

# Reference Ranges

## Hematology

Test		Age/sex	Units	Reference range
<b>WBC</b>	<b>514</b>	0 – 3 days	10 <sup>3</sup> /mm <sup>3</sup>	9.0 – 35.0
		4 – 9 days		5.0 – 21.0
		10 – 14 days		5.0 – 20.0
		15 – 30 days		5.0 – 19.5
		1 – 6 mos		6.0 – 17.5
		7 – 24 mos		6.0 – 17.0
		25 – 60 mos		5.5 – 15.5
		5 – 8 yrs		5.0 – 14.5
		9 – 12 yrs		4.5 – 13.5
		13 – 18 yrs		4.5 – 13.0
		Adult (>18 yrs)		4.5 – 11.0
<b>RBC</b>		1 day	10 <sup>6</sup> /mm <sup>3</sup>	4.00 – 6.60
		1 wk		3.90 – 6.30
		2 wks		3.60 – 6.20
		1 mo		3.00 – 5.40
		2 mos		2.70 – 4.90
		3 – 6 mos		3.10 – 4.50
		6 mos – 2 yrs		3.70 – 5.30
		2 – 6 yrs		3.90 – 5.30
		6 – 12 yrs		4.00 – 5.20
		12 – 18 yrs - M		4.50 – 5.30
		12 – 18 yrs - F		4.10 – 5.10
		>18 Male		4.30 – 5.90
		>18 Female		4.00 – 5.20
		<b>HGB</b>	<b>450</b>	1 day
1 wk				13.5 – 19.5
2 wks				12.5 – 20.5
1 mo				10.0 – 18.0
2 mos				9.0 – 14.0
3 – 6 mos				9.5 – 13.5
6 mo – 2 yrs				10.5 – 13.5
2 – 6 yrs				11.5 – 15.5
6 – 12 yrs				11.5 – 15.6
12 – 18 yrs - M				13.0 – 16.0
12 – 18 yrs - F				12.0 – 16.0
>18 Male				13.5 – 17.5
>18 Female				12.0 – 16.0

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<b>Hematocrit (Hct)</b> 448	1 day	%	45 – 67
	1 wk		42 – 66
	2 wks		39 – 63
	1 mo		31 – 55
	2 mos		28 – 42
	3 – 6 mos		29 – 41
	6 mos – 2 yrs		33 – 49
	2 – 6 yrs		34 – 40
	6 – 12 yrs		35 – 45
	12 – 18 yrs - M		36 – 51
	12 – 18 yrs - F		33 – 51
	>18 Male		37 – 53
	>18 Female		33 – 51
<b>MCV</b>	1 day	fL	95 – 121
	1 wk		88 – 126
	2 wks		86 – 124
	1 mo		85 – 123
	2 mos		77 – 115
	3 – 6 mos		74 – 108
	6 mos – 2 yrs		70 – 86
	2 – 6 yrs		75 – 87
	6 – 12 yrs		77 – 95
	12 – 18 yrs - M		78 – 98
	12 – 18 yrs - F		78 – 102
	>18 Male		80 – 100
	>18 Female		80 – 100
<b>MCH</b>	1 day	pg	31 – 37
	1 wk		28 – 40
	2 wks		28 – 40
	1 mo		28 – 40
	2 mos		26 – 34
	3 – 6 mos		25 – 35
	6 mos – 2 yrs		23 – 31
	2 – 6 yrs		24 – 30
	6 – 12 yrs		25 – 33
	12 – 18 yrs		25 – 35
	>18 yrs		26 – 34

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Test	Age/sex	Units	Reference range
<b>MCHC</b>	1 day	g/dL	29 – 37
	1 wk		28 – 38
	2 wks		28 – 38
	1 mo		29 – 37
	2 mos		29 – 37
	3 – 6 mos		30 – 36
	6 mos – 2 yrs		30 – 36
	2 – 6 yrs		32 – 36
	6 – 12 yrs		32 – 36
	12 – 18 yrs		32 – 36
	Adult		32 – 36
<b>Platelets</b> <b>484</b>	All ages	10 <sup>3</sup> /mm <sup>3</sup>	140 – 440
<b>MPV</b>	All ages	fl	6.5 – 11.0
<b>RDW-CV</b>	All ages	%	11.5 – 15.5
<b>RDW-SD</b>	All ages		39.0 – 47.0
<b>Neutrophil</b>	0 – 3 days	%	32 – 62
	4 – 9 days		19 – 49
	10 – 14 days		14 – 34
	15 – 30 days		15 – 35
	1 – 6 mos		13 – 33
	7 – 24 mos		15 – 35
	25 – 60 mos		23 – 45
	5 – 8 yrs		32 – 54
	18 yrs		33 – 64
	>18 yrs		42 – 72
<b>Neutrophil, absolute</b>	0 – 3 days	thou/mm <sup>3</sup> (#)	6 – 21.7
	4 – 9 days		1.5 – 10
	10 – 14 days		1.0 – 9.5
	15 – 30 days		1.0 – 9.0
	1 – 6 mo		1.0 – 8.5
	7 – 24 mo		1.5 – 8.5
	25 – 60 mo		1.5 – 8.0
	5 – 8 yrs		1.8 – 8.0
	18 yrs		1.5 – 8.0
	>18 yrs		1.7 – 7.0

