



ACP ACADEMY UK BLOODS REFERENCE RANGES

BIOCHEMISTRY REFERENCE RANGES

Test	Reference Range		Units
Albumin	Adult Male Adult Female	35 – 50 35 – 50	g/L
Alkaline Phosphatase	Adult Male Adult Female	30 – 130 30 – 130	IU/L
ALT	Adult Male Adult Female	<41 <34	IU/L
AFP	Adult Male Adult Female	<6 <6	IU/ml
AST	Adult Male Adult Female	<41 <33	IU/L
Bilirubin total	Adult Male Adult Female	<21 <21	umol/L
CA125	Adult Female	<36	KU/L
CA153	Adult Female	<29	KU/L
CA199	Adult Male Adult Female	<35 <35	KU/L
Calcium *	Male Female	2.10 – 2.55 2.10 – 2.55	mmol/L

CEA	Adult Male Adult Female	<3.9 <3.9	ng/ml
Cholesterol (total)	Male Female	<5.0 <5.0	mmol/L
CK	Male Female	40 – 320 25 – 200	IU/L
CKMB	Male Female	<26 <26	IU/L
Creatinine	Adult Male Adult Female	62 – 106 44 – 80	umol/L
CRP	Male Female	<5.0 <5.0	mg/L
Free T3	Adult Male Adult Female	3.1 – 6.8 3.1 – 6.8	pmol/l
Free Thyroxine (FT4)	Adult Male Adult Female	12.0 – 22.0 12.0 – 22.0	pmol/l
FSH	Adult Male Adult Female: Follicular Ovulatory Luteal Post – Menopausal	1.5 – 12.4 3.5 – 12.5 4.7 – 21.5 1.7 – 7.7	U/L

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Test	Reference Range		Units
GGT	Adult Male Adult Female	8–61 5–36	IU/L
Glucose (Fasting)	Male Female	4.1–6.0 4.1–6.0	mmol/L
HCG (Intact + Beta)	Adult Male Adult Female	0–2 <3 Negative 3–25 Equivocal >25 Positive	IU/L
HDL Cholesterol	Male Female	0.9–1.5 1.2–1.7	mmol/L
LDH	Adult Male Adult Female	<251 <251	IU/L
LH	Adult Male Adult Female: Follicular Ovulatory Luteal Post–Menopausal	1.7–8.6 2.4–12.6 14.0–95.6 1.0–11.4 7.7–58.5	U/L
Magnesium	Adult Male Adult Female	0.7–1.0 0.7–1.0	mmol/L
Oestradiol	Male: Female: Follicular Ovulation Luteal Postmenopausal	<159 114–332 222–1959 222–854 <506	pmol/L
Phosphate	Adult Male Adult Female	0.8–1.5 0.8–1.5	mmol/L
Potassium	Adult Male Adult Female	3.5–5.3 3.5–5.3	mmol/L
Progesterone	Adult Female Follicular Ovulation Luteal Post–Menopausal	<0.7 <13.3 13.1–46.3 <0.6	nmol/L
PSA	3–39 years 40–49 years 50–59 years 60–69 years ≥70 years	<1.5 <2.1 <3.2 <4.2 <4.5	ug/l
Sodium	Male Female	133–146 133–146	mmol/L
SHBG	Adult Male: 20–49 years >50 years Adult Female: 20–49 years >50 years	18.3–54.1 20.6–76.7 32.4–128 27.1–128	nmol/L
Testosterone	Adult Male: 20–49 years >50 years Adult Female: 20–49 years >50 years	8.64–29.0 6.68–25.7 0.3–1.7 0.1–1.4	nmol/l
Thyroid Stimulating Hormone (TSH)	Adult Male Adult Female	0.27–4.20 0.27–4.20	mU/l
Total Protein	Adult Male Adult Female	60–80 60–80	g/L
Triglycerides	Adult Male Adult Female	<1.7 <1.7	mmol/L
Troponin T	Adult Male: Adult Female:	<15 <15	ng/L
Urea	Adult Male Adult Female	2.5–7.8 2.5–7.8	mmol/L

HAEMATOLOGY REFERENCE RANGES

FULL BLOOD COUNT REFERENCE RANGE FOR ADULTS

Test	Units	Adult Male Range	Adult Female Range	Test	Units	Adult Male Range	Adult Female Range
HGB	g/L	130–170	120–150	MPV	fL	9.0–12.0	9.0–12.0
HCT	L/L	0.40–0.50	0.36–0.46	WBC	X 10 ⁹ /L	4.0–10.0	4.0–10.0
RBC	X 10 ¹² /L	4.5–5.5	3.8–4.8	NEUT #	X 10 ⁹ /L	2.0–7.0	
*MCV	fL	81–101	81–101	LYMPH #	X 10 ⁹ /L	1.0–3.0	
MCH	pg	27–32	27–32	MONO #	X 10 ⁹ /L	0.2–1.0	
MCHC	g/L	315–345	315–345	EOSINO #	X 10 ⁹ /L	0.02–0.5	
RDW	%	11.6–14.0	11.6–14.0	BASO #	X 10 ⁹ /L	0.02–0.1	
PLAT	X 10 ⁹ /L	150–410	150–410	Reticulocytes	X 10 ⁹ /L	50–100	

THERAPEUTIC INR RANGE FOR PATIENTS ON WARFARIN

INR	Condition/Indication
2–3	AF, VTE
2.5–3.5	MRV, AVR, Recurrent thromboembolism

ERYTHROCYTE SEDIMENTATION RATE (ESR)

Age	Male Range	Female Range - ESR (mm/hr)
1–16 Years	0–20	
17–50 years	0–10	0–12
51–60 years	0–12	0–19
61–70 years	0–14	0–20
> 70 years	0–30	0–35