INTERDISCIPLINARY CLINICAL MANUAL

Policy and Procedure

Title:	Diagnostic Tests - Requesting, Reporting of Results and Follow-up	Number:	CC 85-017
Sponsor:	Laboratory and Pathology Services	Page:	1 of 34
Approved by:	Senior Director - Pathology & Laboratory Medicine	Approval Date:	March 21, 2016
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Applies To:	Central Zone		

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POLICY

Note: Refer to NSHA IPC 02-001 Reporting Notifiable Diseases and Conditions for the reporting of diagnostic test results associated with notifiable diseases and conditions

1. Patients and Substitute Decision Makers (SDM) are to be involved in the patient's health care through discussion and mutual decision-making as to appropriate diagnostic tests to be ordered, anticipated turn-around time for results, and encouraging an active role in asking for test results.
2. Authorized Prescribers must provide contact information for themselves or an authorized delegate and ensure availability to receive critical results at all times.
   2.1. In the event that the Authorized Prescriber or delegate (including the family physician) cannot be reached in an appropriate timeframe (refer to department specific policies and procedures), the patient or SDM is to be called with the

Actionable Test Result (i.e., for patients who have been discharged, or who had testing done as an ambulatory care patient).

3. For patient safety and optimum patient care, Diagnostic Areas are to have established processes for appropriate and timely reporting of test results.
4. Ultimately, it is the responsibility of the Authorized Prescriber to ensure appropriate follow-up and action on the diagnostic tests they have ordered.
   4.1. Authorized Prescribers are required to review all test results and to develop processes to ensure that all Actionable Test Results are followed up as appropriate.
   4.2. Confirmation that test results have been reviewed by the Authorized Prescriber is to be noted in the health record, or captured on the Central Zone Clinical Portal (hereafter referred to as the Portal).
5. Individual Diagnostic Areas are to determine what constitutes Actionable Test Results and are to immediately report those results.
   5.1. **Critical pathology** diagnoses are reported verbally.
   5.2. Some **critical laboratory** test results need not be reported verbally. (Refer to Appendix B – Critical Values Notification Exceptions).
   5.3. All results, whether actionable or not, are verified within the Laboratory Information System (LIS) which electronically transfers the result into the Portal.
6. Documentation in the health record is to be recorded in the progress notes and ***not*** on paper reports from Diagnostic Areas, as these paper reports do not form part of the permanent health record (since the diagnostic results are also sent electronically to HPF).

DEFINITIONS

Abnormal Test Result	Non-emergent, non-life-threatening results that need attention and follow-up action as soon as possible, but for which timing is not as crucial as critical results. They generate a mandatory notification in the electronic health record but are not required to be reported verbally. ***The Joint Commission Journal on Quality and Patient Safety, 2010 36 (5)***
Actionable Test Result	A result that could change the management of the patient by requiring a new treatment or diagnostic test or repeated testing, modification or discontinuation of a treatment or diagnostic testing, scheduling of an earlier follow-up appointment or referral of the patient to another physician or specialist. ***Annals of Internal Medicine, 2005***

Authorized Prescriber

Qualified physicians and dentists licensed to practice medicine or dentistry in the province of Nova Scotia while practicing at a Nova Scotia Health Care organization/facility.

Nurse practitioner registered in the province of Nova Scotia and who has a collaborative practice agreement within Nova Scotia Health.

Qualified physicians who are registered to practice and have requested testing that, under an established agreement with Nova Scotia Health, Central Zone, is referred for testing at the QEII Health Sciences Centre.

> **Note** - Clinical Clerks are not authorized prescribers.
>
> An ordering authorized prescriber is the authorized prescriber who has ordered a diagnostic test, and who is responsible for initiating follow-up of abnormal results.

Requests from Physicians who are registered to practice external to Nova Scotia who have provided their patient with a request for laboratory testing from their home location with testing required for immediate patient management while visiting or travelling though the province of Nova Scotia will be reviewed by the laboratory on a case-by-case basis. These physicians will not be created in the Laboratory Information System database as a recognized authorized prescriber in Nova Scotia.

Authorized Requestor

In addition to an authorized prescriber, anyone who has been delegated the authority to order a test through medical directives, delegated medical functions, expanded role designation, specific policies, etc. {E.g., Emergency Department medical directives, Expanded Role nurses (ordering Pap tests), Physiotherapists (ordering x-rays) etc.}

Critical Test Result

Any result or finding that may be considered life-threatening or that could result in severe morbidity and require urgent or emergent clinical attention.

The Joint Commission Journal on Quality and Patient Safety, 2010 36 (5)

Critical Tests

Tests that require rapid communication of results, whether normal, abnormal or critical.

