



CRITICAL VALUES CHART

QA.REPORT.1.1

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Chemistry		
Test	Critical Value(s)	QLS Priority*
Acetaminophen	> 150 mcg/mL	Priority 1
Alcohol, Blood/Ethanol (< 21 years)	> 10 mg/dL	Priority 1
Alcohol, Blood/Ethanol (≥ 21 years)	> 300 mg/dL	Priority 1
Amikacin (pre/base/trough)	> 10.0 mcg/mL	Priority 1
Amikacin (post/peak)	> 35.0 mcg/mL	Priority 1
Bilirubin, Total (< 1 day) <sup>§</sup>	> 12.0 mg/dL	Priority 1
Bilirubin, Total (1 day) <sup>§</sup>	> 13.0 mg/dL	Priority 1
Bilirubin, Total (2 days) <sup>§</sup>	> 15.0 mg/dL	Priority 1
Bilirubin, Total (3 days to <15 days) <sup>§</sup>	> 18.0 mg/dL	Priority 1
Bilirubin (15 days to 2 years)	> 20.0 mg/dL	Priority 1
Caffeine (< 1 month)	> 30.0 mcg/mL	Priority 1
Caffeine (≥ 1 month)	> 50.0 mcg/mL	Priority 1
Calcium	< 6.0 mg/dL or >13.0 mg/dL	Priority 1
Calcium, Ionized	< 0.68 mmol/L or > 1.58 mmol/L	Priority 1
Carbamazepine	> 20.0 mcg/mL	Priority 1
Carbon Monoxide	> 10.0%	Priority 1
Digoxin	> 2.5 ng/mL	Priority 1
Gentamicin (pre / base / trough)	> 2.0 mcg/mL	Priority 2
Gentamicin (post/ peak)	> 15.0 mcg/mL	Priority 2
Glucose (< 29 days) Fasting, Random	< 40 mg/dL or > 150 mg/dL	Priority 1
Glucose (≥ 29 days) Fasting, Random	< 40 mg/dL or > 500 mg/dL	Priority 1
Glucose, CSF	< 21 mg/dL	Priority 1
Lactate	> 3.4 mmol/L	Priority 1
Lidocaine	> 9.0 mcg/mL	Priority 1
Lithium	> 1.5 mmol/L	Priority 1
Magnesium	< 1.0 mg/dL or > 7.0 mg/dL	Priority 1
Methotrexate (24 hours)	> 5.00-10.00 umol/L	Priority 1
Methotrexate (48 hours)	> 0.50 – 1.00 umol/L	Priority 1
Methotrexate (72 hours)	> 0.20 umol/L	Priority 1
Mysoline	> 15.0 mcg/mL	Priority 1
pCO <sub>2</sub> Arterial, capillary	< 20 mm Hg or > 70 mm Hg	Priority 1
pCO <sub>2</sub> Venous (< 29 days)	< 25 mm Hg or > 75 mm Hg	Priority 1
pH, Arterial, Venous	< 7.20 or > 7.60	Priority 1
pH, Arterial Cord	< 7.15 or > 7.50	Priority 1
pH, Venous Cord	< 7.15 or > 7.60	Priority 1
Phenobarbital	> 60.0 mcg/mL	Priority 1
Phenytoin	> 40.0 mcg/mL	Priority 1
Phosphorus	< 1.2 mg/dL or > 8.9 mg/dL	Priority 1
pO <sub>2</sub> , Arterial, Capillary	< 41mm Hg	Priority 1
Potassium, Serum < 29 days (nonhemolyzed)	< 2.6 mmol/L or > 6.5 mmol/L	Priority 1
Potassium, Serum ≥ 29 days (nonhemolyzed)	< 2.8 mmol/L or > 6.4 mmol/L	Priority 1
Potassium, Plasma < 29 days (nonhemolyzed)	< 2.6 mmol/L or > 6.5 mmol/L	Priority 1
Potassium, Plasma ≥ 29 days (nonhemolyzed)	< 2.8 mmol/L or > 6.4 mmol/L	Priority 1
Salicylate	> 30.0 mg/dL	Priority 1
Sodium	< 120 mmol/L or > 160 mmol/L	Priority 1
Theophylline	> 20.0 mcg/mL	Priority 1



