

IMPORTANT NOTE

31st August 2017

CHANGE OF MEASURING SYSTEM FOR ROUTINE CHEMISTRY AND IMMUNOASSAY

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On Sunday 2nd September SydPath will change to new instruments for the majority of routine chemistry and immunoassay testing. The current system in use for over 8 years is at the end-of-life and is being replaced with a system from Beckman-Coulter. There will be changes to results for some assays. Reference intervals are also being reviewed with new information where available. These changes will be clearly marked on pathology reports. Where relevant recommended Australian Common Reference Intervals will be retained or adopted.

This note is to provide advance notice of the changes. Tests not mentioned will not change.

Please note that the proposed new reference intervals below may be subject to further review.

ROUTINE CHEMISTRY	CHANGE	CURRENT ADULT RI	PROPOSED ADULT RI
Sodium	~1 mmol/L lower	137 – 146	135 – 145 #
Chloride	~3 mmol/L lower	95 – 110 #	No change
Bicarbonate	~2 mmol/L higher	22 – 32 #	No change
Creatinine	No change	M: 60 – 120 umol/L F: 40 – 90 umol/L	M: 60 – 110 umol/L F: 45 – 90 umol/L #
Urea (female)	No change	3.0 – 8.5 mmol/L	<50 years: 3.0 – 7.0 50-69 years: 3.5 – 8.0 70+ years: 4.0 – 9.0 #
Urea (male)	No change	3.0 – 8.5 mmol/L	<50 years: 3.5 – 8.0 50-69 years: 4.0 – 9.0 70+ years: 4.5 – 10.0 #
Total Protein	~3 g/L lower	60 – 82 g/L	60 – 80 g/L #
Albumin	~ 4 g/L lower	36 – 52 g/L	33 – 48 g/L
Globulins	~ 1 g/L lower	22 – 38 g/L	15 – 30 g/L
AST	~12% higher	0 – 30 U/L	M: 0 – 35 U/L F: 0 – 30 U/L #
ALT	~12% higher	0 – 30 U/L	M: 0 – 40 U/L F: 0 – 35 U/L #
GGT (female)	~15% higher	0 – 35 U/L	M: 0 – 50 U/L F: 0 – 35 U/L #
Alkaline Phosphatase	~8% higher	19y+: 30 -100 U/L	19y+: 30 – 110 U/L #
Total Bilirubin	~15% higher	0-18 umol/L	1 – 20 umol/L #
Direct Bilirubin	~25% lower	0 – 10 umol/L	0 – 5 umol/L

RCPA/AACB Australian recommended common reference intervals.

No significant change in results and no change in reference intervals for the following tests:

Serum: Potassium, Glucose, Urate, Iron, Calcium, Magnesium, Phosphate, Transferrin, Amylase, Lipase, Creatine Kinase, LDH, CRP, Lactate, Cholesterol, HDL cholesterol, Triglycerides, eGFR, creatinine clearance, HbA1c, NT-proBNP, therapeutic drugs (eg Gentamicin, Digoxin, Phenytoin, Vancomycin).

Urine and CSF: no change in results for any tests (eg creatinine, protein, albumin, glucose), or testing for urine drugs of abuse.

