

Critical telephoning limits

The below table lists the criteria for telephoning results, by analyte. OP = Outpatients location, IP = Inpatient location

Extracted from controlled document: **PROCEDURE FOR TELEPHONING CRITICALLY ABNORMAL RESULTS**, CHE/SOP/088 version 7 (May 2026).

Next review due: May 2028.

TELEPHONE ACTION LIMITS

IP = INPATIENT; OP = OUTPATIENT

Analyte	Low	High	If previous result phoned		Comments
			Always Phone	Significant worsening	
Adjusted Calcium (mmol/L) ^a	≤1.8	≥3.5	GP & OP	For IP: if worsened by ≥0.3 (e.g., if previous 1.7 telephone ≤1.4)	
AKI ^a	Level 2 and 3. Level 1 if K ⁺ >6 mmol/L			First time result only, unless no AKI or lower level in between. Phone if previously level 2 and now level 3.	- Phone to GP and OP - Do not phone dialysis patients - AKI's breaching the criteria need to be called for Dudley and SWBH - Phoning not required at RWT for all IP & at Walsall for ≥18 years IP
ALT Adult (IU/L) ^a		≥825		Doubling	
ALT <16 y ^b (IU/L)		≥500		Doubling	
Ammonia (μmol/L) ^a		≥100	All		
Amylase ≥18 y (IU/L) ^a		≥500	GP & OP	For IP: Doubling	
Amylase 1y to <18y (IU/L) ^a		≥505	GP & OP	For IP: Doubling	
Amylase 13 w to <1 y (IU/L) ^a		≥250	GP & OP	For IP: Doubling	
Amylase 15 d to <13 w (IU/L) ^a		≥110	GP & OP	For IP: Doubling	
Amylase ≤ 14 d (IU/L) ^a		≥50	GP & OP	For IP: Doubling	
AST (IU/L) ^a		≥510		Doubling	
Bicarbonate (mmol/L) ^a	≤10		All		
Bile Acids (μmol/L) ^b		≥19		Doubling	Antenatal patients only
Bilirubin (μmol/L) ^b		>250	Community midwife & GP	For IP: if worsened by ≥10 (e.g. if previous 251 telephone ≥261)	All infants <3 months ONLY irrespective of location
Blood Gas ^b	All results				
Carbamazepine (mg/L) ^b		>15	All		

Ciclosporin (µg/L) ^b		≥150	All		
Conjugated bilirubin (µmol/L) ^a		≥25	Community midwife & GP	For IP: if worsened by ≥10 (e.g. if previous 26 telephone ≥36)	All infants < 3 months ONLY irrespective of location
Cortisol (nmol/L) ^b	< 100		All		Exclusion: post-dexamethasone suppression test
CK (IU/L) ^a		≥5000		Doubling	
Creatinine >17 y (µmol/L) ^a		≥354		Doubling	Exclusions: dialysis patients, renal OPD out of hours – phone next working day, RWT Haematology consultants after 10 PM – phone the next day
Creatinine (by dilution) – Adult with Hepatorenal syndrome**** (µmol/L) ^b		>125		Doubling	Not for dialysis patients
Creatinine 1-17 y (µmol/L) ^a		≥200		Doubling	Not for dialysis patients
Creatinine <1 y (µmol/L) ^a		≥100		Doubling	Not for dialysis patients
CRP (mg/L) ^a		≥300	GP & OP		GP/OP only
Digoxin (µg/L) ^a		≥2.5	All		
Ethanol ≥18 y (mg/L) ^b		≥3000	All		
Ethanol <18 y ^a	All detectable results		All		<12-year-old patients - sample sent to Toxicology for confirmation
Free T4 (pmol/L) ^b	<5.4	>50	All		If out of hours, telephone the next working day for GP & OP. Second sample result not phoned.
Glucose ≥18 y – non-diabetic	≤2.5	≥25	All GP & OP IP if ≤2.5	For IP: if high & worsened by 5 (e.g. if previous 31 telephone ≥36)	
Glucose ≥18 y – diabetic (mmol/L) ^a	≤2.5	≥30			
Glucose <18 y (mmol/L) ^a	≤2.5	≥15	All GP & OP. IP if ≤2.5	For IP: if high & worsened by 5 (e.g. if previous 20 telephone ≥25)	
HbA1c <18y – non-diabetic (mmol/mol) ^b		>120	All		Only phone if no glucose result
17-Hydroxyprogesterone (nmol/L): ^b Neonates ≤30 days only Adults ≥18 years	≥15 ≥25		All First time		
Intraoperative PTH (ng/L) ^b	All result				
Immunofixation (urine) ^b	1st time positive				

