

## CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Effective March 28, 2022, Scripps Medical Laboratory Sorrento Mesa, Rancho Bernardo and Jefferson will switch a new Chemistry platform, the Abbott Alinity. The tables below summarize the analytes with a change in the reference range. Explanatory comments or interpretive data will append to Epic results as applicable.

For ease of finding results, click **CTRL + F** at the same time to open the Find tool, or click the Magnifying glass icon (Find) whenever available. Enter the word in the field.

Note: To calculate the SOGI-unspecified range, look at both male and female ranges. Take the higher value of the lower limit and the lower value of the higher limit.

Example for **Alkaline Phosphatase (ALK)**

Female 17 years up to 19 years: 48-95 U/L

Male 17 years up to 19 years: 89-365 U/L

SOGI unspecified range: 89-95 U/L

### CHEMISTRY REFERENCE RANGES, BLOOD

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Albumin</b>	
<u>Female</u>	<u>Female</u>
0 up to 15 days: 3.0-4.3 g/dL	0 up to 15 days: 2.8-4.1 g/dL
15 days up to 1 years: 2.7-4.8 g/dL	15 days up to 1 years: 2.5-4.6 g/dL
1 year up to 8 years: 3.7-4.7 g/dL	1 year up to 8 years: 3.5-4.5 g/dL
8 years up to 15 years: 3.9-4.9 g/dL	8 years up to 15 years: 3.7-4.7 g/dL
15 years up to 19 years: 3.7-5.1 g/dL	15 years up to 19 years: 3.5-4.9 g/dL
19 years and up: 3.3-5.0 g/dL	19 years up to 60 years: 3.5-5.0 g/dL
<u>Male</u>	60 years and up: 3.4-4.8 g/dL
0 up to 15 days: 3.0-4.3 g/dL	<u>Male</u>
15 days up to 1 years: 2.7-4.8 g/dL	0 up to 15 days: 2.8-4.1 g/dL
1 year up to 8 years: 3.7-4.7 g/dL	15 days up to 1 years: 2.5-4.6 g/dL
8 years up to 15 years: 3.9-4.9 g/dL	1 year up to 8 years: 3.5-4.5 g/dL
15 years up to 19 years: 4.0-5.3 g/dL	8 years up to 15 years: 3.7-4.7 g/dL
19 years and up: 3.3-5.0 g/dL	15 years up to 19 years: 3.8-5.0 g/dL
	19 years up to 60 years: 3.5-5.0 g/dL
	60 years and up: 3.4-4.8 g/dL
<b>Alkaline Phosphatase (ALK)</b>	
<u>Female</u>	<u>Female</u>
0 up to 15 days: 82-249 U/L	0 up to 15 days: 90-273 U/L
15 days up to 1 year: 122-473 U/L	15 days up to 1 year: 134-518 U/L
1 year up to 10 years: 142-336 U/L	1 year up to 10 years: 156-369 U/L
10 years up to 13 years: 128-420 U/L	10 years up to 13 years: 141-460 U/L
13 years up to 15 years: 55-225 U/L	13 years up to 15 years: 62-280 U/L
15 years up to 17 years: 49-166 U/L	15 years up to 17 years: 54-128 U/L
17 years up to 19 years: 43-86 U/L	17 years up to 19 years: 48-95 U/L
19 years and up: 38-126 U/L	19 years and up: 40-150 U/L
<u>Male</u>	<u>Male</u>

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
0 up to 15 days: 82-249 U/L 15 days up to 1 year: 122-473 U/L 1 year up to 10 years: 142-336 U/L 10 years up to 13 years: 128-420 U/L 13 years up to 15 years: 115-471 U/L 15 years up to 17 years: 81-333 U/L 17 years up to 19 years: 53-149 U/L 19 years and up: 38-126 U/L U/L	0 up to 15 days: 90-273 U/L 15 days up to 1 year: 134-518 U/L 1 year up to 10 years: 156-369 U/L 10 years up to 13 years: 141-460 U/L 13 years up to 15 years: 127-517 U/L 15 years up to 17 years: 89-365 U/L 17 years up to 19 years: 89-365 U/L 19 years and up: 40-150 U/L
<b>Alanine Transaminase (ALT)</b> <u>Female</u> 0 up to 1 years: 13-41 U/L 1 year up to 13 years: 13-32 U/L 13 years up to 19 years: 13-29 U/L 19 years and up: 13-59 U/L <u>Male</u> 0 up to 1 years: 16-41 U/L 1 year up to 13 years: 16-32 U/L 13 years up to 19 years: 16-31 U/L 19 years and up: 16-63 U/L	<u>Female</u> 0 up to 1 years: 5-33 U/L 1 year up to 13 years: 9-25 U/L 13 years up to 19 years: 8-22 U/L 19 years and up: 5-55 U/L <u>Male</u> 0 up to 1 years: 5-33 U/L 1 year up to 13 years: 9-25 U/L 13 years up to 19 years: 9-24 U/L 19 years and up: 5-55 U/L
<b>Aspartate Aminotransferase (AST)</b> <u>Female</u> 0 up to 15 days: 15-185 U/L 15 days up to 1 years: 15-73 U/L 1 year up to 7 years: 15-46 U/L 7 years up to 12 years: 15-37 U/L 12 years up to 19 years: 15-25 U/L 19 years and up: 15-37 U/L <u>Male</u> 0 up to 15 days: 15-185 U/L 15 days up to 1 years: 15-73 U/L 1 year up to 7 years: 15-46 U/L 7 years up to 12 years: 15-37 U/L 12 years up to 19 years: 15-36 U/L 19 years and up: 15-37 U/L	<u>Female</u> 0 up to 15 days: 36-162 U/L 15 days up to 1 years: 20-67 U/L 1 year up to 7 years: 21-44 U/L 7 years up to 12 years: 18-36 U/L 12 years up to 19 years: 13-26 U/L 19 years and up: 5-34 U/L <u>Male</u> 0 up to 15 days: 32-162 U/L 15 days up to 1 years: 20-67 U/L 1 year up to 7 years: 21-44 U/L 7 years up to 12 years: 18-36 U/L 12 years up to 19 years: 14-35 U/L 19 years and up: 5-34 U/L
<b>Ammonia</b> 11-32 mcmol/L	18-72 mcmol/L
<b>Amylase</b> 30-110 U/L	0 up to 15 days: 4-10 U/L 15 days up to 13 weeks: 4-22 U/L 13 weeks up to 1 year: 4-50 U/L 1 year up to 19 years: 25-101 U/L 19 years up to 70 years: 25-125 U/L 70 years and up: 20-160 U/L

