

## Communication of Critical, Unexpected or Urgent Results

### Appendix 2: MHP High Risk & Critical Results Listing: Chemical Pathology

CHEMICAL PATHOLOGY				
Analyte	Unit	Critical Low	Critical High	Comments:
NA	mmol/L	<125	>155	On the same admission, only call again if: <ul style="list-style-type: none"> <li>Result falls to &lt;120 mmol/L,</li> <li>Result remains &lt;120 mmol/L and decreases</li> <li>Result rises to &gt;155 mmol/L,</li> <li>Result remains &gt;155 mmol/L and increases</li> </ul>
K	mmol/L	< 3.0	> 6.0	>6.5 if coming from External Renal dialysis unit
HCO <sub>3</sub>	mmol/L	< 13	> 40	Do not call if admitted in wards ICU On the same admission, only call again if: <ul style="list-style-type: none"> <li>Result falls to &lt;13 mmol/L,</li> <li>Result remains &lt;13 mmol/L and decreases</li> <li>Result rises to &gt;40 mmol/L,</li> <li>Result remains &gt;40 mmol/L and increases</li> </ul>
G	mmol/L	-	> 25	Do not call if admitted in wards ICU Fasting glucose only
CA	mmol/L	<1.80 *	>3.00	Do not call if admitted in wards ICU *Do not call out if corrected calcium $\geq 1.8$ mmol/L or $\leq 2.99$  For in and outpatients admitted under RENAL, do not call out if corrected calcium $\geq 1.75$ mmol/L OR if manually corrected calcium $\geq 1.75$ mmol/L in albumin < 30g/L (corrected Ca = $(40 - \text{albumin}) \times 0.02 + \text{total Ca}$ )
ICA	mmol/L	<0.9	>1.5	Do not call if admitted in wards ICU
MG	mmol/L	<0.4	>2.0	On the same admission, only call again if: <ul style="list-style-type: none"> <li>Result falls to &lt;0.4 mmol/L,</li> <li>Result remains &lt;0.4 mmol/L and decreases</li> <li>Result rises to &gt;2.0 mmol/L,</li> <li>Result remains &gt;2.0 mmol/L and increases</li> </ul>
PO <sub>4</sub>	mmol/L	<0.35	-	On the same admission, only call again if: <ul style="list-style-type: none"> <li>Result falls to &lt;0.35 mmol/L,</li> <li>Result remains &lt;0.35 mmol/L and decreases</li> </ul>
DIG	ug/L	-	>2.0	
VANC	ug/L	-	>35.0	Samples from HIH can be phoned the next day
TRIG	mmol/L	-	>12.0	On the same admission, only call again if: <ul style="list-style-type: none"> <li>Result remains &gt;12.0 mmol/L and increases</li> </ul>
PARA	mg/L	-	>150	
CORT	nmol/L	<100	-	Unless undergoing Dexamethazone suppression test

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Analyte	Unit	Critical Low	Critical High	Comments:
Amm	mmol/L	-	>100	For 'Out Patients' (metabolic Clinic only)
AST	U/L	-	>500	Do not call if admitted in wards ICU Do not call out again if > 500 within the same admission (inpatients) or > 500 within last 7 days (outpatients)
ALT	U/L	-	>500	Do not call if admitted in wards ICU Do not call out again if > 500 within the same admission (inpatients) or > 500 within last 7 days (outpatients)
CK	U/L	-	> 1000	Do not call if admitted in wards ICU Do not call out if in ED, or > 1000 within last 14 days
Trop	ng/L	-	F ≥ 16 M ≥ 26	Do not call if admitted in wards ICU, ED, MPH-ICU, or units cardiac, renal, AMU, Gen Med. Do not call out again if elevated within the same admission from anywhere.
FT3	pmol/L	-	>30	Do not call out again if previously high within last 6 months and not in ED.
FT4	pmol/L	-	>45	Do not call out again if previously high within last 6 months and not in ED.
LACT	mmol/L	-	>3	Do not call if admitted in wards ICU
BGPH		<7.25	>7.60	Venous samples – Biochem Blood Gas Analyser Only
BGPH		<7.25	>7.60	Arterial samples – Biochem Blood Gas Analyser Only
BGPCO2	mmHg	-	>60	Arterial samples – Biochem Blood Gas Analyser Only
BGPO2	mmHg	<60	-	Arterial samples – Biochem Blood Gas Analyser Only
BGTHB	g/L	<70	-	Do not call if: <ul style="list-style-type: none"> <li>• &lt;70 on BGas has been notified in the past 24 hours or</li> <li>• &lt;70 on FBE has been validated in the past 24 hours.</li> </ul>
BGMetHB	%	>30	-	From all Blood Gas Analysers
TGMMR		-	>20	Thiopurine metabolite TGN/MMP ratio
Plasma mets			> 1.5 x ULN	Contact Endocrine registrar, unless previously already elevated.
Flucy	mg/L	-	>100	
VORI	mg/L	-	>5.5	
TACR	ug/L		>30	
MPAeAUC 0-12h	mg.h/L	-	>75	
PBG				Positive Urine screen
CXAN				Results with comment stating "consistent with SAH".
Blood Gas	Both Arterial and Venous			All electrolyte results exceeding above critical limits

**END TABLE**

\*\*Printed copy may not be the current version. Please refer to Q-Pulse for the latest issue\*\*

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Corporate Pathology Procedures Manual			
Document No:	CPPM-05,05	Version No:	1.3

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### Appendix 3: MHP High Risk & Critical Results Listing: Haematology

