

## Critical Values\_Urgent Results

Index No. Document #13/ Version #19

Category: Laboratory - Mercy Medical Center-North Iowa

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### DEFINITIONS

### LINKS

### PURPOSE

Critical results of tests and diagnostic procedures fall significantly outside the normal range and may indicate a life-threatening situation. The objective is to provide the responsible licensed caregiver these results within an established time frame so that the patient can be promptly treated. (TJC NPSG.02.03.01). Urgent results of tests are not considered life threatening but may require urgent intervention.

### POLICY

**Critical result values are determined by Medical Director and routinely reviewed.**

#### Critical Result Criteria:

CHEMISTRY TEST	LESS THAN	GREATER THAN
Bilirubin; age 0-1 month		15 mg/dl
BUN; non-dialysis ONLY		100 mg/dl
Calcium, Total; non-dialysis ONLY	6.0 mg/dl	
Calcium, Total		14 mg/dl
Calcium, Ionized	0.75 mmol/l	1.6 mmol/l
CK, Total		5000 IU/L
CO2	10 mmol/l	40 mmol/l
Creatinine; non-dialysis ONLY		7.5 mg/dl
Glucose, CS Panels	80	500
Glucose (Serum); Inpatients	50 mg/dl	500 mg/dl
Glucose (Serum); Outpatients/Outside	50 mg/dl	400 mg/dl
Glucose (Serum); Newborn 0-3 days	40 mg/dl	300 mg/dl
Lactate, Plasma, CSF, Body Fluids		3.9 mmol/L
Magnesium	0.6 mg/dl	7.3 mg/dl
Osmolality	240 mOsm/kg	325 mOsm/kg
Phosphorus	1.1 mg/dl	
Potassium; non-dialysis patients	3.0 mmol/l	6.0 mmol/l
Potassium; Dialysis (FRES) ONLY		7.0 mmol/l
Protein Total, 24 hour urine; Pregnant ONLY		300 mg / 24 hours
Sodium	120 mmol/l	160 mmol/l
Troponin		0.49 ng/ml
Uric Acid		13 mg/dl

<b>DRUGS TEST</b>	<b>GREATER THAN</b>
Acetaminophen	150 mcg/ml after 4 hours post ingestion
Alcohol Ethyl, Blood	400 mg/dl
Carbamazepine	20 mcg/ml
Digoxin	2.5 ng/ml
Gentamicin,Peak	12 mcg/ml
Lithium	2.0 mmol/l
Phenobarbitol	60 mcg/ml
Phenytoin	30 mcg/ml
Salicylate	50 mg/dl
Theophylline	25 mcg/ml
Tobramycin,Peak	12 mcg/ml
Valproic acid	200 mcg/ml
Vancomycin	80 mcg/ml

<b>HEMATOLOGY/COAGULATION TEST</b>	<b>LESS THAN</b>	<b>GREATER THAN</b>
Hemoglobin; Outpatient	7.5 g/dl	20.0 g/dl
Hemoglobin; Inpatient and FRES dialysis	6.0 g/dl	20.0 g/dl
Hemoglobin; Cardiac surgery	5.0 g/dl	20.0 g/dl
Hemoglobin; Newborn 0-7 weeks	7.5 g/dl	24.0 g/dl
Hematocrit; Newborn 0-14 days	40%	65%
Malarial smear		Positive
Platelets; NOT Cancer Center or ICU	40 K/mcl	1000 K/mcl
Platelets; Cancer Center after hours	10.0 K/mcl	
Platelets; ICU ONLY	100.0 K/mcl	1000.0 K/mcl
Prothrombin time/ Prottime (INR)		4.4
Partial thromboplastin time (PTT)		140 seconds
WBC; Outpatient except Cancer Center	1.0 K/mcl	25.0 K/mcl
WBC; Inpatient	1.0 K/mcl	50.0 K/mcl

<b>SEROLOGY</b>	<b>TEST</b>	<b>RESULT</b>
	Cold Agglutinin (Pre- or potential cardiac surgery patient)	Greater or equal to 8

<b>BLOOD BANK TEST RESULT</b>			
	<b>NOTIFY PATHOLOGIST</b>	<b>NOTIFY LAB DIRECTOR</b>	<b>NOTIFY ATTENDING PHYSICIAN</b>
Hemolytic transfusion reaction	X	X	X
Technical error affecting patient care, safety, life.	X	X	X
Inability to obtain compatible blood which must be referred to Life Serve Blood Center	X if need to transfuse is urgent*		X
Unresolved incompatible crossmatches which must be referred to Life Serve Blood Center	X (if need to transfuse is urgent*)		X
Transfusion reaction AND contaminated or suspected contaminated blood product has been transfused	X		X
Type and Screen or Crossmatch on patient having surgery next day & positive antibody screen cannot be resolved. Contact surgeon, surgeon's nurse to determine quantity of units desired for surgery.	X		X
OB Patients - Positive Antibody Screen (clinically significant antibodies)			X
OB Patients – Antibody Titer results			X

