

HEALTH NEW ZEALAND TARANAKI LABORATORY CRITICAL ACTION LIMITS - BIOCHEMISTRY

These values have been reviewed by the Biochemistry Activity Review Meeting in September 2020

TEST NAME	UNITS	LOWER LIMIT	UPPER LIMIT	COMMENTS
Sodium	mmol/L	< 125 (Adult inpatient) < 130 (<16 years) < 130 (Community)	> 155 (Adult inpatient) > 150 (<16 years) > 150 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Potassium	mmol/L	< 2.5 (Adult inpatient) < 3.0 (<16 years) < 3.0 (Community)	> 5.9 (Adult inpatient) > 5.9 (<16 years) > 5.5 (Community)	Presence of haemolysis, time of sample, collection site and clinical information need to be taken into consideration when evaluating these results. Review haemolysis index prior to phoning and if slightly haemolysed inform person being phoned result. Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Creatinine	μmol/L		> 300 (Adult inpatient) > 250 (<16 years) > 300 (Community)	Phone initial creatinine when above limits. Results similar to previous do not need to be phoned however significant changes from previous should be notified to appropriate clinical staff.
Urea	mmol/L		> 20 (Community)	Community results > 20 mmol/L will be emailed to appropriate clinical teams.
Glucose	mmol/L	< 3.0 (Adult inpatient) < 3.0 (<16 years) < 3.0 (Community)	> 30 (Adult inpatient) > 12 (<16 years) > 25 (Community)	Low results must be phoned to the appropriate clinical team (unless already known hypoglycemic event) High results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Lactate	mmol/L		≥ 2.0 (ED sepsis) ≥ 4.0 (All other gases)	As part of Sepsis Ready protocol, any ED sepsis profile or clinical info indicating sepsis must be phoned if lactate ≥ 2.0 mmol/L For all other blood gases, lactate ≥ 4.0 mmol/L to be phoned. (Exception is Cord blood gases where a lactate ≥ 6.1 mmol/L is to be phoned).

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Bilirubin	μmol/L		> 300 (Adult inpatient) > 250 (<16 years) > 250 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
LDH			> 600 (Community)	<i>Review haemolysis index prior to phoning and if slightly haemolysed inform person being phoned result.</i> For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Lipase			>200 (All first presentations)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Calcium (adjusted)	mmol/L	< 1.50 (Adult inpatient) < 1.50 (<16 years) < 2.10 (Community)	> 3.00 (Adult inpatient) > 3.00 (<16 years) > 2.60 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned.
Magnesium	mmol/L	< 0.50 (Adult inpatient) < 0.50 (<16 years) < 0.50 (Community)	> 2.00 (Adult inpatient) > 2.00 (<16 years) > 2.00 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned. <i>Magnesium >3.5 mmol/L, if clinical particulars state patient on Magnesium for eclampsia therapy.</i>
Urate	mmol/L		> 0.60 (Community)	Community results > 0.60 mmol/L will be emailed to appropriate clinical teams.
Total Protein	g/L	< 55 (Community)	> 95 (Adult inpatient) > 95 (<16 years) > 95 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned. <i>TP > 95 g/L: Sodium may need to be measured by direct method (Refer to Document No. 131/3012)</i>

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Albumin	g/L	< 15 (Adult inpatient) < 15 (<16 years) < 20 (Community)	> 55 (Community)	Results that are stable at these levels do not need to be phoned if a hospital inpatient. For community based patients, if results stable and accompanied by clinical information then results can be emailed instead of phoned. <i>ICU albumin levels only need phoning if below 10 g/L or if significant change from previous results.</i>
Cortisol	nmol/L	< 120		Cortisol levels < 120 to be emailed. Results <30 and not a Dexamethasone test to be phoned.
Hs Troponin	ng/L		> 14	Community presentations only
Digoxin	nmol/L		> 2.0	Drug levels above therapeutic levels need to be phoned to appropriate clinical staff. Check dosage details to determine if appropriate collection time and notify staff when phoning results. Community results above limits should also be emailed.
Phenytoin	µmol/L		> 80	
Carbamazepine	µmol/L		> 50	
Valproate	µmol/L		> 700	
Lithium	mmol/L		> 1.2	
Salicylate	mmol/L			Any detectable levels at first presentation
Paracetamol	µmol/L		Any detectable levels (community)	For community presentations, email/phone paracetamol if detectable levels.

Refer to Document number 130/3002 in the Laboratory Administration procedure manual for details on phoning/emailing results.

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