



Critical Results - Notification

Overview

A Critical result is defined as a life-threatening result that requires immediate notification to the patient's healthcare provider.

Critical laboratory value notification is crucial for patient safety.

ISO 15189 requires the laboratory to establish agreed critical values, protocols and clinician contact information.

Current Practice

Consistent practice has been agreed within the Waikato, Lakes and Bay of Plenty DHBs:

- Protocols for the notification of critical results:
- Analytes which directly affect patient management
- Established evidence based agreed critical limits*
*see information overleaf Re Haematology & Biochemistry critical values.

Summary:

All critical analyte results are directly notified to the primary Clinician (or delegate).

Please note we do not routinely phone urgent requests, unless:

- Critical analyte & Critical value OR
- Requested by Clinician**
Clinician **must clearly indicate – 'Please Phone xxxx' **AND** provide cell phone contact No.

NB We do not phone results directly to patient.

Please contact us if you have any comment or queries.

Dr Stephen May
Medical Director / Consultant Haematologist
Pathlab 07 858 0975

Alan Neal
Lead Scientist Haematology
07 858 0795 Ext 6824

John Woodford
Lead Scientist Biochemistry
07 858 0795 Ext 6828

CLINICAL UPDATE

Critical limits used within the Bay of Plenty, Waikato and Lakes DHB's:

Haematology:

Analyte	Critical Limit	Unit
Neutrophil Count (In Patient)	< 0.5 or > 30.0	$\times 10^9/L$
Neutrophil Count (Out Patient)	< 0.5 or > 20.0	$\times 10^9/L$
Toxic Ratio (Waikato ONLY)	> 0.2	ratio
Haemoglobin	< 80 or > 200	g/L
HCT (Neonates)	>0.74	%
Platelets	<50 or > 1000	$\times 10^9/L$
INR (No anticoagulation Rx.)	>2.5	INR
INR (On Warfarin Rx.)	>5.0	INR
APTT (IV Heparin)	>150	Sec
Fibrinogen	<1.0	g/L
Foetal Maternal Haemorrhage	> 6	ml
Blood film	Malaria New / Relapsed Leukaemia Acute Haemolysis New MAHA / TTP Severe Toxic changes	

Biochemistry:

Analyte	Critical Limit	Unit
Sodium	< 125 or > 155	mmol/L
Potassium	< 3.0 or > 5.9	mmol/L
Calcium	< 1.8 or > 3.1	mmol/L
Glucose	< 2.5 or > 24.0	mmol/L
Phosphate	< 0.4 - first presentation only	mmol/L
Magnesium	< 0.5 or > 1.8 - first presentation only	mmol/L
Amylase (Community ONLY)	4 x Upper limit	U/L
Lipase (Community ONLY)	4 x Upper limit	U/L
CK (Community ONLY)	>2000	U/L
Bilirubin	Day 1 >150 Day 2 >200 Day 3 >250 Day 4 to 30 >300	$\mu\text{mol/L}$
Creatinine (Community ONLY)	First time >250	$\mu\text{mol/L}$
Troponin I (Community ONLY)	> 40	ng/L
Digoxin	>2.0	nmol/L
Carbamazepine	> 42	$\mu\text{mol/L}$
Phenobarb	>170	$\mu\text{mol/L}$
Phenytoin	>80	$\mu\text{mol/L}$
Valproic acid	>700	$\mu\text{mol/L}$
Lithium	>1.4	mmol/L
Vancomycin Pre dose	>5	mg/L
Vancomycin Post dose / random	>25	mg/L
Gentamicin Pre dose	>1	mg/L
Gentamicin Post dose / random	>25	mg/L
Tobramycin Pre dose	>1	mg/L
Tobramycin Post dose / random	>25	mg/L
Amikacin Pre dose	>10	mg/L
Amikacin Pre Post / random	>60	mg/L

CLINICAL UPDATE