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Tobramycin (pre, base, trough)	> 2.0 mcg/mL	Priority 2
Tobramycin (post, peak, random)	> 10.0 mcg/mL	Priority 2
Uric Acid	> 15.0 mg/dL	Priority 2
Valproic Acid	> 150 mcg/mL	Priority 1
Vancomycin (post, peak) (< 19 years)	> 45 mcg/mL	Priority 1
Vancomycin (pre, base, trough) (< 19 years)	> 20 mcg/mL	Priority 1
<b>Hematology, Coagulation, Urinalysis</b>		
<b>Test</b>	<b>Critical Value(s)</b>	<b>QLS Priority</b>
WBC (blood)	> 74,999 absolute granulocytes/mm <sup>3</sup>	Priority 1
WBC (blood; ≤30 days) <b>ST MARY'S MEDICAL CENTER ONLY</b>	≤ 3,000 or ≥ 30,000 /mm <sup>3</sup>	Not applicable
WBC (blood; >30 days) <b>ST MARY'S MEDICAL CENTER ONLY</b>	≤ 1,000 or ≥ 30,000 /mm <sup>3</sup>	Not applicable
WBC (CSF)	> 10/mm <sup>3</sup>	Priority 1
Hematocrit (< 15 days)	< 28%	Priority 1
Hematocrit (≥15 days)	< 18%	Priority 1
Hemoglobin	< 6 g/dL	Priority 1
Platelets (< 12 years)	< 50,000/mm <sup>3</sup> or > 1,000,000/mm <sup>3</sup>	Priority 1
Platelets (≥ 12 years)	< 20,000/mm <sup>3</sup> or > 1,000,000/mm <sup>3</sup>	Priority 1
Platelets (≤ 30 days) <b>ST MARY'S MEDICAL CENTER ONLY</b>	≤ 100,000 or ≥ 1,000,000 /mm <sup>3</sup>	Not applicable
Platelets (> 30 days) <b>ST MARY'S MEDICAL CENTER ONLY</b>	≤ 20,000 or ≥ 1,000,000 /mm <sup>3</sup>	Not applicable
Differential	Any blast cells or parasites	Priority 1 for inpatients; Priority 2 for any blasts seen, outpatients only
Absolute Neutrophils/mm <sup>3</sup> (SEGSA)	≤ 0.4 k/ mm <sup>3</sup> absolute neutrophils	Priority 2
PT (INR)	INR <0.5 or >4.99	Priority 1
PTT	≥ 99 sec	Priority 1
Fibrinogen	< 50 mg/dl or > 600 mg/dL	Priority 1
Factor VIII Inhibitor	≥1 BU	Priority 1
Factor IX Inhibitor	≥1 BU	Priority 1
Heparin	All Results	Priority 1
Heparin Dependent Antibody	Positive	Priority 2
Urine Glucose (< 1 year)	any positive result	Priority 1
Urine Ketones (< 1 year)	>80 mg/dL	Priority 1
Urine Crystals	Cystine, Leucine, Tyrosine	Priority 1
Lamellar Bodies	< 16000 μL	Priority 1
Malaria Smear	Positive	Priority 1
<b>Transfusion Medicine</b>		
<b>Test</b>	<b>Critical Value(s)</b>	<b>QLS Priority</b>
Requests for Blood Products	Any delay in blood supply or blood components for transfusion.	Blood Bank to call
Transfusion Reaction Evaluations	Transfusion reactions when results show evidence of a hemolytic reaction.	Blood Bank to call
Kleihauer-Betke	STAT or abnormal results	Priority 1



