ROTUNDA HOSPITAL DEPARTMENT OF LABORATORY MEDICINE

Haematology Active Test Repertoire Table LF-GEN-0068 Ed 05

Haematology Tests available at the Rotunda Hospital Haematology Department

Active Date: April 2023 **Contact phone number: 1464**

No.	Test	Specimen Volume	Special Precautions	Turnaround Time	Reference Ranges**	INAB Accredited Test Reg No. 208MT
1.	Reticulocyte count	(Adult) 3 ml K_3EDTA (Baby) 1.3ml K_3EDTA	Also requires a FBC result.	Routine: 24 Urgent- 1 Hr Automated	Adults: *** Pregnant:50-150x 10^9/L Non-pregnant:35.2 – 122.8 x 10^9/L Babies: Automated < 1 Day: 110-450x 10^9/L 2-7 Days: 10-80x10^9/L 7 Dys-1 Months: 10-80x10^9/L	✓
2.	Fibrinogen (Adult) (Baby)	1 part 3.2% Na Citrate 9 parts blood Adult vol.= 3 ml Baby vol.= 1.3 ml	Interference: Heparin >1µ.ml, Hb> 150 mg/dL Trigs >1022 mg/dL, Billi> 19.6 mg/dL Test plasma within 4 hours of specimen collection.	Routine: 2 hr Urgent: 60 mins Urgent Code Red/ MOH: 45 mins	Adults: Normal: 1.5-4.0 g/L Pregnant: 2.0- 6.0 g/L Babies(Term****): 1 Day: 1.71-3.41 g/L 2-5 Days: 1.81-3.41 g/L	✓
3.	Activated Partial Thromboplastin Time (APTT)	1 part 3.2% Na Citrate 9 part blood Adult vol.= 3 ml Baby vol. = 1.3 ml	Inform lab if patient is on anticoagulant therapy. Test plasma within 4 hours of specimen collection. Haemolysed samples should not be processed. Volume of blood to citrate critical Take samples from patients on heparin drips above the drip or opposite arm.	Routine - 2 hr Urgent: 60 mins Urgent Code Red/ MOH: 45 mins	Adults: 25.3 – 36.3 sec Babies (Term****): Day 1: 37.1-48.74 sec Day 5: 33.9-51.2 sec Day 30: 32.3-47.8 sec Day 90: 30.6-43.67 sec	✓

Ref: LP-GEN-0007

No.	Test	Specimen Volume	Special Precautions	Turnaround Time	Reference Ranges**	INAB Accredited Test Reg No. 208MT
4.	International normalised ratio (Adult only for patients on warfarin (INR)	1 part 3.2% Na Citrate 9 parts blood	Test plasma within 4 hours of collection. ISI is derived from manufacturer's instructions. Interference: Heparin>2 U/dl Haemolysed Specimens should not be processed. Volume of blood to anticoagulant critical.	Routine - 2 hr Urgent: 60 mins Urgent Code Red/ MOH: 45 mins	Therapeutic Range as per BSCH guidelines. Target ranges available corresponding to clinical conditions	✓
5.	Prothrombin Time (PT)	1 part 3.2% Na Citrate 9 part blood Adult vol.= 3mls Baby vol = 1.3ml	Test within 4 hours of specimen collection. Notify lab if patient is on anticoagulant therapy. Interferences: Haemolysed samples, Lipaemic samples	Routine - 2 hr Urgent: 60 mins Urgent Code Red/ MOH: 45 mins	<u>Adults: 9.6-12.3s</u> <u>Babies (Term****):</u> Day 1: -11.6-14.4-sec Day 5: -10.9-13.9 sec Day 30:-10.6-13sec Day 90:-11.5-13.1 sec	✓
6.	Lupus Anticoagulant (LA) Adult Only	1 part 3.2% Na Citrate 9 part blood Adult vol.= 6 ml (2 x 3 mls)	**Complete Thrombophilia request form if Required.** **IUD bloods for lupus must be sent at least 8 weeks post IUD.** Send sample as soon as possible, within one hour to allow processing and freezing within 4 hours. Do not send to lab after 15.30pm Stored frozen at –80°C	4-6 weeks (Batched) Urgent on consultant request	<u>Reported as Positive or negative.</u> Positives must be confirmed by repeat testing at least 12 weeks apart to confirm positively.	✓