HAEMATOLOGY	
Test	Trigger
Haemoglobin	<70 g/L
Platelets	<20 x 10 <sup>9</sup> /L
WBC	>100 x 10 <sup>9</sup> /L
Neutrophil count	<0.5 x 10 <sup>9</sup> /L
INR	>5.0
APTT (on heparin)	>150 sec
Fibrinogen	<1.0 g/L
Anti-Xa – LMWH	>1.5
INR (pre-op)	>2.0 (In patient)
APTT (pre-op)	>40 sec (In patient)
Malaria	ICT and Blood Morphology
<b>First Presentation:</b>	<ol style="list-style-type: none"> <li>1. Suspected acute leukaemia</li> <li>2. Severe pancytopenia</li> <li>3. Blood film suggestive of microangiopathic haemolytic anaemia or acute haemolysis due to any cause including sickle cell anaemia</li> <li>4. Blood film showing microorganisms</li> <li>5. Positive HITT screen</li> <li>6. Transfusion reaction investigations suggestive of serologic incompatibility (neg DAT pre-transfusion positive post-transfusion)</li> <li>7. Positive antibody screen/cross match incompatibility that will delay availability of blood products</li> <li>8. Pre-admission for extended expiry cross-match but not eligible (e.g. due to presence of red cell abs)</li> </ol>
<b>Un-expected result that differs significantly</b>	
From that obtained on a previous sample in a short time frame.	

END TABLE

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### Appendix 4: MHP High Risk & Critical Results Listing: Microbiology

MICROBIOLOGY	
Test	Trigger
<p><b>Blood Cultures:</b> New<sup>1</sup> <u>blood culture</u> isolate of significance:</p> <p><i><sup>1</sup>The first isolate from the patient's current inpatient episode from either GeneXpert, BioFire, MALDI, or VITEK identification. If there is a span of &gt;7 days between initial specimen and current specimen, the more recent specimen should be considered and managed as for a 'new specimen'</i></p>	<p>Positive blood culture result</p> <ul style="list-style-type: none"> <li>• <i>Staphylococcus aureus</i></li> <li>• <i>Methicillin-resistant staphylococcus aureus (MRSA)</i></li> <li>• <i>Neisseria meningitidis</i></li> <li>• <i>Listeria</i> species (spp.)</li> <li>• <i>Brucella</i> spp.</li> <li>• <i>Burkholderia pseudomallei</i></li> <li>• <i>Clostridium botulinum</i></li> <li>• <i>Nocardia</i> spp.</li> <li>• Mycobacteria spp.</li> <li>• Bacteria risk group 3 (RG3) referenced in CMPM-18,07</li> <li>• Any yeast or mould isolate</li> </ul>
<p><b>Antimicrobial Resistance:</b> An unexpected resistance mechanism/profile detected in an organism</p>	<ul style="list-style-type: none"> <li>• Carbapenemase producing Enterobacterales (CPE).</li> <li>• Vancomycin resistant enterococci (VRE) – both VRE VanA &amp; VRE VanB</li> </ul>
<p><b>CSF</b></p>	<ul style="list-style-type: none"> <li>• positive gram stain, culture, or molecular result</li> <li>• elevated white cell count (WCC &gt;5)</li> <li>• Herpes positive NAAT</li> </ul>
<p><b>Adverse Transfusion sample</b></p>	<ul style="list-style-type: none"> <li>• Positive microbiological testing</li> </ul>
<p><b>Micobacterium tuberculosis NAAT test</b> <i><sup>2</sup> First MTb PCR positive result for the patient's current treatment episode</i></p>	<p>Any new<sup>2</sup> positive</p>
<p><b>Needle-stick Incidents</b></p>	<ul style="list-style-type: none"> <li>• Hepatitis B surface antigen (HBsAg) POSITIVE/INDETERMINATE source AND recipient is Hepatitis B surface antibody (HBsAb) negative</li> <li>• Human Immunodeficiency virus (HIV) antigen (Ag)/antibody (Ab) POSITIVE or INDETERMINATE source</li> <li>• Hepatitis C core antibody (HepCab) positive source</li> </ul>

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Test	Trigger
<p><b>DHHS Notifiable disease list</b> List current as of 16/03/2022 <a href="https://www.health.vic.gov.au/infectious-diseases/notifiable-infectious-diseases-conditions-and-micro-organisms">https://www.health.vic.gov.au/infectious-diseases/notifiable-infectious-diseases-conditions-and-micro-organisms</a></p>	<ul style="list-style-type: none"> <li>• <i>Bacillus anthracis</i></li> <li>• <i>Clostridium botulinum</i></li> <li>• <i>Candida auris</i></li> <li>• <i>Vibrio cholerae</i></li> <li>• <i>Corynebacterium diphtheriae</i></li> <li>• <i>Haemophilus influenzae</i> type B (meningitis, epiglottitis, other invasive infections)</li> <li>• Hepatitis A</li> <li>• Japanese encephalitis</li> <li>• Legionellosis</li> <li>• Listeriosis</li> <li>• Measles</li> <li>• Invasive <i>Neisseria meningitidis</i> (meningococcal) infection</li> <li>• Middle East Respiratory Syndrome coronavirus (MERS-CoV)</li> <li>• Murray Valley Encephalitis virus infection</li> <li>• Novel coronavirus 2019 (2019-nCoV)/COVID-19</li> <li>• <i>Salmonella typhi</i>/<i>Salmonella paratyphi</i></li> <li>• <i>Yersinia pestis</i></li> <li>• Poliovirus infection</li> <li>• Rabies infection</li> <li>• Severe acute respiratory syndrome (SARS)</li> <li>• Smallpox</li> <li>• <i>Francisella tularensis</i></li> <li>• Viral haemorrhagic fevers</li> </ul>

END TABLE.