

## Pediatric Reference Intervals Update for Roche TSH, FT4 and Total T4

Thyroid stimulating hormone (TSH), free T4 (FT4) and total T4 have updated reference intervals **effective July 16, 2024.**

In collaboration with a team of pediatric endocrinologists, the reference intervals for TSH, FT4 and total T4 are being updated to provide better patient care through improved identification of thyroid-related disease versus normal state.

The new reference intervals better reflect the needs and characteristics of our population.

### Reference Interval Changes

Current Reference Interval for Roche		NEW Reference Range effective July 16, 2024	
<b>Age</b>	<b>TSH, <math>\mu</math>IU/mL</b>	<b>Age</b>	<b>TSH, <math>\mu</math>IU/mL</b>
18 Y and older	0.27 - 4.20	18 Y and older	0.27 - 4.20
15 - 17 Y	0.68 - 4.09	10 - 17 Y	0.45 - 4.50
1 - 14 Y	1.12 - 5.01	6 - 9 Y	0.60 - 4.84
1 - 11 M	1.03 - 6.80	1 - 5 Y	0.70 - 5.97
0 - 30 D	1.23 - 27.20	3 - 11 M	0.73 - 8.35
		7 D - 2 M	0.72 - 11.0
		0 - 6 D	0.70 - 15.2

  

Current Reference Interval for Roche		NEW Reference Range effective July 16, 2024	
<b>Age</b>	<b>FT4, ng/dL</b>	<b>Age</b>	<b>FT4, ng/dL</b>
18 Y and older	0.93 - 1.70	18 Y and older	0.93 - 1.70
1 - 17 Y	1.01 - 1.63	11 - 17 Y	0.93 - 1.60
1 - 11 M	1.09 - 1.71	6 - 10 Y	0.90 - 1.67
0 - 30 D	1.24 - 3.89	13 M - 5 Y	0.85 - 1.75
		1 - 12 M	0.48 - 2.34
		4 - 30 D	0.83 - 3.09
		0 - 3 D	0.66 - 2.71

  

Current Reference Interval for Roche		NEW Reference Range effective July 16, 2024	
<b>Age</b>	<b>T4, <math>\mu</math>g/dL</b>	<b>Age</b>	<b>T4, <math>\mu</math>g/dL</b>
18 Y and older	4.5 - 11.7	18 Y and older	4.5 - 11.7
14 - 17 Y	5.1 - 12.6	13 - 17 Y	5.1 - 10.3
12 - 13 Y	4.7 - 7.9	2 - 12 Y	5.7 - 11.6
9 - 11 Y	5.1 - 8.9	1 M - 1 Y	5.9 - 13.9
1 - 8 Y	5.8 - 9.9	0 - 30 D	4.5 - 17.2
7 D - 11 M	5.5 - 13.3		
1 - 6 D	10.6 - 21.4		

Y = YEARS, M = MONTHS, D = DAYS

## ***Affected Performing Laboratories***

Alta View Hospital  
Bear River Hospital  
Cassia Regional Hospital  
Central Laboratory/Intermountain Medical Center  
LDS Hospital  
Layton Hospital  
Logan Hospital  
McKay Dee Hospital  
Orem Community Hospital  
Primary Children's Hospital (Salt Lake City)  
Primary Children's Hospital (Lehi)  
Riverton Hospital  
Salt Lake Clinic  
Spanish Fork Hospital  
Utah Valley Hospital

**References** | Pashankar, Rashmi. "Chapter 10: Endocrinology." in *The Harriet Lane Handbook*. edited by Anderson, Camille C., Sunaina Kapoor, and Tiffany E. Mark, 261-293. Elsevier Health Sciences, 2023.

## **Please contact the laboratory if you any questions:**

Jayson V. Pagaduan, PhD, DABCC, tel # 801-507-2165, e-mail [jayson.pagaduan@imail.org](mailto:jayson.pagaduan@imail.org)  
Sterling Bennett, MD, tel # 801-507-2135, e-mail [sterling.bennett@imail2.org](mailto:sterling.bennett@imail2.org)

## **About this factsheet** |

Author(s):

Vandana (Vana) Raman, MD, Associate Professor, Division Chief Pediatric Endocrinology, University of Utah  
Jayson V. Pagaduan, PhD, DABCC, Medical Director- Clinical Chemistry Best Practice Team