

Test	Critical Low	Critical High	Alerting Category	Notification Rule
CHEMISTRY				
Amylase Emergency Dept only		> 400 U/L	First instance	Within 1 Hr
Amylase, Pancreatic Emergency Dept only		>300 U/L	First instance	Within 1 Hr
Bicarb (Carbon Dioxide)	<10 mmol/L	> 40 mmol/L	Always	Within 1 Hr
Bilirubin, Total Neonatal ≤ 22 days		> 18.0 mg/dL	Always	Within 1 hour
BUN (Urea Nitrogen) Non-dialysis patient		>100 mg/dL	First instance	Within 1 Hr
Calcium, Ionized	< 3.0 mg/dL	> 6.5 mg/dL	Always	Within 1 Hr
Calcium, Total	< 6.0 mg/dL	> 13.5 mg/dL	Always	Within 1 Hr
Carbon monoxide		>10%	First instance	Within 1 Hr
Creatinine		>9.0 mg/dL	First instance	Within 1 Hr
Glucose, 0 – 2 days > 2 days	< 25 mg/dL < 40 mg/dL	> 145 mg/dL > 400 mg/dL	Always	Within 1 Hr
Lactic Acid		> 4 mmol/L	Always	Within 1 Hr
Lipase Emergency Dept only		> 200 U/L	First instance	Within 1 Hr
Magnesium Maternity Non-maternity	≤ 1.0 mg/dL	> 7.0 mg/dL > 4.0 mg/dL	Always	Within 1 Hr
pH, Blood Arterial and Venous Cord Blood	< 7.2 < 7.0	> 7.6	Always	Within 1 Hr
Phosphorus	< 1.0 mg/dL		Always	Within 1 Hr
pO <sub>2</sub> Arterial	< 45 mmHg		Always	Within 1 Hr
Potassium 0 – 31 days > 31 days	< 2.8 mmol/L < 2.8 mmol/L	> 6.5 mmol/L > 6.0 mmol/L	Always	Within 1 Hr
Sodium	< 120 mmol/L	> 160 mmol/L	Always	Within 1 Hr
Troponin T		above reference range	First instance	Within 1 Hr
Troponin I		above reference range	First instance	Within 1 Hr

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<b>TOXICOLOGY</b>				
Acetaminophen,		> 50 mcg/mL	Always	Within 1 Hr
Amikacin Peak/Post-Dose,		> 30 mcg/mL	Always	Within 1 Hr
Amikacin, Trough/Pre-Dose		> 8 mcg/mL	Always	Within 1 Hr
Carbamazepine, Total		> 12.0 mcg/mL	Always	Within 1 Hr
Desipramine		> 300 mcg/mL	Always	Within 1 Hr
Desipramine and Imipramine		> 300 mcg/mL	Always	Within 1 Hr
Digoxin		> 2.5 ng/mL	Always	Within 1 Hr
Disopyramide		> 7.0 mcg/mL	Always	Within 1 Hr
Ethyl Alcohol		> 400mg/dL (> 0.4 g/dL)	First instance	Within 1 Hr
Ethylene Glycol		> 0.1 g/L	First instance	Within 1 Hr
Gentamicin Peak/Post-Dose		> 12.0 mcg/mL	Always	Within 1 Hr
Gentamicin Trough/Pre-Dose		> 2.0 mcg/mL	Always	Within 1 Hr
Lidocaine		> 6.0 mcg/mL	Always	Within 1 Hr
Lithium		> 1.5 mmol/L	First instance	Within 1 Hr
Methotrexate		Call all	Always	Call all
Nortriptyline		> 300 mcg/mL	Always	Within 1 Hr
Nortriptyline & Amitriptyline		> 300 mcg/mL	Always	Within 1 Hr
Phenobarbital		> 40 mcg/mL	Always	Within 1 Hr
Phenytoin, Free		> 2.0 mcg/mL	Always	Within 1 Hr
Phenytoin, Total Neonate (<30 days) Children and adults		> 15 mcg/mL > 25 mcg/mL	Always	Within 1 Hr
Primidone		> 15.0 mcg/mL	Always	Within 1 Hr
Procainamide		> 10.0mcg/mL	Always	Within 1 Hr
Procainamide /NAPA		> 40.0 mcg/mL	Always	Within 1 Hr
Quinidine		> 7.0 mcg/mL	Always	Within 1 Hr
Salicylate,		> 30 mg/dL	First instance	Within 1 Hr
Theophylline 0-4 Months > 4 Months		> 16 mcg/mL > 20 mcg/mL	Always	Within 1 Hr
Tobramycin, Peak/Post-Dose		> 12.0 mcg/mL	Always	Within 1 Hr
Tobramycin, Trough/Pre-Dose		> 2.0 mcg/mL	Always	Within 1 Hr
Valproic Acid		> 130 mcg/mL	Always	Within 1 Hr
Vancomycin Peak/Post-Dose		> 40.0 mcg/mL	Always	Within 1 Hr
Vancomycin Trough/Pre-Dose		> 20.0 mcg/mL	Always	Within 1 Hr
Volatile Screen, Blood Acetone Ethyl Alcohol Isopropanol Methanol		> 0.1 g/dL > 0.4 g/dL > 0.1 g/dL > 0.1 g/dL	First instance	Within 1 Hr

