Hematology Reference Ranges – Sysmex
January 2026

Indiana University Health

WBC (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	11.5 - 29.4	11.5 - 29.4
1 - 3 days	7.6 - 21.3	8.0 - 23.2
4 - 7 days	7.5 - 14.9	7.9 - 17.1
8 - 14 days	7.8 - 17.1	8.00 - 16.8
15 - 30 days	6.5 - 15.4	6.6 - 15.6
31 - 60 days	5.9 - 14.5	6.5 - 14.8
61 - 180 days	6.2 - 15.6	6.8 - 14.6
181 days - <2 years	6.5 - 13.9	6.9 - 14.9
2 - <6 years	5.4 - 11.9	5.7 - 12.0
6 - <12 years	4.6 - 10.4	4.7 - 10.1
12 - <18 years	4.5 - 9.8	4.9 - 9.7
≥18 years	4.1 - 10.6	4.0 - 10.4

RBC (10^6 cells/µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	3.88 - 5.74	3.88 - 5.74
1 - 3 days	3.57 - 5.50	3.58 - 5.42
4 - 7 days	3.89 - 5.64	3.80 - 5.76
8 - 14 days	3.30 - 5.30	3.47 - 5.37
15 - 30 days	3.00 - 4.70	3.22 - 4.76
31 - 60 days	2.87 - 4.09	2.95 - 4.17
61 - 180 days	3.38 - 4.57	3.42 - 4.51
181 days - <2 years	4.06 - 5.03	4.01 - 4.95
2 - <6 years	4.06 - 4.96	4.05 - 4.93
6 - <12 years	4.18 - 5.02	4.11 - 4.97
12 - <18 years	4.44 - 5.47	4.07 - 4.90
≥18 years	4.28 - 5.61	3.82 - 5.05

Hemoglobin (g/dL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	13.6 - 19.8	13.6 - 19.8
1 - 3 days	12.8 - 19.7	12.8 - 19.2
4 - 7 days	13.3 - 19.3	13.0 - 19.4
8 - 14 days	11.0 - 19.1	12.0 - 19.9
15 - 30 days	9.8 - 17.3	10.2 - 18.0
31 - 60 days	9.0 - 14.5	8.9 - 15.0
61 - 180 days	9.4 - 13.0	9.6 - 13.2
181 days - <2 years	10.2 - 13.4	10.3 - 13.5
2 - <6 years	10.7 - 13.7	10.7 - 13.6
6 - <12 years	11.3 - 14.6	11.2 - 14.5
12 - <18 years	12.4 - 16.4	11.4 - 14.7
≥18 years	13.0 - 16.8	11.9 - 15.0

Hematocrit (%)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	39.2 - 56.5	39.2 - 56.5
1 - 3 days	37.6 - 56.6	37.4 - 55.7
4 - 7 days	37.9 - 55.7	36.1 - 54.7
8 - 14 days	32.8 - 50.5	35.4 - 53.0
15 - 30 days	29.2 - 45.2	30.0 - 45.9
31 - 60 days	26.3 - 36.9	27.3 - 38.6
61 - 180 days	28.6 - 35.7	28.6 - 35.5
181 days - <2 years	31.6 - 38.0	31.8 - 38.1
2 - <6 years	32.6 - 38.3	32.9 - 38.7
6 - <12 years	34.4 - 40.6	34.3 - 40.8
12 - <18 years	37.5 - 46.2	35.3 - 41.9
≥18 years	38.9 - 49.6	35.6 - 45.9

MCV (fL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	91 - 107	91 - 107
1 - 3 days	96 - 111	95 - 112
4 - 7 days	93 - 105	92 - 104
8 - 14 days	92 - 103	94 - 106
15 - 30 days	90 - 101	90 - 102
31 - 60 days	86 - 97	87 - 97
61 - 180 days	74 - 97	74 - 97
181 days - <2 years	71 - 88	71 - 88
2 - <6 years	75 - 87	75 - 87
6 - <12 years	77 - 95	77 - 95
12 - <18 years	78 - 95	78 - 96
≥18 years	83 - 97	83 - 99

