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**Lab Dept:** Chemistry

**Test Name:** TESTOSTERONE, TOTAL

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***General Information***

**Lab Order Codes:** TESTO

**Synonyms:** Testosterone level

**CPT Codes:** 84403 – Testosterone; total

**Test Includes:** Total testosterone reported in ng/dL.

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***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 – (Performed on Minneapolis Campus)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** Performed daily

**Special Instructions:** N/A

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***Specimen***

**Specimen Type:** Blood

**Container:** Preferred: SST (Gold, marble or red)  
Alternate: Lavender (EDTA) tube

**Draw Volume:** 1.5 mL (Minimum: 0.3 mL) blood

**Processed Volume:** 0.5 mL (Minimum: 0.1 mL) serum

**Note:** Minimum volume does not permit repeat analysis

**Collection:** Routine blood collection

**Special Processing:** Lab Staff: Centrifuge specimen within one hour of collection. Remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at room temperatures. Do not exceed 8 hours at room temperature. Forward promptly.

**Patient Preparation:** None

**Sample Rejection:** Specimen not separated within 1 hour of draw; mislabeled or unlabeled specimens; gross hemolysis

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***Interpretive***

**Reference Range:**

Age	Males	Females
26-28 weeks, day 4	59 - 125 ng/dL	5 - 16 ng/dL
31-35 weeks, day 4	37 - 198 ng/dL	5 - 22 ng/dL
<b>Male Ranges by Age (ng/dL):</b>		
0 – 6 months:	8 – 300	
6 months – 9 years:	<4.33 – 35	
9 – 11 years:	<4.33 – 24	
11 – 14 years:	8 – 445	
14 – 16 years:	36 - 362	
16 – 19 years:	147 – 795	
Adult:	240 – 871	
<b>Female Ranges by Age (ng/dL):</b>		
0 – 9 years:	<4.33 – 62	
9 – 13 years:	<4.33 – 28	
13 – 15 years:	10 – 44	
15 – 19 years:	14 – 49	
Adult:	<4.33 – 50	

Tanner Stage	Mean Age Male (Years)	Males (ng/dL)	Mean Age Female (Years)	Females (ng/dL)
1	>14 days & prepubertal	<4.33 - 20	>14 days & prepubertal	<4.33 - 20
2	12	<4.33 - 28	10.5	<4.33 - 20
3	13.6	<4.33 - 543	11.6	<4.33 - 42
4	15	8 - 636	12.3	8 - 42
5	By age 18	99 - 760	14.5	<4.33 - 50

**Critical Values:**

N/A

**Limitations:**

A strong interaction with D- (-) Norgestrel (1000 ng/mL), 19-nortestosterone, and 11-Ketotestosterone was found. Do not use samples from patients receiving these compounds.

Testosterone Propionate, Ethisterone and 11b-Hydroxytestosterone also cause moderate interference and an alternate method should be used to quantify testosterone.

If testosterone results are inconsistent with clinical evidence, additional testing is recommended.

**Methodology:**

Chemiluminescent Microparticle Immunoassay

**References:**

Abbott Architect 2<sup>nd</sup> Generation Testosteron Package Insert, Revised June 2016, Ref 2P13-27, Abbott Laboratories, Abbott Park IL 60064 USA

CALIPER Reference Range Study. Accessed 4/20/2018

**Updates:**

12/13/2010: Reference range updates.

8/3/2016: Tube update, volume update.

8/2/2017: Ref range update (Males >18 yrs), tube update.

4/24/2018: Updated method, volumes and reference ranges.

5/9/2018: Updated reference ranges by age.