

**CRITICAL VALUE POLICY-LABORATORY**

- St. Joseph Medical Center Tacoma, WA
- St. Clare Hospital Lakewood, WA
- St. Elizabeth Hospital Enumclaw, WA
- St. Francis Hospital Federal Way, WA
- St. Anthony Hospital Gig Harbor, WA
- PSC

**PURPOSE**

To define the policy for management of critical values (CV) for laboratory test results.

**BACKGROUND**

FHS Laboratory, along with consultation from the Medical Staffs of FHS Hospitals, will define the tests to be on the CV list and the values at which they trigger an immediate notification. Any revisions to the list of CV tests must be approved by the laboratory and medical staff representative(s).

**POLICY**

1. All tests which meet the criteria of a Critical Value (CV) will be reported to the appropriate individual or nursing unit as soon as is possible.
  - For hospital departments or locations that operate 24/7 (i.e., nursing homes/LTC facilities), this means immediately (within 15 minutes).
  - For ambulatory settings, this may mean as soon as notification can occur, if the location is closed. Attempts to reach the ordering provider will commence as soon as the critical value is available.
  - Whenever an immediate notification is warranted based on the level of CV, all efforts to contact the appropriate caregiver will be exhausted, to include notification of the laboratory medical director or pathologist.
  - Test results will be verified and available electronically while notification commences.
  - Test results will not be automatically repeated unless the analysis (result) is in question.
2. Critical value results should be reported by the tech/lab assistant who obtained the result; i.e., Bleeding Time result by lab assistants; or by the lab employee receiving a reference lab CV result.
3. Critical values for patients in all FHS departments must be called to caregivers having RN, ARNP, PA, Pharmacist or Physician credentials. The intent is that licensed caregivers at FHS receive CV results. FHS departments who don't staff RNs will designate appropriate staff to receive CV results and insure subsequent notification to the appropriate provider will occur.
4. To insure that a verbally reported CV is understood and recorded correctly, a READ-BACK of the recorded result is required from the recipient of the result. During the Reading of the CV result, the lab will use verbiage such as Critical LOW or Critical HIGH to further describe the value so that confusion is minimized.
5. Documentation in the lab computer system, of this notification and read-back, is required to complete an audit trail of CV notification.

## CRITICAL VALUE LABORATORY TEST LIST

Results are critical and will be called if the criteria below is met.

<b>CHEMISTRY</b>				
Test Name	Low	High	Units	Notification Protocol
Calcium	<6.5	>12.0	mg/dL	Call immediately
Calcium Ionized	<0.89	>1.51	mmol/L	Call immediately
Carbon Dioxide	<10	>45	mmol/L	Call immediately
CKMB (1 <sup>st</sup> elevation of visit)		>9.0*	ng/mL	Call first elevation immediately
CKMB Index (1 <sup>st</sup> elevation of visit)		>2.7*	%	Call first elevation immediately
Glucose	<50	>450	mg/dL	Call immediately
Glucose CSF	<30		mg/dL	Call immediately
Lactic Acid		>4.0	mmol/L	Call immediately
Lithium		>1.5	meq/L	Call immediately
Magnesium	<1.0	>4.7	mg/dL	Call immediately
Magnesium Thpy	<1.0	>7.9	mg/dL	Call immediately
Osmolality	<250	>350	mOsm/kg	Call immediately
Phosphorus	<1.0		mg/dL	Call immediately
Potassium	<3.0	>6.0	mmol/L	Call immediately
Sodium	<120	>155	mmol/L	Call immediately
TNI (1st elevation of visit)		>0.49*	ng/mL	Call first elevation immediately
*CKMB/Index – First elevation of CKMB >9.0 or Index >2.7% during a visit or encounter triggers immediate call/notification				
*TNI – First elevation of TNI >0.49 during a visit				

