



Monash Health
Pathology

Pathology Reference Interval Master List

Table of Contents

Anatomical Pathology	3
Chemical Pathology	4
Reference intervals for blood gas analysis (Radiometer).....	22
Reference intervals for blood gas analysis (i-STAT).....	23
Haematology	25
Immunology	38
Microbiology	39

Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 2 of 45

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Anatomical Pathology

Breast HER2 SISH Scores Scoring criteria (ASCO/CAP 2018 recommendations)	
Group 1: Classic HER2 amplified cancer	HER-2 / Ch17 ratio ≥ 2 ; Mean Her 2 copy number ≥ 4 ; Positive
Group 2: Monosomy 17	HER-2 / Ch17 ratio ≥ 2 ; Mean Her 2 copy number < 4 ; Negative, unless concurrent IHC 3+
Group 3: Co-amplification, previously polysomy 17	HER-2 / Ch17 ratio < 2 ; Mean Her 2 copy number ≥ 6.0 ; Negative, unless concurrent IHC 2+ or 3+
Group 4: Borderline/Equivocal	HER-2 / Ch17 ratio < 2 ; Mean Her 2 copy number ≥ 4.0 and < 6.0 ; Negative, unless concurrent IHC 3+
Group 5 : Classic HER2 non amplified cancer	HER-2 / Ch17 ratio < 2 ; Mean Her 2 copy number < 4.0 ; Negative

Gastric HER2 SISH Scores Scoring criteria (ASCO/CAP recommendations)	
Her-2 SISH / Ch 17 ratio ≤ 2	Non Amplified
Her-2 SISH / Ch 17 ratio > 2	Amplified

Lung carcinoma PDL1 (SP263) Ventana Benchmark Ultra	
Tumour cells stained (SP263) staining category	$< 1\%$
	1-50%
	$> 50\%$

Cytology BAL Differential cell count	Reference Range
Macrophages	$> 85\%$
Lymphocytes	10-15 %
Neutrophils	0-3 %
Eosinophils	0-1%

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Chemical Pathology

Test	Unit	Male		Female		Start date	Reference
3-HYDROXYBUTYRATE, whole blood	nmol/L		< 0.6		< 0.6	1/3/2002	(1)
17-OH PROGESTERONE (17OHP), serum	nmol/L	<1y	0 – 5.0	<1y	0 – 5.0		(3, 4)
		1y to <12y	0 – 2.0	1y-12y	0 – 2.0		
		≥12y	0.6 – 4.0	≥12y	0.6 – 2.0	17/6/2015	
				Luteal phase	0.7 – 7.0		
ALPHA-1-ANTITRIPSIN (A1AT), serum	g/L	<1y	0.9 – 2.1	<1y	0.9 – 2.1		(5)
		1y to <70y	1.0 – 2.4	1y to <70y	1.0 – 2.4	18/7/2018	
		≥70y	1.0 – 2.8	≥70y	1.0 – 2.8		
ANGIOTENSIN CONVERTING ENZYME (ACE), serum	U/L	<18y	10 - 90	<18y	10 - 90	18/10/2018	(8)
		≥18y	20 - 70	≥18y	20 - 70		
ACETAMINOPHEN (PARACETAMOL), serum	umol/L	No reference interval available. For guidelines, refer to: Nomogram & treatment guide: MJA 2020; 212: 175-183				N/A	(9)
ACTH, plasma	pmol/L		< 10		< 10	31/7/2019	(10)
ALPHA FETOPROTEIN (AFP), serum	ug/L	≥ 1y	< 9.0	≥ 1y	< 9.0	28/11/2017	(11)
ALBUMIN, serum	g/L	< 61d	25 - 40	< 61d	25 - 40	2/8/2018	(12)
		≥ 61d	32 - 47	≥ 61d	32 - 47		
ALBUMIN, urine							(13)
ALBUMIN TO CREATININE RATIO (1 st morning spot urine preferred)	mg/mmol		<2.5		<3.5		
ALBUMIN EXCRETION- 24h urine	mg/day		<30		<30	23/5/2014	
ALBUMIN – timed urine	ug/min		<20		<20		
ALCOHOL (ETHANOL)	mmol/L		<2		<2	Pre 2000	(14)
ALDOSTERONE, plasma (Seated) (Immunoassay)	pmol/L		70 - 1090		70 - 1090		(15)
ALDOSTERONE RENIN RATIO (Seated)(Immunoassay)	pmol/mU		<70		<70	4/6/2018	
ALDOSTERONE (Seated) (Immunoassay) - post saline suppression tests	pmol/L		<170		<170	7/8/2023	(140)
ALDOSTERONE EXCRETION – 24h urine	nmol/d		3 – 78		3 – 78	8/5/2014	(15)
ALDOSTERONE_LCMS, plasma	pmol/L	<7d	100 -	<7d	100 -	7/8/2023	(144)

Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 4 of 45

This is a controlled document of Monash Health Pathology.
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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
(Seated)			2000		2000		
		7d to 1y	10 - 50000	7d to 1y	10 - 50000		
		1y to <10y	100 - 1500	1y to <10y	100 - 1500		
		≥ 10y	30 - 800	≥ 10y	30 - 800		
ALDOSTERONE_LCMS /RENIN RATIO, plasma (Seated)	pmol/mU		<50		<50	7/8/2023	144)
ALDOSTERONE (LCMS) (Seated) - post saline suppression tests	pmol/L		<160		<160		(140)
ALKALINE PHOSPHATASE (ALP), serum	U/L	<28d	80 - 550	<28d	80 - 550		(16)
		28d to <6m	120 - 650	28d to <6m	120 - 650		
		6m to <2y	120 - 450	6m to <2y	120 - 450		
		2 to <6y	120 - 370	2 to <6y	120 - 370		
		6 to <10y	120 - 440	6 to <10y	120 - 440		
		10 to <14y	130 - 530	10 to <14y	130 - 530	20/7/2018	
		14 to <15y	105 - 480	14 to <15y	105 - 480		
		15 to <17y	80 - 380	15 to <17y	80 - 380		
		17 to <19y	50 - 220	17 to <19y	50 - 220		
		19 to <22y	45 - 150	19 to <22y	45 - 150		
		>22 y	30 - 110	>22 y	30 - 110		
ALANINE AMINOTRANSFERASE (ALT), serum	U/L		5 - 40		5 - 35	29/11/2017	(6)
AMIKACIN – PRE- or Post-Dose, serum	mg/L	n/a					
AMMONIA	umol/L	16 - 50		16 - 50		30/11/2017	(17)
AMYLASE, serum	U/L		30 - 100		30 - 100		(18)
ANTI MULLERIAN HORMONE (AMH), serum	pmol/L	0 - 13d	250 - 1040	0 to <2m	1 - 24		(19-23)
		14d to <6m	420 - 1470	2m to <1y	4 - 30		
		6m to 2y	680 - 2330	1y to <5y	3 - 40		
		2y to 9y	240 - 1830	5y to <25y	7 - 50		
		9y to 18y	30 - 1370	25 to <30y	10 - 45	8/7/2016	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male	Female	Start date	Reference	
		>=18y	25 - 140	30 to <35y	4 - 45	
				35y to <40y	1 - 37	
		Male Tanner Stage Rangers		40 to <45y	0 - 20	
		Tanner G1:	260 – 1370	>=45y	0 - 8	
		Tanner G2:	70 – 1020			
		Tanner G3:	30 – 425			
		Tanner G4:	30 – 165			
		Tanner G5:	30 – 140			
		Tanner G5:	30 – 140			

COMMENT:

AMH is an objective measure of ovarian reserve and response to ovulation induction treatment. A graph to assist interpretation is available from the laboratory. An AMH of 35-45pmol/L indicates optimal fertility; 15-30 satisfactory fertility; 2-15 Low fertility; 0-2 Very low fertility; and >50 consistent with PCOS.

AMH may be useful to monitor AMH secreting granulosa cell tumours of the ovary in post-menopausal or ovariectomised women where levels should be <1 pmol/L. In cycling women, samples should be collected on Day 2-5 of the menstrual cycle and followed over time. From 8/7/2016 the AMH assay is performed on the Beckman Dxl analyser. (Harmonised to the Beckman Gen II Elisa).

ANTI THYROGLOBULIN AB, serum	IU/mL		<4.0		<4.0	7/8/2012	(24)
ANTI TPO ANTIBODIES, serum	IU/mL		<9.0		<9.0	7/8/2012	(25)
ANDROSTENDIONE, serum	nmol/L	0-6d	0.7 – 10.1	0-6d	0.7 – 10.1		(26)
		7d to <6m	0.2 – 2.8	7d to <6m	0.2 – 2.8		
		6m to <2y	0.1 – 0.5	6m to <2y	0.1 – 0.5	10/9/2015	
		2y to <4y	0.1 – 0.4	2y to <6y	0.1 – 0.7		
		4y to <6y	0.1 – 0.6	6y to <8y	0.1 – 1.0		
		6y o <10y	0.1 – 1.0	8y to < 10y	0.1 – 1.5		
		10y to <12y	0.2 – 1.4	10y to <12y	0.3 – 4.3		
		12y to <14y	0.3 – 2.2	12y to <14y	0.8 – 6.0	10/9/2015	
		14y to <16y	0.6 – 3.3	14y to <16y	1.4 – 7.0		
		16y to <18y	1.0 – 3.9	16y to <40y	1.2 – 7.4		
		18y to <40y	1.2 – 4.7	>=40y	0.5 - - 2.9		

Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 6 of 45

This is a controlled document of Monash Health Pathology.
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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		≥40y	0.8 – 3.5				
ASPARTATE AMINOTRANSAMINASE (AST), serum	U/L	0-20 d	30 - 90	0-20 d	30 - 90		(7, 139)
		21d to <1y	20 - 75	21d to <1y	20 - 75		
		1 to <14y	20 - 60	1 to <14y	20 - 60	16/10/2017	
		≥14y	5 - 35	≥14y	5 – 30		
BETA-2-MICROGLOBULIN, serum	mg/L	<20y	n/a	<20y	n/a		
		20y to <50y	1.2 – 2.5	20y to <50y	1.2 – 2.5	22/5/2013	(27)
		≥ 50y	1.4 – 3.2	≥ 50y	1.4 – 3.2		
BICARBONATE, serum	mmol/L	<2y	15 - 29	<2y	15 - 29		(16)
		2y to <10yr	17 - 30	2y to <10yr	17 - 30	4/12/2017	
		10 to <18y	20 - 32	10 to <18y	20 - 32		
		≥18y	22 - 32	≥18y	22 - 32		
BILIRUBIN TOTAL, serum	umol/L	0d	<150	0d	<150		neonates
		1d to <3d	< 200	1 to <3d	< 200		(28, 29)
		3d to <30d	<300	3 to <30d	<300		
		≥30d	<20	≥30d	<20	13/12/2017	(30)
BILIRUBIN – CONJUGATED, serum	umol/L	<28d	<10	<28d	<10	13/12/2017	(31, 32)
		≥28d	<5	≥28d	<5		
BILIRUBIN – UNCONJUGATED, serum	umol/L	≥28d	<15	≥4wk	<15	13/12/2017	(30, 32)
BRAIN NATURIURETIC PEPTIDE (BNP), plasma	ng/L		0-100		0-100		(144)
CAERULOPLASMIN, serum	g/L	0 to <2m	0.07 – 0.24	0 to <2m	0.07 – 0.24		Paediatrics:
		2m to <6m	0.14 – 0.33	2m to <6m	0.14 – 0.33		(33)
		6m to <1y	0.14 – 0.39	6m to <1y	0.14 – 0.39	18/7/2018	
		1y to <8y	0.22 – 0.43	1y to <8y	0.22 – 0.43		
		8y to <14y	0.21 – 0.40	8y to <14y	0.21 – 0.40		
		14y to <19y	0.22 – 0.43	14y to <19y	0.22 – 0.43		Adults:
		≥19y	0.22 – 0.58	≥19y	0.22 – 0.58		(34)
CALCIUM, CORRECTED, serum	mmol/L	<7 days	1.85 – 2.80	<7 days	1.85 – 2.80		(16)
		7d to <6m	2.20 – 2.80	7d to <6m	2.20 – 2.80	19/10/2017	
		6m to	2.20 –	6m to <2y	2.20 –		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		<2y	2.70		2.70		
		2y to <18y	2.20 – 2.65	2y to <18y	2.20 – 2.65		
		≥18y	2.10 – 2.60	≥18y	2.10 – 2.60		
CALCIUM, IONISED (PH7.4)	mmol/L		1.15 – 1.33		1.15 – 1.33		(35)
CALCIUM, spot urine	mol/mol	<1y	<1.5	<1y	<1.5		Paediatrics:
		1y to <2y	<1.25	1y to <2y	<1.25		(36)
		2y to <5y	<1.00	2y to <5y	<1.00	29/11/2017	
		5 to <10y	<0.70	5 to <10y	<0.70		
		10y to <18y	<0.60	10y to <18y	<0.60		
		≥18y	0.04 – 0.45	≥18y	0.1 – 0.58		Adults: (2)
CALCIUM EXCRETION – 24h urine	mmol/day		2.5 – 7.5		2.5 – 6.2	29/11/2017	(2, 37)
CA-125, serum	kU/L		<35		<35	26/7/2004	(38)
CA 15-3, serum	kU/L		<24		<24	28/11/2017	(39)
CA 19-9, serum	kU/L		<35		<35	26/7/2004	(40)
CALPROTECTIN, faecal	ug/g		<50		<50	11/5/2018	(41, 42)
CARBAMAZEPINE, serum	umol/L		17 - 50		17 - 50	24/1/2018	(43)
CARBOXYHAEMOGLOBIN, whole blood	%		< 2.0		<2.0	Pre 2000	(35)
CARCINOEMBRYONIC ANTIGEN (CEA), serum	ug/L		<5		<5	26/7/2004	(44)
CCP ANTIBODIES, serum	U/mL		<5		<5	30/06/2023	(45)
CHLORIDE (Cl), serum	mmol/L		95 - 110		95 - 110	17/8/2016	(16)
CHLORIDE (Cl), sweat	mmol/L		<60		<60		(46, 47)
CHOLESTEROL, serum							(48)
Total	mmol/L		<5.5		<5.5	3/8/2018	
HDL	mmol/L		>1.0		>1.2		
LDL (Calculated)	mmol/L		<3.0		<3.0		
Total/HDL ratio			<4.5		<4.5		
CLOZAPINE, serum	ug/L		350 - 600		350 - 600	19/11/2009	(49)
COMPLEMENT C3, serum	g/L	0-14d	0.5 – 1.2	0-14d	0.5 – 1.2		Paediatrics:
		15d to	0.5 – 1.6	15d to <1y	0.5 – 1.6		(33)

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		<1y					
		1y to <14y	0.8 – 1.7	1y to <14y	0.82 – 1.73	9/4/2018	Adults:
		≥14y	0.82 – 1.85	≥19y	0.83 – 1.93		(50)
COMPLEMENT C4, serum	g/L	<1y	0.07 – 0.30	<1y	0.07 – 0.3	9/4/2018	Paediatrics:
		1y to <14y	0.13 – 0.46	1y to <14y	0.13 – 0.46		(33)
		≥19y	0.15 – 0.57	≥14y	0.15 – 0.57		Adults (51)
COPPER (Cu)	umol/L	<1y	n/a	<1y	n/a		(31, 52)
		≥1y	11 – 24	≥1y	13 – 24	6/12/2017	
CORTISOL, serum	nmol/L		185 - 625		185 - 625		(53)
		This reference interval applies to AM cortisol. PM cortisol levels are approximately 50% lower. Note: A random or AM cortisol has limited value in excluding adrenal insufficiency.				23/7/2018	
CORTISOL EXCRETION – 24h urine	nmol/day		60 – 310		60 – 310	23/7/2018	
CORTISOL-LCMS, Salivary (Midnight)	nmol/L		<3		<3	07/08/2023	(145)
C-PEPTIDE, serum	nmol/L		0.26 – 1.39		0.26 – 1.39	26/03/2019	(54)
CREATINE KINASE (CK), serum	U/L	<60y	40 – 250		30 – 150		(55)
		60 to <90y	40 – 200			3/8/2018	
		≥90y	30 – 150				
CREATINE KINASE MB, serum	U/L		<24		<24	23/9/2015	(56)
CREATININE, serum	umol/L	<7d	22 – 93	<7d	22 – 93		(16)
		7 d - 27d	17 – 50	7 d - 27d	17 – 50		
		28d to < 2 yr	11 – 36	28d to < 2 yr	11 – 36		
		2 to < 6 yr	20 – 44	2 to < 6 yr	20 – 44	14/12/2017	
		6 to < 12 yr	27 – 58	6 to < 12 yr	27 – 58		
		12 to < 15 yr	35 – 83	12 to < 15 yr	35 – 74		
		15 to < 19 yr	50 – 100	15 to < 19 yr	38 – 82		
		≥19y	60 – 110	≥19y	45 – 90		
<i>Creatinine clearance - urine</i>		Child: 70 – 190 umol/day/kg					(57)
CREATININE excretion - 24h	umol/day	≥18y	9000 –	≥18y	5000 –		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male	Female	Start date	Reference
urine		18000	16000		
CREATININE CLEARANCE – mL/min	mL/min	≥18y 90 – 150	≥18y 90 – 150	14/12/2017	
CREATININE CLEARANCE – mL/sec	mL/sec	≥18y 1.5 – 2.5	≥18y 1.5 – 2.5		
CRP (sensitive), serum	mg/L	0 – 5	0 – 5	7/9/2004	(58)
CYCLOSPORINE A, whole blood	ug/L	50 - 500	50 - 500	3/8/2018	(59)
CYSTATIN C	mg/L	0.59 – 1.03	0.59 – 1.03	8/1/2015	(61)
DHEA SULPHATE	umol/L	0-6d 2.9 – 16.5	0-6d 2.9 – 16.5		(62)
		7d to 30d 0.9 – 11.7	7d to 30d 0.9 – 11.7		
		1m to <6m 0.1 – 3.4	1m to <6m 0.1 – 3.4		
		6m to <3y 0 – 0.9	6m to <3y 0 – 0.9	23/7/2018	
		3y to <7y 0 – 1.3	3y to <7y 0 – 1.3		
		7y to <10y 0.1 – 3.1	7y to <10y 0.1 – 2.6		
		10y to <15y 0.6 – 9.0	10y to <15y 0.6 – 6.9		
		15y to <20y 2.4 – 13.1	15y to <20y 1.7 – 10.1		
		20y to <30y 2.3 – 18.7	20y to <30y 0.5 – 10.6		
		30Y to <40Y 2.9 – 12.6	30Y to <40Y 0.6 – 7.2		
		40Y to <50Y 1.9 – 13.4	40Y to <50Y 0.5 – 6.3		
		50Yto <60Y 1.0 – 8.5	50Yto <60Y 0.2 – 5.1		
		60Y to <70y 0.6 – 6.6	60Y to <70y 0.3 – 3.6		
		≥70y 0.1 – 6.9	≥70y 0.2 – 4.8		
	Dihydrotestosterone (DHT)	nmol/L	<7d 0.2 – 2.1	<7d 0.1 – 0.5	
		7d to <5m 0.4 – 2.9	7d to <10y < 0.2		
		5m to <10y < 0.2	10y to <20y 0.2 – 0.6	16/7/2018	
		10y to <20y < 1.8	≥20y 0.1 – 0.7		
		≥20y 0.4 – 2.5			
DIGOXIN, serum	nmol/L	0.6 – 1.3	0.6 – 1.3	2/3/2018	(63, 64)
eGFR	ml/min	≥18y >90	≥18y >90	14/12/2017	(65)
ERYTHROPOIETIN, serum	u/L	2.6 – 18.5	2.6 – 18.5	19/3/2012	(66)
ETHANOL (ALCOHOL)	mmol/L	< 2	< 2	Pre 2000	(67)