	The Joint Commission Journal on Quality and Patient Safety, 2010 36 (5)
Diagnostic Areas	Pathology and laboratory medicine, imaging, cardiology, and other areas utilizing a diagnostic method that results in a report (e.g., EEG, pulmonary functions, Point-of-Care Testing, etc.) ***The Joint Commission Journal on Quality and Patient Safety, 2010 36 (5)***
Point of Care Testing (POCT)	Medical diagnostic testing performed outside the clinical laboratory, where the result of the test is used for clinical decision making. (E.g.: glucometer, urine test strips, etc.)
Portal	A web-based application that provides NSHA – Central Zone users access to patient data from multiple sources including Lab and Radiology Results, Horizon Patient Folder (HPF) and Pathways Healthcare Scheduling (PHS) schedules. Access to the tabs required to provide or support patient care is based on the user's Clinical Portal User Access profile. The portal is the foundation of the Electronic Medical Record at NSHA – Central Zone
Read Back	The process where one healthcare provider receives the results of a critical or abnormal result of a critical test verbally from another healthcare provider. The person receiving the results verbally must write down the information, and then read it back to the individual who communicated it. ***The Joint Commission Journal on Quality and Patient Safety, 2010 36 (5)***
Substitute Decision Maker (SDM)	The legally appointed substitute decision maker able to make treatment decisions when the patient is incapable. *(*For more information on determining the appropriate SDM, refer to the CDHA CH 30-045 Consent to Treatment*)*

GUIDING PRINCIPLES AND VALUES

1. Research indicates that breakdown in communication and follow-up of abnormal diagnostic test results can lead to errors and undesired patient outcomes.
2. When multiple copies of test results have been ordered, it should be made clear who is responsible for following up the result. Unless otherwise specified, the responsible individual will be the Authorized Prescriber. If it is some other person, the Authorized Prescriber must have the agreement of that person before the responsibility is transferred.

3. The sharing of information such as test results serves to build trust with patients and supports shared decision-making with patients.
4. Effective communication is more than just information transfer, but rather requires a response from the ordering Authorized Prescriber and indication of follow-up actions.
   4.1. In the interest of person-centered care and patient safety, strong consideration should be given to communicating ***all*** diagnostic test results to patients or SDMs.
   4.2. The practice of communicating only abnormal results to patients is not deemed to be best practice.

PROCEDURE

Note: Communication of results is to be done in the most expedient manner – whether verbally (in person or by phone), by fax or electronically. When communicating by telephone directly to patients, adhere to the Interdisciplinary Telephone Practice policy (CC 90-050) as appropriate.

1. **Ordering Tests (**Refer to CC 85-018 Clinical Laboratory Diagnostic Test Ordering)
   1.1. Discuss with patients/SDM and collaboratively determine the diagnostic tests to be ordered and provide the expected turn-around time for results.
      1.1.1. Advise the patient/SDM to follow-up with the appropriate health care professional if results not communicated when expected.
   1.2. Authorized Requestor ensures the Authorized Prescriber*'s* contact information is provided on the test requisition. Authorized Prescribers must provide contact information for themselves or an authorized delegate and ensure availability to receive critical results at all times.
2. **Verbal reporting of Test Results:**
   2.1. Refer to any specific departmental policies that may be in place for required verbal reporting.
   2.2. The employee providing the test results:
      2.2.1. supplies their full name and designation
      2.2.2. requests full name and designation of the employee receiving the test result
      2.2.3. requests Read Back of the report
      2.2.4. documents as per department specific procedures.

Pathology/Laboratory

3. Critical Pathology/Laboratory Test Results Reporting

3.1. Laboratory physician or technologist places a call to the requesting location, patient's current/most recent location, or the Authorized Prescriber:

3.1.1. **On-site Areas (Inpatients/ambulatory care)**

3.1.1.1. Provides verbal report as per Procedure #2 and expedites report.

3.1.1.2. Emergency Departments - Report notification of critical results to the physician, nurse in charge of the patient or the Clinical Lead.

> **Note:** The same is also recommended for other areas, but when necessary, relay the report to the ward clerk. (Refer to Appendix B – Flow charts - Laboratory Critical Value Reporting Process Patient is on-site (In-patient or in an ambulatory setting and Anatomical Pathology Critical Value Reporting process).

> **Note: If testing is completed after hours (e.g., ambulatory care area closed)** - the laboratory physician decides whether to notify the attending physician or patient immediately or wait till morning.

3.1.1.3. Follows Laboratory and Anatomical Pathology procedures for documentation and additional actions as required.

3.1.1.4. If the report is taken by the ward clerk, the ward clerk notifies the health care provider (HCP) caring for the patient

3.1.1.5. The HCP verbally communicates the result to the Authorized Prescriber

> **Note:** In the event a resident was the Authorized Prescriber and is no longer on the unit or service where the patient resides, call the new responsible resident or attending physician.

