicant's doctor**.
4. Low testosterone levels **due to an ageing process is NOT** an indication for a TUE, **despite 'abnormal' test results or symptoms**. This is defined as **Functional hypogonadism**.

Some important points

In cases where there is testicular failure with age, and where there are accompanying symptoms, applicants might need to have replacement testosterone to remove the symptoms, **but this makes them ineligible to compete**.

This situation has been discussed with WADA on several occasions and the ruling still stands.

Any person taking testosterone replacement outside of competition is ineligible to compete. **It is a doping offence to take testosterone between competitions**. The effects of taking testosterone can be present for many months or longer.

Why would testosterone not be allowed?

There is evidence that testosterone that is not made by the body acts differently to testosterone made by the body. One example is that testosterone given from outside the body can raise the haemoglobin levels of older men thus giving them a substantial advantage in competition, **DESPITE THEIR LEVELS OF TESTOSTERONE BEING RECORDED AS WITHIN THE NORMAL RANGE**.

So, having normal levels does NOT mean that there is no advantage.

On a separate point, many older men are competing with low levels of testosterone but do not have any symptoms. Therefore, they will be disadvantaged against any competitors who have had their testosterone levels raised, even if these levels remain within the normal range.

I appreciate that this is very frustrating to many men who have symptoms that need treating. However, no-one want to cheat knowingly or unknowingly. I therefore ask that all athletes look to their own integrity and conscience when it comes to medication and competing.

Any questions regarding the TUE ruling for testosterone should be directed to WADA rather than WMA.