

Reporting Title: Testosterone, Total and Free, S
Performing Location: Rochester

Ordering Guidance:
This is a second-level test for suspected increases or decreases in physiologically active testosterone. The preferred test for assessment of active testosterone is TTBS / Testosterone, Total and Bioavailable, Serum.

Necessary Information:
Patient's age and sex are required.

Specimen Requirements:
Supplies: Sarstedt Aliquot Tube, 5 mL (T914)
Collection Container/Tube: Red top (serum gel/SST are **not acceptable**)
Submission Container/Tube: Plastic vial
Specimen Volume: 2.5 mL
Collection Instructions: Centrifuge and aliquot serum into a plastic vial

Forms:
If not ordering electronically, complete, print, and send a [General Request](#) (T239) with the specimen.

| Specimen Type | Temperature | Time | Special Container |
|---------------|--------------------------|---------|-------------------|
| Serum Red | Refrigerated (preferred) | 14 days | |
| | Frozen | 60 days | |

Result Codes:

| Result ID | Reporting Name | Type | Unit | LOINC® |
|-----------|------------------------|---------|-------|--------|
| 3631 | Testosterone Free | Numeric | ng/dL | 2991-8 |
| 8533 | Testosterone, Total, S | Numeric | ng/dL | 2986-8 |

LOINC® and CPT codes are provided by the performing laboratory.

Supplemental Report:
No

Components:

| Test Id | Reporting Name | CPT Units | CPT Code | Always Performed | Available Separately |
|---------|------------------------|-----------|----------|------------------|----------------------|
| FRTST | Testosterone, Free, S | 1 | 84402 | Yes | No |
| TTST | Testosterone, Total, S | 1 | 84403 | Yes | Yes |

CPT Code Information:
84402
84403

Reference Values:

TESTOSTERONE, FREE

Males (adult):

- 20-<25 years: 5.25-20.7 ng/dL
- 25-<30 years: 5.05-19.8 ng/dL
- 30-<35 years: 4.85-19.0 ng/dL
- 35-<40 years: 4.65-18.1 ng/dL
- 40-<45 years: 4.46-17.1 ng/dL
- 45-<50 years: 4.26-16.4 ng/dL
- 50-<55 years: 4.06-15.6 ng/dL
- 55-<60 years: 3.87-14.7 ng/dL
- 60-<65 years: 3.67-13.9 ng/dL
- 65-<70 years: 3.47-13.0 ng/dL
- 70-<75 years: 3.28-12.2 ng/dL
- 75-<80 years: 3.08-11.3 ng/dL
- 80-<85 years: 2.88-10.5 ng/dL
- 85-<90 years: 2.69-9.61 ng/dL
- 90-<95 years: 2.49-8.76 ng/dL
- 95-100+ years: 2.29-7.91 ng/dL

Males (children):

<1 year: Term infants

1-15 days: 0.20-3.10 ng/dL*

16 days-1 year: Values decrease gradually from newborn (0.20-3.10 ng/dL) to prepubertal levels

*Forest MG, Cathiard AM, Bertrand JA. Total and unbound testosterone levels in the newborn and in normal and hypogonadal children: use of a sensitive radioimmunoassay for testosterone. J Clin Endocrinol Metab. 1973;36(6):1132-1142

1-8 years: <0.13 ng/dL

9 years: <0.13-0.45 ng/dL

10 years: <0.13-1.26 ng/dL

11 years: <0.13-5.52 ng/dL

12 years: <0.13-9.28 ng/dL

13 years: <0.13-12.6 ng/dL

14 years: 0.48-15.3 ng/dL

15 years: 1.62-17.7 ng/dL

16 years: 2.93-19.5 ng/dL

17 years: 4.28-20.9 ng/dL

18 years: 5.40-21.8 ng/dL

19 years: 5.36-21.2 ng/dL

Females (adult):

20-<25 years: <0.13-1.08 ng/dL

25-<30 years: <0.13-1.06 ng/dL

30-<35 years: <0.13-1.03 ng/dL
35-<40 years: <0.13-1.00 ng/dL
40-<45 years: <0.13-0.98 ng/dL
45-<50 years: <0.13-0.95 ng/dL
50-<55 years: <0.13-0.92 ng/dL
55-<60 years: <0.13-0.90 ng/dL
60-<65 years: <0.13-0.87 ng/dL
65-<70 years: <0.13-0.84 ng/dL
70-<75 years: <0.13-0.82 ng/dL
75-<80 years: <0.13-0.79 ng/dL
80-<85 years: <0.13-0.76 ng/dL
85-<90 years: <0.13-0.73 ng/dL
90-<95 years: <0.13-0.71 ng/dL
95-100+ years: <0.13-0.68 ng/dL

Females (children):

<1 year: Term infants
1-15 days: <0.13-0.25 ng/dL*
16 days-1 year: Values decrease gradually from newborn (<0.13-0.25 ng/dL) to prepubertal levels
*Forest MG, Cathiard AM, Bertrand JA. Total and unbound testosterone levels in the newborn and in normal and hypogonadal children: use of a sensitive radioimmunoassay for testosterone. J Clin Endocrinol Metab. 1973;36(6):1132-1142

1-4 years: <0.13 ng/dL
5 years: <0.13 ng/dL
6 years: <0.14 ng/dL
7 years: <0.13-0.23 ng/dL
8 years: <0.13-0.34 ng/dL
9 years: <0.13-0.46 ng/dL
10 years: <0.13-0.59 ng/dL
11 years: <0.13-0.72 ng/dL
12 years: <0.13-0.84 ng/dL
13 years: <0.13-0.96 ng/dL
14 years: <0.13-1.06 ng/dL
15-18 years: <0.13-1.09 ng/dL
19 years: <0.13-1.08 ng/dL

TESTOSTERONE, TOTAL

Males

0-5 months: 75-400 ng/dL
6 months-9 years: <7-20 ng/dL
10-11 years: <7-130 ng/dL
12-13 years: <7-800 ng/dL
14 years: <7-1,200 ng/dL
15-16 years: 100-1,200 ng/dL

17-18 years: 300-1,200 ng/dL
> or =19 years: 240-950 ng/dL
Tanner Stages**
I (prepubertal): <7-20
II: 8-66
III: 26-800
IV: 85-1,200
V (young adult): 300-950

Females
0-5 months: 20-80 ng/dL
6 months-9 years: <7-20 ng/dL
10-11 years: <7-44 ng/dL
12-16 years: <7-75 ng/dL
17-18 years: 20-75 ng/dL
> or =19 years: 8-60 ng/dL
Tanner Stages**
I (prepubertal): <7-20
II: <7-47
III: 17-75
IV: 20-75
V (young adult): 12-60

**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 onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.