MCH (pg)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	32.3- 37.6	32.3 - 37.6
1 - 3 days	33.2 - 37.9	33.3 - 38.7
4 - 7 days	32.6 - 36.4	31.9 - 36.4
8 - 14 days	31.7 - 36.2	32.1 - 36.9
15 - 30 days	30.7 - 35.0	30.6 - 34.9
31 - 60 days	29.3 - 33.3	29.4 - 33.4
61 - 180 days	24.5 - 29.9	25.8 - 30.2
181 days - <2 years	22.9 - 27.6	23.4 - 27.8
2 - <6 years	24.2 - 28.5	24.5 - 28.6
6 - <12 years	25.5 - 29.5	25.3 - 29.6
12 - <18 years	26.3 - 30.5	25.7 - 30.6
≥18 years	27.5 - 33.2	27.3 - 33.0

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MCHC (g/dL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	34.1 - 36.7	34.1 - 36.7
1 - 3 days	33.0 - 36.0	33.1 - 35.8
4 - 7 days	33.8 - 36.0	33.8 - 36.0
8 - 14 days	33.4 - 35.8	33.4 - 35.5
15 - 30 days	33.2 - 35.8	33.0 - 35.6
31 - 60 days	33.0 - 35.5	32.8 - 35.5
61 - 180 days	31.9 - 34.6	32.3 - 34.7
181 days - <2 years	31.5 - 34.3	31.6 - 34.1
2 - <6 years	32.0 - 34.6	31.9 - 34.4
6 - <12 years	32.2 - 34.8	31.8 - 34.4
12 - <18 years	32.1 - 34.6	31.4 - 34.1
≥18 years	32.0 - 35.8	31.2 - 34.9

RDW (CV, %)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	15.0 - 18.8	15.0 - 18.8
1 - 3 days	15.4 - 19.9	15.2 - 19.8
4 - 7 days	14.7 - 18.9	14.6 - 18.4
8 - 14 days	14.1 - 17.6	14.1 - 16.8
15 - 30 days	13.8 - 17.2	13.7 - 16.8
31 - 60 days	13.3 - 16.2	13.1 - 16.5
61 - 180 days	11.9 - 15.4	11.9 - 14.6
181 days - <2 years	12.4 - 15.9	12.2 - 15.4
2 - <6 years	12.2 - 14.7	11.9 - 14.5
6 - <12 years	11.9 - 13.7	11.9 - 13.9
12 - <18 years	11.9 - 13.7	11.9 - 14.6
≥18 years	11.5 - 14.5	11.3 - 14.4

Platelet (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	150 - 450	150 - 450
1 - 3 days	150 - 450	150 - 450
4 - 7 days	150 - 450	150 - 450
8 - 14 days	150 - 450	150 - 450
15 - 30 days	150 - 450	150 - 450
31 - 60 days	150 - 450	150 - 450
61 - 180 days	150 - 450	150 - 450
181 days - <2 years	150 - 450	150 - 450
2 - <6 years	150 - 450	150 - 450
6 - <12 years	150 - 450	150 - 450
12 - <18 years	150 - 450	150 - 450
≥18 years	150 - 450	150 - 450

MPV (fL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	9.0 - 11.6	9.0 - 11.6
1 - 3 days	9.1 - 11.1	9.1 - 11.2
4 - 7 days	9.5 - 11.9	9.5 - 11.9
8 - 14 days	9.8 - 12.1	10.1 - 12.2
15 - 30 days	9.9 - 12.4	9.6 - 12.0
31 - 60 days	9.2 - 11.3	9.3 - 11.4
61 - 180 days	9.0 - 11.2	9.0 - 10.9
181 days - <2 years	8.8 - 10.8	8.8 - 10.8
2 - <6 years	8.8 - 10.8	8.9 - 10.9
6 - <12 years	9.2 - 11.3	9.3 - 11.3
12 - <18 years	9.5 - 11.7	9.5 - 11.7
≥18 years	8.9 - 12.3	9.3 - 12.2

