

BLOOD GAS REFERENCE INTERVALS

1. REFERENCE INTERVAL

Attached are the PathWest age related Reference Intervals for blood gas and metabolites tested on the Point of Care Equipment (Blood Gas Analysers and iSTAT).

2. REFERENCES

The master Biochemistry Test Reference Interval document is located on the W Drive at the following location.

<W:\PathWest\QE\biochemistry\Master RI>

3. DOCUMENT SUMMARY

A printed copy of this document may be made available at the site of the Point of Care Testing instruments if required. The Reference Intervals are also shown in SOFTLAB when results are sent from the POC device to Aqure and into SOFT.

ANALYTE	Age	ARTERIAL Reference Interval	CAPILLARY Reference Interval	VENOUS Reference Interval (all ages)	UNITS
pH	0 – <2d	7.32 – 7.44	7.32 – 7.44	7.32-7.43	pH
	2d – <7d	7.33 – 7.44	7.33 – 7.44		
	7d – <2y	7.34 – 7.44	7.34 – 7.44		
	2y - <120y	7.35 – 7.45	7.35 – 7.45		
pCO ₂	0 – <2d	32 – 43	32 – 43	37-50	mmHg
	2d – <10y	32 – 42	32 – 42		
	10y – <18y	33 – 44	33 – 44		
	18y - <120y	36 – 45	36 - 45		
pO ₂	0 – <1d	55 - 80	NA	36-44	mmHg
	1d – <2d	55 - 95			
	2d - <120y	85 - 110			
HCO ₃	0 - <7d	18 – 26	18 – 26	22-28	mmol/l
	7d - <10y	18 - 27	18 – 27		
	10y - <18y	19 – 27	19 – 27		
	18y - <120y	21 – 28	21 - 28		
Base Excess	0 - <7d	–5 to +1	–5 to +1	-3 to +3	mmol/l
	7d - <10y	–5 to +2	–5 to +2		
	10y - <18y	–4 to +2	–4 to +2		
	18y - <120y	–3 to +3	-3 to +3		
O ₂ Saturation	0d – <2d	>85	NA	70 - 80	%
	≥2d - <120y	>95			

Analyte	Age	Reference Interval	Units	Analyte	Age	Reference Interval	Units	Analyte	Age	Reference Interval	Units
Sodium	0d – <1w	132 – 147	mmol/L	Creatinine	0 – <1w	22 – 93	μmol/L	Bilirubin	0-<1d	<100	μmol/L
	1w– <18y	133 – 144			1w - <4w	17 – 50			1d - <3d	<150	
	18y - <120y	135 – 145			4w - <2y	11 – 36			3d - <8d	<200	
	Pregnancy	132 – 142			2y - <6y	20 – 44			8d - <31d	Clinical decision	
Potassium	0d – <1w	3.5 – 6.2	mmol/L		6y - <12y	27 - 58			31d - <120y	<20	
	1w - <26w	3.8 – 6.4			M 12y - <15y	35 – 83			Haemoglobin (Hb)	0d – <1w	
	26w - <1y	3.5 – 5.4			F 12y - <15y	35 – 74		1w – <5w		100 – 170	
	2y - <18y	3.3 – 4.9			M 15y - <19y	50 – 100		5w – <6m		95 – 140	
	18y – <120y	3.5 – 5.2			F 15y - <19y	38 – 82		6m – <2y		105 – 140	
	Pregnancy	3.4 – 4.8			M 19y - <120y	60 - 110		2y – <6y		110 – 145	
Chloride	0d – <1w	98 – 115	mmol/L		F 19y - <120y	45 - 90		6y – <12y		115 – 155	
	1w - <18y	97 – 110		Pregnancy	35 - 75	M 12y – <18y	125 – 170				
	18y - <120y	95 – 110		Ionised Calcium	0d – <3d	1.00 – 1.35	F 12y – <18y	120 – 155			
Anion Gap		7 - 17	mmol/L		3d - <7d	1.10 – 1.40	M 18y - <120y	135 – 180			
	Glucose	0h – <3d	2.6 – 5.4		mmol/L	7d - <28d	1.12 – 1.42	F 18y - <120y		115 – 160	
		3d – <120y	3.0 – 5.4			28d - <1y	1.15 – 1.40	Pregnancy		110 - 146	
Pregnancy		3.0 – 5.0	1y - <2y			1.12 – 1.35	Carboxy Hb	< 6	%		
Lactate	0d - <3d	<4.0	mmol/L		2y - <120y	1.12 – 1.32	Met Hb	< 1.5	%		
	3d - <120y	<2.0									

