

SJH CENTRE FOR LABORATORY MEDICINE & MOLECULAR PATHOLOGY

Edition No.:	10	Working Instruction	Doc No: WI-BIO-0163
Authorised By	Fiona Campbell	Date: 26.02.25	Date of Issue: 26.02.25

Phoning of Critical Results in Biochemistry Core Lab

Table 1 Results which MUST ALWAYS BE PHONED IN THE FIRST INSTANCE OR IF RESULTS ARE WORSENING OR IF RESULTS ARE NOT IMPROVING OVER TIME

Analyte (serum/plasma)	Units	Critical Phone Limits – In-patients and ED	Critical Phone limits - Out-patients and GPs	Comments
Sodium	mmol/L	≤120 ≥160 See comment	≤125 ≥150 ≤120 ≥155 (A)	ALL serum Na ⁺ results ≤115mmol/L should be phoned If a patient has consecutive serum Na ⁺ levels between 116-120mmol/L then these results should be phoned <u>on at least two consecutive occasions</u> . If subsequent serum Na ⁺ levels in this patient continue to lie between 116-120mmol/L, then phone any Na ⁺ level which shows <u>a decrease of 3mmol/L or more</u> from the previous value e.g. if Na ⁺ level is 116mmol/L and the previous level was 119mmol/L, then result should be phoned as this exceeds the relative change value (RCV)
Potassium	mmol/L	≤2.5 ≥6.0	≤3.0 ≥6.0 ≤2.5 ≥6.0 (A)	Exclude haemolysis/old samples/EDTA contamination first except in the following case: For haemolysed samples: -phone results <3.5 -phone results >5.3 if K ⁺ ≥6.5 in Infinity - SLU if K ⁺ ≤ 4
Bicarb	mmol/L	≤10	≤12	≤10 after 5pm on weekdays and at weekends as per RCPATH guidelines
Corrected Calcium Corrected Ca = Ca + [(44-Alb) x 0.0139]	mmol/L	≤1.70 ≥3.2	≤1.90 ≥3.0 ≤1.80 ≥3.5 (A) 3.0-3.5 (B)	
Phosphate	mmol/L	≤0.35	≤ 0.45 ≤ 0.3(A) ≤ 0.45 (B)	
Magnesium	mmol/L	≤0.40 ≥2.00	≤ 0.50 ≥1.80 ≤ 0.40 (A)	The critical phoning limit for Out-patients or GP's out of hours is ≤0.40 mmol/L per HSE guidance
Glucose	mmol/L	≤3.0 ≥25.0	≤3.2 ≥20.0 ≤2.5 ≥25.0 (A)	
Paracetamol	mg/L	>5		
Troponin	ng/L	Phone first instance results >50 from ED only	> 99 percentile (A)	SJH 99 percentile = 14ng/L
TFT		FT4 >35pmol/L and TSH <0.01mU/L FT4 <6pmol/L and TSH >20mU/L		
Cortisol	nmol/L	<100	<100 ≤50 unless a dexamethasone suppression test (A)	Unless part of a dexamethasone suppression test
CRP	mg/L		≥300 (in all cases) ≥ 300 (A)	

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Table 2 Results which must be phoned in the first instance & again if the result becomes more abnormal

Analyte (serum/plasma)	Units	Critical Phone Limits – In-patients and ED	Critical Phone limits - Out-patients and GPs	Comments
Amylase*	IU/L	≥500	≥500 ≥ ULN x 5 ≥500 (A)	*Results will be phoned if there are no recent results available for comparison in LIMS/EPR, or if the results are significantly (≥50%) higher than previous levels reported in LIMS/EPR
CK*	IU/L	≥1000	≥1000 ≥5000 (A)	
AST*	IU/L	≥400	≥400 ≥ ULNx15 ≥480 for female or ≥600 for male (B)	
ALT*	IU/L	≥350	≥350 ≥ ULNx15 ≥495 for female or ≥615 for male (B)	
Triglyceride*	mmol/L	≥20	≥20	

Table 3 Results which must be phoned but the preceding result may be taken into account as documented below

Analyte (serum/plasma)	Units	Critical Phone Limits – In-patients and Emergency Dept	Critical Phone limits - Out-patients and GPs	Comments
Urea**	mmol/L	>15 mmol/L provided result >8 mmol/L above baseline/preceding result – see comment for clarifications	>15 mmol/L provided result >8 mmol/L above baseline/preceding result ≥30 New/ significant increase in a non-dialysis patient (A)	Results above 15mmol/L will be phoned if there are no results available for comparison in LIMS/EPR or if there is a <u>greater than</u> 8mmol/L increase in Urea above the baseline admission result or the immediate preceding result.
Creatinine **	µmol/L	>175 µmol/L (Female) or >200 µmol/L (Male) provided the result > 44 µmol/L above admission/preceding result – see comment for clarifications	>124 µmol/L (Female) or >150 µmol/L (Male) provided the result > 44 µmol/L above baseline/preceding result ≥354 New/ significant increase in a non-dialysis patient (A)	Results above 175/200µmol/L (Female/Male) for an in-patient or 124/150µmol/L (Female/Male) for an out-patient/GP patient will be phoned where there are no results available for comparison in LIMS/EPR or if there is a <u>greater than</u> 44µmol/L increase in Creatinine above the baseline admission result or the immediate preceding result
eGFR			≤15New presentation (A)	

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See over for further guidance notes

Notes/ Guidelines provided

- As per HSE guidelines – see WI-BIO-0279 **Category A** results are likely to require action within 2 hours
- As per HSE guidelines – see WI-BIO-0279 **Category B** results have urgent implications for the patient and must be communicated to the patient's doctor or their nominee today
- **Category A** and **Category B** are shown above to show how critical results escalation should occur
- See WI-BIO-0279 for full details of communication of critical results as per the HSE guidelines
- **If scientist on phoning bench is concerned that results are not improving over a period of time, or is concerned overall about the patient's results then the results should be phoned.**
- If the abnormal results cannot be communicated by phone, despite two attempts by Biochemistry Staff to do so, these results will then be released into EPR, and noted in the Specimen Notepad. Please note: If Scientist is concerned about results that were not communicated to ward/Clinician, the Scientist should discuss the results with senior staff or with the Biochemistry Departmental medical team i.e. Consultant Chemical Pathologist, Chemical Pathology SpR/Registrar or SHO
- If GP or Out-patient results cannot be phoned then only those results that meet the criteria for critical phoning as determined by the HSE Communication of Critical Results for Patients in the Community will be considered for immediate further action, particularly outside of routine working hours.
- Please note that abnormal results for hsTroponin T and NT-proBNP will not be phoned under normal circumstances (except in the first instance of hsTroponin T >50ng/L from ED as above).
- All other results of tests performed in the Biochemistry Department will be released on EPR as soon as they have been authorised in the department.
- **Finally, while the staff in the Biochemistry Department will do their best to adhere to the above guidelines, I remind you that it is the duty of all doctors to follow up, in a timely fashion, on the results of biochemistry investigations requested on patients under their care.**

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