Neutrophil Count Absolute (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	6.3 - 18.7	6.3 - 18.7
1 - 3 days	3.0 - 11.0	3.0 - 11.0
4 - 7 days	2.0 - 4.7	2.0 - 6.7
8 - 14 days	1.9 - 5.6	1.7 - 5.9
15 - 30 days	1.3 - 4.3	1.4 - 4.9
31 - 60 days	1.2 - 4.6	1.3 - 5.6
61 - 180 days	1.1 - 5.5	1.1 - 7.2
181 days - <2 years	1.2 - 7.2	1.3 - 7.2
2 - <6 years	1.5 - 7.9	1.6 - 8.3
6 - <12 years	1.6 - 7.6	1.6 - 7.9
12 - <18 years	1.5 - 7.0	1.8 - 7.5
≥18 years	1.8 - 7.5	1.9 - 7.3

Lymphocyte Count Absolute (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	2.8 - 7.0	2.8 - 7.0
1 - 3 days	2.1 - 7.5	1.8 - 8.0
4 - 7 days	2.1 - 7.5	1.8 - 8.0
8 - 14 days	2.1 - 7.5	1.8 - 8.0
15 - 30 days	2.1 - 8.4	2.4 - 8.2
31 - 60 days	2.5 - 8.0	2.3 - 9.1
61 - 180 days	2.1 - 9.0	2.1 - 9.0
181 days - <2 years	1.6 - 7.8	1.5 - 8.1
2 - <6 years	1.1 - 5.5	1.3 - 5.8
6 - <12 years	1.0 - 4.0	1.2 - 4.3
12 - <18 years	1.0 - 3.3	1.2 - 3.3
≥18 years	1.0 - 3.1	1.1 - 3.4

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Monocyte Count Absolute (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	0.8 - 3.3	0.8 - 3.3
1 - 3 days	0.5 - 1.6	0.6 - 1.5
4 - 7 days	0.6 - 1.9	0.3 - 1.5
8 - 14 days	0.7 - 1.7	0.6 - 2.2
15 - 30 days	0.6 - 1.5	0.5 - 1.5
31 - 60 days	0.5 - 1.4	0.5 - 1.4
61 - 180 days	0.5 - 1.2	0.5 - 1.3
181 days - <2 years	0.5 - 1.2	0.4 - 1.1
2 - <6 years	0.4 - 1.0	0.4 - 0.9
6 - <12 years	0.3 - 0.9	0.3 - 0.8
12 - <18 years	0.3 - 0.8	0.3 - 0.8
≥18 years	0.3 - 1.0	0.3 - 1.0

Eosinophil Count Absolute(10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	0.1 - 1.3	0.1 - 1.3
1 - 3 days	0.0 - 0.7	0.0 - 0.6
4 - 7 days	0.0 - 0.7	0.0 - 0.8
8 - 14 days	0.0 - 0.7	0.0 - 0.7
15 - 30 days	0.0 - 0.7	0.0 - 0.7
31 - 60 days	0.0 - 0.6	0.0 - 0.5
61 - 180 days	0.0 - 0.6	0.0 - 0.4
181 days - <2 years	0.0 - 0.4	0.0 - 0.4
2 - <6 years	0.0 - 0.5	0.0 - 0.4
6 - <12 years	0.0 - 0.5	0.0 - 0.4
12 - <18 years	0.0 - 0.4	0.0 - 0.3
≥18 years	0.0 - 0.4	0.0 - 0.4

Basophil Count Absolute (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	0.0 - 0.2	0.0 - 0.2
1 - 3 days	0.0 - 0.1	0.0 - 0.1
4 - 7 days	0.0 - 0.1	0.0 - 0.1
8 - 14 days	0.0 - 0.1	0.0 - 0.1
15 - 30 days	0.0 - 0.1	0.0 - 0.1
31 - 60 days	0.0 - 0.1	0.0 - 0.1
61 - 180 days	0.0 - 0.1	0.0 - 0.1
181 days - <2 years	0.0 - 0.1	0.0 - 0.1
2 - <6 years	0.0 - 0.1	0.0 - 0.1
6 - <12 years	0.0 - 0.1	0.0 - 0.1
12 - <18 years	0.0 - 0.1	0.0 - 0.1
≥18 years	0.0 - 0.1	0.0 - 0.1