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7.	Malaria Screen: Malarial antigen screen Film examination	3ml K_3EDTA	**Clinical details, travel details and any chemoprophylaxis and/or treatment. These details are essential for correct speciation.** Collect sample during periods of pyrexia. Test as soon as possible after collection. . Malarial antigen Screen available on call.	Provisional report: Same day Urgent 1-2hrs Full report: 24-48hrs Urgent: only if RDT is positive 1-2hrs If sample is sent for confirmation to London School of Tropical Medicine TAT is 1-2 weeks	Pos/ Neg RDT test Residual plasmodium antigen may be detected for several days following elimination of the parasite by anti-malarial treatment. Detection of Malarial parasites	✓
8.	Kleihauer Test	3ml K_3EDTA	Not tested for patients <20 weeks gestation (NICE guideline) Sample to be taken at least 30 min's post event and preferably within 24 hrs. Additional Anti-D must be administered within 72 hours of sensitising event if required. State clinical details, gestation and rhesus status on request form.	Routine – 1-2 Days Urgent – Same Day	For RhD Negative patients with positive Keilhauer tests inform Blood Transfusion If >8mL in Rh D negative patient maybe referred for flow	Refer to report for accreditation status

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9.	Full Blood count with differential and /or film review	Adult 3ml K_3EDTA Baby: 1.3ml K_3EDTA	Analyse within 24 hours if possible. Store at 4C if testing is delayed Make film within 8 hours (For NICU HB and HCT results will be available provisionally on LIMS and Powerchart).	Mon-Fri 3 pm Routine Outpatients - 24 hours Inpatients: 2-4 hours Urgent – 30 min's To include manual differential – 1 hr	WCC* RCC* Hb* Plts* HCT* MCV* MCH* MCHC* RDW* Neut* Lymph* Mono*, Eos*	✓
	Consultant Blood Film review	Adult 3ml K_3EDTA Baby: 1.3ml K_3EDTA	Make film within 8 hours **NB** Film review must be accompanied with relevant clinical, for paediatric patients complete RF-HAEM-003 Paediatric Films are sent to OLCH for review and adult blood films are reviewed on site	Consultant Blood film review: Urgent: contact consultant /Specialist reg. Routine: 1- 3 days or Result available on request from testing Hospital i.e. OLCH		

No.	Test	Specimen Volume	Special Precautions	Turnaround Time	Reference Ranges**	INAB Accredited Test Reg No. 208MT
10.	Sickle Screen Adults Only (Sickle Dex Test)	Adult 3ml K_3EDTA	Analyse within 24hours if possible	Same Day	Positive/Negative Will not differentiate between sickle disease and trait.	✓
11.	Haemoglobinopathy Screen	Adult: 3ml K_3 EDTA and 1 clotted blood Babies: : 3ml K3 EDTA Cord Samples or 1.3 ml K_3 EDTA peripheral paediatric samples		Batched at least weekly Abnormal requiring conformation: 4-6 weeks	Hb A_2: - 1.6-3.6 % Hb F: - 0.0-1.5 % Cords: Presence of A and F fractions only considered normal.	✓

Note: If the test required is not listed here please refer to Appendix No. 3.

**** Many of these reference ranges are age and gender specific and therefore quite extensive.** Ranges will be available on laboratory reports of via request from Haematology laboratory.

***** Reticulocyte ref ranges are dependent on the methodology used.** The ranges quoted above are for the automated method. Refer to LIS or printed report for appropriate ref range. If an alternative testing method is used the appropriate range will be reported with the result. .

FBC Ranges for Pregnant Patients (sourced internally):

WCC	5-16	X 10^9/L
HB	100-160	g/L
MCV	80-102	fL
MCH	26-34	pg
PLT	150-450	X 10^9/L
HCT	0.3-0.47	L/L
NEUT	2-13.5	X 10^9/L
LYPMHS	1-5	X 10^9/L

FBC Reference Ranges, source, Great Ormond Street Hospital for Children NHS Trust

TEST	UNITS	AGE	VALUE
Total White Cell Count and Differential	X 10^9/L	Day 1-7	10.0-26.0
		Week 1 – Year 1	6.0-18.0
		Year 2 – Year 8	5.0-15.0
		Year 9 – Year 13	1.5-13.5
		Adult	4.0-11.0
Neutrophils	X 10^9/L	Year 0 – Year 2	1.0-8.5
		Year 3 – Year 6	1.5-8.5
		Year 7 – Year 12	1.5-8.0
		Year 13 – Year 16	1.8-8.0
		Adult	2.0-7.0
Lymphocytes	X 10^9/L	Year 0 – Year 2	3.0-13.5
		Year 3 – Year 6	2.0-9.5
		Year 7 – Year 12	1.5-7.0
		Year 13 – Year 16	1.2-5.2
		Adult	1.0-3.0
Monocytes	X 10^9/L	Year 0 – Year 6	0.3-1.5
		Year 7 – Year 16	0.1-0.8
		Adult	0.2-1.0
Eosinophils	X 10^9/L	Year 0 – Year 2	0.1-0.3
		Year 3 – Year 6	0.3-0.8
		Year 7 – Year 16	0.1-0.8
		Adult	0.02-0.5
Basophils	X 10^9/L	Year 0 – Year 16	0-0.2
		Adult	0.02-0.1

