
Lab Dept: Chemistry

Test Name: TESTOSTERONE, TOTAL (PATIENTS <1 YEAR)

General Information

Lab Order Codes: TTST

Synonyms: Testosterone, Total

CPT Codes: 84403 – Testosterone; total

Test Includes: Total testosterone reported in ng/dL by Mass Spectrometry

Logistics

Test indications: Useful for assessing LH secretion and Leydig cell function; evaluating gonadal and adrenal function. For pediatrics, it assists in the detection of hypogonadism in males, pituitary or hypothalamic disease, adrenal hyperplasia, and virilizing tumors of the adrenal gland or ovaries in females.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (Mayo Test: TTST)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 – 3 days

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: Red NO GEL tube

Draw Volume: 3 mL (Minimum: 1 mL) blood

Processed Volume: 1 mL (Minimum: 0.3 mL) serum

Collection: Routine blood collection

Special Processing: Lab Staff: Centrifuge specimen, remove aliquot and place in a screw-capped plastic vial. Store and ship at refrigerated temperatures.

Patient Preparation: N/A

Sample Rejection: Mislabelled or unlabeled specimens; specimens other than serum collected in Red NO GEL tubes; gross hemolysis; gross lipemia, gross icterus

Interpretive

Reference Range:

Age	Reference Range (ng/dL)
Males	
0 – 5 months:	75 - 400
6 months – 9 years:	<7 - 20
10 – 11 years:	<7 - 130
12 – 13 years:	<7 – 800
14 years:	<7 - 1200
15 – 16 years:	100 - 1200
17 – 18 years:	300 - 1200
> or =19 years:	240 - 950
Tanner Stages (Male)*	
I (prepubertal):	<7 - 20
II:	8 - 66
III:	26 - 800
IV:	85 -1200
V (young adult):	300 - 950
Females	
0 – 5 months:	20 - 80
6 months – 9 years:	<7 - 20

10 – 11 years:	<7 - 44
12 – 16 years:	<7 - 75
17 – 18 years:	20 - 75
> or =19 years:	8 - 60
Tanner Stages (Female)*	
I (prepubertal):	<7 - 20
II:	<7 - 47
III:	17 - 75
IV:	20 - 75
V (young adult):	12 - 60
<p>*Puberty onset (transition from Tanner stage I to Tanner stage II occurs for boys at a median age of 11.5 (+/-2) years and for girls at a median age of 10.5 (+/-2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. For boys, there is no definite proven relationship between puberty and onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.</p>	

Critical Values:

N/A

Limitations:

Early –morning testosterone levels in young male individuals are on average 50% higher than pm levels. Reference ranges were established using specimens collected in the morning.

Testosterone levels can fluctuate substantially between different days, and sometimes even more frequently. Assessment of androgen status should be based on more than a single measurement.

The low end of the normal reference range in pre-pubertal subjects is not yet established due to sensitivity limitations of current assay methodologies.

Methodology:

Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)

References:

[Mayo Clinic Laboratories](#) (December 2020)