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
FERRITIN, serum	ug/L	<18	20 – 340	<18	20 – 310	27/7/2018	(68)
		≥18y	30 – 340	≥18y	30 – 310		
FOLATE - Serum	nmol/L		>10		>10	28/11/2017	(69)
FOLLICLE STIMULATING HORMONE	IU/L	<13y	0 - 2.0	<12y	0 - 2.0		Paediatrics: (70)
(FSH), serum		13y to <40y	1.2 – 5.2	Follicular	3.9 – 8.8	28/11/2017	Men:
		40 to <50y	1.4 – 7.2	Mid Cycle (d21)	4.5 – 23		(71, 72)
		≥50y	2.2 – 16.0	Luteal	1.8 – 5.1		Women:
				Post-Menopausal	16.8 – 114		(73)
FREE LIGHT CHAIN - serum							(74)
KAPPA free light chain	mg/L		3.3 – 19.4		3.3 – 19.4	23/2/2016	
LAMBDA free light chain			5.7 – 26.3		5.7 – 26.3		
KAPPA/LAMBDA RATIO			0.26 – 1.65		0.26 – 1.65		
FREE THYROXINE (FT4), serum	pmol/L	0d	15.3 – 43.6	0d	15.3 – 43.6		(75)
		1d	14.7 – 53.2	1d	14.7 – 53.2		
		2d	16.5 – 45.5	2d	16.5 – 45.5	24/10/2017	
		3d	17.8 – 39.4	3d	17.8 – 39.4		
		4d	15.3 – 32.1	4d	15.3 – 32.1		
		5d	15.3 – 32.1	5d	15.3 – 32.1		
		6d	14.1 – 31.5	6d	14.1 – 31.5		
		7-14d	13.3 – 28.8	7-14d	13.3 – 28.8		
		15-30d	11.0 – 23.9	15-30d	11.0 – 23.9		
		31-90d	9.7 – 18.7	31-90d	9.7 – 18.7		
		91d to <18Y	8.8 – 17.7	91d to <18Y	8.8 – 17.7		
		≥18Y	8.0 – 16.0	≥18Y	8.0 – 16.0		
FREE TRIIODOTHYRONINE (FT3), serum	pmol/L	0d	5 – 9.4	0d	5 – 9.4		(75)
		1 - 6d	4.1 – 9.1	1 - 6d	4.1 – 9.1	4/8/2017	
		7d to <1y	4.0 – 7.9	7d to <1y	4.0 – 7.9		
		1y to <18y	4.0 – 7.0	1y to <18y	4.0 – 7.0		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		≥18Y	3.2 – 6.1	≥18Y	3.2 – 6.1		
GAMMA GLUTAMYL TRANSFERASE (GGT), serum	U/L		5 – 50		5 – 35	30/11/2017	(55)
GENTAMYCIN, serum		n/a					
GLUCOSE - FASTING, plasma	mmol/L		3.0 – 6.0		3.0 – 6.0		
GLUCOSE - RANDOM, plasma	mmol/L		3.0 – 7.7		3.0 – 7.7	5/6/2011	(2, 76)
GLUCOSE – random urine	mmol/L		0.1 – 0.8		0.1 – 0.8		(77)
GLUCOSE, CSF	mmol/L		2.5 – 5.0		2.5 – 5.0		(2)
<i>Glucose tolerance test for T2DM, plasma</i>							
OGTT - fasting	mmol/L		3.0 – 6.0		3.0 – 6.0	23/10/2017	
OGTT - 1h	mmol/L		n/a		n/a		
OGTT - 2h	mmol/L		3.0 – 7.7		3.0 – 7.7		
<i>Glucose tolerance test for T2DM, plasma</i>		Diagnostic Criteria					
			NORMAL	IMPAIRED	DIABETES		(76, 78, 79)
	mmol/L	Fasting	3.0 – 6.0	6.1 – 6.9	≥7.0	23/10/2017	
	mmol/L	1-hr	3.0 – 11.0				
	mmol/L	2-hr	3.0 -7.7	7.8 – 11.0	≥11.1		
<i>Glucose tolerance test for gestational diabetes:</i>		N/A					
OGTTP - fasting	mmol/L				3.0 – 5.0	23/10/2017	(80, 81)
OGTTP - 1h	mmol/L				3.0 – 9.9		
OGTTP - 2h	mmol/L				3.0 – 8.4		
		Diagnostic Criteria during pregnancy					
			NORMAL	GDM	DM in pregnancy		
	mmol/L	Fasting	3.0 – 5.0	5.1 – 6.9	≥7.0		
	mmol/L	1-hr	3.0 – 9.9	≥10.0			
	mmol/L	2-hr	3.0 – 8.4	8.5 – 11.0	≥11.1		
HAEMOGLOBIN A1C (NGSP)	%		4.0 – 6.0		4.0 – 6.0		(2)
	mmol/mol		20 – 42		20 – 42	2/3/2017	
HAEMOGLOBIN A1C (IFCC)		Monitoring target: <7.0% (53 mmol/mol). Different targets may be required for pregnancy, elderly, people at high risk of hypoglycaemia and those with CVD or severe comorbidities. Diagnostic cutoff: Greater than or equal to 6.5% (48 mmol/mol) (MJA 2012;197:1)					
						3/8/2018	
HAPTOGLOBIN	g/L	<15d	0 – 0.1	<15d	0 – 0.1		Paediatrics:
		15d to <1y	0.07 – 2.21	15d to <1y	0.07 – 2.21	24/4/2018	(33)
		1y to	0.07 –	1y to <12y	0.07 –		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		<12y	1.63		1.63		
		12y to <19y	0.07 – 1.79	12y to <19y	0.07 – 1.79		
		≥19y	0.36 – 1.95	≥19y	0.36 – 1.95		Adults: (82)
HCG (PREGNANCY), serum	IU/L				<1		
				Values 1-25 IU/L are equivocal for pregnancy, suggest repeat after 2 days to confirm.		28/11/2017	(83)
HCG QUANTITATIVE, serum	IU/L		<1	<40y	0-1		(83)
				40y to <55y	0-3	28/11/2017	
				≥55y	0-12		
				Values 1-25 IU/L are equivocal for pregnancy, suggest repeat after 2 days to confirm.			
HCG (TUMOUR), serum	IU/L		<2		<2	26	(84)
HOLOTRANSCOBALAMIN, serum	pmol/L		>35		>35		(85)
		Interpretation: HoloTC <25: Deficient; HoloTC 25 – 35 pmol/L: low reserve, check risk factors				10/8/2012	
HOMOCYSTEINE, plasma	umol/L	<60y	5 – 15	<60y	5 – 15	14/12/2017	(86)
		≥60y	5 – 20	≥60y	5 – 20		
IGF-1, serum	nmol/L	<1y	7.2 – 42.9	<1y	7.2 – 42.9		(87)
		1y to <2y	6.7 – 39.7	1y to <2y	6.7 – 39.7		
		2y to <5y	6.5 – 37.5	2y to <5y	6.5 – 37.5	1/5/2015	
		5y to <6y	6.8 – 38.9	5y to <6y	6.8 – 38.9		
		6y to <7y	7.5 – 41.4	6y to <7y	7.5 – 41.4		
		7y to <8y	8.4 – 45.2	7y to <8y	8.4 – 45.2		
		8y to <9y	9.7 – 50.9	8y to <9y	9.7 – 50.9		
		9y to <10y	11.5 – 59.2	9y to <10y	11.5 – 59.2		
		10y to <11y	14.5 – 72.2	10y to <11y	14.5 – 72.2		
		11y to <12y	18.7 – 90.8	11y to <12y	18.7 – 90.8		
		12y to <13y	24 – 111.4	12y to <13y	24 – 111.4		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male	Female	Start date	Reference	
		13y to <14y	28.8 – 127.4	13y to <14y	28.8 – 127.4	
		14y to <15y	31.1 – 130.5	14y to <15y	31.1 – 130.5	
		15y to <16y	29.6 – 118.3	15y to <16y	29.6 – 118.3	
		16y to <17y	25.3 – 95.8	16y to <17y	25.3 – 95.8	
		17y to <18y	21.4 – 76.5	17y to <18y	21.4 – 76.5	
		18y to <19y	18.5 – 63.3	18y to <19y	18.5 – 63.3	
		19y to <20y	16.6 – 55.6	19y to <20y	16.6 – 55.6	
		20y to <25y	15.2 – 46.9	20y to <25y	15.2 – 46.9	
		25y to <30y	15.3 – 43.1	25y to <30y	15.3 – 43.1	
		30y to <35y	15.1 – 40.2	30y to <35y	15.1 – 40.2	
		35y to <40y	14.3 – 37.2	35y to <40y	14.3 – 37.2	
		40y to <45y	13.2 – 35.0	40y to <45y	13.2 – 35.0	
		45y to <50y	12.3 – 33.0	45y to <50y	12.3 – 33.0	
		50y to <55y	11.4 – 31.2	50y to <55y	11.4 – 31.2	
		55y to <60y	10.6 – 29.5	55y to <60y	10.6 – 29.5	
		60y to <65y	9.8 – 27.8	60y to <65y	9.8 – 27.8	
		65y to <70y	9.0 – 26.2	65y to <70y	9.0 – 26.2	
		70y to <75y	8.4 – 24.6	70y to <75y	8.4 – 24.6	
		75y to <80y	7.7 – 23.2	75y to <80y	7.7 – 23.2	
			≥80y	≥80y	7.2 – 21.8	
IMMUNOGLOBULIN A	g/L	0 to 14d	<0.08	<14d	<0.08	
		15d to <1y	<0.3	14d to <1y	<0.3	Paediatrics:
		1y to <3y	<0.9	1y to <3y	<0.9	18/7/2018 (33)
		3y to <6y	0.30 – 1.50	3y to <6y	0.30 – 1.50	
		6y to <14y	0.50 – 2.20	6y to <14y	0.50 – 2.20	Adults:
		≥19y	0.80 – 4.50	≥19y	0.80 – 4.50	(89)
IMMUNOGLOBULIN E, serum	KU/L	<28d	<2	<28d	<2	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		31d to 365d	<15	31d to 365d	<15		(90)
		1y to <6y	<60	1y to <6y	<60	30/08/2019	
		6y to <10y	<90	6y to <10y	<90		
		10y to <16y	<200	10y to <16y	<200		
		>=16y	<100	>=16y	<100		
IMMUNOGLOBULIN G, serum	g/L	0-14d	3.2 – 14.0	0-14d	3.2 – 14.0		
		15d to <1y	1.1 – 7.0	15d to <1y	1.1 – 7.0		Paediatrics:
		1y to <4y	3.2 – 11.5	1y to <4y	3.2 – 11.5		(33)
		4y to <10y	5.4 – 13.6	4y to <10y	5.4 – 13.6	9/4/2018	
		10y to <19y	6.6 – 15.3	10y to <19y	6.6 – 15.3		Adults:
		≥19y	7.5 – 15.6	≥19y	7.5 – 15.6		(91)
IMMUNOGLOBULIN M, serum	g/L	0-14d	0.1 – 0.4	0-14d	0.1 – 0.4		
		15d to <13w	0.1 – 0.7	15d to <13w	0.1 – 0.7		Paediatrics:
		13w to <1y	0.2 – 0.9	13w to <1y	0.2 – 0.9	9/4/2018	(33)
		1y to <19y	0.5 – 1.9	1y to <19y	0.5 – 1.9		Adults:
		≥19y	0.4 – 3.0	≥19y	0.4 – 3.0		(92)
INSULIN (fasting, serum)	mU/L		1.9 – 23		1.9 – 23	28/11/2017	(93)
IRON, serum	umol/L	<14y	4 – 25	<14y	4 – 25	13/2/2018	(94, 95)
		>=14y	7 - 33	>=14y	5 - 32		
IRON saturation	%		15 – 46		15 – 46	13/2/2018	
LACTATE, plasma	mmol/L		0.5 – 2.2		0.5 – 2.2	30/11/2017	(96)
LACTATE, CSF	mmol/L		1.2 – 2.8		1.2 – 2.8	30/11/2017	(2)
LACTATE DEHYDROGENASE (LDH), serum	U/L	<14d	320 – 1300	<14d	320 – 1300		
		14d to <1y	170 – 470	14d to <1y	170 – 470		Paediatrics:
		1y to <10y	200 – 330	1y to <10y	200 – 330	14/12/2017	(33)
		10y to <15y	180 – 300	10y to <15y	180 – 300		Adults:
		15y to <19y	140 – 260	15y to <19y	140 – 260		(16)
		≥19y	120 – 250	≥19y	120 – 250		
LIPASE, serum	U/L	<1y	<8	<1y	<8		(55)
		1y to <9y	5 – 31	1y to <9y	5 – 31	30/11/2017	
		9y to	7 – 39	9y to <18y	7 – 39		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		<18y					
		≥18y	10 – 60	≥18y	10 – 60		
Lipoprotein a (Lp(a))	nmol/L		<75		<75		(146)
		Comment:					
		Lp(a) result (nmol/L)		ASCVD risk			
			<100	Low			
			100 to <200	Moderate			
			200 to <400	High			(147)
			≥ 400	Very high			
		Adapted from the Australian Atherosclerosis Society position statement. Note: This method uses calibrators traceable to International Standard (WHO/IFCC SRN-2B) and measures directly in molar units.					
LITHIUM, serum	mmol/L		0.6 – 1.2		0.6 – 1.2	30/11/2017	(2)
LUTENISING HORMONE (LH), serum	IU/L	<10y	<2.0	Follicular	2.1 – 10.9		Paed (70)
		10y to <60y	2.0 – 8.0	preovulatory	19.2 – 103	22/5/2018	M:
		60y to <80y	2.0 – 11.0	Luteal	1.2 – 12.9		(71, 72)
		≥80y	3.0 – 25.0	Post-menopausal	11 – 58		F (97):
MAGNESIUM, serum	mmol/L	0 - 6d	0.6 – 1.00	0 - 6d	0.6 – 1.00	19/12/2017	(16)
		7d to <18y	0.65 – 1.10	7d to <18y	0.65 – 1.10		
		≥18y	0.70 – 1.10	≥18y	0.70 – 1.10		
MAGNESIUM EXCRETION – 24h urine	mmol/day		3.0 – 5.0		3.0 – 5.0	19/11/2017	(97)
METANEPHRINES, plasma							(98-101)
Metanephrine	pmol/L		<500		<500		
Normetanephrine	pmol/L		<900		<900	12/10/2012	
3-Methoxytyramine	pmol/L		<110		<110		
METANEPHRINES, 24h urine							
Metanephrine excretion	umol/d		0-1.7		0-1.7	12/10/2012	(100, 101)
Normetanephrine excretion	umol/d		0-2.3		0-2.3		
3-Methoxytyramine	umol/d		0-1.3		0-1.3		
METANEPHRINES, spot urine							
Metanephrine / Creatinine	mmol/mol		0-0.1		0-0.1	12/10/2012	(100, 101)
Normetanephrine / Creatinine	mmol/mol		0-0.25		0-0.25		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
3-Methoxytyramine / Creatinine	mmol/mol		N/A		N/A		
MYOGLOBIN	mg/L		0.02 – 0.11		0.01 – 0.07	28/11/2017	(102)
MYOGLOBIN (Urine)	mg/L		N/A		N/A	28/11/2017	(102)
NITROGEN EXCRETION – 24h urine	g/day		5 – 20		5 – 20	Pre 2000	(103)
OESTRADIOL – LCMS, serum	pmol/L	<16y	10 – 30	<12y	10 – 30		(62)
		16y to <18y	10 – 130	12y to <18y	10 – 900		
		≥18y	40 – 160	18y to <50y	40 – 1500		
				≥50	10 – 80	24/11/2017	
				Follicular	110 – 370		
				preovulatory	370 – 1470		
				Luteal	185 – 550		
OESTRADIOL – Immunoassay, serum	pmol/L		<175	Follicular	100 – 450		(104)
				Perioovulatory	340 – 1570	23/7/2018	
				Luteal	180 – 1050		
				post-menopausal	<175		
OSMOLALITY, serum	mOSM/Kg		280 – 300		280 – 300	Pre 2000	(105)
OSMOLALITY – random urine	mOsm/kg		50 – 1200		50 – 1200		(2)
PARATHYROID HORMONE, plasma	pmol/L		1.5 – 7.0		1.5 – 7.0	13/11/2007	(106)
PHENOBARBITONE	umol/L		65 – 170		65 – 170	23/9/2015	(107)
PHENYTOIN, serum	umol/L		40 – 80		40 – 80	Pre 2000	(2)
PHOSPHATE, serum	mmol/L	<7d	1.25 – 2.85	<7d	1.25 – 2.85		(16)
		7d to 28d	1.50 – 2.75	7d to 28d	1.50 – 2.75		
		1m to <6m	1.45 – 2.50	1m to <6m	1.45 – 2.50		
		6m to <1y	1.30 – 2.30	6m to <1y	1.30 – 2.30	3/8/2018	
		1y to <4y	1.10 – 2.20	1y to <4y	1.10 – 2.20		
		4Y to <15y	0.90 – 2.00	4Y to <15y	0.90 – 2.00		
		15y to <18y	0.80 – 1.85	15y to <18y	0.80 – 1.85		
		18y to <20y	0.75 – 1.65	18y to <20y	0.75 – 1.65		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		≥20y	0.75 – 1.50	≥20y	0.75 – 1.50		
PHOSPATE EXCRETION – 24h urine	mmol/day		13 – 42		13 – 42	3/8/2018	(108)
POTASSIUM, serum	mmol/L	0-6d	3.5 – 6.2	0-6d	3.5 – 6.2		(16)
		7d to <6m	3.8 – 6.4	7d to <6m	3.8 – 6.4		
		6m to <2y	3.5 – 5.4	6m to <2y	3.5 – 5.4	14/12/2017	
		2y to <18y	3.3 – 4.9	2y to <18y	3.3 – 4.9		
		≥18y	3.5 – 5.2	≥18	3.5 – 5.2		
POTASSIUM – random urine	mmol/L		35 – 90		35 – 90	14/12/2017	
POTASSIUM EXCRETION – 24h urine	mmol/day		50 – 140		25 – 125	14/12/2017	(109)
PROCALCITONIN, serum	ug/L		0 – 0.07		0 – 0.07	13/06/2020	(110)
PROGESTERONE, serum	nmol/L		0.4 – 6.6	Follicular	1.0 – 5.0	17/7/2017	(111)
				Luteal	16 – 59		
				post-menopausal	<2.5		
PROLACTIN, serum	mIU/L		60 – 280	<50y	70 – 570	10/3/2008	(112)
PROSTATE SPECIFIC ANTIGEN (PSA),serum							(113)
Total PSA	ug/L		<4.0				
Free PSA	ug/L	When total PSA is 4-10 ug/L, a free/total PSA ratio <10% indicates approximately 57% risk of prostate cancer, while a free/total PSA ratio >25% indicates approximately 12% risk of prostate cancer.					
Free / Total PSA ratio	%					10/3/2008	
PROTEIN - TOTAL, serum	g/L		60 – 80		60 – 80	24/9/2001	(16)
PROTEIN – TOTAL, CSF	mmol/L	<30d	0.1 – 1.2		0.1 – 1.2	2/3/2018	(2)
		≥30d	0.15 – 0.45		0.15 – 0.45		
PROTEIN, urine							
PROTEIN TO CREATININE RATIO, random	g/mmol		<0.03		<0.03	2/3/2018	(114)
PROTEIN EXCRETION – 24h urine	g/day		<0.15		<0.15		(2)
RENIN, plasma	mU/L		4.4 – 46		4.4 – 46	4/5/2014	(115)
RHEUMATOID FACTOR, serum	kIU/L		<20		<20	2/8/2005	(116)
SODIUM, serum	mmol/L	<7d	132 – 147	<7d	132 – 147		(16)
		7d to <18y	133 – 144	7d to <18y	133 – 144	3/8/2018	
		≥18y	135 – 145	≥18y	135 – 145		
SODIUM – random urine	mmol/L		20 – 270		20 – 270	3/8/2018	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
SODIUM EXCRETION – 24h urine	mmol/day		40 – 220		40 – 220		(117)
SALICYLATE, serum	mmol/L		<0.3		<0.3	24/1/2014	
SEX HORMONE BINDING, serum	nmol/L	>18y	13 – 90	18y to <47y	18 – 135	17/7/2017	(118)
				≥47y	17 – 125		
SOLUBLE TRANSFERRIN RECEPTOR, serum	mg/L		0-1.55		0-1.55	29/7/2009	(119)
TACROLIMUS	ug/L	n/a Consult the hospital Pharmacists and renal transplant Physicians					
TESTOSTERONE-LCMS, serum	nmol/L	<7d	0.2 – 2.7	<7d	0.1 – 2.7		
		7d to <3m	0.5 – 12.6	7d-<7y	0.1 – 0.8		Paediatrics:
		3m to <6m	0.1 – 3.1	7y-<10y	0.1 – 1.0	16/7/2018	(120)
		6m to <10y	0.1 – 0.8	≥10y	0.1 – 1.7		
		10y to <13y	0.1 – 5.6				
		13y to <16y	0.7 – 17.6				Young M:
		16y to <18y	4.0 – 24.0				(71)
		18y to <40y	10.0 – 27.6				Older M:
		≥40y	10.0 – 25.0				(72)
THEOPHYLLINE, serum	umol/L		55-110		55-110	24/9/2001	(121)
THYROGLOBULIN, serum			1.6 – 50		1.6 – 50	28/11/2017	(122)
	ug/L	<u>In post thyroidectomy patient with a history of thyroid cancer, serial determinations are required and should be reference to the post-surgical baseline. Thyroglobulin >1ug/L is suspicious of residual or recurrent disease. Intact thyroid: thyroglobulin reference range 1.6-50ug/L. Presence of anti-thyroglobulin antibody can give a variable negative interference in the thyroglobulin result.</u>					
THYROTROPIN (TSH), serum	mIU/L	0d	4.1 – 40.2	0d	4.1 – 40.2		(75)
		1d	3.2 – 29.6	1d	3.2 – 29.6		
		2d	2.6 – 17.3	2d	2.6 – 17.3	28/12/2017	
		3d	2.2 – 14.7	3d	2.2 – 14.7		
		4d	1.8 – 14.2	4d	1.8 – 14.2		
		5d	1.4 – 12.7	5d	1.4 – 12.7		
		6-14d	1.1 – 8.3	6-14d	1.1 – 8.3		
		15-90d	0.9 – 7.1	15-90d	0.9 – 7.1		
		91d to	0.6 – 4.8	91d to <1y	0.6 – 4.8		