<b>MICROBIOLOGY TEST</b>	<b>RESULT</b>
Blood	Positive direct gram stain or culture
Cerebrospinal fluid	Positive direct gram stain or culture
Joint fluid	Positive direct gram stain or culture
Pleural fluid	Positive direct gram stain or culture
Thoracic fluid	Positive direct gram stain or culture
Bacterial antigen	Positive
Cryptococcal antigen	Positive
Acid-fast culture/smear or TB PCR probe	Positive
Tissue or wound culture	Presence of Group A Streptococcus
Eye culture	Presence of Pseudomonas aeruginosa

## PROCEDURE

### 1. CRITICAL VALUE or URGENT RESULT DESIGNATION:

- a. Technical staff is responsible for notifying the appropriate healthcare provider of a critical result but can delegate the notification process to Client services staff.
- b. Technical staff: Designate Result as critical value:
  - M-F from 0800 – 1900; the Tech appends CV-CB1 (critical value-call back priority 1) to each critical value OR URG-CB2 (urgent result-call back priority 2) to each urgent result.
  - At the A/M/R (accept, modify, reject) prompt, select accept. CB1 and CB2 prompt alerts client services staff in SunQuest GUI function to call result.
  - M-F from 1900-0800, weekends and holidays; the Tech appends CV or URG to each test result, and then documents the call back information after the CV or URG code by entering call back information as outlined in the **CRITICAL VALUE DOCUMENTATION** section.

### 2. NOTIFICATION BY LOCATION:

- a. Mercy Inpatients, Nursing Homes & Regional Network Hospitals
  - The appropriate LIP involved with the patient's care is notified immediately.
  - Critical values will be called as immediately as possible and within 30 minutes of being result.
- b. Reference Lab Clinic Patients
  - The appropriate LIP involved with the patient's care is notified immediately.
  - Medical assistants and Radiology techs may also accept critical values in the clinics.
  - If after clinic hours, the appropriate "on-call" physician is notified immediately.
  - If the physician on call fails to respond to their page after 2 attempts or 60 minutes the critical value will be called to the pathologist on call. (See documentation sheet at end of policy add link).
  - For in-network providers, call switchboard and ask them page the doctor on call for the ordering provider.
  - For non-owned Mercy Clinics refer to the *Critical Values after Hours* notebook in Client Services for names and numbers.
  - Critical values obtained on clinic or outpatients after physician office hours will be called to the physician on call as soon as possible. Within 60 minutes is acceptable.
  - If the physician on call fails to respond to their page after 2 attempts, the critical value will be called to the pathologist on call. (See documentation sheet at end of policy).
- c. Discharged Patient for **URGENT RESULTS**
  - If current event location was any Acute Care Unit, SNU, or ARU, but the patient has been discharged, notify the provider listed for the Discharge follow-up appointment on the Clinical Summary in Cerner PowerChart

### 3. CALL AND VERBAL READ BACK:

- a. The person receiving the Critical Lab Value is required to verbally read back the result to the lab person calling to verify the test result is correctly and accurately understood.
- b. Laboratory staff must allow time for the receiver to read the result back.
- c. Laboratory staff will use the script: *“This is \_\_\_\_\_ from Mercy Lab and I have a critical/stat lab value that I will need a verbal read back on. Are you authorized to accept this result?”*
- d. Staff will give the patient name and location, test name, and test result.
- e. The laboratory staff will document the Verbal Read Back on the patient’s report in the manner described below under *Documentation (link)*.
- f. If the receiver fails to do a verbal read-back, the laboratory staff will document this failure and submit a VOICE report

### 4. DOCUMENTATION: Core Technical Staff

- a. Call made before accepting result
  - Attach the "CV" (Critical Value) and "CALL" SunQuest codes to the Critical Value so that it will appear on the patient report.
  - Document the **name and location** of the person receiving the result. (NOT just title, such as Dr. or R.N.)
  - Document the **date and time** of the notification.
  - Document that the result was verbally read back to you by use of a “**VRB**” abbreviation and **caller's initials**.  
EXAMPLE: INR 5.0-CV-CALL-; Jody 5W 1000 04/03/17 VRB PG
- b. Results that were entered prior to the critical call can have the critical value documentation completed by adding a NTFD (notified) test through Function RE.
  - Enter the accession number at the HOSP. /ACC. NO. Prompt.
  - Following the list of test(s) currently on the accession, add the test code NTFD at the first blank TEST prompt.
  - NOTE: If the NTFD test has already been added to the accession due to more than one critical value, the test cannot be added a second time. The original result to the test will be modified. Refer to step 4.
  - Accept the RE addition. No other modifications are necessary.
  - Press the RETURN key to go past the accession prompt.
  - System will prompt the user to result the NTFD test (similar to entry of SDES, SREQ or time last dose). NTFD should be resulted with the **name and location** of the person who took the call, **test name, time/date** of the call, **VRB and the caller's initials**. Example: NTFD: ;JANE NURSE 6W OF CV DIG VALUE 1300 3/13 VRB DSA
- c. Preliminary reports will be documented with the **name and location** of the person who took the call, **test name, time/date** of the call, **VRB and the caller's initials** on the instrument printout or work-log or in the work-up (Microbiology).
- d. Call Inpatient or ED location if a preliminary critical value repeat will delay the result i.e. Troponin that needs to be re-spun and analyzed.
- e. If the NTFD test has already been resulted with the information of another critical value call, information from subsequent calls will be entered through Function ME, worksheet FAX. Test: NTFD.

