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## HAEMATOLOGY ADULT REFERENCE RANGES

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

Haematology			
Full Blood Count	Male	Female	Units
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
Differential			
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		%
ESR			
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
Plasma Viscosity			
PV	1.50-1.72		mPa's
Glucose-6-Phosphate Dehydrogenase			
G6PD	8.8 - 12.8		IU/gHb
Glycated Haemoglobin			
HbA1c	20-42		mmol/mol
Haemoglobinopathy			
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
Prothrombin Time (PT)	10-14		Seconds
INR	0.8 – 1.2		Ratio
Partial Thromboplastin Time	23-34		Seconds
Partial Thromboplastin Time Ratio (APTT)	0.8-1.2		Ratio
Fibrinogen	1.5-4.1		g/L
D-Dimer	<250		ng/ml
Thrombin Time	0.8-1.2		Ratio
Anti-Xa assay	Dose dependent. Discuss with Haematology Registrar		
<b>Factor Assays</b>			
FII	87 – 129		u/dl
FV	66 – 135		u/dl
FVII	66 – 170		u/dl
FVIII	57 – 158		u/dl
FIX	82 – 166		u/dl
FX	76 – 171		u/dl
FXI	70 – 164		u/dl
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		u/dl
von Willebrand Factor Antigen (vWF:Ag)	48 – 175		u/dl
Von Willebrand Factor Collagen Binding Activity (vWF:CBA)	57-164		IU/dL
<b>Thrombophilia Screen</b>			
Protein C Function	65 – 171		u/dl
Free Protein S	75 – 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 (ELISA)	<0.4 Negative; >0.4 – 1.0 weak positive; >1.0 Positive		OD
HIT Screen (AcuStar)	0.0-0.99		IU/mL
ADAMTS13 Activity (ELISA)	38 – 110		%
ADAMTS 13 Activity (AcuStar)	62-118		IU/dL
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
Emicizumab Assay	40 – 60		µg/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