

LABORATORY STANDARD OPERATING PROCEDURES MANUAL	NOTIFICATION OF CRITICAL RESULTS / VALUES
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☆ IN ORDER TO MAINTAIN A HIGH LEVEL OF QUALITY PATIENT CARE, THIS LABORATORY MUST ALWAYS NOTIFY THE PHYSICIAN, APPROPRIATE FLOOR, OR APPROPRIATE CLINIC OR CARE GIVER OF DEFINED CRITICAL RESULTS AS WELL AS DEFINED CRITICAL TESTS. ⇒**ALL LABORATORY DEFINED QUANTITATIVE and SEMI-QUANTITATIVE CRITICAL VALUES ARE PROGRAMMED INTO THE LABORATORY INFORMATION SYSTEM AND, WHEN ENTERED, ARE PROMPTED WITH A POP-UP SCREEN REMINDING THE TECH TO CALL THE RESULTS.**

☆ **PURPOSE:**

To communicate in a timely manner to the ordering physician or other appropriate representatives any information needed for immediate patient treatment. According to Joint Commission National Patient Safety Goals:

- ★ You must define the critical results of tests and diagnostic procedures.
- ★ Determine by whom and to whom critical results of tests and diagnostic procedures are reported,
- ★ And define an acceptable length of time between the availability and reporting of critical results of tests and diagnostic procedures.
- ★ Written procedures must be developed and implemented for managing these results.
- ★ You must evaluate the timeliness of reporting the critical results of tests and diagnostic procedures.

☆ In keeping with this process the following steps must be followed:

- Immediately call the critical values to the physician, nursing floor, home health nurse, or any other appropriate caregiver. On inpatients, please call the appropriate nursing unit. When calling a nursing floor, you **MUST** talk to a nurse. When calling the Cancer Center, you must speak to one of the nurses or a physician. Any defined critical result or test must be called STAT, as soon as the result is available, (within no more than 30 minutes). Nurses will in turn immediately call these to the physician, within one hour. Make sure you give the patients complete name and Date of Birth.
- When calling most nursing floors, if a nurse is not close to the phone, please hold on the line until a nurse can take the call. In ICU or ER, if you call a critical result during a code when there might not be a nurse that can come to the nurse's station, please ask the Unit Secretary or Monitor Tech for the cordless phone number for their unit and call the results on the cordless phone and give them to the nurse. If the nurse cannot talk on the phone at all, the nurse will have to call the laboratory back as soon as possible. You cannot give the results to the monitor tech/unit secretary.
 - Laboratory **critical results** are called immediately after resulted, read back, and that documentation is in the computer system. The name and date of birth of the patient is given for identification. The Laboratory must call the floor or the physician, physician office, home health, or nursing home (for outpatients) immediately upon results of the test, within no more than 30 minutes.
- On outpatient critical results that have to be called to the physicians' offices or Nursing Home, request to speak to the physician, physician's assistant, the nurse or nursing or medical assistant or aide. All outpatient critical results are immediately called by Laboratory staff. If critical test values must be faxed on an outpatient, please verify receipt with a phone call whenever possible.
- Make sure to have the person to whom you are speaking perform the read-back of the results. This verifies that results were understood and written correctly.
- Make sure there is documentation of this call in the comments that will print in the patient report, stating who was called. Each tech's computer ID will be linked to this comment when they are the one entering the results and the comment. The date and time called will also be linked with the results. This documentation is reviewed on a continuing basis. The computer entry includes the following:
 - ★ Date and time of call,
 - ★ Laboratory person logged on and making the call,
 - ★ The person notified
- Make every possible effort to contact the appropriate floor and talk to a nurse, or in the case of an outpatient: physician, office, clinic, etc. If all appropriate steps have been taken in order to reach the physician, or other appropriate healthcare

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giver, and no one can be reached, notify the Emergency Room physician in order that he or she might make a decision as to what must be done in order to properly take care of the patient.