TEST	UNITS	AGE	SEX	VALUE
Red Cell Count	X 10^{12}/L	1 Day	Male	3.9-5.3
			Female	3.9-5.3
		Day 2-3	Male	4.0-6.6
			Female	4.0-6.6
		Day 4-7	Male	3.9-6.3
			Female	3.9-6.3
		Week 2	Male	3.6-6.2
			Female	3.6-6.2
		Week 3-4	Male	3.0-5.4
			Female	3.0-5.4
		Week 5-8	Male	2.7-4.9
			Female	2.7-4.9
		Week 9-13	Male	3.1-4.5
			Female	3.1-4.5
		Week 14 – Year 2	Male	3.7-5.3
			Female	3.7-5.3

		Adult	Male	4.5-5.9
			Female	4.0-5.2
Haemoglobin	g/l	Day 0-2	Male	135-195
			Female	135-195
		Day 2-4	Male	145-225
			Female	145-225
		Day 5-8	Male	135-215
			Female	135-215
		Day 9-21	Male	125-205
			Female	125-205
		Day 22-35	Male	100-180
			Female	100-180
		Week 6-9	Male	90-140
			Female	90-140
		Week 10- Month 18	Male	100-135
			Female	100-135
		Month 19 – Year 3	Male	105-135
			Female	105-135
		Adult	Male	135-165
			Female	120-160
Haematocrit	L/L	Day 0-2	Male	0.42-0.60
			Female	0.42-0.60
		Day 3-4	Male	0.45-0.67
			Female-	0.45-0.67
		Day 5-8	Male	0.42-0.66
			Female	0.42-0.66
		Week 2-3	Male	0.39-0.63
			Female	0.39-0.63
		Week 4-5	Male	0.31-0.55
			Female	0.31-0.55
		Week 6-7	Male	0.34-0.40
			Female	0.34-0.40
		Week 8-9	Male	0.28-0.42
			Female	0.28-0.42
		Week 10-14	Male	0.29-0.41
			Female	0.29-0.41
		Week 15-Year 3	Male	0.33-0.39
			Female	0.33-0.39
		Year 4-13	Male	0.35-0.45
			Female	0.35-0.45
		Year 14-19	Male	0.37-0.49
			Female	0.36-0.46
		Adult	Male	0.41-0.51
			Female	0.36-0.46
Mean Cell Volume	fl	Day 0-2	Male	98-118
			Female	98-118
		Day 3-4	Male	95-121
			Female-	95-121
		Day 5-8	Male	88-126
			Female	88-126

		Day 9-21	Male	86-124
			Female	86-124
		Week 4-5	Male	85-123
			Female	85-123
		Week 6-9	Male	77-115
			Female	77-115
		Week 10-14	Male	74-118
			Female	74-118
		Week 14-Year 3	Male	70-86
			Female	70-86
		Year 4-7	Male	75-87
			Female	75-87
		Year 8-13	Male	77-94
			Female	77-94
		Year 14-19	Male	78-98
			Female	78-102
		Adult	Male	80-100
			Female	80-100
Mean Cell Haemoglobin	pg	Day 0-4	Male	31-37
			Female	31-37
		Day 5-Week 5	Male	28-40
			Female	28-40
		Week 6-9	Male	26-34
			Female	26-34
		Week 10-14	Male	25-35
			Female	25-35
		Week 15-Year 3	Male	23-31
			Female	23-31
		Year 4-7	Male	24-30
			Female	24-30
		Year 8-13	Male	25-33
			Female	25-33
		Year 14-19	Male	25-35
			Female	25-35
		Adult	Male	26-34
			Female	26-34
Mean Cell Haemoglobin Concentration	g/l	Day 1	Male	300-330
			Female	300-330
		Day 2-3	Male	290-340
			Female-	290-340
		Day 4-Week 2	Male	280-350
			Female	280-350
		Week 3-8	Male	290-340
			Female	290-340
		Week 9-Year 2	Male	300-330
			Female	300-330
		Year 3 - Adult	Male	315-370
			Female	315-370
Red Cell Distribution Width	%		Male	11.0-16.0
			Female	11.0-16.0

Platelet Count	X 10^9/L	All ages	Male	150-450
			Female	150-450
Mean Platelet volume	fl	All ages	Male	7.8-11.0
			Female	7.8-11.0
NRBC	X 10^9/L	0-8D	Male :Female	0.03-5.4
		08D-1M M-99Y	Male :Female	0-0.11 0.0