3.1.1.6. If paging or leaving a message, the HCP repeats the page or call every 15 minutes

3.1.1.7. If no response after 2 attempts, the HCP attempts to call the attending physician or on-call Authorized Prescriber; if unable to reach the attending physician or on-call Authorized Prescriber, notifies the Health Service Manager or delegate for further action as required

3.1.1.8. The HCP documents all actions taken to relay test results in the patient's health record

3.1.1.9. The Authorized Prescriber documents receipt of results and follow-up plan in the health record

> **Note:** If results are viewed in an electronic Portal or electronic health record, the record of the viewing is automatically documented within the electronic system

3.1.2. Patients no longer on-site or discharged

3.1.2.1. Laboratory physician or technologist calls the requesting location or patient's current/most recent location and relays the test result as per Procedure #2 and expedites report.

> **Note: If testing is completed after hours (e.g., ambulatory care area closed)** - the laboratory physician decides whether to notify the attending physician or patient immediately or wait till morning.

3.1.2.2. Follows Laboratory and Anatomical Pathology procedures for documentation and additional actions as required. (Refer to Appendix B – Flow chart - Laboratory Critical Value Reporting Process Patient no Longer on site or has been discharged and Anatomical Pathology Critical Value Reporting process).

3.1.2.3. The employee taking the call communicates the result to the Authorized Prescriber (refer to Procedures #3.1.1.4 and #3.1.1.5) and documents in Horizon Patient Folder (HPF) as an 'Addendum to Care' entry

> **Note:**
>
> - **If the health record is still on the unit** (normally held for 48 hours following discharge), document on the progress note as an addendum to care.
> - **If the health record is no longer on the unit**- the Ward Clerk prints a bar coded Progress Note from that patient encounter. The HCP documents as an Addendum to Care following which the Progress Note is sent to Medical Records to be scanned into HPF.

3.1.2.4. As necessary, the HCP communicates the test results to the patient or SDM and advises them regarding appropriate follow-up (e.g., contact family physician; seek immediate medical attention etc.).

3.1.3. **Community Based Patients**

3.1.3.1. Laboratory physician or technologist calls the Authorized Prescriber. Provides verbal report as per Procedure #2 and expedites report.

> **Note: If testing is completed after hours** - the laboratory physician decides whether to notify the attending physician or patient immediately or wait till morning.

3.1.3.2. If unable to reach the Authorized Prescriber within 30 minutes, notifies the Laboratory Divisional Physician on call who takes appropriate follow-up action.

3.1.3.3. Follows Laboratory and Anatomical Pathology procedures for documentation and additional actions as required. (Refer to Appendix B – Flow chart Laboratory Critical Value Reporting Process Community-Based Patient and Anatomical Pathology Critical Value Reporting process).

3.1.4. Referred In-patients:

Specimens referred from other non-Central Zone facilities (e.g. Eastern, Northern, Western Zones / IWK Health Care Center)

3.1.4.1. Laboratory physician or technologist calls the district health authority laboratory and /or IWK Health laboratory.

> **Note: If testing is completed after hours** - the laboratory physician **decides** whether to notify the attending physician or patient immediately or wait till morning.

3.1.4.2. Provides verbal report as per Procedure #2 and expedites report.

3.1.4.3. If unable to reach the referral lab within 30 minutes, notifies the Laboratory Divisional Physician on call who takes appropriate follow- up action.

3.1.4.4. Follows Laboratory and Anatomical Pathology procedures for documentation and additional actions as required. (Refer to Appendix B – Flow chart Laboratory Critical Value Reporting Process Referred In-patient and Anatomical Pathology Critical Value Reporting process).

> **Exception** – Recurrent Critical Test Results for specific scenarios (Refer to Appendix A)

4. **Abnormal and Normal Test Results Reporting**

4.1. Laboratory physician or technologist follows the process for verifying abnormal results in the Laboratory Information System (LIS)

- **Inpatients/ambulatory care** - Results electronically transfer to the Portal
- **Community Based Patients** - Results will be printed, faxed or transferred electronically to the requesting physician's office.
- **Referred In-patients** – Results will be printed, faxed or transferred electronically to the referring site.

> **Note**: For patients registered in the Central Zone registration system, results will also electronically transfer to the Portal.

4.2. Health care professionals, when alerted of an abnormal result, ensure follow-up with the Authorized Prescriber.

4.3. Authorized Prescriber reviews results in the Portal on a timely basis and takes appropriate follow-up actions as required (communicates with the patient and determine appropriate plan, or communicates results to the family doctor, to take appropriate action).

