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Biochemistry Telephone Limits

The out of hours limits in the following table are based where possible on the Royal College of Pathologists document: "The communication of critical and unexpected pathology results". (Oct 2017).

1. Results falling outside the RED limits:

These significantly abnormal results, whether on inpatients, outpatients or GP patients **must** be communicated **directly** to a clinician or to a GP Deputising Service on a 24/7 basis.

2. Results falling outside the AMBER limits but NOT outside the RED limits:

These abnormal results must be telephoned at the next opportunity, but may be left until the next working day if the clinician cannot be contacted (e.g. GP surgery closed, no-one available to take OP result)

3. Delta limits:

There is no requirement to telephone a result if there a previous result was also abnormal and has been phoned, and the change is <x in y days.

Abbreviations

CKD	Chronic Kidney Disease
AKI	Acute Kidney Injury
GP	General Practice
OP	Outpatients
IP	Inpatients
A&E	Accident and Emergency
SCBU	Special Care Baby Unit
NICU	Newborn Intensive Care Unit

Analyte	Age/ Criteria	Amber limits		Red limits		Delta limits	
		Low	High	Low	High	x	y
Sodium	0-15y	130	150	130	150	4	2
	Adult	125	150	120	150	4	2
Potassium	Adult	2.8	6.0	2.5	6.5	0.3	2
	0-1m	2.8	6.5	2.5	6.5	0.3	2
	CKD	2.8	6.5	2.5	6.5	0.3	2
Urea	Adult		30		30	5	7
	0-15y		10		10	5	7
	CKD		50		50	5	7
Creatinine	Adult		354		354	300	2
	0-15y		200		200	150	2
	CKD		800		800	300	2
AKI			2 & 3		2 & 3	First result for each episode only; again if AKI worsens or improves and then worsens	
Glucose	0-15y (even if known diabetic)	2.5	15	2.5	15	5	1
	Adult	2.5	20	2.5	20	5	1
	Diabetic	2.5	25	2.5	25	5	1
Adj calcium		1.8	3.0	1.8	3.5	0.4	3
Magnesium		0.4		0.4		0.2	2
Phosphate		0.4	5	0.3		phone all	
ALT			750		750	500	7
Amylase	GP		350		350	200	7
	OP/IP		350		590	200	7
AST			600		600	500	7
CK			1500		5000	800	3
		do not phone to coronary care locations					
Lipase			265		265	100	7
Bicarbonate		10	40				
Bile acids			15			phone all	
Bilirubin	1d		100		100	phone all	
	2-5d		200		200	phone all	
	6-24d		500		500	phone all	
	25d-1y		17		17	phone all	
	do not phone if SCBU / NICU						
Bilirubin (conj)	<1m		25		25	phone all	
CRP	GP/OP		200		200	100	2
	IP	do not phone					

Analyte	Age/ Criteria	Amber limits		Red limits		Delta limits	
		Low	High	Low	High	x	y
Iron	<10y		40		40		phone all
		do not phone in adults					
Triglyceride			12		20	6	7
Urate			340		340	100	7
		antenatal only					
Paracetamol			10		10		phone all
Salicylate			20		20		phone all
Carbamazepine			25		25		phone all
Digoxin			2.5		2.5		phone all
Lithium			1.0		1.5		phone all
Phenytoin			25		25		phone all
Phenobarbitone			40		70		phone all
Theophylline			25		25		phone all
Cortisol		100		100			
		do not phone if clinical details dexamethasone or patient on replacement					
Short Synacthen Test*			All failed tests		All failed tests		
TSH			30		100	5	60
		do not phone if request form states "high TSH expected"					
Free T4			35			5	30
Free T3			10			5	30
Testosterone	Male		30				First occasion only
Troponin I	GP/OP		all positive (>46)		all positive (>46)		phone all
	IP/A&E	do not phone					
Xanthochromia			all positive		all positive		phone all
Ammonia	<4w		100		100		
	1m-15y		50		50		
	Adult		40		40		
Carbon Monoxide			8		8		phone all
Ethanol	1-15y		all detectable		all detectable		First occasion only
	Adult		4000		4000		First occasion only