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Apolipoprotein B (APOB)</b> <u>Female</u> 55-125 mg/dL  <b>Apolipoprotein B (APOB)</b> <u>Male</u> 55-140 mg/dL	<u>Female</u> 0 up to 1 year: 17-120 mg/dL 1 year up to 12 years: 51-126 mg/dL 12 years up to 60 years: 53-182 mg/dL 60 years and up: 64-182 mg/dL  <u>Male</u> 0 up to 1 year: 16-124 mg/dL 1 year up to 12 years: 48-125 mg/dL 12 years up to 60 years: 49-173 mg/dL 60 years and up: 54-163 mg/dL
<b>Anti-Streptolysin O (ASO)</b> 0-408 U/mL	0 up to 6 months: <50 U/mL 6 months up to 1 year: <50 U/mL 1 years up to 6 years: <104 U/mL 6 years up to 19 years: <331 U/mL 19 years and up: <200 U/mL
<b>Beta-2 Microglobulin (B2M)</b> 1.0-1.7 mg/L	1.0-2.3 mg/L
<b>Calcium</b> 0 up to 1 year: 8.5-10.7 mg/dL 1 year up to 19 years: 9.1-10.3 mg/dL 19 years and up: 8.4-10.3 mg/dL	<u>Female</u> 0 up to 10 days: 7.6-10.4 mg/dL 10 days up to 20 days: 9-11 mg/dL 20 days up to 12 years: 8.8-10.8 mg/dL 12 years and up: 8.4-10.2 mg/dL <u>Male</u> 0 up to 10 days: 7.6-10.4 mg/dL 10 days up to 20 days: 9-11 mg/dL 20 days up to 12 years: 8.8-10.8 mg/dL 12 years up to 60 years: 8.4-10.2 mg/dL 60 years and up: 8.8-10 mg/dL
<b>Ceruloplasmin</b> 15-41 mg/dL	<u>Female</u> 0 up to 2 months: 7-24 mg/dL 2 months up to 6 months: 14-33 mg/dL 6 months up to 1 year: 14-39 mg/dL 1 year up to 8 years: 22-43 mg/dL 8 years up to 14 years: 21-40 mg/dL 14 years up to 19 years: 21-43 mg/dL 19 years and up: 20-60 mg/dL <u>Male</u> 0 up to 2 months: 7-24 mg/dL 2 months up to 6 months: 14-33 mg/dL 6 months up to 1 year: 14-39 mg/dL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
	1 year up to 8 years: 22-43 mg/dL 8 years up to 14 years: 21-40 mg/dL 14 years up to 19 years: 17-35 mg/dL 19 years and up: 20-60 mg/dL
<b>Cholesterol, Total</b> <u>Female</u> 0 up to 15 days: 42-119 mg/dL 15 days up to 1 year: 59-231 mg/dL 1 year up to 19 years: 107-202 mg/dL 19 years and up: <200 mg/dL <u>Male</u> 0 up to 15 days: 38-104 mg/dL 15 days up to 1 year: 59-231 mg/dL 1 year up to 19 years: 107-202 mg/dL 19 years and up: <200 mg/dL	0 up to 12 years: 7-170 mg/dL 12 years and up: 7-200 mg/dL
<b>Creatine Kinase (CK)</b> <u>Female</u> 26-192 U/L <u>Male</u> 39-308 U/L	<u>Female</u> 29-168 U/L <u>Male</u> 30-200 U/L
<b>Chloride</b> 98-107 mmol/L	0 up to 30 days: 98-113 mmol/L 30 days up to 90 years: 98-107 mmol/L 90 years and up: 98-111 mmol/L
<b>CO2 (Bicarbonate)</b> 22-32 mmol/L	<u>Female</u> 0 up to 15 days: 5-20 mmol/L 15 days up to 1 years: 10-24 mmol/L 1 year up to 5 years: 14-24 mmol/L 5 years up to 15 years: 17-26 mmol/L 15 years up to 19 years: 17-26 mmol/L 19 years up to 60 years: 22-29 mmol/L 60 years and up: 23-32 mmol/L <u>Male</u> 0 up to 15 days: 5-20 mmol/L 15 days up to 1 years: 10-24 mmol/L 1 year up to 5 years: 14-24 mmol/L 5 years up to 15 years: 17-26 mmol/L 15 years up to 19 years: 18-28 mmol/L 19 years up to 60 years: 22-29 mmol/L 60 years and up: 23-31 mmol/L
<b>C3 Complement</b> 90-180 mg/dL	<u>Female</u> 0 up to 15 days: 50-121 mg/dL 15 days up to 1 year: 51-160 mg/dL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
	1 year up to 14 years: 82-173 mg/dL 14 years up to 80 years: 83-193 mg/dL <u>Male</u> 0 up to 15 days: 50-121 mg/dL 15 days up to 1 year: 51-160 mg/dL 1 year up to 14 years: 80-170 mg/dL 14 years up to 80 years: 82-185 mg/dL
<b>C4 Complement</b> 10.0-40.0 mg/dL	<u>Female</u> 0 up to 1 year: 7.0-30.0 mg/dL 1 year up to 14 years: 13.0-46.0 mg/dL 14 years up to 80 years: 15.0-57.0 mg/dL <u>Male</u> 0 up to 1 year: 7.0-30.0 mg/dL 1 year up to 14 years: 14.0-44.0 mg/dL 14 years up to 80 years: 15.0-53.0 mg/dL
<b>Creatinine, enzymatic</b> <u>Female</u> 0 up to 15 days: 0.3-0.9 mg/dL 15 days up to 2 years: 0.1-0.4 mg/dL 2 years up to 5 years: 0.2-0.4 mg/dL 5 years up to 12 years: 0.3-0.6 mg/dL 12 years up to 15 years: 0.4-0.8 mg/dL 15 years up to 19 years: 0.5-0.8 mg/dL 19 years and up: 0.5-1.0 mg/dL <u>Male</u> 0 up to 15 days: 0.3-0.9 mg/dL 15 days up to 2 years: 0.1-0.4 mg/dL 2 years up to 5 years: 0.2-0.4 mg/dL 5 years up to 12 years: 0.3-0.6 mg/dL 12 years up to 15 years: 0.4-0.8 mg/dL 15 years up to 19 years: 0.6-1.0 mg/dL 19 years and up: 0.7-1.3 mg/dL	<u>Female</u> 0 up to 15 days: 0.32-0.92 mg/dL 15 days up to 2 years: 0.10-0.36 mg/dL 2 years up to 5 years: 0.20-0.43 mg/dL 5 years up to 12 years: 0.31-0.61 mg/dL 12 years up to 15 years: 0.45-0.81 mg/dL 15 years up to 19 years: 0.49-0.84 mg/dL 19 years and up: 0.55-1.02 mg/dL <u>Male</u> 0 up to 15 days: 0.32-0.92 mg/dL 15 days up to 2 years: 0.10-0.36 mg/dL 2 years up to 5 years: 0.20-0.43 mg/dL 5 years up to 12 years: 0.31-0.61 mg/dL 12 years up to 15 years: 0.45-0.81 mg/dL 15 years up to 19 years: 0.62-1.08 mg/dL 19 years and up: 0.73-1.18 mg/dL
<b>C-Reactive Protein (CRP)</b> <10.0 mg/L	0.4-4.9 mg/L
<b>C-Reactive Protein, High Sensitivity (HSCRP)</b> <3.0 mg/L	0.2-4.9 mg/L
<b>Bilirubin, Direct</b> 0 up to 15 days: 0.0-0.5 mg/dL 15 days up to 1 year: 0.0-0.2 mg/dL 1 year up to 9 years: 0.0-0.1 mg/dL 9 years up to 13 years: 0.0-0.2 mg/dL 13 years and up: 0.0-0.3 mg/dL	0 up to 15 days: 0.3-0.7 mg/dL 15 days up to 1 year: 0.1-0.3 mg/dL 1 year up to 9 years: 0.1-0.2 mg/dL 9 years up to 13 years: 0.1-0.3 mg/dL 13 years up to 19 years: 0.1-0.4 mg/dL 19 years and up: 0.1-0.5 mg/dL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Bilirubin, Total</b> 0 up to 29 days: 1.0-12.0 mg/dL 29 days and up: 0.1-1.2 mg/dL	0 up to 15 days: 0.2-15.0 mg/dL 15 days up to 28 days: 0.1-0.7 mg/dL 28 days up to 1 year: 0.1-0.7 mg/dL 1 year up to 9 years: 0.1-0.4 mg/dL 9 years up to 12 years: 0.1-0.6 mg/dL 12 years up to 15 years: 0.1-0.7 mg/dL 15 years up to 19 years: 0.1-0.8 mg/dL 19 years and up: 0.2-1.2 mg/dL
<b>LDL Cholesterol, Direct</b> <130 mg/dL	<=100 mg/dL
<b>Gamma-Glutamyl Transferase (GGT)</b> <u>Female</u> 5-55 U/L  <u>Male</u> 15-85 U/L	<u>Female</u> 0 up to 15 days: 23-219 U/L 15 days up to 1 year: 8-127 U/L 1 year up to 11 years: 6-16 U/L 11 years up to 19 years: 7-21 U/L 19 years and up: 9-36 U/L <u>Male</u> 0 up to 15 days: 23-219 U/L 15 days up to 1 year: 8-127 U/L 1 year up to 11 years: 6-16 U/L 11 years up to 19 years: 7-21 U/L 19 years and up: 12-64 U/L
<b>Haptoglobin</b> 30-200 mg/dL	<u>Female</u> 0 up to 1 year: 8-235 mg/dL 1 year up to 12 years: 11-220 mg/dL 12 years up to 60 years: 35-250 mg/dL 60 years and up: 63-273 mg/dL <u>Male</u> 0 up to 1 year: 0-300 mg/dL 1 year up to 12 years: 3-270 mg/dL 12 years up to 60 years: 14-258 mg/dL 60 years and up: 40-268 mg/dL
<b>Immunoglobulin, IgA</b> 70-400 mg/dL	<u>Female</u> 0 up to 3 months: 5-34 mg/dL 3 months up to 1 year: 8-91 mg/dL 1 year up to 12 years: 21-282 mg/dL 12 years up to 60 years: 65-421 mg/dL 60 years and up: 69-517 mg/dL <u>Male</u> 0 up to 3 months: 5-34 mg/dL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
	3 months up to 1 year: 8-91 mg/dL 1 year up to 12 years: 21-291 mg/dL 12 years up to 60 years: 63-484 mg/dL 60 years and up: 101-645 mg/dL
<b>Immunoglobulin, IgG</b> 700-1600 mg/dL	<u>Female</u> 0 up to 1 month: 391-1737 mg/dL 1 month up to 1 year: 203-934 mg/dL 1 year up to 2 years: 483-1226 mg/dL 2 years up to 80 years: 552-1631 mg/dL <u>Male</u> 0 up to 1 month: 397-1765 mg/dL 1 month up to 1 year: 205-948 mg/dL 1 year up to 2 years: 475-1210 mg/dL 2 years up to 80 years: 540-1822 mg/dL
<b>Immunoglobulin, IgM</b> 40-230 mg/dL	<u>Female</u> 0 up to 28 days: 6-21 mg/dL 28 days up to 1 year: 17-150 mg/dL 1 year up to 12 years: 47-240 mg/dL 12 years and up: 33-293 mg/dL <u>Male</u> 0 up to 28 days: 6-21 mg/dL 28 days up to 1 year: 17-143 mg/dL 1 year up to 12 years: 41-183 mg/dL 12 years and up: 22-240 mg/dL
<b>Iron</b> <u>Female</u> 0 up to 14 years: 28-140 mcg/dL 14 years up to 19 years: 28-173 mcg/dL 19 years and up: 50-170 mcg/dL <u>Male</u> 0 up to 14 years: 28-140 mcg/dL 14 years up to 19 years: 28-173 mcg/dL 19 years and up: 65-175 mcg/dL	<u>Female</u> 0 up to 14 years: 16-128 mcg/dL 14 years up to 19 years: 20-162 mcg/dL 19 years and up: 50-170 mcg/dL <u>Male</u> 0 up to 14 years: 16-128 mcg/dL 14 years up to 19 years: 31-168 mcg/dL 19 years and up: 65-175 mcg/dL
<b>Lactic Acid</b> 0.4-2.0 mmol/L	0.50-2.20 mmol/L
<b>Lactate Dehydrogenase, Total</b> <u>Female</u> 0 up to 15 days: 84-1255 U/L 15 days up to 1 years: 84-470 U/L 1 year up to 10 years: 84-337 U/L 10 years up to 15 years: 84-287 U/L 15 years up to 19 years: 84-265 U/L	<u>Female</u> 0 up to 15 days: 309-1222 U/L 15 days up to 1 years: 163-452 U/L 1 year up to 10 years: 192-321 U/L 10 years up to 15 years: 157-272 U/L 15 years up to 19 years: 130-250 v