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<i>HEMATOLOGY</i>				
Activated Partial Thromboplastin Time (APTT)		> 130 seconds	Always	Within 1 Hr
Cerebrospinal Fluid (CSF) Cell Count		> 10 Cells/mcL Mononuclear WBC/Nuc	Always	Within 1 Hr
Factor Assays	< 5%		Always	Within 1 Hr
Fetal Fibronectin (fFN)		Call all	Always	Call all
Fetal Hemoglobin (Kleihauer-Betke)		Positive test for fetal-maternal hemorrhage with an estimated bleed volume $\geq$ 50 mL (notify neonatologist and obstetrician).	Always	Within 1 Hr
Fibrinogen	< 100 mg/dL		Always	Within 1 Hr
Hemoglobin (HgB) Neonates (<30 days)  Delta change from Previous result	< 8.0 g/dL	> 25.0 g/dL  > 5.0 g/dL drop	Always	Within 1 Hr
Hemoglobin (HgB) ED/IP and Hosp Based OP  Delta change from Previous result	< 7.0 g/dL	> 20.0 g/dL  > 5.0 g/dL drop	Always	Within 1 Hr
Lamellar Bodies		Call all	Always	Within 1 Hr
Manual Differential Requiring Pathology Review		Clinically significant abnormalities Requiring timely intervention <b>Blasts or malignant cells</b>	First instance	Within 8 Hrs
Microorganisms		All positives including any blood parasite	First instance	Within 1 Hr
Platelet Count Neonate (<30 day)	< 50 K/mcL	> 1,000 K/mcL	First instance	Within 1 Hr
Platelet Count Inpatient/ED and Hosp based Outpatient Oncology Patient	< 50 K/mcL  < 15 K/mcL	> 1,000 K/mcL  > 1,000 K/mcL	First instance	Within 1 Hr
Protime (PT) INR		> 5.0	Always	Within 1 Hr

Test	Critical Low	Critical High	Alerting Category	Notification Rule
WBC (White Blood Cell Count) Neonate (<30 days)	< 2.0 K/mcL	> 50.0 K/mcL	First instance	Within 1 Hr
WBC (White Blood Cell Count) Inpatient/ED and Hospital Based Outpatient And Oncology Patient	< 1.2 K/mcL < 0.5 K/mcL	> 35.0 K/mcL > 35.0 K/mcL	First instance	Within 1 Hr
<b>SEROLOGY AND SPECIAL TESTING</b>				
Lead		≥20 mcg/dL	First instance	Within 1 Hr
		≥10 mcg/dL	First instance	Within 8 Hrs
Hepatitis A Antibody, IgM		All positives	First instance	Within 8 Hrs
Hepatitis B Core IgM Antibody		All positives	First instance	Within 8 Hrs
Hepatitis B Surface Antigen (HBsAg)		All positives	First instance	Within 8 Hrs
HIV-1/2 Exposure Screen		ALL employee exposures called by laboratory technologist	<b>Always</b>	Within 1 Hr  Western Blot confirm 8 hours TAT 1.3 days
Herpes Simplex Virus (HSV) IgM, Antibodies		All positives (neonates, <30 days)	First instance	Within 1 Hr
Toxoplasma gondii Antibody, IgM		All positives	First instance	Within 8 Hrs

