### WHAT IS TESTOSTERONE?

Testosterone is a hormone made by the body and is responsible for the normal growth and development of the male sex organs and for maintenance of other sexual characteristics. In men, testosterone is produced in the testes, the reproductive glands that also produce sperm. The amount of testosterone produced by the testes is regulated by the hypothalamus and the pituitary gland.

### SOME EFFECTS OF TESTOSTERONE MAY INCLUDE:

- Growth and maturation of prostate, and other male sex organs
- Development of male hair distribution such as facial hair
- Changes in body muscle mass and strength and fat distribution
- Sex drive and sexual function
- Mood and energy level
- Bone strength

## WHAT ARE "NORMAL LEVELS" OF TESTOSTERONE?

In healthy men, testosterone levels between 350 ng/dL and 1,000 ng/dL are referred to as normal. Normal physiology allows the brain and the testes to work together to keep testosterone in this range. The brain produces "signal" hormones that are responsible for stimulating testosterone production. These "signals" are periodically released, which in turn stimulates testosterone production. When levels of testosterone are in an acceptable range, the production of the "signal" hormones are slowed, which in turn allows the testosterone levels to decrease.

### **SYMPTOMS:**

# LOW TESTOSTERONE CAN RESULT IN A NUMBER OF SYMPTOMS, INCLUDING:

- Decreased energy
- Increased body fat
- Emotional changes
- and more.

These symptoms are similar to symptoms in other conditions, so it is important to get your testosterone level checked.

#### Symptoms of Low-Testosterone

Increased Hair Loss

Testosterone plays an important role in many body functions, including hair production. Hair loss in men and hormones are closely related. The relationship between testosterone and hair loss is due to dihydrotestosterone (DHT), a derivative of testosterone. DHT can cause hair follicles to regress and die, resulting in premature balding.

### **Decreased Energy**

In addition to feeling severe fatigue, men with low testosterone often lose their drive and initiative. Despite getting plenty of sleep, men suffering from low testosterone often find it harder to get motivated to conquer daily activities.

### Changes In Sleep Patterns

In some cases, low testosterone can cause insomnia or other sleep disturbances.

Testosterone replacement therapy may help regulate negative sleep patterns, facilitating a more restful night's sleep.

### **Emotional Changes**

Studies show that normal testosterone assists with mood stabilization, which can create a positive balance between professional and personal life.