

## Biochemistry – Telephone Limits for communication of critical and unexpected results

Analyte	Phoning Limit from the Laboratory	
	Lower	Upper
24-hour Urine Protein		> 2.00g/24 hours Except if from consultant nephrology
AKI	New findings only AKI 1 to be phoned to GP locations if Potassium $\geq$ 6 mmol/L. <b>All AKI 2 and 3 alerts to be phoned to all locations.</b> If known adult dialysis patient then AKI <u>does not</u> need telephoning at any level.	
Alcohol (Ethanol)		$\geq$ 800 mg/L if 17 years old and under $\geq$ 4000 mg/L in 18 years old and over
ALT		0-11 months >450 U/L 1-12 years >345 U/L 13-17 years Female >315 U/L 13-17 years Male >323 U/L >17 years Female >510 U/L >17 years Male >735 U/L
Ammonia		> 100 $\mu$ mol/L
Amylase		$\geq$ 450 U/L
AST		> 500 U/L
Bicarbonate	< 10 mmol/L	
Bile Acids		$\geq$ 100 $\mu$ mol/L
Bilirubin		> 300 $\mu$ mol/L aged 1-30 days
Direct Bilirubin		Direct (conj.) > 25 $\mu$ mol/L or >25% of total bilirubin (if <30 days old)
Adjusted Calcium	< 1.80 mmol/L Total calcium $\leq$ 1.50 mmol/L to be phoned if no adjusted calcium available.	$\geq$ 3.50 mmol/L Total calcium $\geq$ 3.50 mmol/L to be phoned if no adjusted calcium available.
CK		$\geq$ 5000 IU/L
Cortisol	< 100 nmol/L If not part of a dexamethasone suppression test or from oncology locations.  Typical clinical details that indicate dexamethasone suppression test: DST, ONDST, O/NDST, LDDST (part 1 / part 2), dex., dexamethasone.	
Creatinine		<b>Paediatric patients:</b> $\geq$ 200 $\mu$ mol/L ( $\leq$ 15 years)  <b>Adult patients:</b> <ul style="list-style-type: none"><li>• &gt; 350 <math>\mu</math>mol/L (non-renal locations)</li><li>• &gt; 600 <math>\mu</math>mol/L (renal locations and not on dialysis)</li></ul> <b>Adult patients (on dialysis):</b> If known dialysis patient then creatinine <u>does not</u> need telephoning at any level. Typical clinical details that indicate dialysis are: Dialysis, Haemodialysis, HDx, HD, Peritoneal dialysis, PD, APD
CRP		$>$ 300 mg/L Non-Inpatient locations
CSF Xanthochromia	All positive results to be phoned	

FT4		> 40 pmol/L
<b>Glucose (Fasting and Random)</b>	<b>&lt; 2.5 mmol/L</b>	<b>&gt; 15 mmol/L (<math>\leq 15</math> years old – all)</b> <b>&gt; 25 mmol/L DM not known</b> <b>&gt; 30 mmol/L DM known</b>
Iron		> 70 $\mu$ mol/L
Lactate		$\geq 5$ mmol/L
Magnesium	$\leq 0.4$ mmol/L	
Phosphate	$\leq 0.3$ for RSUH/County $< 0.35$ for Leighton/Macc	
PLGF		< 12 pg/mL
Potassium	< 2.6 mmol/L	$\geq 6.5$ mmol/L
Sodium	< 120 mmol/L IP < 125 mmol/L non-IP < 130 mmol/L ( $\leq 16$ years old)	$\geq 160$ mmol/L
Triglycerides		> 20.0 mmol/L
<b>Troponin I</b>		<b>For Leighton and Macclesfield Sites:</b> <b>&gt; 12 ng/L Female GP/OP</b> <b>&gt; 20 ng/L Male GP/OP</b> <b>&gt; 60 ng/L Female &gt; 100 ng/L Male A&amp;E</b>  <b>For UHNM Sites:</b> <b>&gt; 39 ng/L Female GP/OP</b> <b>&gt; 54 ng/L Male GP/OP</b> <b>&gt; 117 ng/L Female &gt; 162 ng/L Male A&amp;E</b>
TSH		> 100 mU/L
Urea		<b>&gt; 9.9 mmol/L (<math>\leq 15</math> years old)</b> <b>&gt; 29.9 mmol/L</b> If known adult dialysis patient then urea <u>does not</u> need telephoning at any level.
<b>Urine protein:creatinine ratio</b>		<b>&gt; 200 mg/mmol if from Antenatal Location</b>

Drug	Phoning Limit from the Laboratory
<b>Carbamazepine</b>	<b>&gt; 15.0 mg/L</b>
Digoxin	> 2.5 ug/L
Lithium	$\geq 1.5$ mmol/L
<b>Paracetamol</b>	<b>Any detectable result</b>
<b>Phenobarbitone</b>	<b>&gt; 40.0 mg/L</b>
Phenytoin	$\geq 25$ mg/L
<b>Salicylate</b>	<b>&gt; 300 mg/L</b> <b>&gt; 280 mg/L (<math>\leq 4</math> years old)</b>
Theophylline	> 25.0 mg/L > 15.0 mg/L ( $\leq 30$ days old)
<b>Valproate</b>	<b>&gt; 500 mg/L</b>

These limits are based on the FIRST ABNORMAL set of results for an individual patient.

Results in **bold** are to be phoned on an urgent basis within and outside normal working hours.

Those not in bold should be telephoned throughout the working day to all locations. If results become available out of normal working hours **inpatient** results should be telephoned. However, results from **non-inpatient** locations do not need to be phoned immediately but should be phoned within 24 hours.