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Start date	Reference
		<1y					
		≥1y	0.4 – 4.8	≥1y	0.4 – 4.8		
Tobramycin, serum		n/a					
PEAK level	mg/L	Interpretation of tobramycin levels must be done with assistance of the hospital Pharmacists and infection control Physicians. Additional caution is required in the presence of renal impairment.					
THROUGH level	mg/L						
RANDOM spot level	mg/L						
TRANSFERRIN, serum	g/L		2.0 – 3.6		2.0 – 3.6	1/11/2007	(123)
TRANSTHYRETIN, serum	g/L	≥18y	170 – 340	≥18y	170 – 340	3/8/2018	(124)
TRIGLYCERIDE, serum	mmol/L		<2.0		<2.0	6/12/2017	(48)
TROPONIN I, High-sensitivity, serum	ng/L		0 – 20		0-10	30/01/2020	(125)
UREA, serum	mmol/L	<28d	1.4 – 4.3	<28d	1.4 – 4.3	5/3/2018	(129)
		28d- <14y	1.8 – 6.4	28d-<14y	1.8 – 6.4		
		≥14y	2.8 – 7.2	≥14y	2.8 – 7.2		
UREA EXCRETION – 24h urine	mmol/day		250 – 270		250 – 570		
URIC ACID, serum	umol/L	<10y	70 – 330	<10y	60 – 325	3/8/2018	Paediatrics:
		10y to <16y	130 – 410	10y to <12y	130 – 350		(31)
		≥16y	210 – 430	≥12y	150 – 360	3/8/2018	Adults: (130)
URIC ACID EXCRETION – 24h urine	umol/day		1500 – 4500		1500 – 4500	3/8/2018	(130)
VITAMIN A, serum	umol/L	0-30d	0.6 – 1.8	0-30d	0.6 – 1.8		(131)
		1m to <7y	0.7 – 1.5	1m to <7y	0.7 – 1.5		
		7y to <13y	0.9 – 1.7	7y to <13y	0.9 – 1.7	13/7/2018	
		13y to <19y	0.9 – 2.5	13y to <19y	0.9 – 2.5		
		≥ 19y	0.9 – 2.5	≥ 19y	0.9 – 2.5		
VITAMIN B12, serum	pmol/L		140 – 670		140 – 670		(132)
VITAMIN C, plasma	umol/L		23 – 85		23 – 85	13/7/2018	(133)
		Deficiency: <11 µmol/L					
VITAMIN D, serum							(134)
25-OH Vitamin D	nmol/L		50 – 250		50 – 250	13/7/2018	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male	Female	Start date	Reference
(immunoassay)					
25-OH Vitamin D (LCMS)	nmol/L	50 – 250	50 – 250		
VITAMIN E, serum	umol/L	0-30d 2 – 8	0-30d 2 – 8		(131)
		1m to <7y 7 – 21	1m to <7y 7 – 21		
		7y to <13y 10 – 21	7y to <13y 10 – 21	13/7/2018	
		13y to <19y 13 – 24	13y to <19y 13 – 24		
		≥ 19y 12 - 46	≥ 19y 12 - 46		
VALPROATE, serum	umol/L	350 – 700	350 – 700	3/8/2018	(135)
VANCOMYCIN, serum	mg/L	n/a			
	Interpretation of vancomycin levels must be done with assistance of the hospital Pharmacists and infection control Physicians. Additional caution is required in the presence of renal impairment.				
ZINC, plasma	umol/L	12 – 20	12 – 20	5/3/2018	(2)

