

CRITICAL VALUES, SIGNIFICANT FINDINGS LIST and STAT RESULTS

Affected Sites: Enterprise Chandler Good Samaritan

CRITICAL VALUES:

Critical Values are defined as an analytic result that suggests a clinical condition that may be life-threatening and may require immediate clinical intervention: a qualitative result or pathological interpretation that may impact patient care and may require timely clinical intervention.

BLOOD BANK:

1. Any of the following during investigation of a transfusion reaction:
 - a. Visible unexplained hemolysis in post-transfusion reaction patient sample
 - b. New incompatible crossmatch of transfused product
 - c. Clerical or serological error that could cause acute hemolysis in patient, such as Group A red cells transfused to Group O patient.
 - d. Presence of positive gram stain or culture of implicated blood component
2. Incompatible crossmatch of red cells transfused as uncrossmatched.
3. Positive culture of transfused platelet pheresis product.

CLINICAL LAB:

Test Name	Critical Value
Absolute neutrophil count	<1.0 k/ μ L
Absolute neutrophil count (Ascites or Peritoneal fluid)	\geq 250 μ L
Bilirubin 7 days – 2 months Newborn 0-6 days	\geq 12.0 mg/dL \geq 12.1 mg/dL
Bilirubin SENTINEL EVENT (infant <6wk)	\geq 30.0 mg/dL
Calcium	>13.0 mg/dL \leq 6.0 mg/dL
Calcium, Ionized	\leq 3.0 mg/dL 6.5 mg/dL
Carbon dioxide	\geq 40 mmol/L \leq 10 mmol/L
Fibrinogen	< 80 mg/dL
Glucose, plasma > 1 year 0 days – 1 year	\leq 50 mg/dL or \geq 500 mg/dL \leq 40 mg/dL or \geq 300 mg/dL
Glucose, spinal fluid 0 days – 11 years >11 years	\leq 40 mg/dL \leq 39 mg/dL
Hematocrit Hemoglobin	<15% < 5.0 g/dL

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Test Name	Critical Value
Anti-Xa Unfractionated	≥1.00 IU
Low Molecular Weight	≥2.00 IU
Lactate (whole blood)	>8.0mmol/L
Lactate (plasma/fluid)	>8.0 mmol/L
Lithium	≥ 1.5 mmol/L
Malaria smear prep	Positive
Magnesium	≤ 1.0 mg/dL ≥ 4.5 mg/dL (non-OB patients)
Partial thromboplastin time	>120 sec (inpatient) > 60 sec outpatient)
Prothrombin Time	INR ≥ 6.0
pCO ₂	≥ 60 mm Hg
pH	≤ 7.25 ≥7.60
Phosphorus	≤ 1.0 mg/dL
pO ₂ , Arterial newborn:	≤ 60 mm Hg ≤ 50 mm Hg or ≥ 300 mm Hg
Platelet count	< 10 k μ /L or >1,000 k μ /L
Potassium (inpatient)	≥ 6.5 mmol/L ≤ 2.6 mmol/L
(outpatient)	≥ 6.0 mmol/L ≤ 2.6 mmol/L
Sodium	≥ 165 mmol/L ≤ 120 mmol/L
WBC count (adult)	< 2.0 k μ /L or > 80.0 k μ /L
(infant <7 days)	< 5.0 k μ /L
HIV 1/HIV 2 Confirmation	Any Result
Supratherapeutic Drug Levels	
Acetaminophen	>35 μ g/mL
Amikacin trough	>10 μ g/mL
Amikacin peak	>35 μ g/mL
Carbamazepine	>15.0 μ g/mL
Digoxin	> 2.3 ng/mL
Lithium	≥ 1.5 mmol/L
Phenobarbital	> 45.0 μ g/mL
Phenytoin	>22.0 μ g/mL
Salicylate	>30 mg/dL
Theophylline COPD	>22 μ g/mL
Theophylline premature apnea (0-3 months)	>13 μ g/mL
Vancomycin trough	>25.0 μ g/mL
Vancomycin peak	>50.0 μ g/mL
Cyclosporine transplant	>400 ng/mL

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Test Name	Critical Value
Gentamicin trough Gentamicin peak	>2.0 µg/mL >10.0 µg/mL
Sirolimus	>15 ng/mL
Tacrolimus transplant	>25 ng/mL
Test Name	Critical Value
Tobramycin trough Tobramycin peak	>2.0 µg/mL >10.0 µg/mL
Modified Critical Value List for Chandler Emergency Department	
Hematocrit	< 15%
pH	≤ 7.25 ≥ 7.60
Platelet count	< 10 kµ/L
Potassium	≥ 6.5 mmol/L ≤ 2.0 mmol/L
Sodium	≥ 165 mmol/L ≤ 120 mmol/L
Glucose, plasma > 1 year 0 days – 1 year	≤ 50 mg/dL ≤ 40 mg/dL

MICROBIOLOGY:

Positive blood cultures smears
 Positive AFB smears
 Positive GeneXpert MTB/rif result
 Positive Gram stains on CSF
 Positive test result on the Biofire ME Panel
 Recovery of organisms from smear negative CSF
 Recovery of *Mycobacterium tuberculosis* when a negative smear or *GeneXpert MTB* result has been reported
 Positive fungal direct exam (KOH) on sterile body sites
 Positive Fungal cultures on sterile body sites if the direct exam (KOH) was negative
 Recovery of yeast from sterile body fluids if the direct exam (KOH) was negative
 Recovery of *Pseudomonas* species from eye cultures
 Positive Cryptococcal Antigen Positive
 HSV PCR on CSF
 Positive CMV PCR (blood) (first positive result) Positive
 Streptococcus pneumonia antigen on CSF
 Positive PCR for *E coli 0157H7* or positive result for *Shiga toxin stx1/stx2* detection from stool (called to Attending)

ANATOMIC PATHOLOGY RESULTS:

Any tests requiring a professional interpretation may be called to the attending at the discretion of the pathologist reviewing the case. A list of critical results developed by consensus is below. This communication will be noted in the final report.