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<p>19 years and up: 84-246 U/L</p> <p><u>Male</u></p> <p>0 up to 15 days: 84-1255 U/L</p> <p>15 days up to 1 years: 84-470 U/L</p> <p>1 year up to 10 years: 84-337 U/L</p> <p>10 years up to 15 years: 84-287 U/L</p> <p>15 years up to 19 years: 84-265 U/L</p> <p>19 years and up: 87-241 U/L</p>	<p>19 years and up: 125-220 U/L</p> <p><u>Male</u></p> <p>0 up to 15 days: 309-1222 U/L</p> <p>15 days up to 1 years: 163-452 U/L</p> <p>1 year up to 10 years: 192-321 U/L</p> <p>10 years up to 15 years: 170-283 U/L</p> <p>15 years up to 19 years: 130-250 U/L</p> <p>19 years and up: 125-220 U/L</p>
<p><b>Lipase</b></p> <p>0 up to 19 years: 73-194 U/L</p> <p>19 years and up: 73-393 U/L</p>	<p>0 up to 19 years: 4-39 U/L</p> <p>19 years and up: 4-60 U/L</p>
<p><b>Lipoprotein A</b></p> <p>(Previously performed at ARUP)</p>	<p>&lt;=31 mg/dL</p>
<p><b>Magnesium</b></p> <p>1.6-2.6 mg/dL</p>	<p>0 up to 5 months: 1.5-2.2 mg/dL</p> <p>5 months up to 6 years: 1.7-2.3 mg/dL</p> <p>6 years up to 12 years: 1.7-2.1 mg/dL</p> <p>12 years up to 18 years: 1.7-2.2 mg/dL</p> <p>18 years and up: 1.6-2.6 mg/dL</p>
<p><b>Phosphorus</b></p> <p><u>Female</u></p> <p>0 up to 15 days: 5.3-10.0 mg/dL</p> <p>15 days up to 1 year: 4.6-8.0 mg/dL</p> <p>1 year up to 5 years: 4.1-6.5 mg/dL</p> <p>5 years up to 13 years: 4.0-5.7 mg/dL</p> <p>13 years up to 16 years: 3.1-5.3 mg/dL</p> <p>16 years up to 19 years: 2.8-4.8 mg/dL</p> <p>19 years and up: 2.2-4.1 mg/dL</p> <p><u>Male</u></p> <p>0 up to 15 days: 5.3-10 mg/dL</p> <p>15 days up to 1 year: 4.6-8.0 mg/dL</p> <p>1 year up to 5 years: 4.1-6.5 mg/dL</p> <p>5 years up to 13 years: 4.0-5.7 mg/dL</p> <p>13 years up to 16 years: 3.4-5.9 mg/dL</p> <p>16 years up to 19 years: 2.8-4.8 mg/dL</p> <p>19 years and up: 2.2-4.1 mg/dL</p>	<p><u>Female</u></p> <p>0 up to 15 days: 5.6-10.5 mg/dL</p> <p>15 days up to 1 year: 4.8-8.4 mg/dL</p> <p>1 year up to 5 years: 4.3-6.8 mg/dL</p> <p>5 years up to 13 years: 4.1-5.9 mg/dL</p> <p>13 years up to 16 years: 3.2-5.5 mg/dL</p> <p>16 years up to 19 years: 2.9-5.0 mg/dL</p> <p>19 years and up: 2.3-4.7 mg/dL</p> <p><u>Male</u></p> <p>0 up to 15 days: 5.6-10.5 mg/dL</p> <p>15 days up to 1 year: 4.8-8.4 mg/dL</p> <p>1 year up to 5 years: 4.3-6.8 mg/dL</p> <p>5 years up to 13 years: 4.1-5.9 mg/dL</p> <p>13 years up to 16 years: 3.5-6.2 mg/dL</p> <p>16 years up to 19 years: 2.9-5.0 mg/dL</p> <p>19 years and up: 2.3-4.7 mg/dL</p>
<p><b>Potassium (K)</b></p> <p>3.5-5.1 mmol/L</p>	<p>0 up to 7 days: 3.7-5.9 mmol/L</p> <p>7 days up to 28 days: 3.7-5.9 mmol/L</p> <p>28 days up to 2 years: 4.1-5.3 mmol/L</p> <p>2 years up to 12 years: 3.4-4.7 mmol/L</p> <p>12 years and up: 3.5-5.1 mmol/L</p>



### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Prealbumin</b> 21-39 mg/dL	<u>Female</u> 0 up to 1 year: 9-24 mg/dL 1 year up to 12 years: 12-30 mg/dL 12 years up to 60 years: 16-38 mg/dL 60 years and up: 14-37 mg/dL <u>Male</u> 0 up to 1 year: 7-25 mg/dL 1 year up to 12 years: 11-34 mg/dL 12 years up to 60 years: 18-45 mg/dL 60 years and up: 16-42 mg/dL
<b>Rheumatoid Factor (RF)</b> <15 U/mL	<30 U/mL
<b>Sodium (Na)</b> 136-146 mmol/L	0 up to 28 days: 133-146 mmol/L 28 days up to 2 years: 139-146 mmol/L 2 years up to 12 years: 138-145 mmol/L 12 years up to 90 years: 136-145 mmol/L 90 years and up: 132-146 mmol/L
<b>Protein, Total</b> 0 up to 15 days: 5.5-8.8 g/dL 15 days up to 1 year: 4.5-7.4 g/dL 1 year up to 6 years: 6.3-7.9 g/dL 6 years up to 9 years: 6.7-8.1 g/dL 9 years up to 19 years: 6.8-8.5 g/dL 19 years and up: 6.3-8.2 g/dL	0 up to 15 days: 5.3-8.3 g/dL 15 days up to 1 year: 4.4-7.1 g/dL 1 year up to 6 years: 6.1-7.5 g/dL 6 years up to 9 years: 6.4-7.7 g/dL 9 years up to 19 years: 6.5-8.1 g/dL 19 years and up: 6.4-8.3 g/dL
<b>Transferrin</b> 202-364 mg/dL	<u>Female</u> 0 up to 9 weeks: 104-224 mg/dL 9 weeks up to 1 year: 107-324 mg/dL 1 year up to 14 years: 180-391 mg/dL 14 years up to 60 years: 180-382 mg/dL 60 years up to 80 years: 173-360 mg/dL 80 years and up: Not Established <u>Male</u> 0 up to 9 weeks: 104-224 mg/dL 9 weeks up to 1 year: 107-324 mg/dL 1 year up to 14 years: 186-388 mg/dL 14 years up to 60 years: 174-364 mg/dL 60 years up to 80 years: 163-344 mg/dL 80 years and up: Not Established

**CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON**

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Triglyceride</b> 0-15 days: 88-276 mg/dL 15 days up to 1 years: 57-275 mg/dL 1 year to 19 years: 47-211 mg/dL 19 years and up: <150 mg/dL	7-150 mg/dL
<b>Urea Nitrogen, Blood (BUN)</b> <u>Female</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up to 19 years: 7-19 mg/dL 19 years and up: 7-21 mg/dL  <u>Male</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up and up: 7-21 mg/dL	<u>Female</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up to 19 years: 7-19 mg/dL 19 years up to 50 years: 7-19 mg/dL 50 years and up: 10-20 mg/dL  <u>Male</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up to 19 years: 7-21 mg/dL 19 years up to 50 years: 9-21 mg/dL 50 years and up: 8-26 mg/dL
<b>Uric Acid</b> <u>Female</u> 0 up to 15 days: 2.2-11.0 mg/dL 15 days up to 1 years: 1.2-5.4 mg/dL 1 years up to 12 years: 1.4-4.1 mg/dL 12 years up to 19 years: 2.1-5.0 mg/dL 19 years and up: 2.6-6.0 mg/dL  <u>Male</u> 0 up to 15 days: 2.2-11.0 mg/dL 15 days up to 1 years: 1.2-5.4 mg/dL 1 years up to 12 years: 1.4-4.1 mg/dL 12 years up to 19 years: 2.1-6.5 mg/dL 19 years and up: 3.5-7.2 mg/dL	<u>Female</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up to 19 years: 7-19 mg/dL 19 years up to 50 years: 7-19 mg/dL 50 years and up: 10-20 mg/dL  <u>Male</u> 0 up to 15 days: 3-23 mg/dL 15 days up to 1 years: 3-17 mg/dL 1 years up to 10 years: 9-22 mg/dL 10 years up to 19 years: 7-21 mg/dL 19 years up to 50 years: 9-21 mg/dL 50 years and up: 8-26 mg/dL

## CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

### CHEMISTRY REFERENCE RANGES, URINE

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Chloride, Timed Urines</b> 110-250 mmol/24hr	0 up to 30 days: 2-10 mmol/24/hr 30 days up to 60 years: 110-250 mmol/24hr 60 years and up: 95-195 mmol/24hr
<b>Creatinine, Random Urine</b> <u>Female</u> 29.0-226.0 mg/dL <u>Male</u> 40.0-278.0 mg/dL	<u>Female</u> 45.00-106.00 mg/dL <u>Male</u> 58.00-161.00 mg/dL
<b>Creatinine, Timed Urine</b> <u>Female</u> 29.0-226.0 mg/dL <u>Male</u> 40.0-278.0 mg/dL	<u>Female</u> 45.00-106.00 mg/dL <u>Male</u> 58.00-161.00 mg/dL
<b>Glucose, Random Urine</b> Not Established	1-15 mg/dL
<b>Glucose, Timed Urine</b> Not Established	<=0.5 g/24hr
<b>Microalbumin</b> <=20.0 mg/L	5.0-20.0 mg/L
<b>Microalbumin, Timed</b> 0-30 mg/24hr	5-20 mg/24hr
<b>Phosphorus, Timed Urine</b> 0.4-1.3 g/24hr	0.4-1.3 g/24hr
<b>Potassium, Timed</b> 25-125 mmol/24hrs	<u>Female</u> 0 up to 6 years: Not Established 6 years up to 10 years: 8-37 mmol/24hrs 10 years up to 14 years: 18-58 mmol/24hrs 14 years and up: 25-125 mmol/24hrs <u>Male</u> 0 up to 6 years: Not Established 6 years up to 10 years: 17-54 mmol/24hrs 10 years up to 14 years: 22-57 mmol/24hrs 14 years and up: 25-125 mmol/24hrs
<b>Sodium, Timed</b> 40-220 mmol/24hrs	<u>Female</u> 0 up to 6 years: Not Established 6 years up to 10 years: 20-69 mmol/24hrs

**CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON**

Old Platform: Siemens	New Platform: Abbott Alinity
	10 years up to 14 years: 46-168 mmol/24hrs 14 years and up: 27-287 mmol/24hrs <u>Male</u> 0 up to 6 years: Not Established 6 years up to 10 years: 41-115 mmol/24hrs 10 years up to 14 years: 63-177 mmol/24hrs 14 years and up: 40-220 mmol/24hrs
<b>Total Protein, Random Urine</b> <11 mg/dL	7-14 mg/dL
<b>Total Protein, Timed Urine</b> 0-149 mg/24hr	<300 mg/24hr

## CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

### IMMUNOASSAY REFERENCE RANGES, BLOOD

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Alpha-Feto Protein (AFP)</b> 0.0-15.0 ng/mL	0 up to 1 months: >2,000.00 ng/mL 1 months up to 6 months: 10.00-1,359.00 ng/mL 6 months up to 1 years: 0.00-103.00 ng/mL 1 years up to 19 years: 2.00-35.00 ng/mL 19 years up to unspecified: 2.00-8.78 ng/mL
<b>Anti-CCP</b> <=4.99 U/mL	<b>&lt;5.0 U/mL</b>
<b>Anti-TPO</b> <b>&lt;60.1 U/mL</b>	<b>&lt;5.61 IU/mL</b>
<b>B12</b> 211-911 pg/mL	0 up to 1 year: 259-1576 pg/mL 1 year up to 9 years: 283-1613 pg/mL 9 years up to 14 years: 252-1125 pg/mL 14 years up to 17 years: 244-888 pg/mL 17 years up to 19 years: 203-811 pg/mL 19 years up to unspecified: 213-816 pg/mL
<b>Beta-HCG, Total</b> Normal (non-pregnant): 0-5 mIU/mL Gestational Age 0.2–1 week: 5–50 mIU/mL 1–2 weeks: 50–500 mIU/mL 2–3 weeks: 100–5000 mIU/mL 3–4 weeks: 500–10000 mIU/mL 4–5 weeks: 1000– 50000 mIU/mL 5–6 weeks: 10000– 100,000 mIU/mL 6–8 weeks: 15000– 200,000 mIU/mL 2–3 months: 10000– 100,000 mIU/mL	0.00-5.00 mIU/mL
<b>CA 125</b> 0-35 U/mL	0.0-35.0 U/mL
<b>CA 19-9</b> 2-37 U/mL	0.00-37.00 U/mL
<b>CEA</b> 0.5-5.0 ng/mL	0.00-5.00 ng/mL
<b>CKMB</b> 0.5 – 3.6 ng/mL	<u>Female</u> 0.00-3.40 ng/mL <u>Male</u> 0.00-7.20 ng/mL

**CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON**

Old Platform: Siemens	New Platform: Abbott Alinity
<b>C-Peptide</b> 0.9-7.1 ng/mL	0.78-5.19 ng/mL
<b>Cortisol, Random</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	2.9- 19.4 mcg/dL
<b>Cortisol, AM</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	3.7-19.4 mcg/dL
<b>Cortisol, PM</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	2.9-17.3 mcg/dL
<b>Cortisol, Baseline</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	2.9-19.4 mcg/dL
<b>Cortisol, 30 min Post Cortrosyn</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	>14.0 mcg/dL
<b>Cortisol, 45 min Post Cortrosyn</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	>14.0 mcg/dL
<b>Cortisol, 60 min Post Cortrosyn</b> Before 10AM: 3.7-19.4 mcg/dL After 5PM: 2.9-17.3 mcg/dL Post Cortrosyn Stimulation Reference Ranges: Baseline: >5.0 mcg/dL After Cortrosyn: >17 mcg/dL	>14.0 mcg/dL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Cortisol, Post Dexamethasone</b>	
<5.0 mcg/dL	<5.0 mcg/dL
<b>Cortisol, Post Stimulation</b>	
Post Cortrosyn Stimulation Reference Ranges: >14.0 mcg/dL	
Baseline: >5.0 mcg/dL	
After Cortrosyn: >17 mcg/dL	
<b>DHEA-Sulfate</b>	
<u>Female</u>	<u>Female</u>
0 up to 20 years: Not Established	0 up to 11 years: Not Established
20 years up to 29 years: 38-321 mcg/dL	11 years up to 15 years: 8.6-169.8 mcg/dL
29 years up to 39 years: 0-246 mcg/dL	15 years up to 20 years: 61.2-493.6 mcg/dL
39 years up to 49 years: 0-188 mcg/dL	20 years up to 25 years: 134.2-407.4 mcg/dL
49 years up to 59 years: 0-144 mcg/dL	25 years up to 35 years: 95.8-511.7 mcg/dL
59 years up to 69 years: 0-110 mcg/dL	35 years up to 45 years: 74.8-410.2 mcg/dL
69 years and up: 0-84 mcg/dL	45 years up to 55 years: 56.2-282.9 mcg/dL
	55 years up to 65 years: 29.7-182.2 mcg/dL
	65 years up to 70 years: 33.6-78.9 mcg/dL
	70 years and up: Not Established
<u>Male</u>	<u>Male</u>
0 up to 20 years: Not Established	0 up to 11 years: Not Established
20 years up to 29 years: 104-457 mcg/dL	11 years up to 15 years: 16.6-242.7 mcg/dL
29 years up to 39 years: 76-334 mcg/dL	15 years up to 20 years: 45.1-385.0 mcg/dL
39 years up to 49 years: 55-224 mcg/dL	20 years up to 25 years: 238.4-5539.3 mcg/dL
49 years up to 59 years: 41-178 mcg/dL	25 years up to 35 years: 167.9-591.9 mcg/dL
59 years up to 69 years: 30-130 mcg/dL	35 years up to 45 years: 139.7-484.4 mcg/dL
69 years and up: 0-95 mcg/dL	45 years up to 55 years: 136.2-447.6 mcg/dL
	55 years up to 65 years: 48.6-361.8 mcg/dL
	65 years up to 70 years: 228.5-283.6 mcg/dL
	70 years and up: Not Established
<b>Estradiol</b>	
<u>Menstruating Females</u>	<u>Normal Menstruating Females</u>
<u>(by day in cycle relative to LH peak)</u>	<u>(Category/Phase)</u>
Follicular (-12 to -4 days): 18.9-246.7 pg/mL	Follicular: 21-251 pg/mL
Midcycle (-3 to +2 days): 35.5-570.8 pg/mL	Midcycle: 38-649 pg/mL
Luteal (+4 to +12 days): 224.-256.0 pg/mL	Luteal: 21-312 pg/mL
Postmenopausal (untreated): 0- 44.5 pg/mL	Postmenopausal not on HRT: <10-28 pg/mL
	Postmenopausal on HRT: <10-144 pg/mL
<u>Male:</u>	<u>Male:</u>
<39.0 pg/mL	11-44 pg/mL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Ferritin</b>	
Female: 8.0-252.0 ng/mL	<u>Female</u> 0 up to 15 days: 99.60-717.00 ng/mL 15 days up to 6 months: 14.00-647.20 ng/mL 6 Months up to 1 year: 8.40-181.90 ng/mL 1 year up to 5 years: 5.30-99.90 ng/mL 5 years up to 14 years: 13.70-78.80 ng/mL 14 years up to 19 years: 5.50-67.40 ng/mL 19 years and up: 4.63-204.00 ng/mL
Male: 26.0-388 ng/mL	<u>Male</u> 0 up to 15 days: 99.60-717.00 ng/mL 15 days up to 6 months: 14.00-647.20 ng/mL 6 Months up to 1 year: 8.40-181.90 ng/mL 1 year up to 5 years: 5.30-99.90 ng/mL 5 years up to 14 years: 13.70-78.80 ng/mL 14 years up to 16 years: 12.70-82.80 ng/mL 16 years up to 19 years: 11.10-171.90 ng/mL 19 years and up: 21.81-274.66 ng/mL
<b>Folate</b> 3.1-17.5 ng/mL	7.0-31.4 ng/mL
<b>Free T3</b> 2.18-3.98 pg/mL	<u>Female</u> 0 up to 1 year: 2.32-4.87 pg/mL 1 year up to 12 years: 2.79-4.42 pg/mL 12 years up to 15 years: 2.50-3.95 pg/mL 15 years up to 19 years: 2.31-3.71 pg/mL 19 years and up: 1.58-3.91 pg/mL <u>Male</u> 0 up to 1 year: 2.32-4.87 pg/mL 1 year up to 12 years: 2.79-4.42 pg/mL 12 years up to 15 years: 2.89-4.33 pg/mL 15 years up to 19 years: 2.25-3.85 pg/mL 19 years and up: 1.58-3.91 pg/mL
<b>Free T4</b> 0.76-1.46 ng/dL	0.70-1.48 ng/dL
<b>Follicle Stimulating Hormone (FSH)</b>	
<u>Female</u> Follicular Phase: 2.5-10.2 mIU/mL Midcycle Phase: 3.4-33.4 mIU/mL Luteal: 1.5-9.1 mIU/mL Pregnant: <0.3 mIU/mL	<u>Female</u> Follicular Phase: 3.03-8.08 mIU/mL Midcycle Peak: 2.55-16.69 mIU/mL Luteal Phase: 1.38-5.47 mIU/mL Post-Menopausal: 26.72-133.41 mIU/mL
<u>Male</u>	<u>Male</u>



### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
1.4-18.1 mIU/mL	0.95-11.95 mIU/mL <u>Additional Pediatric Age Groups</u> <u>Female</u> 0 up to 30 days: Not Established 30 days up to 1 year: 0.40-10.40 mIU/mL 1 year up to 9 years: 0.40-5.50 mIU/mL 9 years up to 11 years: 0.40-4.20 mIU/mL 11 years up to 19 years: 0.30-7.80 mIU/mL <u>Male</u> 0 up to 30 days: Not Established 30 days up to 1 year: 0.11-2.40 mIU/mL 1 year up to 5 years: ≤0.90 mIU/mL 5 years up to 10 years: ≤1.60 mIU/mL 10 years up to 13 years: 0.40-3.90 mIU/mL 13 years up to 19 years: 0.80-5.10 mIU/mL
<b>Homocysteine</b> 0 up to 60 years: 5.0-15.0 mcmol/L 60 years and up: 5.0-20.00 mcmol/L	<u>Female</u> 4.44-13.56 mcmol/L <u>Male</u> 5.46-16.20 mcmol/L
<b>Insulin</b> 6-27 mcgIU/mL	2.0-28.0 mcgU/mL
<b>Intact Parathyroid Hormone (iPTH)</b> 18.5-88.0 pg/mL	8.5-72.5 pg/mL
<b>Luteinizing Hormone (LH)</b> <u>Female</u> (Normally Menstruating) Follicular phase: 1.9-12.5 mIU/mL Mid-Cycle peak: 8.7-76.3 mIU/mL Luteal phase: 0.5-16.9 mIU/mL Pregnant: <0.1-1.5 mIU/mL Postmenopausal: 15.9-54.0 mIU/mL Contraceptives: 0.7-5.6 mIU/mL <u>Male</u> 20-70 yrs 1.5 -9.3 mIU/mL >70 yrs 3.1 – 34.6 mIU/mL <u>Children:</u> <0.1 – 6.0 mIU/mL	<u>Female</u> (Normally Menstruating) Follicular phase: 1.80-11.78 mIU/mL Mid-Cycle Peak: 7.59-89.08 mIU/mL Luteal Phase: 0.56-14.00 mIU/mL Postmenopausal without HRT: 5.16-61.99 mIU/mL  <u>Male</u> 0.57-12.07  <u>Additional Pediatric Age Groups</u> <u>Female</u> 0 up to 4 days: Not Established 4 days up to 3 months: ≤2.40 mIU/mL 3 months up to 1 year: ≤1.20 mIU/mL 1 year up to 10 years: ≤0.30 mIU/mL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
	<p>10 years up to 13 years: <math>\leq 4.30</math> mIU/mL  13 years up to 15 years: 0.40-6.50 mIU/mL  <u>Male</u>  0 up to 4 days: Not Established  4 days up to 3 months: 0.20-3.80 mIU/mL  3 months up to 1 year: <math>\leq 2.90</math>  1 year up to 10 years: <math>\leq 0.30</math> mIU/mL  10 years up to 13 years: <math>\leq 4.30</math> mIU/mL  13 years up to 15 years: 0.80-4.80 mIU/mL  15 years up to 17 years: 0.80-4.80 mIU/mL  17 years up to 19 years: 0.90-7.10 mIU/mL</p>
<p><b>Progesterone</b>  <u>Female</u>  Luteal Phase 3.3-25.6 ng/mL  Mid-Luteal Phase 4.4-28.0 ng/mL  Post-Menopausal: 0.0-0.7 ng/mL  Pregnant Females:  First Trimester 11.2-90.0 ng/mL  Second Trimester 25.6-89.4 ng/mL  Third Trimester 48.4-422.5 ng/mL  <u>Male</u>  0.3 – 1.2 ng/mL</p>	<p><u>Female</u>  Follicular Phase: <math>&lt; 0.1</math>-0.3 ng/mL  Luteal Phase: 12-15.9 ng/mL  Postmenopausal: <math>&lt; 0.1</math>-0.2 ng/mL  Pregnant Females:  First Trimester: 2.8-147.3 ng/mL  Second Trimester: 22.5-95.3 ng/mL  Third Trimester: 27.9-242.5 ng/mL  <u>Male</u>  <math>&lt; 0.1</math>-0.2 ng/mL</p> <p><u>Additional Pediatric Age Groups</u>  <u>Female</u>  0-4 days: Not Established  4 days up to 1 year: <math>\leq 1.32</math> ng/mL  1 year up to 10 years: <math>\leq 0.35</math> ng/mL  10 years up to 15 years: 0.50-0.85 ng/mL  15 years up to 19 years: 0.50-10.26 ng/mL  <u>Male</u>  0-4 days: Not Established  4 days up to 1 year: <math>\leq 0.66</math> ng/mL  1 year up to 10 years: <math>\leq 0.35</math> ng/mL  10 years up to 15 years: 0.50-0.85 ng/mL  15 years up to 19 years: 0.50-0.57 ng/mL</p>
<p><b>Prolactin</b>  <u>Female</u>  Nonpregnant: 2.8 - 29.2 ng/mL  Pregnant: 9.7 - 208.5 ng/mL  Postmenopausal: 1.8 - 20.3 ng/mL  <u>Male</u>  2.1 - 17.7 ng/mL</p>	<p><u>Female</u>  5.18-26.53 ng/mL  <u>Male</u>  3.46-19.40 ng/mL</p>

