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Testosterone Test Update

Calculation of Bioavailable and Free Testosterone Available Now at FML

The calculation of bioavailable and free testosterone has been shown to be highly comparable with the direct measurement (correlation coefficient 0.974, see Vermeulen et al.). Testosterone circulates in plasma non-specifically bound to albumin, specifically bound to SHBG, and to a small percentage unbound.

It has been shown that the fraction of bioavailable testosterone reflects the clinical situation more accurately than does the total testosterone level.

Bioavailable testosterone (bioT) = free + non-specifically bound testosterone

Free testosterone (FT) = total testosterone – bound testosterone (specifically bound)

Benefit: Faster turn-around time and more cost-effective.

Sample material: 1 ml serum (total testosterone and SHBG levels will be measured to be able to do the calculation for bioavailable and free testosterone)

Method: Calculation using the Vermeulen formula.

TAT: FML, same day

Note: The calculation is not valid in cases of pregnancy.

References:

1. Vermeulen A. et al. A Critical Evaluation of Simple Methods for the Estimation of Free Testosterone in Serum. J. Clin. Endocr. Metab. 1999;4 (10): 3666–3672.
2. De Ronde W. et al. Calculation of Bioavailable and Free Testosterone in Men: A Comparison of 5 Published Algorithms. Clin. Chem. 2006; 52 (9): 1777-1784.