
Haematology Reference Ranges

I. Purpose and Scope

This procedure lists the normal reference ranges used within the haematology laboratory.

II. Abbreviations and definitions

Hb	Haemoglobin
WCC	White Cell Count
PLT	Platelet Count
RCC	Red Cell Count
HCT	Haematocrit
MCV	Mean Cell Volume
MCH	Mean Cell Haemoglobin
MCHC	Mean Cell Haemoglobin Concentration
RDW	Red Cell Distribution Width
Neut	Neutrophils
Lymph	Lymphocytes
Mono	Monocytes
Eos	Eosinophils
Baso	Basophils
Retic	Reticulocytes

III. Tasks, responsibilities and authorisations

These reference ranges may be superseded due to method or other laboratory changes. It is the responsibility of trial organisers to ensure they use the current version of this document.

IV. Procedures

All results reported through the Laboratory Information System (LIMS) are reported with current reference range if appropriate. These reported ranges take account of sex and age differences where applicable.

Changes will always be highlighted on paper and electronic reports for a period after the change and where necessary via global Trust e-mail.

Reference ranges are available for the following tests.

- Full Blood Count

Full Blood Count

The normal ranges for a Full Blood count are dependent on age and sex



Full Blood Count

Female

Age	Hb	WCC	PLT	RCC	HCT	MCV	MCH	MCHC	RDW	Neut	Lymph	Mono	Eos	Baso	Retic
Up to	g/L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ¹² /L		fl	pg	g/L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L
1 Day	135- 215	5.0 –19.5	150-400	3.90-6.30	0.390-0.630	95-118	31.0-37.0	280-370	11.5-16.5	6.0-14.0	2.5-16.5	0.2-0.8	0.2-0.8	0.01-0.1	20-80
3 Days	135-215	5.0-19.5	150- 400	3.90-6.30	0.390-0.630	95-118	31.0-37.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.8	0.01-0.1	20-80
7 Days	135-215	5.0-19.5	150- 400	3.90-6.30	0.390-0.630	88-122	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.6	0.01-0.1	20-80
14 Days	125 -205	5.0-19.5	150- 400	3.60-6.20	0.390-0.630	85-123.	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.6	0.01-0.1	20-80
1 Month	100 -180	5.0-19.5	150- 400	3.10-4.50	0.310-0.550	85-123	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
2 Month	90-140	6.0-17.5	150- 400	3.10-4.50	0.290-0.410	77-115	26.0-34.0	280-370	11.5-16.5	1.0-8.5	4.0-13.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
6 Month	95-135	6.0-17.5	150- 400	3.10-4.50	0.290-0.410	74-108	25.0-35.0	280-370	11.5-16.5	1.0-8.5	4.0-13.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
1 Year	105-135	6.0-17.5	150- 400	3.70-5.30	0.340-0.410	70-86	23.0-31.0	280-370	11.5-16.5	1.5-8.5	4.0-10.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
2 Year	105-135	6.0-17.0	150- 400	3.70-5.30	0.340-0.410	70-86	23.0-31.0	280-370	11.5-16.5	1.5-8.5	3.0-9.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
4 Years	115-135	5.5-15.5	150- 400	4.00-5.20	0.340-0.410	75-87	24.0-31.0	310-360	11.5-16.5	1.5-8.5	2.0-8.0	0.2-0.8	0.1-0.5	0.01-0.1	20-80
6 Years	115-135	5.0-14.5	150- 400	4.00-5.20	0.340-0.410	75-87	24.0-31.0	310-360	11.5-16.5	1.8-8.0	1.5-7.0	0.2-0.8	0.1-0.5	0.01-0.1	20-80
10 Years	115-155	4.5-13.5	150- 400	4.00-5.20	0.350-0.450	77-95	25.0-33.0	310-360	11.5-16.5	1.8-8.0	1.5-6.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
12 Years	115-155	4.0-13.0	150- 400	4.00-5.20	0.350-0.450	77-95	25.0-33.0	310-360	11.5-16.5	2.0-7.7	1.2-5.2	0.2-0.8	0.04-0.4	0.01-0.1	20-80
16 Years	120-160	4.0-13.0	150- 400	4.00-5.20	0.360-0.460	78-98	25.0-35.0	310-360	11.5-16.5	2.0-7.7	1.2-5.2	0.2-0.8	0.04-0.4	0.01-0.1	20-80
18 Years	120-160	4.0-11.0	150- 400	4.00-5.20	0.360-0.460	78-98	25.0-35.0	310-360	11.5-16.5	2.0-7.7	0.8-3.4	0.2-0.8	0.04-0.4	0.01-0.1	20-80
150 Years	120-160	4.0-11.0	150- 400	4.00-5.20	0.360-0.460	80-100	26.0-34.0	310-360	11.5-16.5	2.0-7.7	0.8-3.4	0.2-0.8	0.04-0.4	0.01-0.1	20-80