Reference intervals for blood gas analysis (Radiometer)

Test	Unit	Arterial or Capillary	Venous	Date implemented
pH	mmHg	7.35 – 7.45	7.32 – 7.43	
pO ₂	mmHg	83 – 108	15 – 64	
pCO ₂	mmol/L	32 – 45	38 – 61	
Bicarbonate		22 – 32	22 – 32	
Base Excess	mmol/L	-3 – +3	-3 – +3	
Sodium	mmol/L	135 – 145	135 – 145	
Potassium	mmol/L	3.5 – 5.2	3.5 – 5.2	
Chloride	mmol/L	95 – 110	95 – 110	
Calcium-Ionized	mmol/L	1.15 – 1.33	1.15 – 1.33	
Lactate	mmol/L	0.5 – 2.0	0.5 – 2.0	
Glucose (random)	umol/L	3.0 – 7.7	3.0 – 7.7	
Creatinine (Adult)	mmol/L	60 – 110 (M) 45 – 90 (F)	60 – 110 (M) 45 – 90 (F)	
Bilirubin (adult)	mmHg	0 – 20	0 – 20	
Oxyhaemoglobin	%	90 – 95	n/a	
Methaemoglobin (MetHb),	%	0 – 2	0 – 2	
Carboxyhaemoglobin (COHb), non-smoker	%	0 – 2	0 – 2	
p50	mmHg	<7 days 19 – 24 ≥7 days 25 - 31	<7 days 19 – 24 ≥7 days 25 - 31	

Reference intervals for blood gas analysis (i-STAT)

Test	Unit	Arterial or Capillary	Venous	Date implemented
Sodium	mmol/L	<7d: 132 – 147 7d to <18y: 133 – 144 ≥18y: 135 – 145	<7d: 132 – 147 7d to <18y: 133 – 144 ≥18y: 135 – 145	
Potassium	mmol/L	<7d: 3.5 – 6.2 7d to 6m: 3.8 – 6.4 2y to 18y: 3.3 – 4.9 ≥18y: 3.5 – 5.2	<7d: 3.5 – 6.2 7d to 6m: 3.8 – 6.4 2y to 18y: 3.3 – 4.9 ≥18y: 3.5 – 5.22	
Chloride	mmol/L	95 – 110	95 – 110	
Calcium-Ionized	mmol/L	1.15 – 1.33	1.15 – 1.33	
Lactate	mmol/L	0.5 – 2.0	0.5 – 2.0	
Glucose (random)	umol/L	3.0 – 7.7	3.0 – 7.7	
Creatinine (Adult)	mmol/L	<7d: 22 – 93 7d to 27d: 17 – 50 28d to 2y: 11 – 36 2y to <6y: 20 – 44 6y to <12y: 27 – 58 12 to 15y: 35 – 83 15y to 19y: 50 – 100 ≥19y: 60 - 110(M); 45 - 90(F)	<7d: 22 – 93 7d to 27d: 17 – 50 28d to 2y: 11 – 36 2y to <6y: 20 – 44 6y to <12y: 27 – 58 12 to 15y: 35 – 83 15y to 19y: 50 – 100 ≥19y: 60 – 110(M); 45 - 90(F)	
pH	mmHg	7.35 – 7.45	7.32 – 7.43	
pO ₂	mmHg	83 – 108	15 – 64	
pCO ₂	mmol/L	32 – 45	38 – 61	
Bicarbonate		22 – 32	22 – 32	
Base Excess	mmol/L	-3 – +3	-3 – +3	
Oxygen saturation (O ₂ sat)	%	95 – 98	n/a	
Troponin I (iSTAT)	ug/L	0 – 0.04	0 – 0.04	
Haemoglobin (blood gas)				
0-3d	g/L	135 – 230	135 – 230	
4-6d	g/L	135 – 210	135 – 210	
7-13d	g/L	125 – 205	125 – 205	
14-30d	g/L	115 – 190	115 – 190	
30d to <3m	g/L	100 – 180	100 – 180	
3m to <6m	g/L	95 – 135	95 – 135	
6m to <2y	g/L	100 – 140	100 – 140	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Arterial or Capillary	Venous	Date implemented
2 to <13y *	g/L	115 – 150	115 – 150	
13 to <56y	g/L	130 – 180 (M) 120 – 160 (F)	130 – 180 (M) 120 – 160 (F)	
≥56years	g/L	125 – 175 (M) 110 – 160 (F)	125 – 175 (M) 110 – 160 (F)	

* Note: Hb reference interval for age 2 to <6y: 115 – 150 g/L; and for age 6y to <13y: 115-155 g/L have been merged into one group as the Radiometer can fit maximum 10 categories for each analyte.

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Haematology

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
FBE – WHITE CELL COUNT	x10 ⁹ /L	0 d	13.0-37.0	0 d	13.0-37.0	
		1-3 d	9.0-30.0	1-3 d	9.0-30.0	
		4-6 d	5.0-18.0	4-6 d	5.0-18.0	
		7-13 d	5.0-18.0	7-13 d	5.0-18.0	
		14.-30 d	5.0-18.0	14.-30 d	5.0-18.0	
		1-2 m	5.0-18.0	1-2 m	5.0-18.0	
		3-5 m	5.0-18.0	3-5 m	5.0-18.0	
		6-24 m	5.0-18.0	6-24 m	5.0-18.0	
		2-5 y	5.0-15.0	2-5 y	5.0-15.0	
		6-12 y	5.0-15.0	6-12 y	5.0-15.0	
		13-55 y	4.0-11.0	13-55 y	4.0-11.0	
		>55 y	4.0-11.0	>55 y	4.0-11.0	
				PREGNANT	4.5-17.0	
FBE – RED CELL COUNT	x10 ¹² /L	0 d	3.9-6.2	0 d	3.9-6.2	
		1-3 d	3.9-6.2	1-3 d	3.9-6.2	
		4-6 d	3.9-6.2	4-6 d	3.9-6.2	
		7-13 d	3.6-6.1	7-13 d	3.6-6.1	
		14.-30 d	3.6-5.7	14.-30 d	3.6-5.7	
		1-2 m	3.0-5.6	1-2 m	3.0-5.6	
		3-5 m	3.0-4.6	3-5 m	3.0-4.6	
		6-24 m	3.7-5.3	6-24 m	3.7-5.3	
		2-5 y	3.9-5.3	2-5 y	3.9-5.3	
		6-12 y	4.0-5.2	6-12 y	4.0-5.2	
		13-55 y	4.5-6.2	13-55 y	3.8-5.4	
		>55 y	4.2-6.2	>55 y	3.7-5.4	
				PREGNANT	3.6-5.4	
FBE – HAEMOGLOBIN	g/L	0 d	135-230	0 d	135-230	
		1-3 d	135-230	1-3 d	135-230	
		4-6 d	135-210	4-6 d	135-210	
		7-13 d	125-205	7-13 d	125-205	
		14.-30 d	115-190	14.-30 d	115-190	
		1-2 m	100-180	1-2 m	100-180	
		3-5 m	95-135	3-5 m	95-135	
		6-24 m	100-140	6-24 m	100-140	
		2-5 y	115-150	2-5 y	115-150	
		6-12 y	115-155	6-12 y	115-155	
		13-55 y	130-180	13-55 y	120-160	
		>55 y	125-175	>55 y	110-160	
				PREGNANT	105-160	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
FBE – HAEMATOCRIT	L/L	0 d	0.40-0.70	0 d	0.40-0.70	
		1-3 d	0.40-0.70	1-3 d	0.40-0.70	
		4-6 d	0.40-0.70	4-6 d	0.40-0.70	
		7-13 d	0.38-0.65	7-13 d	0.38-0.65	
		14.-30 d	0.34-0.60	14.-30 d	0.34-0.60	
		1-2 m	0.30-0.55	1-2 m	0.30-0.55	
		3-5 m	0.27-0.46	3-5 m	0.27-0.46	
		6-24 m	0.30-0.44	6-24 m	0.30-0.44	
		2-5 y	0.33-0.46	2-5 y	0.33-0.46	
		6-12 y	0.33-0.47	6-12 y	0.33-0.47	
		13-55 y	0.38-0.54	13-55 y	0.35-0.48	
		>55 y	0.37-0.53	>55 y	0.34-0.48	
				PREGNANT	0.33-0.48	
		FBE – MEAN CELL VOLUME	fl	0 d	95-130	
1-3 d	95-130			1-3 d	95-130	
4-6 d	88-130			4-6 d	88-130	
7-13 d	85-110			7-13 d	85-110	
14.-30 d	85-110			14.-30 d	85-110	
1-2 m	76-110			1-2 m	76-110	
3-5 m	74-108			3-5 m	74-108	
6-24 m	70-90			6-24 m	70-90	
2-5 y	75-90			2-5 y	75-90	
6-12 y	77-96			6-12 y	77-96	
13-55 y	78-98			13-55 y	78-98	
>55 y	78-98			>55 y	78-98	
				PREGNANT	78-102	
FBE – MEAN CELL HAEMOGLOBIN	pg			0 d	31.0-37.0	0 d
		1-3 d	31.0-37.0	1-3 d	31.0-37.0	
		4-6 d	28.0-38.0	4-6 d	28.0-38.0	
		7-13 d	28.0-38.0	7-13 d	28.0-38.0	
		14.-30 d	28.0-38.0	14.-30 d	28.0-38.0	
		1-2 m	26.0-34.0	1-2 m	26.0-34.0	
		3-5 m	25.0-35.0	3-5 m	25.0-35.0	
		6-24 m	23.0-31.0	6-24 m	23.0-31.0	
		2-5 y	24.0-31.0	2-5 y	24.0-31.0	
		6-12 y	25.0-33.0	6-12 y	25.0-33.0	
		13-55 y	27.0-34.0	13-55 y	27.0-34.0	
		>55 y	27.0-34.0	>55 y	27.0-34.0	
				PREGNANT	27.0-34.0	
		FBE – MEAN CELL HAEMOGLOBIN CONC	g/L	ALL	310-355	ALL
FBE – RED CELL	%	ALL	11.0-15.0	ALL	11.0-15.0	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
DISTRIBUTION WIDTH						

FBE – PLATELETS	x10 ⁹ /L	0 d	100-500	0 d	100-500	
		1-3 d	100-500	1-3 d	100-500	
		4-6 d	100-500	4-6 d	100-500	
		7-13 d	100-500	7-13 d	100-500	
		14.-30 d	150-450	14.-30 d	150-450	
		1-2 m	150-450	1-2 m	150-450	
		3-5 m	150-450	3-5 m	150-450	
		6-24 m	150-450	6-24 m	150-450	
		2-5 y	150-450	2-5 y	150-450	
		6-12 y	150-450	6-12 y	150-450	
		13-55 y	150-450	13-55 y	150-450	
		>55 y	150-450	>55 y	150-450	
				PREGNANT	150-450	
FBE –MEAN PLATELET VOLUME	fl	ALL	6.5-120	ALL	6.5-12.0	

