

Example Reference Range Conversions to SI  
Units from Historical Units

Component-Blood	Adult Ref Range	Historical Unit	Conversion Factor	SI Ref Range	SI Unit
ALT female male	0-50 0-70	U/L U/L	1.00 1.00	0-50 0-70	U/L U/L
Albumin	3.2-4.5	mg/dL	10	32-45	g/dL
Alkaline Phosphatase	40-150	U/L	1.00	40-150	U/L
AST female male	0-45 0-55	U/L U/L	1.00 1.00	0-45 0-55	U/L U/L
Bilirubin Direct Total	0-0.3 0.2-1.3	mg/dL mg/dL	17.10 17.10	0-5 3-22	umol/L umol/L
Calcium	8.5-10.4	mg/dL	0.2495	2.12-2.59	mmol/L
Chloride	94-109	mmol/L	1.00	94-109	mmol/L
Cholesterol	<200	mg/dL	0.02586	<5.15	mmol/L
CO <sub>2</sub> , Total	20-32	mmol/L	1.00	20-32	mmol/L
<b>Hemogram</b>					
Hematocrit female male	35-47 40-53	% %	0.01 0.01	0.35-0.47 0.40-0.53	Proportion of 1
Hemoglobin female male	11.7-15.7 13.3-17.7	g/dL g/dL	10.0 10.0	117-157 133-177	g/L g/L
Platelet Count	150-450 x 10 <sup>9</sup> /L		1.00	150-450 x 10 <sup>9</sup> /L	
Red Cell Count female male	3.8-5.2 x 10 <sup>12</sup> /L 4.4-5.9 x 10 <sup>12</sup> /L		1.00 1.00	3.8-5.2 x 10 <sup>12</sup> /L 4.4-5.9 x 10 <sup>12</sup> /L	
White Cell Count	4.0-11.0 x 10 <sup>9</sup> /L		1.00	4.0-11.0 x 10 <sup>9</sup> /L	
Cortisol, AM	4.3-29.0	ug/dL	27.59	119-800	nmol/L
Cortisol, PM	1.4-14.0	ug/dL	27.59	39-386	nmol/L
Creatinine female male	0.6-1.3 0.8-1.5	mg/dL mg/dL	88.40 88.40	53-115 71-133	umol/L umol/L
Digoxin, Therapeutic	0.5-2.0	ug/L	1.281	0.6-2.6	nmol/L
Erythrocyte Indices MCV MCH MCHC	78-100 26.5-35.0 32-36	fL pg g/dL	1.00 1.00 0.01	78-100 26.5-35.0 0.32-0.36	fL pg Proportion of 1
Ferritin female male	10-300 20-300	ng/mL ng/mL	2.247 2.247	22-674 45-674	pmol/L pmol/L
Folate	> 5.4	ng/mL	2.266	> 12.3	nmol/L

Component-Blood	Adult Ref Range	Historical Unit	Conversion Factor	SI Ref Range	SI Unit
<b>FSH</b>					
male	1.4-18.1	IU/L	1.00	1.4-18.1	IU/L
female, follicular	2.5-10.2	IU/L	1.00	2.5-10.2	IU/L
female, midcycle	3.4-33.4	IU/L	1.00	3.4-33.4	IU/L
female, luteal	1.5-9.1	IU/L	1.00	1.5-9.1	IU/L
female, post-menopausal	23.0-116.3	IU/L	1.00	23.0-116.3	IU/L
<b>Gases, Arterial</b>					
pH	7.35-7.45	pH units	1.00	7.35-7.45	pH units
pCO <sub>2</sub>	35-45	mm Hg	1.00	35-45	mm Hg
pO <sub>2</sub>	80-105	mm Hg	1.00	80-105	mm Hg
<b>Glucose</b>	60-99	mg/dL	0.0555	3.3-5.5	mmol/L
Iron	35-180	ug/dL	0.1791	6.3-32.2	umol/L
LD	325-750	U/L	1.00	325-750	U/L
<b>Lutropin</b>					
male	1.5-9.3	IU/L	1.00	1.5-9.3	IU/L
female, follicular	1.9-12.5	IU/L	1.00	1.9-12.5	IU/L
female, midcycle	8.7-76.3	IU/L	1.00	8.7-76.3	IU/L
female, luteal	0.5-16.9	IU/L	1.00	0.5-16.9	IU/L
female, post-menopausal	15.9-54.0	IU/L	1.00	15.9-54.0	IU/L
Magnesium	1.6-2.3	mg/dL	0.4114	0.7-1.0	mmol/L
Osmolality	275-295	mOsm/kg	1.00	275-295	mmol/kg
Phenobarbital, therapeutic	15-40	mg/L	4.306	65-172	umol/L
Phenytoin, therapeutic	10-20	mg/L	3.964	40-79	umol/L
Phosphorus	2.5-4.5	mg/dL	0.3229	0.80-1.45	mmol/L
Potassium	3.4-5.3	mmol/L	1.00	3.4-5.3	mmol/L
Protein, Total	6.0-8.2	g/dL	10.0	60-82	g/L
Sodium	133-144	mmol/L	1.00	133-144	mmol/L
Theophylline, therapeutic	10-20	mg/L	5.550	56-111	umol/L
Thyrotropin (TSH)	0.4-5.0	mIU/L	1.00	0.4-5.0	mIU/L
Thyroxine, free	0.7-1.85	ng/dL	12.87	9-24	pmol/L
Thyroxine, total	5-11	ug/dL	12.87	64-142	nmol/L
Transferrin	210-360	mg/dL	0.01	21-36	g/L
Tri-iodothyronine (T <sub>3</sub> )	60-181	ng/dL	0.01536	0.9-2.8	nmol/L
Triglycerides	< 150	mg/dL	0.01129	< 1.69	mmol/L
<b>Urea Nitrogen</b>	5-30	mg/dL	0.3570	2-11	mmol/L
Uric Acid female male	2.5-7.0 3.5-8.5	mg/dL mg/dL	59.48 59.48	149-416 208-506	umol/L umol/L
Vitamin B <sub>12</sub>	247-911	pg/mL	0.7378	182-672	pmol/L

Reference: JAMA Author Instructions, Sept. 2001.  
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