IG Absolute (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 1 day	0.1 - 1.70	0.1 - 1.7
1 - 3 days	0.0 - 0.4	0.0 - 0.6
4 - 7 days	0.0 - 0.4	0.0 - 0.3
8 - 14 days	0.0 - 0.2	0.0 - 0.3
15 - 30 days	0.0 - 0.1	0.0 - 0.1
31 - 60 days	0.0 - 0.1	0.0 -0.1
61 - 180 days	0.0 - 0.1	0.0 - 0.1
181 days - <2 years	0.0 - 0.1	0.0 - 0.1
2 - <6 years	0.0 - 0.1	0.0 - 0.1
6 - <12 years	0.0 - 0.1	0.0 - 0.1
12 - <18 years	0.0 - 0.1	0.0 - 0.1
≥18 years	0.0 - 0.1	0.0 - 0.1

Nucleated Red Blood Cell Count, NRBC (%)		
	Male	Female
Age	Normal Range	Normal Range
0 - 3 days	0 - 27.0	0 - 33.9
4 - 7 days	0 - 4.4	0 - 2.1
8 - 14 days	0 - 1.0	0 - 0.8
15 - 30 days	0 - 1.0	0 - 0.6
31 - 60 days	0 - 0.6	0 - 0.4
61-180 days	0 - 0.2	0 - 0.2
181 days - <2 years	0 - 0.2	0 - 0.1
2-<6 years	0 - 0	0 - 0
6-<12 years	0 - 0	0 - 0
12-<18 years	0 - 0	0 - 0
≥18 years	0 - 0	0 - 0

Nucleated Red Blood Cell Count, NRBC (10^3 /µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 3 days	0 - 3.7	0 - 2.8
4 - 7 days	0 - 0.6	0 - 0.2
8 - 14 days	0 - 0.1	0 - 0.1
15 - 30 days	0 - 0.1	0 - 0.1
31 - 60 days	0 - 0.1	0 - 0.1
61-180 days	0 - 0	0 - 0
181 days - <2 years	0 - 0	0 - 0
2-<6 years	0 - 0	0 - 0
6-<12 years	0 - 0	0 - 0
12-<18 years	0 - 0	0 - 0
≥18 years	0 - 0	0 - 0

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Reticulocytes (%)		
	Male	Female
Age	Normal Range	Normal Range
0 - 3 days	3.5 - 5.4	3.5 - 5.4
4 - 7 days	1.0 - 3.6	0.5 - 4.7
8 - 14 days	0.5 - 5.8	0.8 - 9.9
15 - 30 days	0.7 - 4.7	0.4 - 5.5
31 - 60 days	1.1 - 6.4	1.0 - 4.6
61-180 days	1.0 - 3.0	1.3 - 3.6
181 days - <2 years	0.7 - 1.7	0.8 - 2.2
2-<6 years	0.7 - 1.8	0.8 - 2.0
6-<12 years	0.8 - 2.8	0.9 - 2.2
12-<18 years	0.8 - 2.2	0.8 - 2.0
≥18 years	1.0 - 2.4	0.9 - 3.1

Reticulocyte Count Absolute (10^9/µL)		
	Male	Female
Age	Normal Range	Normal Range
0 - 3 days	147 - 216	147 - 216
4 - 7 days	50 - 180	30 - 190
8 - 14 days	30 - 140	40 - 280
15 - 30 days	20 - 120	20 - 140
31 - 60 days	40 - 150	40 - 130
61-180 days	40 - 110	50 - 120
181 days - <2 years	30 - 80	40 - 90
2-<6 years	30 - 80	30 - 90
6-<12 years	40 - 120	40 - 90
12-<18 years	40 -90	40 - 90
≥18 years	45 - 123	35 - 126

Reference ranges for WBC Differential Percentage will not be reported per CAP recommendation.