<b>CHEMISTRY/HEMATOLOGY - NEWBORN</b>				
Test Name	Low	High	Units	Notification Protocol
Bilirubin*		>17.0	mg/dL	Call immediately
Glucose	<40	>200	mg/dL	Call immediately
Phosphorus		>15.0	mg/dL	Call immediately
Potassium *	<3.0	>7.5	mmol/L	Call immediately
Hematocrit	<24	>75	%	Call immediately
Urine Ketones	<b>PRESENT – Call immediately</b>			
Urine Glucose	<b>PRESENT – Call immediately</b>			
* Bilirubin critical value limits are age dependent. Refer to Lab Cerner ITD, screen 17 for age specific CV or Newborn Bilirubin Result Entry work instruction				
* Potassium critical value limits are age dependent. Refer to Lab Cerner ITD, screen 17 for age specific CV.				

<b>HEMATOLOGY</b>				
Test Name	Low	High	Units	Notification Protocol
Hematocrit	<22	>60	%	Call immediately
Heparin UFH		>1.00	IU/mL	Call immediately
Heparin LMW		>1.69	IU/mL	Call immediately
INR		>5.0		Call immediately
Platelet	<30	>1,000	K/uL	Call immediately
PT (see INR)				Call immediately
PTT (non-heparin)		>60	Seconds	Call immediately
Bleeding Time		>15	Minutes	Call immediately
WBC	<2.0	>50.0	K/uL	Call immediately
Fibrinogen	<50		mg/dL	Call immediately
Malaria	<b>PRESENT – Call immediately</b>			
Blasts on smear	<b>PRESENT – Call immediately</b>			

**CRITICAL VALUE LABORATORY TEST LIST cont'd**

<b>TOXICOLOGY</b>				
<b>Test Name</b>	<b>Low</b>	<b>High</b>	<b>Units</b>	<b>Notification Protocol</b>
Acetaminophen	n/a	>50	mcg/mL	Call immediately
Carbamazepine	n/a	>15	mcg/mL	Call immediately
Cyclosporin	n/a	>400	ng/mL	Call immediately
Digoxin	n/a	>3.0	mcg/mL	Call immediately
Gentamicin-peak	n/a	>10.0	mcg/mL	Call immediately
Gentamicin-trough	n/a	>2.0	mcg/mL	Call immediately
Lithium	n/a	>1.5	meq/L	Call immediately
Phenobarbital	n/a	>40	mcg/mL	Call immediately
Phenytoin	n/a	>25	mcg/mL	Call immediately
Salicyclate	n/a	>100	mg/dL	Call immediately
Theophylline	n/a	>20	mcg/mL	Call immediately
Tricyclic (Total) serum	n/a	>500	ng/mL	Call immediately
Vancomycin-peak	n/a	>80.0	mcg/mL	Call immediately
Vancomycin-trough	n/a	>25.0	mcg/mL	Call immediately
Valproic Acid	n/a	>151	mcg/mL	Call immediately

<b>TRANSFUSION SERVICE</b>
Verification of hemolytic transfusion reaction
Positive Direct Coombs on a newborn
Immediate notification of incompatibility found in a unit released under Emergency Release or Type and Screen
Excess Fetal-maternal hemorrhage
New hemolytic antibody identified during pregnancy
Confirmation of a delayed transfusion reaction

<b>MICROBIOLOGY</b>
All positive Blood cultures
All positive CSF gram stains
All positive CSF cultures
All positive AFB smears
All positive AFB cultures
All positive Herpes cultures (babies only)
All positive Strep Group A in wound cultures
All positive Strep Group B Cultures or Antigen detected in body fluid of a newborn/infant
All other bacteria/organisms that could be associated with bioterrorism

**DOCUMENT APPROVAL Purpose of Document / Reason for Change:**

Add Valproic Acid to CV list. New format.

No significant change to process in above revision. Per CAP, this revision does not require further Medical Director approval.

<b>Committee Approval Date</b>	<input checked="" type="checkbox"/> Date: 8/29/13 <input type="checkbox"/> N/A – revision of department-specific document which is used at only one facility	<b>Medical Director Approval</b> <i>(Electronic Signature)</i>	 8/30/13
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