FBE – RETICULOCYTES %	%	0 d	2.0-7.0	0 d	2.0-7.0	
		1-3 d	2.0-6.0	1-3 d	2.0-6.0	
		4-7 d	2.0-4.5	4-7 d	2.0-4.5	
		1-4 w	0.0-2.0	1-4 w	0.0-2.0	
		> 4 w	0.3-2.5	> 4 w	0.3-2.5	
FBE – RETICULOCYTES ABSOLUTE	x10 ⁹ /L	0 d	100-300	0 d	100-300	
		1-3 d	100-300	1-3 d	100-300	
		4-7 d	100-250	4-7 d	100-250	
		1-4 w	0-100	1-4 w	0-100	
		> 4 w	20-110	> 4 w	20-110	
FBE – NEUTROPHILS	x10 ⁹ /L	0 d	3.20-18.00	0 d	3.20-18.00	
		1-3 d	4.50-17.00	1-3 d	4.50-17.00	
		4-6 d	2.00-9.50	4-6 d	2.00-9.50	
		7-13 d	2.00-9.50	7-13 d	2.00-9.50	
		14-30 d	2.00-9.50	14-30 d	2.00-9.50	
		1-2 m	1.50-9.50	1-2 m	1.50-9.50	
		3-5 m	1.50-9.00	3-5 m	1.50-9.00	
		6-24 m	1.50-9.00	6-24 m	1.50-9.00	
		2-5 y	1.50-8.00	2-5 y	1.50-8.00	
		6-12 y	1.50-8.00	6-12 y	1.50-8.00	
		>13 y	2.00-8.00	>13 y	2.00-8.00	
				PREGNANT	3.60-15.00	

FBE – LYMPHOCYTES	x10 ⁹ /L	0 d	3.00-8.50	0 d	3.00-8.50	
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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		1-3 d	3.00-8.50	1-3 d	3.00-8.50	
		4-6 d	3.00-8.50	4-6 d	3.00-8.50	
		7-13 d	3.00-8.50	7-13 d	3.00-8.50	
		14-30 d	3.00-8.50	14-30 d	3.00-8.50	
		1-2 m	2.00-8.00	1-2 m	2.00-8.00	
		3-5 m	2.00-8.00	3-5 m	2.00-8.00	
		6-24 m	2.00-8.00	6-24 m	2.00-8.00	
		2-5 y	1.50-7.00	2-5 y	1.50-7.00	
		6-12 y	1.50-7.00	6-12 y	1.50-7.00	
		>13 y	1.00-4.00	>13 y	1.00-4.00	
				PREGNANT	1.00-4.00	
FBE - MONOCYTES	x10 ⁹ /L	0 d	0.20-4.00	0 d	0.20-4.00	
		1-3 d	0.20-4.00	1-3 d	0.20-4.00	
		4-6 d	0.20-2.00	4-6 d	0.20-2.00	
		7-13 d	0.20-2.00	7-13 d	0.20-2.00	
		14-30 d	0.20-1.00	14-30 d	0.20-1.00	
		1-2 m	0.20-1.00	1-2 m	0.20-1.00	
		3-5 m	0.20-1.00	3-5 m	0.20-1.00	
		6-24 m	0.20-1.00	6-24 m	0.20-1.00	
		2-5 y	0.20-1.00	2-5 y	0.20-1.00	
		6-12 y	0.20-1.00	6-12 y	0.20-1.00	
		>13 y	0.20-1.00	>13 y	0.20-1.00	
				PREGNANT	0.20-1.00	
		FBE- EOSINOPHILS	x10 ⁹ /l	0 d	0.00-2.00	
1-3 d	0.00-2.00			1-3 d	0.00-2.00	
4-6 d	0.00-2.00			4-6 d	0.00-2.00	
7-13 d	0.00-2.00			7-13 d	0.00-2.00	
14-30 d	0.00-2.00			14-30 d	0.00-2.00	
1-2 m	0.00-1.00			1-2 m	0.00-1.00	
3-5 m	0.00-1.00			3-5 m	0.00-1.00	
6-24 m	0.00-1.00			6-24 m	0.00-1.00	
2-5 y	0.00-1.00			2-5 y	0.00-1.00	
6-12 y	0.00-1.00			6-12 y	0.00-1.00	
>13 y	0.00-0.50			>13 y	0.00-0.50	
				PREGNANT	0.00-0.5	
FBE – BASOPHILS	x10 ⁹ /L			ALL	0.00-0.20	ALL

FBE – BAND FORMS	x10 ⁹ /L	0 d	0.00-1.30	0 d	0.00-1.30	
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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		1-3 d	0.00-1.30	1-3 d	0.00-1.30	
		4-6 d	0.00-1.30	4-6 d	0.00-1.30	
		7-13 d	0.00-1.30	7-13 d	0.00-1.30	
		14-30 d	0.00-1.30	14-30 d	0.00-1.30	
		1-2 m	0.00-0.85	1-2 m	0.00-0.85	
		3-5 m	0.00-0.85	3-5 m	0.00-0.85	
		6-24 m	0.00-0.85	6-24 m	0.00-0.85	
		2-5 y	0.00-0.85	2-5 y	0.00-0.85	
		6-12 y	0.00-0.85	6-12 y	0.00-0.85	
		>13 y	0.00-0.85	>13 y	0.00-0.85	
				PREGNANT	0.00-0.85	
FBE –NUCLEATED RBC	/100 WC	0 d	0-9	0 d	0-9	
		1-3 d	0-9	1-3 d	0-9	
		4-6 d	0-7	4-6 d	0-7	
		7-13 d	0-4	7-13 d	0-4	
		>14 d	0-0	>14 d	0-0	
				PREGNANT	0-0	
ERYTHROCYTE SEDIMENTATION RATE	mm in 1 hr	0-3 d	0-2	0-3 d	0-2	
		4d – 12 y	0-7	4d – 12 y	0-7	
		13-55 y	0-10	13-55 y	0-15	
		>55 y	0-15	>55 y	0-25	
				PREGNANT	0-35	
AUTOHAEMOLYSIS with added glucose (glucose)	%	ALL	0.0-0.9	ALL	0.0-0.9	
AUTOHAEMOLYSIS without added glucose (no glucose)	%	ALL	0.2-2.0	ALL	0.2-2.0	
G6PD ASSAY	U/gHb	ALL	11.0-18.0	ALL	11.0-18.0	
NEUTROPHIL ALKALINE PHOSPHATASE	SCORE	ALL	13-130	ALL	13-130	
HB ELECTROPHORESIS- HbA2 LEVEL	%	0- d	2.0-3.3	0- d	2.0-3.3	
		1d-1m	2.0-3.3	1d-1m	2.0-3.3	
		1m-2m	2.0-3.3	1m-2m	2.0-3.3	
		2m-3m	2.0-3.3	2m-3m	2.0-3.3	
		3m-4m	2.0-3.3	3m-4m	2.0-3.3	
		4m-6m	2.0-3.3	4m-6m	2.0-3.3	
		>6m	2.0-3.3	>6m	2.0-3.3	
HB ELECTROPHORESIS	%	0- 1d	70.0-90.0	0- d	70.0-90.0	

**PATHOLOGY REFERENCE INTERVAL
MASTER LIST**

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
– HbF LEVEL		1d-1m	50.0-75.0	1d-1m	50.0-75.0	
		1m-2m	25.0-60.0	1m-2m	25.0-60.0	
		2m-3m	10.0-35.0	2m-3m	10.0-35.0	
		3m-4m	5.0-20.0	3m-4m	5.0-20.0	
		4m-6m	0.0-8.0	4m-6m	0.0-8.0	
		>6m	0.0-1.0	>6m	0.0-1.0	
HB ELECTROPHORESIS- Hb S QUANT	%	0- d	0.0-0.0	0- d	0.0-0.0	
		1d-1m	0.0-0.0	1d-1m	0.0-0.0	
		1m-2m	0.0-0.0	1m-2m	0.0-0.0	
		2m-3m	0.0-0.0	2m-3m	0.0-0.0	
		3m-4m	0.0-0.0	3m-4m	0.0-0.0	
		4m-6m	0.0-0.0	4m-6m	0.0-0.0	
		>6m	0.0-0.0	>6m	0.0-0.0	
COAGULATION – International Normalised Ratio	ratio	0-1d	1.0-1.4	0-1d	1.0-1.4	
		2d-5d	1.0-1.4	2d-5d	1.0-1.4	
		6d-1m	1.0-1.3	6d-1m	1.0-1.3	
		2m-3m	0.8-1.2	2m-3m	0.8-1.2	
		4m-6m	0.8-1.2	4m-6m	0.8-1.2	
		>6m	0.8-1.2	>6m	0.8-1.2	
COAGULATION – Activated Partial Thromboplastin Time	sec	0-1d	22-60	0-1d	22-60	
		2d-5d	22-50	2d-5d	22-50	
		6d-1m	22-50	6d-1m	22-50	
		2m-3m	22-50	2m-3m	22-50	
		4m-6m	22-45	4m-6m	22-45	
		>6m	22-32	>6m	22-32	
COAGULATION – Activated Partial Thromboplastin Time Adult Therapeutic Heparin	sec	>16y	50-80	>16y	50-80	
COAGULATION – Fibrinogen	g/L	0-1d	1.5-4.5	0-1d	1.5-4.5	
		2d-5d	1.5-4.5	2d-5d	1.5-4.5	
		6d-1m	1.5-4.0	6d-1m	1.5-4.0	
		2m-3m	1.5-4.0	2m-3m	1.5-4.0	
		4m-6m	1.5-4.0	4m-6m	1.5-4.0	
		>6m	1.5-4.0	>6m	1.5-4.0	
COAGULATION- Fibrinogen Clauss	g/L	0-1d	1.5-4.5	0-1d	1.5-4.5	
		2d-5d	1.5-4.5	2d-5d	1.5-4.5	
		6d-1m	1.5-4.0	6d-1m	1.5-4.0	
		2m-3m	1.5-4.0	2m-3m	1.5-4.0	
		4m-6m	1.5-4.0	4m-6m	1.5-4.0	
		>6m	1.5-4.0	>6m	1.5-4.0	
COAGULATION- Thrombin Clotting Time	sec	ALL	12.0-18.0	ALL	12.0-18.0	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
COAGULATION – Ddimer	mg/L	ALL	0.00-0.20	ALL	0.00-0.20	
COAGULATION – Echis Time	sec	ALL	20-26	ALL	20-26	

COAGULATION – FACTOR 2 LEVEL	IU/mL	0-1d	0.25-0.65	0-1d	0.25-0.65	
		2d-5d	0.30-0.80	2d-5d	0.30-0.80	
		6d-1m	0.30-1.00	6d-1m	0.30-1.00	
		2m-3m	0.40-1.00	2m-3m	0.40-1.00	
		4m-6m	0.60-1.2	4m-6m	0.60-1.2	
		>6m	0.60-1.50	>6m	0.60-1.50	

