



## **Testosterone Deficiency Syndrome (Hypogonadism)**

### **Background**

Testosterone deficiency syndrome (TDS), a condition also known as hypogonadism, is a condition affecting men in which the body does not produce enough of the hormone testosterone. TDS is characterized by symptoms with or without signs, as well as deficiency in testosterone levels.<sup>1</sup> In the adult male, testosterone controls all sexual functions (including libido, potency, fertility). In addition, it preserves the typical male build and appearance. It is important for physical health and performance and also has a decisive influence on mood and sensation of well-being. It is estimated that low testosterone affects 20% of all men over the age of 60.<sup>2</sup>

### **Impact on Quality of Life**

The typical symptoms of hypogonadism/testosterone deficiency syndrome can cause men to experience:

- diminished sexual desire and erection quality/frequency
- changes in mood and decreased cognitive function
- sleep disturbances
- decreased lean body mass and muscle volume/strength
- increased visceral / abdominal fat
- decreased body hair and skin alterations
- decreased bone and mineral density<sup>2</sup>

### **Late-onset Hypogonadism (LOH)**

Late-onset Hypogonadism (LOH) was previously referred to as partial androgen deficiency of the aging male (PADAM). It is a clinical and biochemical syndrome associated with advancing age and characterized by clinically low testosterone levels and the typical symptoms of testosterone deficiency syndrome.<sup>2</sup>

## **Testosterone Deficiency Syndrome Underdiagnosed**

Men with common acute and chronic illnesses often have hypogonadism as well.<sup>3</sup> Studies suggest that hypogonadism in adult men is often under-diagnosed and under-treated, because the symptoms are easily attributed to aging or other medical causes.

## **Conditions Associated with Testosterone Deficiency Syndrome**

It has been shown that low testosterone can be associated with the the metabolic syndrome<sup>3</sup>, a condition involving a cluster of risk factors for cardiovascular disease including abdominal obesity, high blood pressure; high fasting blood glucose, high triglyceride and low HDL cholesterol levels.

Around 20-25 percent of the world's adult populations present a metabolic syndrome and they are twice as likely to die from – and three times as likely to have – a heart attack or stroke than people without a metabolic syndrome.<sup>5</sup> A report has identified a clear relationship between low testosterone levels in men and the metabolic syndrome.<sup>6</sup> Researchers found that men with the metabolic syndrome were 2.8 to 3.2 times more likely to develop hypogonadism, as defined by total testosterone levels less than 11 nmol/L.<sup>7</sup>

## **Causes of Testosterone Deficiency Syndrome**

There are a number of potential causes for hypogonadism, including:

- genetic - Klinefelter's syndrome
- congenital - anorchia
- toxins -alcohol, heavy metals
- drugs - (e.g. corticosteroids)
- orchitis - inflammation of the testicles
- trauma
- aging

## Treatments for Testosterone Deficiency Syndrome

Testosterone products are effective for treating the symptoms of hypogonadism and are available in a number of treatment formulations:

- injectable
- transdermal gel
- transdermal patch
- tablet
- oral capsule

Bayer Schering Pharma's Men's Healthcare portfolio includes Nebido® and Testogel® for testosterone replacement therapy. For more information on TDS and a testosterone check, go to [http://www.international.testogel-info.com/scripts/tools/fragebogen\\_aging\\_male.php](http://www.international.testogel-info.com/scripts/tools/fragebogen_aging_male.php).

## REFERENCES

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