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Owner: Sally Kramer: Manager - Lab
 Science Tech - SJ
Policy Area: Lab / Chemistry
References:
Applicability: St. Francis Hospital
 St. Anthony Hospital
 St. Clare Hospital
 St. Elizabeth Hospital
 St. Joseph Medical Center

Critical Values – Critical Troponin or CK-MB/ Index, M-W-CH-0597-03

PURPOSE

To provide instructions for calling critical troponin (TnI) and/or CK-MB/CKI results when the TnI and/or CK-MB/ Index are critical and repeat for first critical.

BACKGROUND

"Fliers" are false positive results due to fibrin strands that form when tubes aren't properly mixed at the time of the blood draw. While rare (~0.007%), these fliers occur during the first (and sometimes second) immunoassay performed on the DXI and Access, which is often a troponin and/or a CK-MB/Index and can cause critically high results. Thus, all first time critical TnI and CK-MB/Index values must be confirmed by re-spinning and re-running the specimen to ensure accurate results.

RELATED DOCUMENTS

R-PO-AD-0551	Critical Value Policy – Laboratory
R-W-CH-1825	DXI CK-MB
R-W-CH-1826	DXI (TnI) Troponin
R-PO-AD-0730	Patient Safety & Error Management Policy

STEPS

Patient with critically high TnI and/or CK-MB/Index

1. Call the provider and report the results. It is acceptable to wait for TNI, CK-MB, or Index to be completed prior to calling a single Critical Value for the accession number/patient.
2. In the Comm Log, the critical result will auto populate the critical value comment with the value and reference range (see example) "*The following critical results were read back and acknowledged. Troponin I 1.282 ng/mL High Panic (Ref. Range 0.00-0.04).*"
Add the smartphrase .BKRCCALL1 or .CCALL1, which reads "*Per laboratory policy, all first critical Troponin and CK-MB/Index results will be repeated. The provider will be notified of any discrepant*"

results." after the prepopulated Comm Log comment.

3. Prelim Verify the result. Proceed with the steps below under Repeat of First Critical Tnl and/or CK-MB/Index due to possible "flier" (falsely elevated result).
4. If TNI is critically high and patient has a "RALS Troponin I" (ER order code for i-Stat troponin) that is critical, the "RALS Troponin I". In such circumstances, the lab methodology serves as confirmation for the i-STAT Troponin I critical value and it does not need to be repeated. Document in the Comm Log and add the smartphrase .CCALL2, which "*Troponin not repeated in lab due to critical i-STAT result.*" and final verify result(s), document who was notified using Comm Log function.

Repeat of First Critical TNI and/or CK-MB/Index

Note: This is to rule out false results due to pre-analytical errors.

1. Aliquot the specimen, spin it, and re-run the assay(s). This repeat needs to be done as quickly as possible.
2. If the new results **increase** by greater than 10%, there may be an issue with the instrument. Re-run the specimen on a different instrument. Consider asking for a re-draw and/or troubleshooting the instrument to determine the cause. Document corrected results using a chartable smartphrase .ERRINTEG (error due to sample integrity) or .ERRT (technical error) and call unit/provider and document call using Comm Log.
3. If the new results **match** within 10% which confirms original result, final verify original result and enter non-chartable comment (yellow Lab Box) .BKRRPT ("*Verified by repeat analysis*") on Tnl and/or CK-MB/Index. (see section below)
4. If the Troponin and/or CK-MB/Index repeat testing shows that the true results are not critically high, (the results are **lower** by greater than 10% and/or there is a change in interpretation (critical to indeterminate or critical to negative), call the **doctor** immediately and say "I'm calling from the lab regarding patient John Doe, DOB 1/3/66. We have repeated the troponin and/or CK-MB/Index tests and the results are **not critical**. The previously reported results were **falsely elevated**. The true results are ---." Do your best to speak directly with the doctor. If the doctor is unavailable, report the information to the nurse and ask her to notify the doctor immediately.
5. Ask for a read back. Correct the first results and open Comm Log to add the chartable comment, delete comment to apply smartphrase .LCALL OR BKRLCALL ("*Laboratory value(s) for *** Called/Read back to *** (LOC***) at *** by ***.*") and complete a Quality Form.
6. If you are told that a patient with a flier had an invasive procedure because of the false positive result, notify Manager on site or call the on call clinical pathologist and complete Quality Form.

Viewing Documentation of the Critical Value

Review of the CV documentation can be seen in the Comm Log section. Providers and RN's can see the information below the results by scrolling to the bottom of their view.