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- Unexpected malignancy
- New leukemia
- Presence of infectious organisms not previously known to clinician

Cytopathology findings:

- Unexpected malignancy
- Malignancy (suspected or not) in critical location (e.g., superior vena cava syndrome, risk of spinal cord injury)
- All new diagnosis blastic/high grade leukemias/lymphoma
- Immunocompromised patients with bacteria or any fungi in CSF; Pneumocystis, fungi, or viral cytopathic effect in pulmonary specimens; bacteria or fungi in FNA; and acid fast bacilli in any specimen
- All new diagnosis Pneumocystis, fungi (except for Candida) or viral cytopathic effect in pulmonary specimens; fungi in FNA or CSF specimen; acid fast bacilli in any specimen
- Significant disagreement between immediate and final diagnosis

Surgical Pathology findings:

- Unexpected malignancy
- The presence of infectious organisms not previously known to the clinician (exception: dermatophytes, histoplasmosis-like organisms in old granulomas)
- Transplant rejection
- Significant disagreement between frozen section and final diagnosis
- Crescents in kidney biopsy specimen
- Vasculitis (examples: temporal arteritis, large vessel vasculitis)
- Bacteria in heart biopsy specimen
- Absent villi from suspected intrauterine pregnancy
- Fat in endometrial curettage specimen
- Mesothelial cells in heart biopsy specimen
- Malignancy in superior vena cava syndrome or causing paralysis
- Absent ganglion cells in initial rectal biopsies from infants

Other tests results may be sufficiently significant in nature that the laboratory will attempt to make a "Courtesy Notification" to the authorized caregiver to advise them of the clinical findings.

REFERENCE LABORATORY:

Fetal Hemoglobin by Flow Cytometry

Positive galactomannan

Positive Histoplasma and Blastomyces urinary antigen

Positive CMV PCR all sites on send outs (First time only)

Positive EBV PCR on CSF (First positive result)

Positive Enteroviral PCR on CSF or blood (First positive result)

Positive PRION result – Notify Infection Control who will notify Hospital Safety Officer

Positive VZV PCR on CSF (First positive result)

Western Blot Positive for HIV

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The following tests are emailed to Infection Control nurses for inpatients for isolation purposes:

Multi Drug Resistant Organisms
Positive *Bordetella pertussis* by PCR
Positive *Clostridium difficile* by PCR
Positive *Legionella urinary antigen* or positive culture
Positive MRSA PCR on a patient in the NICU (reported to RN and Infection Control)
Positive AFB smear
Positive culture for MTB
Positive MTB PCR on all sources
Positive *Varicella zoster* PCR or culture
Positive PCR for *Campylobacter* species
Positive PCR for *E. coli* 0157H7 or stx1/stx2 positive results from CGIPCR Panel
Positive PCR for RSV or influenza
Positive PCR for *Salmonella* species
Positive PCR for *Shigella* species
Positive PCR for *Rotavirus*
Positive PCR for *Vibrio* Species
Positive PCR for *Norovirus*

The following tests are emailed to Infection Control nurses for reporting purposes:

Positive Malaria smears
Positive Zika virus results

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HISTORY: BLOCK:

Replaces:	LAB 704.04
Significant Changes:	<p>Changed Modified Critical Value List for Chandler Emergency Department ONLY to Modified Critical Value List for Emergency Department</p> <p>Added All new diagnosis to Cytopathology findings for blastic/high grade leukemias/lymphoma</p> <p>Added All new diagnosis to Cytopathology findings for Pneumocystis, fungi (except for Candida) or viral cytopathic effect in pulmonary specimens; fungi in FNA or CSF specimen; acid fast bacilli in any specimen</p> <p>Deleted Immunocompetent patients with Pneumocystis, fungi (except for Candida) or viral cytopathic effect in pulmonary specimens; fungi in FNA specimen; acid fast bacilli in any specimen from the Cytopathology section</p> <p>Added Positive GeneXpert MTB/rif result to the Microbiology section</p> <p>Added Positive test result on the Biofire ME Panel result to the Microbiology section</p> <p>Added <i>GeneXpert MTB to the Recovery of Mycobacterium tuberculosis</i> when a negative smear has been reported</p> <p>Added positive Zika virus results to the section titled: " The following tests are emailed to Infection Control nurses for reporting purposes"</p> <p>Added Glucose Plasma > 1 year ≤ 50 mg/dL and 0 days – 1 year ≤ 40 mg/dL to the Modified Critical Value List for Chandler emergency Department</p> <p>Added critical platelet count of < 10 kμ/L to the Modified Critical Value List for Chandler Emergency Department</p> <p>Added critical values for Anti-Xa: Unfractionated and Low Molecular</p>
Minor Changes:	

APPROVAL BLOCK:

Written by: Barbara Bush	Date: 10-27-2011
Revised by: Leola Hampton	Date: 09/19/2016
Approved by: Barbara Bush, Laboratory Manager	Approval Date:
Biennial Review	
Medical Director:	Date:
Date procedure retired:	

Approved by: P. Bachner, MD	Date:
CLIA Designated Director	