Analyte	CORD ARTERIAL Reference interval	CORD VENOUS Reference interval	Units
pH	7.10 – 7.38	7.20 – 7.44	
pCO ₂	39 – 74	30 – 57	mmHg
pO ₂	4 – 32	14 – 43	mmHg
HCO ₃	20 – 29	18 – 27	mmol/L
Base excess	-9 to +2	-8 to +2	mmol/L
Lactate	<6.1	NA	mmol/L

ISTAT CG4+ REFERENCE INTERVALS CHART FOR DISPLAY

ANALYTE	Age	ARTERIAL Reference Interval	CAPILLARY Reference Interval	VENOUS Reference Interval (all ages)	UNITS
pH	0 – <2d	7.32 – 7.44	7.32 – 7.44	7.32-7.43	pH
	2d – <7d	7.33 – 7.44	7.33 – 7.44		
	7d – <2y	7.34 – 7.44	7.34 – 7.44		
	2y - <120y	7.35 – 7.45	7.35 – 7.45		
pCO₂	0 – <2d	32 – 43	32 – 43	37-50	mmHg
	2d – <10y	32 – 42	32 – 42		
	10y – <18y	33 – 44	33 – 44		
	18y - <120y	36 – 45	36 - 45		
pO₂	0 – <1d	55 - 80	NA	36-44	mmHg

ANALYTE	Age	Reference Interval (all samples)	UNITS
Lactate	0d - <3d	<4.0	mmol/L
	3d - <120y	<2.0	mmol/L

Source of Reference Intervals – PathWest Fasttrack Branches Biochemistry Document
BMM082 Blood Gas reference Intervals

ISTAT CHEM8 REFERENCE INTERVALS CHART FOR DISPLAY

Analyte	Age	Reference Interval	Units	Analyte	Age	Reference Interval	Units	Analyte	Age	Reference Interval	Units
Sodium	0d - <1w	132 – 147	mmol/L	Creatinine	0d - <1w	22 - 93	umol/L	Urea	0d - <7d	2.0 – 8.0	mmol/L
	1w - <18y	133 - 144			1w - <4w	17 - 50			7d - <1y	1.0 – 6.0	
	18y - <120y	135 - 145			4w - <2y	11 - 36			1y – 4y	2.0 – 6.5	
	Pregnancy	132 - 142			2y - <6y	20 - 44			4y - <13y	2.5 – 6.5	
		6y - < 12y	27 - 58								
Potassium	0d - <1w	3.5 – 6.2	mmol/L		M12y - <15y	35 - 83					
	1w - <26w	3.8 – 6.4			F12y - <15y	35 - 74					
	26w - <1y	3.5 – 5.4			M 15y - <19y	50 - 100					
	2y - <18y	3.3 – 4.9			F 15y - <19y	38 - 82					
	18y - <120y	3.5 – 5.2			M 19y - <120y	60 - 110					
	Pregnancy	3.4 – 4.8			F 19y - <120y	45 - 90					
Chloride	0d - <1w	98 - 115	mmol/L		Pregnancy	35 - 75					
	1w - <18y	97 - 110									
	18y - <120y	95 - 110									
Anion Gap		7 – 17	mmol/L	Haemoglobin (Hb) Calculated test	0d - <1w	135 – 195	g/L				
Glucose	0h - <3d	2.6 – 5.4	mmol/L		1w - <5w	100 - 170					
	3d - <120y	3.0 – 5.4			5w - <6m	95 - 140					
	Pregnancy	3.0 – 5.0			6m - <2y	105 - 140					
Ionised Calcium	0d - <3d	1.00 – 1.35	mmol/L		2y - <6y	110 - 145					
	3d - <7d	1.10 – 1.40			6y - <12y	115 - 155					
	7d - <28d	1.12 – 1.42			M 12y - <18y	125 – 170					
	28d - <1y	1.15 – 1.40			F12y - <18y	120 - 155					
	1y - <2y	1.12 – 1.35			M18y - <120y	135 - 180					
	2y - <120y	1.12 – 1.32			F 18y - <120y	115 - 160					
					Pregnancy	110 - 146					
								Source of Reference Intervals – PathWest Fasttrack Biochemistry Document			
								BMM082 Blood Gas reference Intervals			

Source of Reference Intervals – PathWest Fasttrack Branches Biochemistry Document

BMM082 Blood Gas reference Intervals