COAGULATION – FACTOR 5 LEVEL	IU/mL	0-1d	0.30-1.00	0-1d	0.30-1.00	
		2d-5d	0.40-1.40	2d-5d	0.40-1.40	
		6d-1m	0.60-1.45	6d-1m	0.60-1.45	
		2m-3m	0.60-1.50	2m-3m	0.60-1.50	
		4m-6m	0.60-1.50	4m-6m	0.60-1.50	
		>6m	0.60-1.50	>6m	0.60-1.50	
COAGULATION – FACTOR 7 LEVEL	IU/mL	0-1d	0.30-1.00	0-1d	0.30-1.00	
		2d-5d	0.35-1.00	2d-5d	0.35-1.00	
		6d-1m	0.40-1.35	6d-1m	0.40-1.35	
		2m-3m	0.45-1.35	2m-3m	0.45-1.35	
		4m-6m	0.50-1.35	4m-6m	0.50-1.35	
		>6m	0.65-1.35	>6m	0.65-1.35	
COAGULATION – FACTOR 8 LEVEL	IU/mL	0-1d	0.90-2.00	0-1d	0.90-2.00	
		2d-5d	0.70-1.80	2d-5d	0.70-1.80	
		6d-1m	0.60-1.50	6d-1m	0.60-1.50	
		2m-3m	0.50-1.50	2m-3m	0.50-1.50	
		4m-6m	0.50-1.50	4m-6m	0.50-1.50	
		>6m	0.50-1.50	>6m	0.50-1.50	
COAGULATION – FACTOR 9 LEVEL	IU/mL	0-1d	0.20-0.90	0-1d	0.20-0.90	
		2d-5d	0.15-0.90	2d-5d	0.15-0.90	
		6d-1m	0.20-0.80	6d-1m	0.20-0.80	
		2m-3m	0.20-1.30	2m-3m	0.20-1.30	
		4m-6m	0.40-1.30	4m-6m	0.40-1.30	
		>6m	0.60-1.40	>6m	0.60-1.40	
COAGULATION – FACTOR 10 LEVEL	IU/mL	0-1d	0.15-0.70	0-1d	0.15-0.70	
		2d-5d	0.20-0.80	2d-5d	0.20-0.80	
		6d-1m	0.30-0.85	6d-1m	0.30-0.85	
		2m-3m	0.30-1.00	2m-3m	0.30-1.00	
		4m-6m	0.50-1.10	4m-6m	0.50-1.10	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		>6m	0.60-1.30	>6m	0.60-1.30	
COAGULATION – FACTOR 11 LEVEL	IU/mL	0-1d	0.10-0.60	0-1d	0.10-0.60	
		2d-5d	0.20-0.90	2d-5d	0.20-0.90	
		6d-1m	0.30-0.80	6d-1m	0.30-0.80	
		2m-3m	0.40-1.00	2m-3m	0.40-1.00	
		4m-6m	0.50-1.30	4m-6m	0.50-1.30	
		>6m	0.65-1.35	>6m	0.65-1.35	
COAGULATION – FACTOR 12 LEVEL	U/mL	0-1d	0.10-0.90	0-1d	0.10-0.90	
		2d-5d	0.10-0.80	2d-5d	0.10-0.80	
		6d-1m	0.15-0.80	6d-1m	0.15-0.80	
		2m-3m	0.20-1.10	2m-3m	0.20-1.10	
		4m-6m	0.40-1.20	4m-6m	0.40-1.20	
		>6m	0.65-1.50	>6m	0.65-1.50	
COAGULATION – FACTOR 13 LEVEL	U/mL	0-1d	0.30-1.00	0-1d	0.30-1.00	
		2d-5d	0.30-1.00	2d-5d	0.30-1.00	
		6d-1m	0.50-1.40	6d-1m	0.50-1.40	
		2m-3m	0.70-1.40	2m-3m	0.70-1.40	
		4m-6m	0.70-1.40	4m-6m	0.70-1.40	
		>6m	0.70-1.40	>6m	0.70-1.40	
COAGULATION – Von Willebrand Factor Ag	IU/mL	0-1d	0.90-3.00	0-1d	0.90-3.00	
		2d-5d	0.70-2.80	2d-5d	0.70-2.80	
		6d-1m	0.60-2.60	6d-1m	0.60-2.60	
		2m-3m	0.50-2.40	2m-3m	0.50-2.40	
		4m-6m	0.50-2.20	4m-6m	0.50-2.20	
		>6m	0.50-2.00	>6m	0.50-2.00	
COAGULATION – Collagen Binding Assay	IU/mL	0-1d	0.90-3.00	0-1d	0.90-3.00	
		2d-5d	0.70-2.80	2d-5d	0.70-2.80	
		6d-1m	0.60-2.60	6d-1m	0.60-2.60	
		2m-3m	0.50-2.40	2m-3m	0.50-2.40	
		4m-6m	0.50-2.20	4m-6m	0.50-2.20	
		>6m	0.50-2.00	>6m	0.50-2.00	
COAGULATION - Ristocetin Cofactor Assay	U/mL	0-1d	0.90-3.00	0-1d	0.90-3.00	
		2d-5d	0.70-2.80	2d-5d	0.70-2.80	
		6d-1m	0.60-2.60	6d-1m	0.60-2.60	
		2m-3m	0.50-2.40	2m-3m	0.50-2.40	
		4m-6m	0.50-2.20	4m-6m	0.50-2.20	
		>6m	0.50-2.00	>6m	0.50-2.00	
COAGULATION – Antithrombin 3 Assay	IU/mL	0-1d	0.40-0.85	0-1d	0.40-0.85	
		2d-5d	0.45-0.90	2d-5d	0.45-0.90	
		6d-1m	0.50-1.05	6d-1m	0.50-1.05	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		2m-3m	0.60-1.15	2m-3m	0.60-1.15	
		4m-6m	0.70-1.20	4m-6m	0.70-1.20	
		>6m	0.80-1.20	>6m	0.80-1.20	
COAGULATION – Protein C Assay	IU/mL	0-1d	0.15-0.50	0-1d	0.15-0.50	
		2d-5d	0.20-0.65	2d-5d	0.20-0.65	
		6d-1m	0.30-0.70	6d-1m	0.30-0.70	
		2m-3m	0.40-0.80	2m-3m	0.40-0.80	
		4m-6m	0.50-1.00	4m-6m	0.50-1.00	
		>6m	0.70-1.40	>6m	0.70-1.40	
COAGULATION – Protein S Assay	IU/mL	0-1d	0.15-0.75	0-1d	0.15-0.75	
		2d-5d	0.25-0.90	2d-5d	0.25-0.90	
		6d-1m	0.40-1.20	6d-1m	0.40-1.20	
		2m-3m	0.55-1.50	2m-3m	0.55-1.50	
		4m-6m	0.55-1.50	4m-6m	0.55-1.50	
		>6m	0.55-1.50	>6m	0.55-1.50	
COAGULATION – Activated Protein C assay	ratio	0-1d	2.1-5.0	0-1d	2.1-5.0	
		2d-5d	2.1-5.0	2d-5d	2.1-5.0	
		6d-1m	2.1-5.0	6d-1m	2.1-5.0	
		2m-3m	2.1-5.0	2m-3m	2.1-5.0	
		4m-6m	2.1-5.0	4m-6m	2.1-5.0	
		>6m	2.1-5.0	>6m	2.1-5.0	
COAGULATION – Plasminogen Assay	U/mL	0-1d	0.20-0.60	0-1d	0.20-0.60	
		2d-5d	0.30-0.80	2d-5d	0.30-0.80	
		6d-1m	0.50-1.00	6d-1m	0.50-1.00	
		2m-3m	0.70-1.30	2m-3m	0.70-1.30	
		4m-6m	0.75-1.50	4m-6m	0.75-1.50	
		>6m	0.75-1.50	>6m	0.75-1.50	
COAGULATION – Plasminogen Activator	ng/mL	>6m	1.0-20.0	>6m	1.0-20.0	
COAGULATION – Plasminogen Activator Inhibitor	U/mL	>6m	0.0-3.5	>6m	0.0-3.5	
COAGULATION – LA Russel Viper Venom	ratio	>6m	0.8-1.2	>6m	0.8-1.2	
LA Russel Viper Venom Correction	ratio	>6m	0.8-1.2	>6m	0.8-1.2	
LA Russel Viper Venom Mix	ratio	>6m	0.8-1.2	>6m	0.8-1.2	
BETA 2 GLYCOPROTEIN ASSAY	CU	>6m	0-20	>6m	0-20	
ADAMTS-13 ASSAY ELISA	%	>6m	40-130	>6m	40-130	
ADAMTS-13 ASSAY AcuStar	%		60.6 – 130.6		60.6 – 130.6	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
PLATELET FUNCTION TEST						
Collagen	%	>6m	75-100	>6m	75-100	
Arahidonic Acid	%	>6m	75-100	>6m	75-100	
ADP (10uM)	%	>6m	75-100	>6m	75-100	
ADP (5uM)	%	>6m	75-100	>6m	75-100	
Ristocetin (1.5mg)	%	>6m	75-100	>6m	75-100	
Ristocetin (0.5mg)	%	>6m	0-10	>6m	0-10	
Epineperine (10umM)	%	>6m	75-100	>6m	75-100	
Collagen/Epinepherine	sec	>6m	93-170	>6m	93-170	
Collagen/ADP	sec	>6m	66-133	>6m	66-133	

BONE MARROW DIFFERENTIAL (BM)						
BM NEUTROPHILS	%	0d	10.0-40.0	0d	10.0-40.0	
		1d-14d	10.0-40.0	1d-14d	10.0-40.0	
		15d-29d	10.0-40.0	15d-29d	10.0-40.0	
		1m-12m	5.0-30.0	1m-12m	5.0-30.0	
		12m-6y	3.8-12.0	12m-6y	3.8-12.0	
		7y-13y	3.8-12.0	7y-13y	3.8-12.0	
		>14y	3.8-12.0	>14y	3.8-12.0	
BM LYMPHOCYTES	%	0d	4.0-22.0	0d	4.0-22.0	
		1d-14d	4.0-22.0	1d-14d	4.0-22.0	
		15d-29d	4.0-22.0	15d-29d	4.0-22.0	
		1m-12m	20.0-65.0	1m-12m	20.0-65.0	
		12m-6y	20.0-65.0	12m-6y	20.0-65.0	
		7y-13y	5.0-30.0	7y-13y	5.0-30.0	
		>14y	8.6-23.8	>14y	8.6-23.8	
BM MONOCYTES	%	0d	0.0-3.0	0d	0.0-3.0	
		1d-14d	0.0-3.0	1d-14d	0.0-3.0	
		15d-29d	0.0-3.0	15d-29d	0.0-3.0	
		1m-12m	0.0-3.0	1m-12m	0.0-3.0	
		12m-6y	0.0-3.0	12m-6y	0.0-3.0	
		7y-13y	0.0-3.0	7y-13y	0.0-3.0	
		>14y	0.0-0.8	>14y	0.0-0.8	