IMUNOASSY	CHANGE	CURRENT ADULT RI	NEW ADULT RI
TSH (mIU/L)	~12% lower	0.4 – 4.2 mIU/L	0.4 – 4.8 mIU/L
Free T4 (pmol/L)	~4 pmol/L lower	10 – 22 pmol/L	8.0 – 16.0 pmol/L
Free T3 (pmol/L)	Minor changes	3.0 – 6.2 pmol/L	4.0 – 6.0 pmol/L
Ferritin(ug/L)	~ 30 % lower	M: 30 – 400 ug/L F<55y: 15 – 150 ug/L F>55y: 30-400 ug/L	M: 30 – 400 ug/L F<55: 15 – 150 ug/L F>=55y: 30 – 300 ug/L
Vitamin B12 (pmol/L) (active B12 if<200)	~ 25% lower	Deficient: <120 Indeterm'ate: 120-180 Replete: >180 pmol/L	Deficient: <90 Indeterm'ate: 90-140 Replete: >140 pmol/L
Folate – Serum	~10% higher	>8.8 nmol/L	>10 nmol/L
Folate – Red Cell	~ 600 nmol/L lower	>1400 nmol/L	>800 nmol/L
Insulin (mIU/L)	~ 20% lower	2 – 15 mIU/L	2 – 15 mIU/L
Prolactin (mU/L)	~ 30% Lower	M: 50 – 350 F: 50 – 500	M: 50 – 300 mU/L F<55: 50 – 500 mU/L F55+: 50 – 300 mU/L
hCG (IU/L)	~ 25% higher	<10 IU/L	F<40 & M: 0 - 5 IU/L F>=40: 0 - 10 U/L
Oestradiol (pmol/L)	Similar values	Follicular: 50 - 800 Mid-cycle: 150 – 1500 Luteal: 150 – 1000 Postmenop: 0 - 100 M: 0 - 150	Follicular: 50 - 420 Mid-cycle: 120 – 2000 Luteal: 130 – 1000 Postmenop: 0 - 100 M: 0 - 150
Progesterone (pmol/L)	Similar values	Mid-follicular: <3.0 Mid-luteal: >20 Postmenopausal: <0.6 M: <0.6	Mid-follicular: 0 - 5.0 Mid-luteal: >15 Postmenop: 0 - 2.5 M: 0 - 6.5
LH (IU/L)	~15% lower	Follicular: 2.4 – 13 Mid-cycle: 14 - 97 Luteal phase: 1 – 12 Postmenop: 7.7 - 60 M: 1.7 – 8.6	Follicular: 2 - 12 Mid-cycle: 15 - 100 Mid-luteal: 1 – 13 Postmenop: 7.0 - 60 M: 1.0 – 9.0
FSH (IU/L)	~10% higher	Follicular: 3.5 – 13 Mid-cycle: 4.7 - 22 Luteal phase: 1.7 – 7.7 Postmenop: 25 - 140 M: 1.5 – 13	Follicular: 4.0 – 9.0 Mid-cycle: 4.0 - 23 Mid-luteal: 1.5 – 5.0 Postmenop: 17 - 115 M: 1.0 – 9.0
SHBG (nmol/L)	~ 25% lower	M 15-49y: 15 – 50 M 50+: 20 – 90 F: 20 - 110	M: 15-49y: 12 – 50 M50+: 15 - 80 F: 15 - 130
Testosterone (nmol/L)	Concentration dependent	M 18-49: 10 – 32 M 50+: 8 – 32 F: 0 – 1.8	M 18 - 40: 8 – 25 M 40+: 6 – 22 F: 0 – 2.0
Troponin I (ng/L)	Change from Trop'n T		F: 0 – 10 ng/L M: 0 – 20 ng/L
PTH (pmol/L)	~ 10% higher	1.5 – 7.0 pmol/L	2.0 – 9.0 pmol/L

TUMOUR MARKERS: AFP, PSA and free/total ratio, CEA, CA 125, CA 19-9, CA 15-3 - Similar results and reference intervals for the new assays, however patients with previous results will be re-baselined with the new assay.

Please contact Dr Graham Jones (8382-9160) or the laboratory (8382-9100) with any questions.

IMPORTANT NOTICE

CHANGES TO CHEMISTRY TESTING AT SYDPATH

SydPath is upgrading the equipment used for routine chemistry and immunoassay testing. New analysers are being installed with a fully automated sample handling system.

This has three important implications for Users of the SydPath laboratory:

1. On Sunday 2nd September testing will transition to the new analysers. Some significant delays may be expected for all testing performed on this day.
2. For a period of about 1 month after the instrument change the laboratory will operate with some manual processing prior to go-live of the automation system. Some minor delays may be expected during this period.
3. There will be significant changes to the results of some tests and to some reference intervals. These will be detailed in a separate flyer and the changes noted on the reports.

This is a required change due to our previous equipment being “end-of-life”. All attempts will be made to minimise any disruption to services.

We apologise in advance for any delays. Please call A/Prof Graham Jones with any concerns you may have on (02) 8382 9160. For result enquiries you may also contact SydPath phone room on (02) 8382 9100.