Iron ($\mu\text{mol/L}$) ^b		>50	See comment		Acute overdose only (from A&E, AMU, Poisons Unit, PAU locations).
Lithium (mmol/L) ^a		≥ 1.5	All		
Lipase (IU/L) ^a		≥ 300	GP & OP	Doubling	
Magnesium (mmol/L) ^a	≤ 0.4			Halving	
Paracetamol ^b	If detected		All		
Paraprotein (g/L) ^b	First time paraprotein: IgG >15 g/L IgA >10 g/L IgM >10 g/L			Paraprotein above the quoted levels on a new patient should be telephoned to the requesting clinician the same day	
Phenobarbitone (mg/L) ^b		>70	All		
Phenytoin (mg/L) ^a		≥ 25	All		
Phosphate (mmol/L) ^a	≤ 0.3			Halving	
Porphobilinogen (PBG)/Creatinine (Urine) ($\mu\text{mol}/\text{mmol}$) ^b		≥ 1.5	All		
Potassium (mmol/L) (plasma) ^b	≤ 2.5	≥ 6.0	GP & OP		
Potassium (mmol/L) * (serum) ^a	≤ 2.5	≥ 6.5	GP & OP	For IP: if worsened by ≥ 0.3 (e.g. if previous 2.4 telephone ≤ 2.1 or if previous 6.6 telephone ≥ 6.9)	For pre and post dialysis – see below
Potassium (mmol/L) (serum) ^b	≤ 2.5	≥ 7.0	All		Pre dialysis patients only
	≤ 2.0	≥ 6.5	All		Post dialysis patients only
Salicylate ^b	If detected		See comment		Subsequent results not phoned if levels are decreasing
Serum Free Light Chains ^b : Kappa:Lambda Ratio Kappa or Lambda level	<0.01	>100 ≥ 500		First time abnormal results, or doubling of previous level	
Sirolimus ($\mu\text{g/L}$) ^b		≥ 15	All		
Sodium ≥ 16 y (mmol/L) ^a	≤ 120	≥ 160	GP & OP	For IP: if worsened by ≥ 5	e.g. if previous 119 telephone ≤ 114 or if previous 160 telephone ≥ 165
Sodium <16 y (mmol/L) ^a	≤ 130	≥ 160	GP & OP	For IP: if worsened by ≥ 5	e.g. if previous 120 telephone ≤ 115 or if previous 160 telephone ≥ 165

Synacthen test - Cortisol (nmol/L) ^b	<430		All		Applies to 30-minute sample only
Tacrolimus (µg/L) ^b		≥15	All		
Testosterone - females ^b		≥ 5	See comment		Phoning at the discretion of the Duty Biochemist
Theophylline (mg/L) ^a		≥25	All		
Triglyceride (mmol/L) ^b		>20	GP/OPD	For IP: first time or doubling	If out of hours, telephone the next working day for GP & OP. Results should be phoned again even if high in a previous episode
Troponin I (ng/L)** ^b		≥5	GP & OP		Phone GP & OP only. Read out the comment. <5 ng/L rule out for low-risk patients
Urate (µmol/L) ^a		≥340		Doubling	Antenatal locations only
Urea ≥18 y (mmol/L) ^a		≥30		Doubling	• Not for dialysis patients. • Do not phone renal OPD out of hours – phone next working day. • Do not call RWT Haematology consultants after 10 PM – phone the next day
Urea <18 y (mmol/L) ^a		≥10		Doubling	Not for dialysis patients
Valproate (mg/L) ^b		>150	All		
Xanthochromia ^b	All +ve: XN03, XN04, XN06, XN07 & XN08				

* Ward contacted if NNU potassium results are haemolysed

** Requestor informed if the troponin I result cannot be generated for any reason

**** When creatinine has been manually diluted owing to high icteric index

^a Source of telephone limit: Royal College of Pathologists: The communication of critical and unexpected pathology results (2017)
<https://www.rcpath.org/static/bb86b370-1545-4c5a-b5826a2c431934f5/The-communication-of-critical-and-unexpected-pathology-results.pdf>

^b Source of telephone limit: BCPS consensus