Full Blood Count

Male

Age	Hb	WCC	PLT	RCC	HCT	MCV	MCH	MCHC	RDW	Neut	Lymph	Mono	Eos	Baso	Retic
Up to	g/L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ¹² /L		fl	pg	g/L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L	x 10 ⁹ /L
1 Day	135-215	5.0-19.5	150-400	3.90-6.30	0.390-0.630	95-118	31.0-37.0	280-370	11.5-16.5	6.0-14.0	2.5-16.5	0.2-0.8	0.2-0.8	0.01-0.1	20-80
3 Days	135-215	5.0-19.5	150-400	3.90-6.30	0.390-0.630	95-118	31.0-37.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.8	0.01-0.1	20-80
7 Days	135-215	5.0-19.5	150-400	3.90-6.30	0.390-0.630	88-122	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.6	0.01-0.1	20-80
14 Days	125-205	5.0-19.5	150-400	3.60-6.20	0.390-0.630	85-123	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.6	0.01-0.1	20-80
1 Month	100-180	5.0-19.5	150-400	3.10-4.50	0.310-0.550	85-123	28.0-40.0	280-370	11.5-16.5	1.0-9.0	2.5-16.5	0.2-0.8	0.2-0.6	0.01-0.1	20-80
2 Month	90-140	5.0-19.5	150-400	3.10-4.50	0.290-0.410	77-115	26.0-34.0	280-370	11.5-16.5	1.0-8.5	4.0-13.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
6 Month	95-135	6.0-17.5	150-400	3.10-4.50	0.290-0.410	74-108	25.0-35.0	280-370	11.5-16.5	1.0-8.5	4.0-13.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
1 Year	105-135	6.0-17.5	150-400	3.70-5.30	0.340-0.410	70-86	23.0-31.0	280-370	11.5-16.5	1.5-8.5	4.0-10.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
2 Year	105-135	6.0-17.0	150-400	3.70-5.30	0.340-0.410	70-86	23.0-31.0	280-370	11.5-16.5	1.5-8.5	3.0-9.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
4 Years	115-135	5.5-15.5	150-400	4.00-5.20	0.340-0.410	75-87	24.0-31.0	310-360	11.5-16.5	1.5-8.5	2.0-8.0	0.2-0.8	0.1-0.5	0.01-0.1	20-80
6 Years	115-135	5.0-14.5	150-400	4.00-5.20	0.340-0.410	75-87	24.0-31.0	310-360	11.5-16.5	1.8-8.0	1.5-7.0	0.2-0.8	0.1-0.5	0.01-0.1	20-80
10 Years	115-155	4.5-13.5	150-400	4.00-5.20	0.350-0.450	77-95	25.0-33.0	310-360	11.5-16.5	1.8-8.0	1.5-6.5	0.2-0.8	0.1-0.5	0.01-0.1	20-80
12 Years	115-155	4.0-13.0	150-400	4.00-5.20	0.350-0.450	77-95	25.0-33.0	310-360	11.5-16.5	2.0-7.7	1.2-5.2	0.2-0.8	0.04-0.4	0.01-0.1	20-80
16 Years	135-175	4.0-13.0	150-400	4.50-5.90	0.410-0.530	78-98	25.0-35.0	310-360	11.5-16.5	2.0-7.7	1.2-5.2	0.2-0.8	0.04-0.4	0.01-0.1	20-80
18 Years	135-175	4.0-11.0	150-400	4.50-5.90	0.410-0.530	78-98	25.0-35.0	310-360	11.5-16.5	2.0-7.7	0.8-3.4	0.2-0.8	0.04-0.4	0.01-0.1	20-80
150 Years	135-175	4.0-11.0	150-400	4.50-5.90	0.410-0.530	80-100	26.0-34.0	310-360	11.5-16.5	2.0-7.7	0.8-3.4	0.2-0.8	0.04-0.4	0.01-0.1	20-80