BM EOSINOPHILS	%	0d	0.0-7.0	0d	0.0-7.0	
		1d-14d	0.0-7.0	1d-14d	0.0-7.0	
		15d-29d	0.0-7.0	15d-29d	0.0-7.0	
		1m-12m	0.0-5.0	1m-12m	0.0-5.0	
		12m-6y	1.0-6.0	12m-6y	1.0-6.0	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		7y-13y	1.0-6.0	7y-13y	1.0-6.0	
		>14y	1.1-5.3	>14y	1.1-5.3	
BM BASOPHILS	%	0d	0.0-0.8	0d	0.0-0.8	
		1d-14d	0.0-0.8	1d-14d	0.0-0.8	
		15d-29d	0.0-0.8	15d-29d	0.0-0.8	
		1m-12m	0.0-0.8	1m-12m	0.0-0.8	
		12m-6y	0.0-0.8	12m-6y	0.0-0.8	
		7y-13y	0.0-0.8	7y-13y	0.0-0.8	
		>14y	0.0-0.2	>14y	0.0-0.2	
BM BAND FORMS	%	0d	20.0-36.0	0d	20.0-36.0	
		1d-14d	20.0-36.0	1d-14d	20.0-36.0	
		15d-29d	3.1-25.1	15d-29d	3.1-25.1	
		1m-12m	3.1-25.1	1m-12m	3.1-25.1	
		12m-6y	9.4-15.4	12m-6y	9.4-15.4	
		7y-13y	9.4-15.4	7y-13y	9.4-15.4	
		>14y	9.4-15.4	>14y	9.4-15.4	
BM NEUTROPHIL METAMYELOCYTES	%	0d	9.7-29.0	0d	9.7-29.0	
		1d-14d	3.5-19.6	1d-14d	3.5-19.6	
		15d-29d	3.5-19.6	15d-29d	3.5-19.6	
		1m-12m	3.5-19.6	1m-12m	3.5-19.6	
		12m-6y	3.5-20.7	12m-6y	3.5-20.7	
		7y-13y	3.5-20.7	7y-13y	3.5-20.7	
		>14y	7.1-24.7	>14y	7.1-24.7	
BM NEUTROPHIL MYELOCYTES	%	0d	4.0-16.0	0d	4.0-16.0	
		1d-14d	4.0-16.0	1d-14d	4.0-16.0	
		15d-29d	4.0-16.0	15d-29d	4.0-16.0	
		1m-12m	4.0-16.0	1m-12m	4.0-16.0	
		12m-6y	4.0-16.0	12m-6y	4.0-16.0	
		7y-13y	4.0-16.0	7y-13y	4.0-16.0	
		>14y	8.5-16.9	>14y	8.5-16.9	
BM EOSINOPHIL MYELOCYTES	%	0d	0.1-3.0	0d	0.1-3.0	
		1d-14d	0.1-3.0	1d-14d	0.1-3.0	
		15d-29d	0.1-3.0	15d-29d	0.1-3.0	
		1m-12m	0.1-3.0	1m-12m	0.1-3.0	
		12m-6y	0.1-3.0	12m-6y	0.1-3.0	
		7y-13y	0.1-3.0	7y-13y	0.1-3.0	
		>14y	0.1-3.0	>14y	0.1-3.0	
BM PROMYELOCYTES	%	0d	0.0-4.5	0d	0.0-4.5	
		1d-14d	0.0-4.5	1d-14d	0.0-4.5	
		15d-29d	0.0-4.5	15d-29d	0.0-4.5	
		1m-12m	0.0-4.5	1m-12m	0.0-4.5	
		12m-6y	0.0-4.5	12m-6y	0.0-4.5	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		7y-13y	0.5-4.5	7y-13y	0.5-4.5	
		>14y	1.9-4.7	>14y	1.9-4.7	
BM BLASTS	%	0d	0.0-4.0	0d	0.0-4.0	
		1d-14d	0.0-4.0	1d-14d	0.0-4.0	
		15d-29d	0.0-4.0	15d-29d	0.0-4.0	
		1m-12m	0.0-4.0	1m-12m	0.0-4.0	
		12m-6y	0.0-3.0	12m-6y	0.0-3.0	
		7y-13y	0.0-3.0	7y-13y	0.0-3.0	
		>14y	0.1-1.7	>14y	0.1-1.7	
BM ORTHOCHROMIC NORMOBLASTS	%	0d	0.0-1.4	0d	0.0-1.4	
		1d-14d	0.0-1.4	1d-14d	0.0-1.4	
		15d-29d	0.0-1.4	15d-29d	0.0-1.4	
		1m-12m	0.0-1.6	1m-12m	0.0-1.6	
		12m-6y	0.0-1.6	12m-6y	0.0-1.6	
		7y-13y	0.0-1.6	7y-13y	0.0-1.6	
		>14y	0.3-4.6	>14y	0.3-4.6	
BM POLYCHROMATIC NORMOBLASTS	%	0d	6.0-19.8	0d	6.0-19.8	
		1d-14d	6.0-19.8	1d-14d	6.0-19.8	
		15d-29d	6.0-19.8	15d-29d	6.0-19.8	
		1m-12m	2.0-16.0	1m-12m	2.0-16.0	
		12m-6y	2.0-16.0	12m-6y	2.0-16.0	
		7y-13y	2.0-16.0	7y-13y	2.0-16.0	
		>14y	13.1-30.1	>14y	13.1-30.1	
BM BASOPHILIC NORMOBLASTS	%	0d	0.0-0.5	0d	0.0-0.5	
		1d-14d	0.0-0.5	1d-14d	0.0-0.5	
		15d-29d	0.0-0.5	15d-29d	0.0-0.5	
		1m-12m	0.0-1.0	1m-12m	0.0-1.0	
		12m-6y	0.0-1.0	12m-6y	0.0-1.0	
		7y-13y	0.0-1.0	7y-13y	0.0-1.0	
		>14y	0.4-2.4	>14y	0.4-2.4	
BM PRONORMOBLASTS	%	0d	0.0-0.1	0d	0.0-0.1	
		1d-14d	0.0-0.1	1d-14d	0.0-0.1	
		15d-29d	0.0-0.1	15d-29d	0.0-0.1	
		1m-12m	0.0-0.3	1m-12m	0.0-0.3	
		12m-6y	0.0-0.3	12m-6y	0.0-0.3	
		7y-13y	0.0-0.3	7y-13y	0.0-0.3	
		>14y	0.1-1.3	>14y	0.1-1.3	
BM PLASMA CELLS	%	0d	0.0-0.1	0d	0.0-0.1	
		1d-14d	0.0-0.1	1d-14d	0.0-0.1	
		15d-29d	0.0-0.1	15d-29d	0.0-0.1	
		1m-12m	0.0-0.1	1m-12m	0.0-0.1	
		12m-6y	0.0-0.1	12m-6y	0.0-0.1	

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
		7y-13y	0.0-0.1	7y-13y	0.0-0.1	
		>14y	0.0-3.9	>14y	0.0-3.9	
BM ATYPICAL LYMPHOCYTES	%	ALL	0.0-0.0	ALL	0.0-0.0	
BM MEGAKARYOCYTES	%	ALL	0.0-0.4	ALL	0.0-0.4	
M:E RATIO	ratio	0d	1.0-5.0	0d	1.0-5.0	
		1d-14d	1.0-5.0	1d-14d	1.0-5.0	
		15d-29d	1.0-5.0	15d-29d	1.0-5.0	
		1m-12m	2.5-10.0	1m-12m	2.5-10.0	
		12m-6y	2.5-8.0	12m-6y	2.5-8.0	
		7y-13y	2.5-8.0	7y-13y	2.5-8.0	
		>14y	1.1-3.5	>14y	1.1-3.5	
COLD AGGLUTININS						
TITRE ADULT RBC 37C	titre	ALL	0-1	ALL	0-1	
TITRE ADULT RBC RT		ALL	0-1	ALL	0-1	
TITRE ADULT RBC 4C		ALL	1-32	ALL	1-32	
TITRE AUTOLOGOUS RBC 37C		ALL	0-1	ALL	0-1	
TITRE AUTOLOGOUS RBC RT		ALL	0-1	ALL	0-1	
TITRE AUTOLOGOUS RBC 4C		ALL	1-32	ALL	1-32	
TITRE CORD RBC 37C		ALL	0-1	ALL	0-1	
TITRE CORD RBC RT		ALL	0-1	ALL	0-1	
TITRE CORD RBC 4C		ALL	0-8	ALL	0-8	

Immunology

Test	Unit	Male		Female	
		Age/ parameter	value	Age/ parameter	value
Anti Cardiolipin Antibodies - IgG	GPL	N/A	1.0 – 9.0 (Negative)	N/A	1.0 – 9.0 (Negative)
Anti Cardiolipin Antibodies - IgM	MPL	N/A	0.4 – 5.0 (Negative)	N/A	0.4 – 5.0 (Negative)
Anti Deamidated Gliadin Antibodies (DGP) – IgG	U/mL	N/A	<7	N/A	<7
Anti Double Stranded DNA (dsDNA) Antibodies	IU/mL	N/A	<10	N/A	<10
Anti Glomerular Basement Membrane (GBM) Antibodies	U/mL	N/A	<7	N/A	<7
Anti Mitochondrial Antibodies	Titre	N/A	<20	N/A	<20
Anti Myeloperoxidase (MPO-ANCA) Antibodies	IU/mL	N/A	<3.5	N/A	<3.5
Anti Nuclear Antibodies (ANA)	Titre	N/A	<160	N/A	<160
Anti Phospholipase A2 Receptor (PLA2R) Antibodies	RU/mL	N/A	<14	N/A	<14
Anti Proteinase-3 (PR3-ANCA) Antibodies	IU/mL	N/A	<2.0	N/A	<2.0
Anti Smooth Muscle Antibodies	Titre	N/A	<20	N/A	<20
Anti Tissue Transglutaminase (tTG) Antibodies - IgA	U/mL	N/A	<7	N/A	<7
Lymphocyte Subsets – CD3+ T-cells (#)	x10 ⁶ cells/L	≥10y	688-2445	≥10y	688-2445
Lymphocyte Subsets – CD3+ T-cells (%)	%	≥10y	59-84	≥10y	59-84
Lymphocyte Subsets – CD3+/CD4+ T-cells (#)	x10 ⁶ cells/L	≥10y	389-1569	≥10y	389-1569
Lymphocyte Subsets – CD3+/CD4+ T-cells (%)	%	≥10y	31-59	≥10y	31-59
Lymphocyte Subsets – CD3+/CD8+ T-cells (#)	x10 ⁶ cells/L	≥10y	168-894	≥10y	168-894
Lymphocyte Subsets – CD3+/CD8+ T-cells (%)	%	≥10y	12-42	≥10y	12-42
Lymphocyte Subsets – CD19+ B-cells (#)	x10 ⁶ cells/L	≥10y	98-597	≥10y	98-597
Lymphocyte Subsets – CD19+ B-cells (%)	%	≥10y	6-26	≥10y	6-26
Lymphocyte Subsets – CD20+ B-cells (#)	x10 ⁶ cells/L	≥10y	102-594	≥10y	102-594

Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 38 of 45

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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

Test	Unit	Male		Female	
		Age/ parameter	value	Age/ parameter	value
Lymphocyte Subsets – CD20+ B-cells (%)	%	≥10y	6-27	≥10y	6-27
Lymphocyte Subsets – CD3-/CD16+/CD56+ NK-cells (#)	x10 ⁶ cells/L	≥10y	61-776	≥10y	61-776
Lymphocyte Subsets – CD3-/CD16+/CD56+ NK-cells (%)	%	≥10y	7-28	≥10y	7-28

Microbiology

Test	Unit	Male		Female		Date implemented
		Age/ parameter	value	Age/ parameter	value	
Urine: Leucocytes	10 ⁶ /L		<10		<10	1995
Urine: Erythrocytes	10 ⁶ /L		<13		<13	1995
CSF: Leucocytes (Total) (0 - 60% polymorphs) (Peripheral WBC: RBC ratio <1:500)	10 ⁶ /L	0-28d	0-25	0-28d	0-25	1995
CSF: Leucocytes (Total)	10 ⁶ /L	>28d	0-5	>28d	0-5	1995

Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 39 of 45

This is a controlled document of Monash Health Pathology.
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Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 40 of 45

This is a controlled document of Monash Health Pathology.
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Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13	
Monash Health Pathology			Page 41 of 45

This is a controlled document of Monash Health Pathology.
Uncontrolled copies of this document are valid only on the day of production.

PATHOLOGY REFERENCE INTERVAL
MASTER LIST

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Issue date:	6/08/2024	Document:	WIN-QS-19	Version:	13
Monash Health Pathology				Page 42 of 45	

This is a controlled document of Monash Health Pathology.
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PATHOLOGY REFERENCE INTERVAL
MASTER LIST

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Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13	
Monash Health Pathology			Page 43 of 45

This is a controlled document of Monash Health Pathology.
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Issue date:	6/08/2024	Document:	WIN-QS-19	Version:	13
Monash Health Pathology					Page 44 of 45

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Issue date: 6/08/2024	Document: WIN-QS-19	Version: 13
Monash Health Pathology		Page 45 of 45

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