- If the critical value is a reference test that is called from LabCorp, the appropriate care giver must be notified. If the critical value is a maternal screening test or other complex report, these are faxed and the physician/care giver is notified of the fax. If the test is interfaced into our computer system, this information can be entered into the system. If the test is not interfaced, the notification information is communicated to the Referrals Laboratory Technician and that information is placed in a folder in that area. Make sure to document the value of the test, who was notified, date and time of notification, and your initials.
- Because inpatient/ER STAT results immediately broadcast to that location as soon as the tests are resulted, these usually are not called unless the result is a defined critical value or critical test. However, if the results are called, the same notification process with documentation must take place if you call STAT results regardless of value. You must notify all STAT outpatient test results. If these are called, the same notification process with documentation must take place.
- **SPECIFIC PARAMETERS**
 - ★ As always, physicians can write parameters for notification on any patient's chart.

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☆ **LABORATORY CRITICAL TEST VALUES:**

Name of Test	Male Critical Ranges				Female Critical Ranges			
	Age	Low	High	Units	Age	Low	High	Units
Whole Blood Glucose	0 Min.	30	- 400	mg/dL	0 Min.	30	- 400	mg/dL
- Acetaminophen	0 Min.	0.0	- 150.	mcg/mL	0 Min.	0.0	- 150.0	mcg/mL
Bilirubin Total	0 Min.		- 12.1	mg/dL	0 Min.		- 12.1	mg/dL
- Calcium	0 Min.	6.0	- 13.1	mg/dL	0 Min.	6.0	- 13.1	mg/dL
Carbamazepine	0 Min.		- 15.0	mcg/mL	0 Min.		- 15.0	mcg/mL
- CKMB Index	0 Min.		- 4.0	%	0 Min.		- 4.0	%
CPK	0 Min.		- 750	Units/L	0 Min.		- 750	Units/L
- Digoxin	0 Min.		- 2.5	mcg/mL	0 Min.		- 2.5	mcg/mL
- Gentamicin Trough	0 Min.		- 2.1	mcg/mL	0 Min.		- 2.1	mcg/mL
- Gentamicin Peak	0 Min.		- 12.1	mcg/mL	0 Min.		- 12.1	mcg/mL
- Glucose	0 Min.	40	- 700	mg/dL	0 Min.	40	- 700	mg/dL
Hematocrit	0 Min.	33.0	- 70.0	%	0 Min.	33.0	- 70.0	%
-	2 Months	20.0	- 62.0	%	2 Months	20.0	- 62.0	%
-	6 Yrs.	20.0	- 62.0	%	6 Yrs.	20.0	- 62.0	%
-	12 Yrs.	18.0	- 61.1	%	12 Yrs.	18.0	- 61.1	%
-	8 Yrs.	18.0	- 61.1	%	18 Yrs.	18.0	- 61.1	%
- Hemoglobin	0 Min.	9.5	- 22.3	g/dL	0 Min.	9.5	- 22.3	g/dL
-	2 Months	6.9	- 20.8	g/dL	2 Months	6.9	- 20.8	g/dL
-	6 Yrs.	6.9	- 20.8	g/dL	6 Yrs.	6.9	- 20.8	g/dL
-	12 Yrs.	6.6	- 20.0	g/dL	12 Yrs.	6.6	- 20.0	g/dL
-	18 Yrs.	6.6	- 20.0	g/dL	18 Yrs.	6.6	- 20.0	g/dL
Lithium	0 Min.		- 2.1	mmol/L	0 Min.		- 2.1	mmol/L
Magnesium	0 Min.	1.0	- 8.0	mg/dL	0 Min.	1.0	- 8.0	mg/dL
- Potassium	0 Min.	2.8	- 6.6	mmol/L	0 Min.	2.8	- 6.6	mmol/L
-								