5. **Preadmission Assessment Clinic**

5.1. Critical Results Reporting (laboratory)

5.1.1. Laboratory physician or technologist calls the nurse in the pre-admit clinic and provides the verbal report as per Procedure #2.

5.1.2. The nurse contacts the anaesthesiologist who takes action as appropriate. (Refer to Procedure 3.1.1.4 to 3.1.1.7.)

5.2. Abnormal – Pre-admission Clinic

5.2.1. The nurse reviews the results in the Portal and reports any abnormalities to the anaesthesiologist.

6. **Emergency Departments**

6.1. Laboratory physician or technologist calls critical reports to the Emergency department as per Procedure # 2.

6.2. The LIS sends verified results to the Portal and to the Emergency Department Information System (EDIS).

6.3. The LIS runs a report every 2 hours;

6.3.1. Laboratory Central Reporting sends the report by fax to the inpatient floor if the patient has been admitted from Emergency

Diagnostic Imaging

7. **Critical Test Results Reporting**

7.1. Upon identifying a critical diagnostic test result, the radiologist:

7.1.1. Contacts the Authorized Prescriber

7.1.2. Provides verbal report as per Procedure #2

7.1.3. Follows DI specific processes if unable to contact the Authorized Prescriber in an appropriate time frame

7.1.3.1. Communicate the results to the family doctor and the patient/SDM as appropriate

7.2. The ordering Authorized Prescriber or delegate upon receiving the report:

7.2.1. Repeats the patient's full name and encounter number

7.2.2. Repeats the diagnostic test result

7.2.3. Documents on the health record the nature of the call and planned follow-up

7.2.4. If a delegate has received the report, communicates to the Authorized Prescriber. The Authorized Prescriber documents as per Procedure # 7.2.3 above.

8. **Non-Urgent and Normal Test Results Reporting**

8.1. Radiologist follows established DI process for verifying non-urgent and normal results in the DI Information system which electronically transfers the results into the Portal

8.2. The Authorized Prescriber reviews reports and communicates to the patient/SDM, or family physician as appropriate.

Echocardiogram

9. **Critical Results Reporting**

9.1. Sonographer requests that the patient remain in the department

9.1.1. If before 1700 hours, the sonographer calls the physician assigned to the Echocardiogram department and provides verbal report as per Procedure #2

9.1.2. The physician reviews the results and takes appropriate action

9.2. If after 1700 hours, the sonographer calls the echocardiographer cardiologist on call and provides verbal report as per Procedure #2

9.2.1. The echocardiographer cardiologist reviews the results and takes appropriate action

10. **Non-Urgent and Normal Test Results Reporting**

10.1. The sonographer follows department procedure for generating the report (normally within 24 hours)

Note: All inpatients are reported the same day.

10.2. The Authorized Prescriber reviews reports and communicates to the patient/SDM, or family physician as appropriate

ECG, Holter, Stress

11. **Critical or Abnormal Results Reporting**

11.1. The technician contacts the Authorized Prescriber and provides verbal report as per Procedure #2.

11.1.1. The Authorized Prescriber reviews the results and takes appropriate action

11.2. If unable to contact the Authorized Prescriber, the technician contacts the on-call physician and provides verbal report as per Procedure #2.

11.2.1. The on-call physician reviews the results and takes appropriate action

11.3. If unable to contact the on-call physician, the technician contacts the family physician and provides verbal report as per Procedure #2.

11.3.1. The family physician reviews the results and takes appropriate action

11.4. If unable to contact any of the above, the technician contacts the patient/SDM and provides verbal report as per Procedure #2.

11.4.1. Advises the patient/SDM to contact the family physician

12. **Normal Test Results Reporting**

12.1. The technician generates a preliminary report as per departmental procedure.

12.2. The Authorized Prescriber reviews reports and communicates to the patient/SDM, or family physician as appropriate.

Point of Care Testing (POCT) (e.g., Glucometer, Urinalysis, etc.)

13. The Authorized Prescriber initiates written, electronic or verbal POCT requests or delegates to an Authorized Requestor.

13.1. Prior to testing, the HCP delivering POCT verifies that the test request(s) has been documented. {For additional information refer to Point of Care Testing Operations - Policy and Procedure - NSHA DT-POC-001

13.2. Upon performing any POCT, the HCP verbally notifies the Authorized Prescriber of any critical result.

13.2.1. When the HCP verbally reports POCT results to clinicians, the HCP also documents the results, units of measure and methods used to obtain those results in a written format and identified as POCT results.

