

Critical value cut-off limits: updating limits in accordance to guidance published by the Royal College of Pathologists.

The Clinical Biochemistry department has reviewed the existing critical low and high cut-off values utilised in the department against that recommended by the Royal College of Pathologists' publication, 'The communication of critical and unexpected pathology results' (October 2017).

Considering these guidelines and the feedback received during this consultation period, new cut-off values will be implemented on **Wednesday 10 April 2019**. These can be found below. In the event of results being out-with these limits, and being of new first-time occurrence, the requesting location will be telephoned.

Test (units)	Current PCH Cut-off Values		RCPath 2017 Guidance		2019 PCH Cut-off Values	
	Lower	Upper	Lower	Upper	Lower	Upper
Sodium (mmol/L)	125	155	120 (>16yr) 130 (<16yr)	160	120 (>16yr) 130 (<16yr)	160
Potassium (mmol/L)	2.5	6.5	2.5	6.5	2.5	6.5
Urea (mmol/L)		30		30 (>16yr) ≥10 (<16yr)		30 (>16yr) ≥10 (<16yr)
Creatinine (umol/L)		200		354 ≥200 (<16yr)		200
AKI				Stage 2/3		Stage 2/3
AKI/K ⁺				Stage 1 with potassium >6.0mmol/L		Stage 1 with potassium >6.0mmol/L
Glucose (mmol/L)	2.5	25 10 (pregnancy)	2.5	25 (>16yr) ≥15 (<16yr)	2.5	25 (>16yr) ≥15 (<16yr)
CRP (mg/L)		400		300 (GPs only)		300

Adjusted Calcium (mmol/L)	1.8	3.0	1.8	3.5	1.8	3.5
Magnesium (mmol/L)	0.50		0.40		0.40	
Inorganic Phosphate (mmol/L)	0.4	3.5	0.3		0.3	
ALT (U/L)		900		15xULN (900)		900
CPK (U/L)		5000		5000		5000
Troponin-T	Not currently telephoned			Local cut-off	Not telephoned	
Amylase (U/L)		500		5xULN (500)		500
Lactate (mmol/L)		5.5	No guidance			5.5
Albumin (g/L)	20	55	No guidance		20	55
Total bilirubin (umol/L)		270	No guidance			270
Total Protein (g/L)	25	90	No guidance		25	90
Direct bilirubin (umol/L)	Not currently telephoned			25		25
AST (U/L)	Not currently telephoned			15xULN (525)		525
GGT (U/L)		2000	No guidance			2000
Uric acid (umol/L)	Not currently telephoned			340 (antenatal)		340 (maternity only)
Bicarbonate (mmol/L)	10	40	10		10	40
Bile Acid (umol/L)		14	No guidance			14
Salicylate (mg/L)		400		300		300
Paracetamol (mg/L)		200		Any detectable		100

Carbamazepine (mg/L)		25	No guidance			25
Digoxin (ug/L)		2.0		2.5		2.5
Theophylline (mg/L)		25		25		25
Phenytoin (mg/L)		25		25		25
Phenobarbitone (mg/L)		70	No guidance			70
Lithium (mmol/L)		1.5		1.5		1.5
Iron (umol/L)		34.5	No guidance			34.5
Cortisol (nmol/L)	Not currently telephoned		50		50	
			(unless part of overnight dexamethasone suppression test)		(unless part of overnight dexamethasone suppression test)	
Cortisol (SST 30min) (nmol/L)	Not currently telephoned		250		250	
Ammonia (umol/L)		50		100		100
Ethanol (mg/L)	Not currently telephoned			4000	Do not currently provide an urgent service	

If you have any queries relating to this please contact the Biochemistry Department on 01733 678455 or email peh-tr.ChemImm@nhs.net

Kindest regards,

Dr Mark Lum (Consultant Chemical Pathologist) and Jamie West (Biochemistry Manager)