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Phenobarbitol	0 Min.	-	40.1	mcg/mL	0 Min.	-	40.1	mcg/mL		
-										
Phenytoin	0 Min.	-	20.1	mcg/mL	0 Min.	-	20.1	mcg/mL		
-										
Phosphorus	0 Min.	1.0	-	mg/dL	0 Min.	1.0	-	mg/dL		
-										
Platelet Count	0 Min.	53	-	911	10x3/mcL	0 Min.	53	-	911	10x3/mcL
-										
	1 Month	53	-	911	10x3/mcL	1 Month	53	-	911	10x3/mcL
-										
	12 Yrs.	37	-	911	10x3/mcL	12 Yrs.	37	-	911	10x3/mcL
-										
Protime (INR)	0 Min.	-	4.3	INR	0 Min.	-	4.3	INR		
PTT	0 Min.	-	100.0	seconds	0 Min.	-	100.0	seconds		
Salicylate	0 Min.	-	30.0	mg/dL	0 Min.	-	30.0	mg/dL		
Sodium	0 Min.	120	-	160	mmol/L	0 Min.	120	-	160	mmol/L
-										
Theophylline	0 Min.	-	20.1	mcg/mL	0 Min.	-	20.1	mcg/mL		
-										
Troponin I	0 Min.	-	3.0	ng/mL	0 Min.	-	3.0	ng/mL		
Valproic Acid	0 Min.	-	101.0	mcg/mL	0 Min.	-	101.0	mcg/mL		
-										
Vancomycin Peak	0 Min.	-	60.0	mcg/mL	0 Min.	-	60.0	mcg/mL		
-										
Vancomycin Trough	0 Min.	-	20.0	mcg/mL	0 Min.	-	20.0	mcg/mL		
-										
White Blood Count	0 Min.	2.0	-	30.0	10x3/mcL	0 Min.	2.0	-	30.0	10x3/mcL
-										
	1 Month	2.0	-	25.0	10x3/mcL	1 Month	2.0	-	25.0	10x3/mcL
-										
-										
-										

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Qualitative and Semi-Quantitative Critical Results by clinical department:

☆ COAGULATION:

- ◆ Positive dimer, any titer, give titer when calling results.
- ◆ Bleeding time > 15 minutes.

☆ BLOOD BANK:

- ◆ If an antibody has been found but cannot be identified in a timely manner.
- ◆ If the antibody can be identified but the appropriate antisera are not readily available for testing of donor units for the corresponding antigen.
- ◆ If the appropriate antisera are available, however units tested do not appear to be negative to all the antigens that correspond to the antibodies present. (This happens in cases of multiple antibodies where the correct type unit is not available negative to all the antigens.)
- ◆ If no units appear to be compatible with or without a positive antibody screen.
- ◆ If there is a cold agglutinin present that cannot be pre-warmed out or absorbed by autologous cells.
- ◆ If a positive direct coombs is found the nursery should be notified
- ◆ If in testing a patient's blood, it is found that the type does not match what is on record in the blood bank, all the appropriate people must be notified
- ◆ During the investigation of a transfusion reaction, the pathologist and a nurse of the unit in which the patient is, must be notified immediately if any of the following are reported:
 - Visible hemolysis in the post-transfusion specimen
 - There is known or suspected mis-transfusion
 - Respiratory Distress occurring during infusion or within 6 hours of transfusion (a diagnostic feature of TRALI)

☆ HEMATOLOGY:

- ◆ Elevated WBC count in CSF.

☆ SEROLOGY/IMMUNOLOGY

- ◆ Positive Influenza A&B screen
- ◆ Positive RSV (For outpatients: During normal office hours, if unable to reach by phone, please fax positive results to office -- after hours, please notify provider per policy)

☆ MICROBIOLOGY:

- ◆ Growth of Methicillin Resistant *Staphylococcus aureus* (MRSA) on any culture source
- ◆ AFB:
 - * Positive smear or culture
- ◆ Blood:
 - * Positive gram stain or culture
- ◆ CSF:
 - * Positive gram stain or culture
 - * Positive India ink or fungal culture
- ◆ Parasitology:
 - * Positive malaria smear
- ◆ Stool:
 - * Positive *Clostridium difficile* toxin

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☆ URINALYSIS:

- ◆ On any patient: Combination of 3+ or greater positive test results on the dipstick for **BOTH** glucose and ketone in urine. **(Both tests must be 3+ or greater to be defined as a Critical value.)**
- ◆ On patients under the age of 16: **any positive glucose result including trace**
- ◆ On patients under the age of 2: **positive clinitest**

☆ INFECTIOUS DISEASES:

- ◆ On patients that have a reactive Hepatitis B surface antigen, (including prior to confirmation that is sent out)
- ◆ If the patient is an OB patient, these results will be called to Women's Services, who will in turn call these results to the physician caring for the baby, in order to make sure the baby is given the proper immunizations.

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APPROVED BY: Martin F. Belli, M.D. DATE: 6-96

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See original policy in the Laboratory for all documented annual reviews.

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- 2005 National Patient Safety Goals FAQs for the Laboratory Program, JCAHO Perspectives, website, January 2005.
- 2007 Joint Commission National Patient Safety Goals FAQs, Joint Commission website
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