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Test	Age/sex	Units	Reference range
<b>Lymphocyte</b>	0 – 3 days	%	19 – 29
	4 – 9 days		26 – 36
	10 – 14 days		36 – 45
	15 – 30 days		43 – 53
	1 – 6 mos		41 – 71
	7 – 24 mos		45 – 76
	25 – 60 mos		35 – 65
	5 – 8 yrs		28 – 48
	18 yrs		25 – 48
	>18 yrs		20 – 44
<b>Lymphocyte, absolute</b>	0 – 3 days	thou/mm <sup>3</sup> (#)	2.0 –11.0
	4 – 9 days		2.0 – 17
	10 – 30 days		2.5 – 16.5
	1 – 6 mo		4 – 13.5
	7 – 24 mo		4 – 10.5
	2 – 5 yrs		2.0 – 10.0
	5 – 8 yrs		1.5 – 7.0
	18 yrs		1.2 – 6.5
	>18 yrs		0.9 – 2.9
<b>Monocyte</b>	0 – 9 days	%	5 – 7
	10 – 30 days		7 – 11
	1 mo – 16 yrs		3 – 7
	>16 yrs		0 – 11
<b>Monocyte, absolute</b>	0 – 9 days	thou/mm <sup>3</sup> (#)	0.4 – 1.8
	10 – 30 days		0.1 – 1.1
	1 mo – 16 yrs		<0.8
	>16 yrs		<0.9
<b>Eosinophil</b>	1 – 6 mo	%	0 – 2
	6 mo – 18 yrs		0 – 3
	>18 yrs		0 – 7
<b>Eosinophil, absolute</b>	1 – 6 mo	thou/mm <sup>3</sup> (#)	<0.9
	6 mo – 18 yrs		<0.7
	>18 yrs		<0.5
<b>Basophil</b>	0 – 6 yrs	%	<1.0
	>6 yrs		<3.0
<b>Basophil, absolute</b>	0 – 6 yrs	thou/mm <sup>3</sup> (#)	<0.2
	>6 yrs		<0.3

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Test	Age/sex	Units	Reference range
<b>Band cells</b>	0 – 3 days	%	10 – 18
	4 – 9 days		7 – 15
	10 – 14 days		6 – 14
	15 – 30 days		4 – 12
	1 – 6 mo		4 – 12
	7 mo – 2 yrs		5 – 11
	2 – 5 yrs		5 – 11
	5 – 8 yrs		5 – 11
	9 - 18 yrs		5 – 11
	>18 yrs		5 – 11
<b>Band cells, absolute</b>	0 – 3 days	thou/mm <sup>3</sup> (#)	< 3.5
	4 – 9 days		<1.0
	10 – 14 days		<1.0
	15 – 30 days		<1.0
	1 – 6 mo		<1.0
	7 – 24 mo		<1.0
	25 – 60 mo		<1.0
	5 – 8 yrs		<1.0
	9 – 18 yrs		<1.0
	>18 yrs		< 1.0
<b>Immature granulocytes</b> <b>IG</b>	All ages	thou/mm <sup>3</sup>	< 0.3
<b>Meta Myelocytes</b>	All ages	thou/mm <sup>3</sup> (#)	< 0.1
<b>Myelocytes</b>	All ages	thou/mm <sup>3</sup> (#)	< 0.1
<b>Pro Myelocytes</b>	All ages	thou/mm <sup>3</sup> (#)	< 0.1
<b>Blasts</b>	All ages	%	None seen
<b>NRBC</b>	0 – 3 days	thou/mm <sup>3</sup>	0 – 20
	Adult	thou/mm <sup>3</sup>	< 0.1
<b>Reticulocytes</b> <b>RTC</b>	0 – 3 days	%	3 – 7
	Adult	%	0.5 – 2.0
<b>Reticulocytes, absolute</b>	0 – 3 days	#	0.06 – 0.16
	Adult	#	0.03 – 0.08
<b>Retic IRF</b> <b>(Immature Reticulocyte Fraction)</b>	Female	%	3.0 – 15.9
	Male	%	2.3 – 13.4
<b>Reticulated Hgb Fraction</b> <b>Ret-He</b>	All ages	pg	29.0 – 35.0

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Test		Age/sex	Units	Reference range
Sedimentation rate (ESR)	503	0 – 50 yrs M	mm/hr	< 15
		0 – 50 yrs F		< 20
		> 50 yrs M		< 20
		> 50 yrs F		< 30
Spinal fluid - Lymphocyte	9421	1 yr	%	5 – 35
		> 1 yr		40 – 80
Spinal fluid - Monocyte	9421	1 yr	%	50 – 90
		> 1 yr		15 – 45
Spinal fluid - Neutrophils	9421	All ages	%	0 – 5