13.3. Refer to Procedure 3.1.1.4 to 3.1.1.7 for further actions.

Portal

14. LIS or Diagnostic Information System sends the results to the Portal

14.1. Result is flagged as New, S/A (**S**ignificantly **A**bnormal) or Panic

14.2. As an Authorized Prescriber/HCP views the result over a 14 day period, the Portal records the name of the Authorized Prescriber/HCP and the date and time within the 14 day period the results were reviewed.

> **Note:** This information is retained permanently within the Portal and may be viewed by anyone accessing the Portal; the identity of any Authorized Prescriber/HCP viewing the results after the 14-day timeframe will not be recorded.

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RELATED DOCUMENTS

Policies

CDHA CH 07-060 Transfer of Health Information (Transfer of Accountability)

CDHA CH 30-045 Consent to Treatment

Point of Care Testing Operations - Policy and Procedure - NSHA DT-POC-001

Privacy and Confidentiality of Personal Health Information - Policy and Procedure - NSHA AD-AO-030

CDHA CC 04-040 Clinical Documentation in the Health Record

CC 15-025 Hypoglycemia, Treatment for Reversal Mild, Moderate and Severe

CDHA CC 85-018 Clinical Laboratory Diagnostic Test Ordering

CC 90-050 Interdisciplinary Telephone Practice

Reporting Notifiable Diseases and Conditions - Policy - NSHA IPC-CD-030

Appendices

Appendix A - Lab Critical Value Table

Appendix B - Flow Charts of Laboratory Critical Value Reporting

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Appendix A: Lab Critical Value and Exception Table

***Frequency: When critical results are called.**

***Exception: When and location, critical results are NOT called.**

Chemistry Critical Values

Test	Less than value	Greater than value	Frequency	Exception
Bicarbonate (CO2) Units - mmol/L	10	40	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	
Calcium Units - mmol/L	1.70	3.25		
Carboxyhemoglobin (Blood Gas) Unit - %		20	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	• Emergency departments
Creatinine Units - µmol/L		400	• 1st time critical, or • Previous critical within 1 year, call if current result is ≥ 50% from the most recent result.	• Renal Dialysis • Nephology locations. • Renal outpatients and Nephrology clinic, except if potassium is >5.9
Glucose Units - mmol/L	2.5	25.0 Less than 17yrs – 15.0	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	• Endocrine clinic if serial collection.
Bicarbonate (HCO3) (Blood Gas) Units – mmol/L	10	40	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	
Hemoglobin (Blood Gas) Units - g/L	70			• Emergency departments.
Ionized Ca (Blood Gas) Units - mmol/L	0.80	1.60		• Emergency departments.

Test	Less than value	Greater than value	Frequency	Exception
Lactate (Blood Gas) Units – mmol/L		4.0		• Emergency departments except to CCHC.
Magnesium Units - mmol/L	0.40	3.00	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	• Emergency departments.
Methemoglobin (Blood Gas) Unit - %		30	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	• Emergency departments.
Osmolality Units - mmol/Kg	250	325	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	• Emergency departments except to CCHC.
pCO2 (Blood Gas) Units - mm/Hg	20	70	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	• Emergency departments except to CCHC.
pH (Blood Gas)	7.20	7.60	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	• Emergency departments.
Phosphate Units - mmol/L	0.4	3.5	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	
pO2 (Blood Gas) Units - mm/Hg	60		• 1st time critical and every 8 hours thereafter, or • Result has worsened.	• Emergency departments.
Potassium Units - mmol/L	2.8	6.2	• 1st time critical and every 48 hours thereafter, or • Result has worsened.	
	Pre-dialysis 2.6	Pre-dialysis 7.0		
Sodium Units - mmol/L	120	160	• 1st time critical and every 8 hours thereafter, or • Result has worsened.	
Sperm	Found in female < 14 years of age.		• Every new specimen	

Test	Less than value	Greater than value	Frequency	Exception
Troponin Units - ng/L		50	• 1st time critical and every 10 days thereafter, or • >20% increase from previous result	• All Cardiac inpatient units.
Urea Units - mmol/L		35.0 Less than 17 yrs - equal or greater than 25	• 1st time critical result, or • >30% increase from previous result.	• Inpatients • Renal Dialysis • Nephology locations. • Patients with a previous creatinine greater than 400 µmol/L

Therapeutic Drug Critical Values

Test	Greater than value	Frequency	Exception
Acetaminophen Units - µmol/L	350	• Every time	
Carbamazepine Units - µmol/L	75		
Digoxin Units - nmol/L	3.00		
Ethanol Units - mmol/L	54		• Emergency Department
Lithium Units - mmol/L	2.2		
Phenobarbital Units - µmol/L	250		
Phenytoin Units - µmol/L	100		
Salicylate Units - mmol/L	2.2	• Every time	
Theophylline Units - µmol/L	110		
Valproate Units - µmol/L	1400		