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
<b>Prostate Specific Antigen (PSA)</b>	
<u>Male</u> 0 up to 50 years: ≤2.5 ng/mL 50 up to 60 years: ≤3.5 ng/mL 60 up to 70 years: ≤4.5 ng/mL 70 years and up: ≤6.5 ng/mL	<4.0 ng/mL
<u>Female</u> < 4.0 ng/mL	
<b>Sex Hormone Binding Globulin (SHBG)</b>	
<u>Female</u> 18 -114 nmol/L	<u>Female</u> 11.7-137.2 nmol/L
<u>Male</u> 13-71 nmol/L	<u>Male</u> 11.2-78.1 nmol/L
<b>Testosterone</b>	
<u>Female</u> 21- 49 years old: 13.84-53.35 ng/dL ≥50 years old: 12.40-35.76 ng/dL	<u>Female</u> 0 up to 4 days: Not Established 4 days up to 9 years: 4.33-62.00 ng/dL 9 years up to 13 years: ≤28.20 ng/dL 13 years up to 15 years: 10.40-44.40 ng/dL 15 years up to 19 years: 14.10-49.00 ng/dL 19 years up to 50 years: 13.84-53.25 ng/dL 50 years and up: 12.40-35.76 ng/dL
<u>Males</u> <50Y: 240.24-870.68 ng/dL > = 50Y: 220.91-715.81 ng/dL	<u>Male</u> 0 up to 4 days: Not Established 4 days up to 6 months: 4.33-299.00 ng/dL 6 months 9 years: ≤36.00 ng/dL 9 years up to 11 years: ≤23.00 ng/dL 11 years up to 14 years: ≤444.00 ng/dL 14 years up to 16 years: 36.00-632.00 ng/dL 16 years up to 19 years: 148.00-794.00 ng/dL 19 years up to 50 years: 240.24-870.68 ng/dL 50 years and up: 220.91-715.81 ng/dL
<b>T3, Total</b>	
60-181 ng/dL	<u>Female</u> 0 up to 4 days: Not Established 4 days up to 1 year: 0.85-2.34 ng/mL 1 year up to 12 years: 1.13-1.89 ng/mL 12 years up to 15 years: 0.98-1.76 ng/mL 15 years up to 17 years: 0.92-1.42 ng/mL 17 years up to 19 years: 0.90-1.68 ng/mL 19 years and up: 0.40-1.93 ng/mL
	<u>Male</u> 0 up to 4 days: Not Established 4 days up to 1 year: 0.85-2.34 ng/mL 1 year up to 12 years: 1.13-1.89 ng/mL

### CHEMISTRY AND IMMUNOASSAY REFERENCE RANGE COMPARISON

Old Platform: Siemens	New Platform: Abbott Alinity
	12 years up to 15 years: 0.98-1.76 ng/mL 15 years up to 17 years: 0.94-1.56 ng/mL 17 years up to 19 years: 0.90-1.68 ng/mL 19 years and up: 0.40-1.93 ng/mL
<b>T4, Total</b> 0 up to 29 days: Not Established 29 days and up: 4.7-13.3 mcg/dL	<u>Female</u> 0 up to 7 days: Not Established 7 days up to 28 days: 5.90-13.70 mcg/dL 28 days up to 1 years: 5.90-13.70 mcg/dL 1 years up to 9 years: 6.20-10.30 mcg/dL 9 years up to 12 years: 5.50-9.30 mcg/dL 12 years up to 14 years: 5.10-8.30 mcg/dL 14 years up to 19 years: 5.50-13.00 mcg/dL 19 years and up: 4.87-11.72 mcg/dL  <u>Male</u> 0 up to 7 days: Not Established 7 days up to 28 days: 5.90-13.70 mcg/dL 28 days up to 1 years: 5.90-13.70 mcg/dL 1 years up to 9 years: 6.20-10.30 mcg/dL 9 years up to 12 years: 5.50-9.30 mcg/dL 12 years up to 14 years: 5.00-8.30 mcg/dL 14 years up to 19 years: 4.70-8.60 mcg/dL 19 years and up: 4.87-11.72 mcg/dL
<b>TSH</b> 0.358 – 3.800 uIU/mL	0 up to 4 days: Not Established 4 days up to 28 days: 0.730-4.770 mciU/mL 28 days up to 6 months: 0.730-4.770 mciU/mL 6 months up to 14 years: 0.700-4.170 mciU/mL 14 years up to 19 years: 0.470-3.410 mciU/mL 19 years and up: 0.350-4.940 mciU/mL
<b>Vitamin D</b> 0 up to 17 years: Not Established 17 years and up: 30.0-100.0 ng/mL	0 up to 18 years: 20.0-80.0 ng/mL 18 years and up: 30.0-90.0 ng/mL