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Microbiologic Results Indicating Pathologic Conditions**		
Test	Critical Value(s)	QLS Priority
Inpatients will be called to the unit, outpatients and nonpatients will be called to the physician.		
AFB Culture or Direct Smear	Positive	Priority 1
Blood Culture Bottle Smear Result, Initial Result***	Positive	Priority 1
<i>Clostridium difficile</i> Test	Positive	Priority 1 (Hospital inpatients and hospital clients only; initial only); Priority 2 for outpatients
Cryptococcal Antigen	Positive	Priority 1
CSF Culture or Direct Smear (including India Ink prep)	Positive	Priority 1
Culture of <i>E. Coli</i> O157	Positive	Priority 2
Culture of isolate posing a potential infection control risk such as Vancomycin Resistant <i>Enterococcus</i> (VRE), Methicillin Resistant <i>Staph aureus</i> (MRSA), multi-drug resistant organism (MDRO), Extended Spectrum Beta Lactamase (ESBL) producing <i>Enterobacteriaceae</i> , or Carbapenem Resistant <i>Enterbacteriaceae</i> (CRE)	Positive	Priority 1 (Hospital inpatients and hospital clients only; initial isolation only)
Culture of unusual isolate such as <i>Bacillus anthracis</i> , <i>Brucella</i> sp, <i>Burkholderia pseudomallei</i> , <i>Clostridium tetani</i> , <i>Corynebacterium diphtheriae</i> , <i>Francisella tularensis</i> , <i>Hemophilus ducreyi</i> , <i>Listeria monocytogenes</i> , <i>Yersinia pestis</i> or <i>pseudotuberculosis</i> .	Positive	Priority 1
Eye Culture (only intraoperative or any case of <i>Pseudomonas aeruginosa</i> )	Positive	Priority 1
Fungal Culture - <i>Histoplasma</i> , <i>Blastomyces</i> , <i>Coccidioides</i> , <i>Paracoccidioides</i> , or <i>Cryptococcus neoformans</i>	Positive	Priority 2
Group A <i>Streptococcus</i> , Sterile Sites	Positive	Priority 2
Herpes Culture (0 to 2 years of age)	Positive	Priority 1
Histoplasmosis Antigen (HSTA)	Positive	Priority 1
Influenza (inpatients only)	Positive	Priority 1
Legionella Culture, DFA or Urine Antigen	Positive	Priority 1 (Hospital Inpatients and hospital clients only; initial isolation only)
Pertussis Smear or Culture	Positive	Priority 1
Pneumocystis DFA	Positive	Priority 1
Rotavirus EIA (0 to 2 years of age)	Positive	Priority 1
RSV Antigen (0 to 2 years of age)	Positive	Priority 1
Shiga Toxin	Positive	Priority 2
Stool and Enteric Culture	Enteric pathogens including <i>Salmonella</i> , <i>Yersinia</i> , <i>Vibrio</i> , <i>Campylobacter</i>	Priority 1 (Hospital Inpatients only; if patient discharged result



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		will be called to ordering physician)
Stool for O&P	Parasites found/identified	Priority 1 (Hospital Inpatients only; if patient discharged result will be called to ordering physician)
<b>Molecular</b>		
<b>Test</b>	<b>Critical Value(s)</b>	<b>QLS Priority</b>
<i>Clostridium difficile</i> , PCR	Positive	Priority 1 (Hospital inpatients and hospital clients only; initial only); Priority 2 for outpatients
MRSA, PCR	Positive	Priority 1 (Hospital inpatients and hospital clients only; initial isolation only)
HSV 1/2, PCR (0 to 2 years of age, and CSF)	Positive	Priority 1
Influenza (inpatients only)	Positive	Priority 1
RSV, PCR (0-2 years of age)	Positive	Priority 1

\*The following definitions are only applicable to non-hospital registered (QLS) patients:

**Priority 1 Results**—These results are reported 24 hour/day and 7 days/week and include, but are not limited to, results considered “critical” according to the Clinical Laboratory Amendment of 1988 (CLIA; CFR493.1109f) and the College of American Pathologists (CAP Laboratory Accreditation Program and so designated by the MACL System Medical Director or designee and the Quality Assurance Resource Team (QART). Because test results cannot be fully interpreted without knowledge of the patient’s clinical condition and treatment, reasonable effort must be made to promptly communicate Priority 1 values after verification and release, allowing the provider to determine the clinical implications and possible need for immediate attention.

**Priority 2 Results**—These results are reported 7 am to 7 pm, 7 days/week and include those that may require attention prior to the receipt of routine laboratory reports. We will use reasonable efforts to promptly communicate these results the same day that results are released (up to 7 pm), or if released after 7 pm then promptly the next morning (after 7 am), 7 days/week. For nursing home or hospital facilities flagged in the call log, use reasonable efforts to communicate these results at any hour of the day, 7 days/week.

**Priority 2WD Results**—These results are reported 7 am to 7 pm, weekdays only. This category is used for prenatal genetic testing where it is important that the information be conveyed to the ordering physician but the call can reasonably be completed on the next work day. Other than not calling on weekends, Priority 2WD results should be handled the same as Priority 2 calls.

**Priority 3 Results**—These results are those that may require attention before receipt of the printed report; they apply to a limited subset of clients with no electronic means of receiving patient reports (ie, receiving mailed or courier-delivered reports) OR who have requested Priority 3 reporting in writing during the previous 12 months.



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- \*\*Other microbiology results indicating pathological conditions may be called if deemed significant by the testing microbiologist. Isolates that require send out to a reference laboratory for additional testing will be called if the results will be delayed > 72 hours beyond the expected turnaround time for the culture. Inpatients will be called to the unit, outpatients will be called to the physician, and patients from client hospital laboratory accounts outside the MACL laboratory network will be called to the client laboratory.
- \*\*\*Subsequent blood culture smears positive for the same organism will not be called if collected within 4 days.
- <sup>§</sup> All hospital registered outpatient bilirubin results on babies <5 days old will be called to the ordering physician regardless of the bilirubin result