Antibiotic Critical Values

Test	Greater than value	Frequency	Exception
Gentamicin Units – mg/L Pre (Trough) Post (Peak) Random (TNS)	 3.00 12.00 3.00	• Every time	• Emergency Department

Test	Greater than value	Frequency	Exception
Tobramycin Units – mg/L Pre (Trough) Post (Peak) Random (TNS)	 3.00 12.00 3.00		• Emergency Department
Vancomycin Units – mg/L Pre (Trough) Post (Peak) Random (TNS)	 25.00 40.00 30.00		• Emergency Department

Hematology Critical Values

Test	Less than value	Greater than value	Frequency	Exception
APTT Units - seconds		Equal or greater than 80 seconds (with the exception of patients on Heparin/ Argatroban/ Pradax or Lupus Anticoagulant workups with a NORMAL APTT Dade result)	• Every time • Factor XII deficient, call first time (within the last 6 months).	• Medical Day Unit (MDU) • Hematology Clinic (HEM) will be faxed Monday – Friday between 8:30 – 17:00 • Lupus Anticoagulant patients with normal Dade PTT results. • Referred in Hospital critical results are not called.
INR		Equal or greater than 6.0	• Every time	• Medical Day Unit (MDU) • Hematology Clinic (HEM) will be faxed between Monday - Friday 8:30 – 17:00 • Referred in Hospital critical results are not called.
New Acute Leukemia: Peripheral Blood		Blast count greater than 5%	• Every time	
New Acute Leukemia: Bone Marrow		Blast count greater than 20%	• Every time	
Absolute Neutrophil Units- x 10^9/L	0.20		• Every time to 5.2 and 3A MSI (Level 1 ICU's) • 1st time critical and	• Medical Day Unit (MDU), • 8A & 8BB

Test	Less than value	Greater than value	Frequency	Exception
Hemoglobin Units - g/L	60		every 7 days thereafter if result remains critical • Newly admitted patients to 8A and 8BB	• Patient referred by a Hematologist or • Hematology Clinic: critical results will be faxed to the Hematology Clinic (902-473-4600) Monday to Friday from 0830 – 1700.
Platelet Units - $x10^9/L$	20			
WBC Units - $x10^9/L$	1.5	100.0		
CSF – WBC Units - $x10^6/L$		Equal or greater than 10.0	• Every time	

Transfusion Medicine Critical Values

Test	Exception
Serious transfusion reactions	Results reported as per section processes and procedures.
Serious errors	
Serious product recalls	
Issues causing blood or blood products to be unavailable within the expected time frame due to supply issues, specimens problems, delays in antibody identification, lack of appropriate type of blood products, etc.	
Complex serological problems including incompatible units	

HLA Critical Values

Test	Exception
Unexpected positive crossmatches	Results are immediately reported to the HLA Director for follow-up and consultation with the clinical program.
Lack of correlation between verification and initial HLA Typing on deceased donors and related and unrelated Bone Marrow Transplant donors	
New donor specific antibodies (DSA) post-transplant in solid organ transplant recipients (excluding liver recipients)	