Test	Critical Result	Alerting Category	Notification Rule
<b>MICROBIOLOGY</b>			
Antigen test for: <ul style="list-style-type: none"> <li>• Pneumocystis</li> <li>• Cryptococcus</li> <li>• Neisseria meningitides</li> <li>• Hemophilus influenza</li> <li>• Streptococcus pneumonia</li> <li>• Legionella</li> </ul>	Positive	Always	Within 1 hour
Blood Culture	Positive Perform and report gram stain result at the same time	Always	Within 1 hour
	Identification of a VRE, MRSA, ESBL, CRE, MDRAB, VRSA and VISA <b>only</b>	Always	Within 1 hour
C-difficile toxin	Positive	Always	Within 1 hour
Culture of Internal Sterile Sites or Eyes	Positive for bacterial, fungal, mycobacterial or viral agents	Always	Within 1 hour
Gram Stains ordered STAT	All results (positive and negative) for all patients except ED patients	Always	Within 1 hour
Group A Streptococcus antigen	Positive	Always	Within 1 hour
Group B Streptococcus antigen	Positive in infant CSF Do not call other patients or sample types	Always	Within 1 hour
MRSA Probe	All positives	Always	Within 1 hour
Parasites <ul style="list-style-type: none"> <li>• Arthropod exam</li> <li>• Pinworm exam</li> <li>• Giardia antigen</li> <li>• Cryptosporidia antigen</li> </ul>	Positive for any parasitic agent	Always	Within 1 hour
Procalcitonin	>0.5ng/mL	Always	Within 1 hour
Sexually transmitted infections <ul style="list-style-type: none"> <li>• Neisseria gonorrhoeae</li> <li>• Chlamydia trachomatis</li> </ul>	Positive for patients <13 years or extra-genital site. Labor and Delivery  Do not call genital infections and patients over age 13.	Always	Within 1 hour
Recovery of these isolates <b>ANY</b> source	Identification of a VRE, MRSA, ESBL, CRE, MDRAB, VRSA and VISA <b>only</b> Cryptococcus species Dimorphic fungi Francisella species Clostridium perfringens Viruses from ANY NEWBORN	First time recovery	Within 1 hour

### Anatomic Pathology Critical Notification Results

Applies to ALL categories (time frame depends on diagnosis and clinical status). See Anatomic Pathology policy.

Diagnoses or findings that, in the pathologists opinion, indicate a life threatening condition requiring immediate therapeutic intervention (ie., vasculitis, tissue invasive infectious agents, organ transplant rejection.)

Unexpected diagnosis of malignancy or significant unexpected pathology at the discretion of the pathologist. (Adenocarcinoma in an incidental appendectomy, etc.)

Revised report for diagnostic change.

Discrepancy between frozen section and permanent section.

### Transfusion Services Critical Notification Results

The following Transfusion Service laboratory results in the context of certain clinical situations are considered “critical” and must be immediately called to the patient’s physician and the Transfusion Services Medical Director, or Pathologist on-call.

- A positive Direct Antiglobulin Test (DAT) on a post-transfusion reaction specimen when the DAT on the pre-transfusion reaction specimen is negative or not as strong as the DAT on the post-transfusion reaction specimen.
- A positive crossmatch with the post-transfusion reaction specimen.
- Hemolysis in the initial and redrawn post-transfusion reaction specimens.
- A positive antibody screen in a patient who received emergency-issued uncrossmatched RBC’s prior to the detection of an antibody(s).
- Positive DAT on a cord blood and/or newborn heelstick specimen when the mother has a clinically significant antibody.
- Incompatible crossmatch on a unit released as “emergency issue” in an emergent situation.
- Positive gram stain of the residual component involved in a transfusion reaction.
- RBC’s issued or transfused, and evidence of a possible mistyping discovered (eg, ABO/Rh discrepancy on new specimen, evidence of wrong-blood-in-tube).
- Market withdrawal of a blood component because the co-component caused a potentially life-threatening reactions (eg.septic, transfusion related acute lung injury [TRALI]) in another patient, or was found to have a positive bacterial culture.
- Any new laboratory evidence of acute hemolysis soon after a transfusion reaction. Laboratory evidence includes free hemoglobin in urine (dipstick positive for blood but none or very few RBC’s seen in the sediment).
- Positive antibody screen in a same-day surgery or when urgent RBC transfusion ordered.
- Positive test for fetal-maternal hemorrhage with an estimated bleed volume  $\geq 50$  mL (notify neonatologist and obstetrician).