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# HAEMATOLOGY ADULT REFERENCE RANGES

**YOU MUST ENSURE YOU ARE WORKING TO A CURRENT VERSION OF THIS DOCUMENT**

<b>Haematology</b>			
<b>Full Blood Count</b>	<b>Male</b>	<b>Female</b>	<b>Units</b>
Haemoglobin	130 – 171	115 - 154	g/L
Red Cell Count	3.9 – 5.77	3.69 – 5.21	x10 <sup>12</sup> /L
Haematocrit	0.37 – 0.52	0.35 – 0.48	l/l
Mean Cell Volume	83 – 103	81 - 102	fL
Mean Cell Haemoglobin	27 – 34	27 – 34	pg
Mean Cell Haemoglobin Concentration	304 - 353	298 - 340	g/L
Red Cell Distribution Width (RDW-CV)	12.2 – 14.8		%
Platelets	150 – 400		x10 <sup>9</sup> /L
Mean Platelet Volume	9-12		fL
Immature Platelet Fraction	0.9 – 11.2		%
Platelet Distribution Width	9-16		fL
White Cell Count	3.26 – 11.2	3.0 – 10.9	x10 <sup>9</sup> /L
<b>Differential</b>			
Neutrophils	1.5 – 7.0	1.5 – 7.1	x10 <sup>9</sup> /L
Lymphocytes	0.5 – 4.0	0.6 – 4.0	x10 <sup>9</sup> /L
Monocytes	0.3 – 0.9	0.24 – 0.9	x10 <sup>9</sup> /L
Eosinophils	0.03 – 0.61	0.03 – 0.51	x10 <sup>9</sup> /L
Basophils	0.05 – 0.1	0.05 – 0.1	x10 <sup>9</sup> /L
Retic Count	46 - 105	33 - 102	x10 <sup>9</sup> /L
Retic He	25.9 - 38		pg
Immature Reticulocyte Fraction (IRF)	1.9-17.8		%
<b>ESR</b>			
17-50 years	2 – 10	2 – 12	mm/hour
50-60 years	2 – 12	2 – 19	mm/hour
>60	2 – 19	2 – 22	mm/hour
<b>Plasma Viscosity</b>			
PV	1.50 - 1.72		mPa's
<b>Glucose-6-Phosphate Dehydrogenase</b>			
G6PD	8.8 - 12.8		IU/gHb
<b>Glycated Haemoglobin</b>			
HbA1c	20-42		mmol/mol
<b>Haemoglobinopathy</b>			
Hb A2	1.5 - 3.5		%
Hb F (Non Pregnant Adult)	0.1 – 1.6		%
Hb F (Pregnant Adult)	<5.0		%
Any amount of any variant other than Hb A, Hb A2 or HbF is abnormal			

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Coagulation	Male	Female	Units
INR	0.9 – 1.2		Ratio
PT	0.8 – 1.2 9 – 13		Ratio seconds
PTT	0.8 – 1.2 24 – 35		Ratio seconds
Fibrinogen	2.0 – 5.0		g/L
D-Dimer	≤243		ng/ml
Thrombin Time	0.8-1.2		Ratio
Anti-Xa assay			
Therapeutic Range	0.1 – 0.3		IU/ml
Prophylactic Range	0.6 – 1.0		
<b>Factor Assays</b>			
FII	87 – 129		u/dl
FV	66 – 135		%
FVII	66 – 170		%
FVIII	57 – 158		%
FIX	82 – 166		%
FX	76 – 171		%
FXI	70 – 164		%
FXII	64 – 183		u/dl
Chromogenic Factor VIII (Bovine)	0.67-1.44		u/ml
<b>von Willebrand Screen</b>			
Ristocetin Co-Factor (vWF:RCo)	47 – 154		%
von Willebrand Factor Antigen (vWF:Ag)	48 – 175		%
Von Willebrand Factor Collagen Binding Activity (vWF:CBA)	42-259		u/dl
<b>Thrombophilia Screen</b>			
Protein C	65-171		u/dl
Free Protein S	74 – 139	55-125	u/dl
Antithrombin	83 – 127		u/dl
Lupus DRVVT Screen Ratio	0.76-1.26		Ratio
Lupus Normalised Ratio	0.84 – 1.16		Ratio
<b>Miscellaneous Tests</b>			
HIT Screen	<0.4 Negative; >0.4 – 1.0 weak positive; >1.0 Positive		OD
ADAMTS13 Activity	38 – 110		%
ADAMTS13 Inhibitor (IgG)	<12 Negative 12-15 Borderline >15 Positive		u/ml
Bethesda Assay (Human and Porcine)	Negative <0.6 Low titre inhibitor <5.0 High-titre inhibitor >5.0		BU/ml

FBC Ranges adapted from B Bain Blood Cells-A Practical Guide 5th Ed and J.V Dacie & S.M Lewis Practical Haematology 12<sup>th</sup> Edition and following verification of new method.

Measurement Uncertainty of measured quality values available on request from Laboratory.