Anatomical Pathology Critical Values

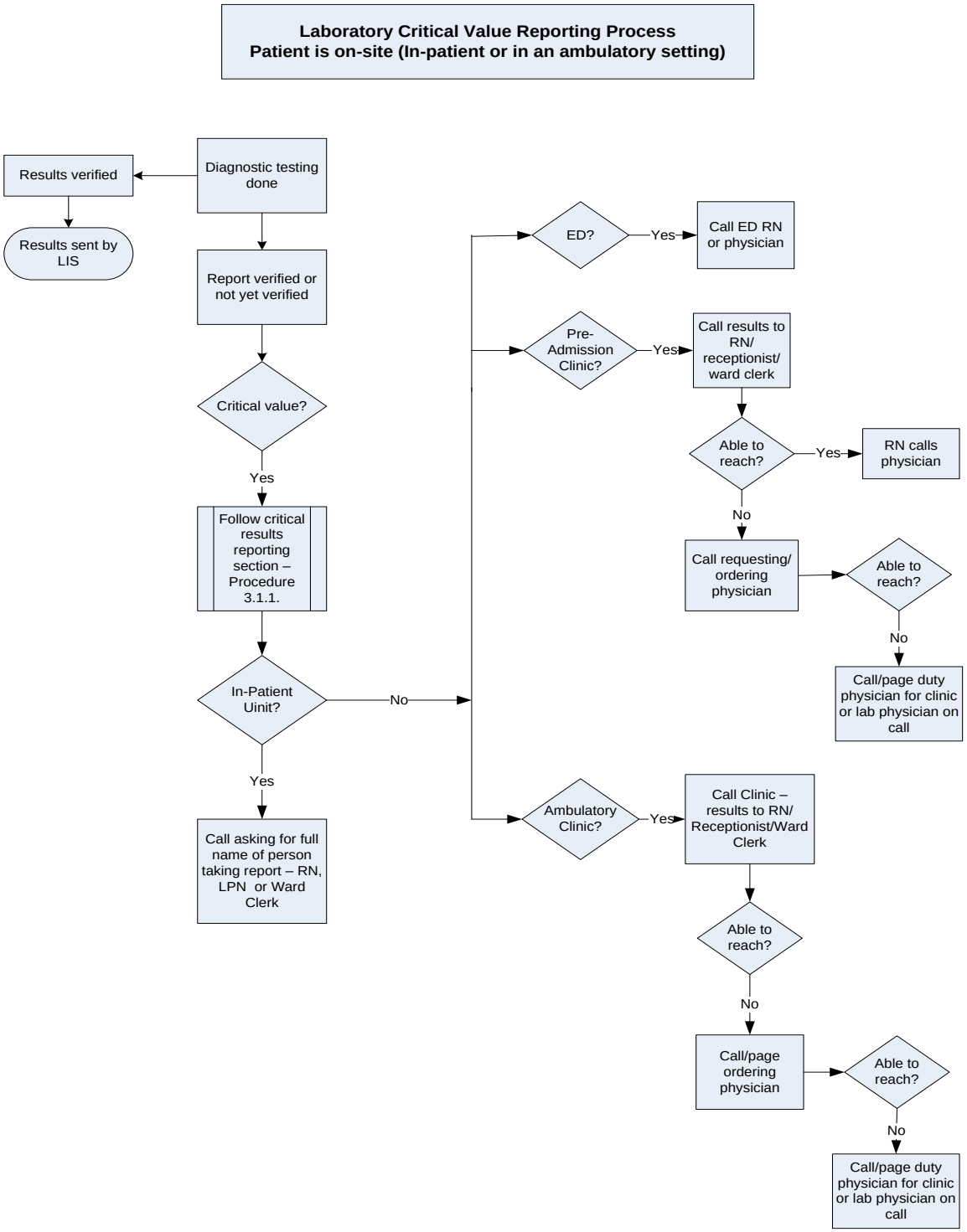
Finding	Exception
• Crescents in > 50% of glomeruli in a kidney biopsy specimen	Critical values are reported directly to the attending physician or their office, not to nursing units/clinics.
• Transplant rejection	
• Leukocytoclastic vasculitis	
• Fat in a colonic endoscopic polypectomy specimen	
• Uterine contents without villi or trophoblasts	
• Fat in an endometrial curettage specimen	
• Mesothelial cells in an endocardial biopsy specimen	
• Malignancy in superior vena cava syndrome	
• Neoplasms causing paralysis	
• Unexpected or discrepant findings o Unexpected malignancy o Significant disagreement between intraoperative consultation and final diagnoses o Significant disagreement between immediate interpretation and final diagnosis by fine-needle aspiration biopsy (FNAB) o Significant disagreement and/or change between diagnoses of primary pathologist and external pathologist consulted	
• Infections o Any invasive organism in surgical pathology specimens of immunocompromised patients o Acid-fast bacilli o Bacteria in heart valve or bone marrow o Herpes in Papanicolaou smears of near term pregnant patients o Bacteria or fungi in cerebrospinal fluid cytology o Pneumocystis organisms, fungi, or viral cytopathic changes in bronchoalveolar lavage, bronchial washing, or brushing cytology specimens, or FNAB	
Any other finding deemed critical by the pathologist.	