- Modify the accession by entering M-accn at the accession number prompt.
- ADD to the existing information by typing -; MARY 6W OF CV WBC....
- After entering the Accession, the screen will display:  
NTFD:; JANE 6W OF CV DIG VALUE 1300 3/13 VRB DSA
- Enter the bolded information below:  
NTFD:; JANE 6W OF CV DIG VALUE 1300 3/13 VRB DSA-; **MARY NURSE 6W OF CV WBC VALUE 1300 3/13 VRB PMG.**
- Function IQ and the report will list:
  - NOTIFIED: JANE 6W OF CV DIG VALUE ON 1300 3/13 VRB DSA MARY NURSE 6W OF CV WBC VALUE 1400 3/13 VRB PMG

## 5. DOCUMENTATION: Blood Bank staff

- Order BBC and result with **name and location** of the person who took the call, **test name, time/date** of the call, **VRB and the caller's initials** and the result.  
Example: Critical value called to Jody Nurse 5W of anti-Kell 1000 04/03/17 VRB by PG. BBC prints to the report and serves as written documentation of the notification.

## 6. DOCUMENTATION: Microbiology staff

- CRITICAL VALUE** Positive Blood Culture; Document person notified, location, date, time, VRB and tech initial at the 1<sup>st</sup> Description prompt; under the Direct Exam tab; using code PBLC (P key).
- CRITICAL VALUE** Positive Culture; Document person notified, location, date, time, VRB and tech initial; under the Composed Text field.
- CRITICAL VALUE** Sterile body fluid gram stains; Document person notified, location, date, time, VRB and tech initial in OBS field; under the Direct Exam tab, after all gram stain results have been entered. (Ex: OBS1: 4+ WBC, OBS2: 2+ GPC, OBS3: "Called to" documentation). \*\*Before reporting a positive gram stain, on a sterile body site, the gram stain will be read by two techs on that shift.
- CRITICAL VALUE** Direct kit testing, Document person notified, location, date, time, VRB and tech initial directly to the result or resulted out, using the NTFD: test code.
- URGENT RESULTS:** Attach the "URG" (Urgent Result) and "CALL" SunQuest codes to the Urgent Result so that it will appear on the patient report.
  - EXAMPLE: RS:POS-URG-;Jane Nurse 5W 1000 04/04/04 VRB LB
- URGENT RESULTS** designation to Client Services by attaching CB2 (Callback2) to the Urgent Result.
  - EXAMPLE: RSV: POS-URG-CB2

## 7. DOCUMENTATION: Client Services

- Use SunQuest Software Call Back Function.
  - Refer to Critical Value Call Back procedure (General Lab Policy, Document #38, Version 1link)
  - CB1 are Critical Values and CB2 are Urgent Results
  - Document person notified, location.
  - Check box indicating if the VRB was completed; date, time, and caller's code will automatically be entered.

**URGENT RESULT CRITERIA**

**Urgent results are determined by Medical Director and routinely reviewed.**

NOTE: This list is not all inclusive

TEST	RESULT	NOTIFY BY PHONE	NOTIFY BY FAX/PRINTER
Chlamydia trachomatis and GC (Neisseria Gonorrhoeae)	Positive	Acute Care Units, SNU, ARU	Emergency Dept Outside locations
RSV	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Influenza A/B	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Group A Strep Screen (throat)	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Clostridium difficile Toxin	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Rotavirus	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
MRSA Nasal or Wound Surveillance	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
MDRO VRE/MRSA/ESBL/CRE	Positive	Acute Care Units, SNU, ARU	Outside locations Emergency Dept
Cryptosporidium or Giardia Stool Antigen	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Stool Culture	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Syphilis with: positive RPR reflex or positive TPPA reflex	Positive	Acute Care Units, SNU, ARU	Outside locations
Clotest tissue screen for H. pylori	Positive	Acute Care Units, SNU, ARU	Outside locations
Ova and Parasite	Presence of any ova or parasite	Acute Care Units, SNU, ARU	Outside locations Emergency Dept
Hepatitis Confirmatory testing	Positive	Acute Care Units, SNU, ARU Emergency Dept	Outside locations
Throat Culture – Strep A	Positive	Acute Care Units, SNU, ARU	Outside locations Emergency Dept

## DEFINITIONS:

## REFERENCES:

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Quality and Patient Safety Team, April 2017

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
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Y/N	Mercy Medical Center - North Iowa Applicability:
Y	Mercy Facilities & Colleagues
N	Non-Mercy Colleagues Working in Health Center
N	Mercy Colleagues Working at Offsite Locations
N	Mercy Volunteers
N	Mercy Clinics
N	Home Health Care
N	Hospice
	Other