

## **ANNOUNCEMENT**

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**Date:** February 24, 2011

Dear Valued Clients:

Foundation Laboratory is pleased to announce that effective February 24, 2011 Free and Bioavailable Testosterone (Calculated) will be performed in-house.

Testosterone is present in circulation both in protein bound about 95% and non-protein bound, free or unbound forms. In males about 45% is bound to Sex Hormone Binding Globulin (SHBG) and about 50% to albumin and about 2-3% is in free form. Until recently, it was believed that only the free fraction of testosterone was the active part taken up by tissues and protein bound fraction was inactive. It has been determined now that the albumin bound fraction of testosterone can easily dissociate due to its weak bonding and be absorbed by tissues. Bioavailable testosterone represents the two fractions free and albumin bound testosterone.

As a part of aging, studies have demonstrated that a decrease in Total Testosterone will cause up to 50% decrease in Bioavailable Testosterone in elderly males. In some patients significant decreases are associated with declining libido and poor sexual performance and in extreme cases andropause in males or depression as well as osteoporosis in elderly. This assay is very helpful in diagnosis of hypogonadism, declined libido or sexual performance, and infertility in addition to andropause and osteoporosis. In females, increased levels have been associated with some cases of hirsutism and reduced levels are associated with osteoporosis. Bioavailable testosterone will provide a complete picture compared with the traditionally ordered Free and Total Testosterone. To calculate Free Testosterone, Total Testosterone must be measured and for Bioavailable testosterone calculation, SHBG and albumin results are needed in addition to Total Testosterone.

**Specimen Requirements:**

- Minimum of 2 ml serum specimen
- Blood should be collected in SST (Serum Separation Tubes)
- Separated Serum specimen need to be shipped Frozen
- Rejection criteria: Hemolysis

**Turn Around Time:**

- 24-48 Hr.

For supplies and other needs please contact your Foundation Laboratory representative.

Sincerely,

Reza M. Massoumi, Ph.D.  
Laboratory Manager