Example:

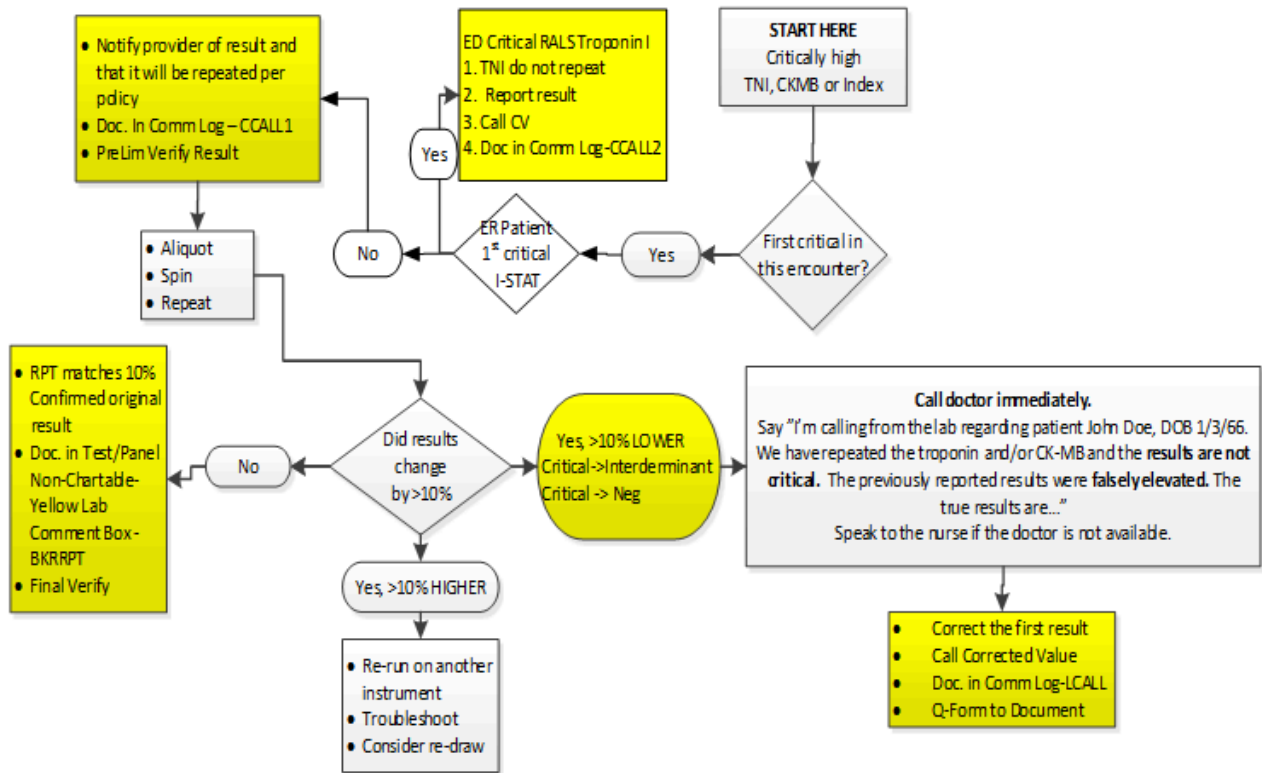
Res	Component	Value	Units	I	A	L	IE	R	Ref. Range	Method	Chart	PV
1	Troponin I	0.55	ng/mL	IP					0.00-0.04	SJMC DX #1		

Result comments:
INTERPRETATION:
 0.00-0.04 ng/mL Negative
 0.05-0.49 ng/mL Indeterminate for possible Myocardial damage, may sometimes be associated with ischemia and/or increased cardiac risk
 >0.50 ng/mL Consistent with Myocardial Injury



The manufacturer's 99th percentile upper reference limit for this reagent is 0.02 ng/mL. Using a diagnostic cutoff of 0.02 ng/mL improves sensitivity and specificity by 10-11% (depending on the timing of the test) but also decreases the positive predictive value by 20% and increases the negative predictive value by 1-2%. Thus our reference range will remain >0.04 ng/mL.

Method: SJMC DX #1 Last received: 3/9/2018 0742 Last verified: 3/9/2018 1004 by Kat Lee Schwartz, CLT

Communication (Completed) for TROPONIN I (PHS)		
Contact	Occurred	Topic
✓ Ziyadah Al-Hameed Gillis, RN 253-426-1740 The following critical results were read back and acknowledged. Troponin I: 0.55 ng/mL, High Panic (Ref. Range: 0.00-0.04) Per laboratory policy, all first critical troponin and CKMB results will be repeated. The provider will be notified of any discrepant results. Verified by repeat analysis.	03/09/2018 1003 by Kat Lee Schwartz, CLT	Critical



Attachments:

-  [image1.jpeg](#)
-  [image2.png](#)
-  [image3.png](#)

Approval Signatures

Approver	Date
Arlene Brennan: Administrative Coordinator	04/2018

Approver	Date
Adam Saenz: MD, Medical Director	04/2018
Brian Folz: Medical Director	04/2018
Shane Anderson: MD, Medical Director	04/2018
Linda Burkhardt: MD, Medical Director	04/2018
Joren Keylock: MD, Medical Director	04/2018
Arlene Brennan: Administrative Coordinator	04/2018
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