Microbiology Serology, Positive Cultures and Stains

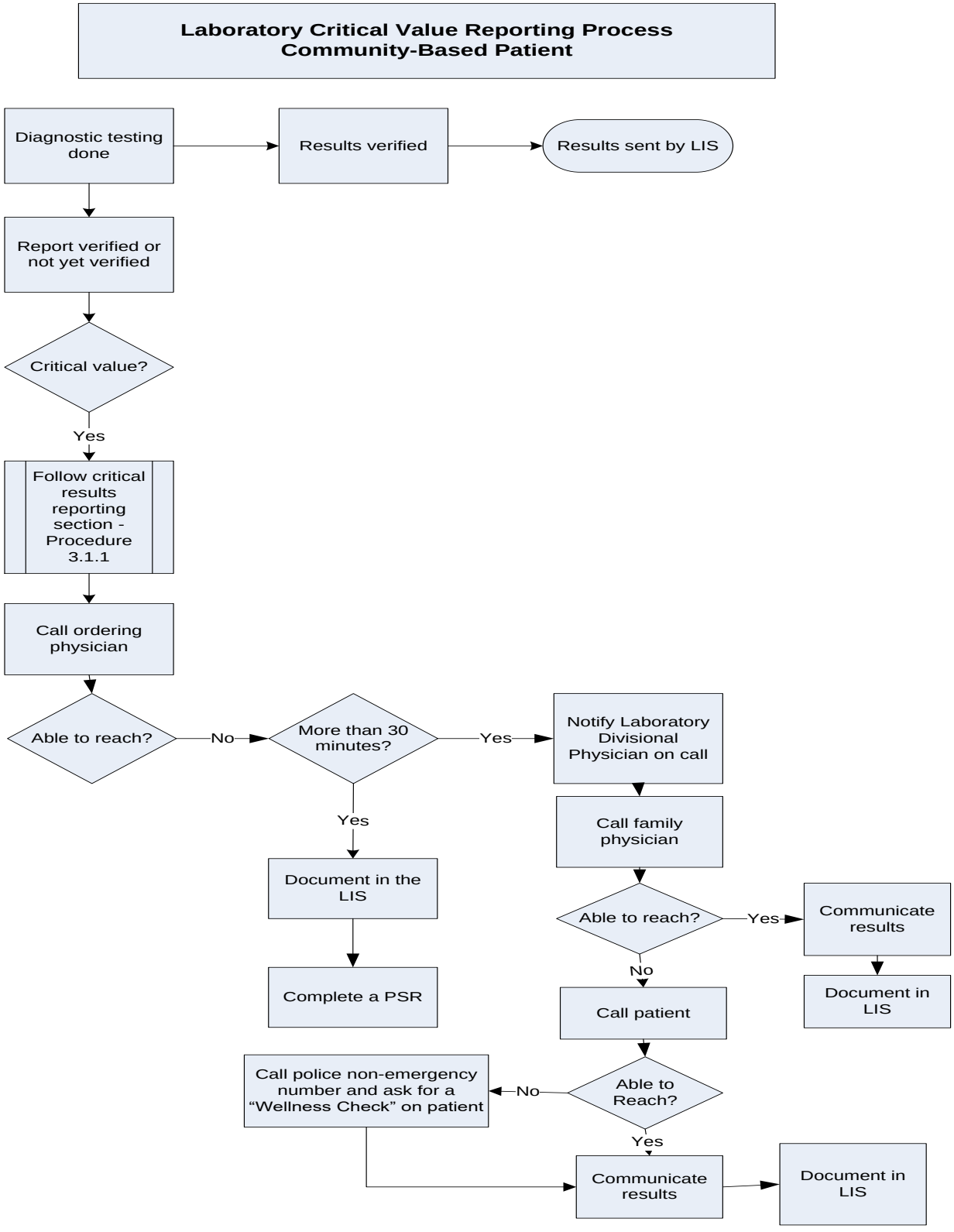
Test	Exceptions
The following Microbiology Tests are phoned and expedited: **Positive Gram stain results from:** • Bloods • CSF • normally Sterile Fluids • Tissues • Stem cells • Blood products from cases of suspected contamination (transfusion reaction) • Specimens with specific diagnosis of gas gangrene.	Microbiology doesn't get the receiver to read back the results as they are very difficult words; they fax/expedite a copy of the chart. Results are expedited and called with the initial positive result. ***Exception:*** HI emergency department will be paged using 473-1700.
Positive Diagnostic Test Results: • When an organism(s) is/are **identified** from critical specimens noted above. • If the final identification is different than the presumptive identification a follow up phone call **will be** made. • Further/New information from critical specimens (Exceptions column lists occasions when further results are not phoned) • Positive results from the Public Health Reportable Disease List A • Recipient Tissue bank, eye bank, fetal neural tissue bank and fresh knee specimens • Outbreak situations • Positive fungal cultures from corneal scraping	Report received by Data Processing Clerk (DPC), who will confirm receipt of critical report with Microbiology lab and ensure appropriate follow up. Further Positive Gram Stain results from Bloods, CSFs; normally Sterile Fluids and Tissues, which display the same Gram Stain Morphology, **will not be** called. Susceptibilities from positive Bloods, CSFs, normally Sterile Fluids and Tissues are expedited and **will not be** called. **Microbiology Reportable Isolates:** Follow reporting guidelines from the Department of Health and Wellness.
Positive PCP	
Positive Cryptococcal antigen	
When requested on requisition from a sterile site	
Influenza positive – LTC, Inpatient	
RSV positive – LTC, Inpatient	
Immunology • ANCA positive serology • GBM positive serology	

Appendix B: Flow Charts of Laboratory Critical Value Reporting

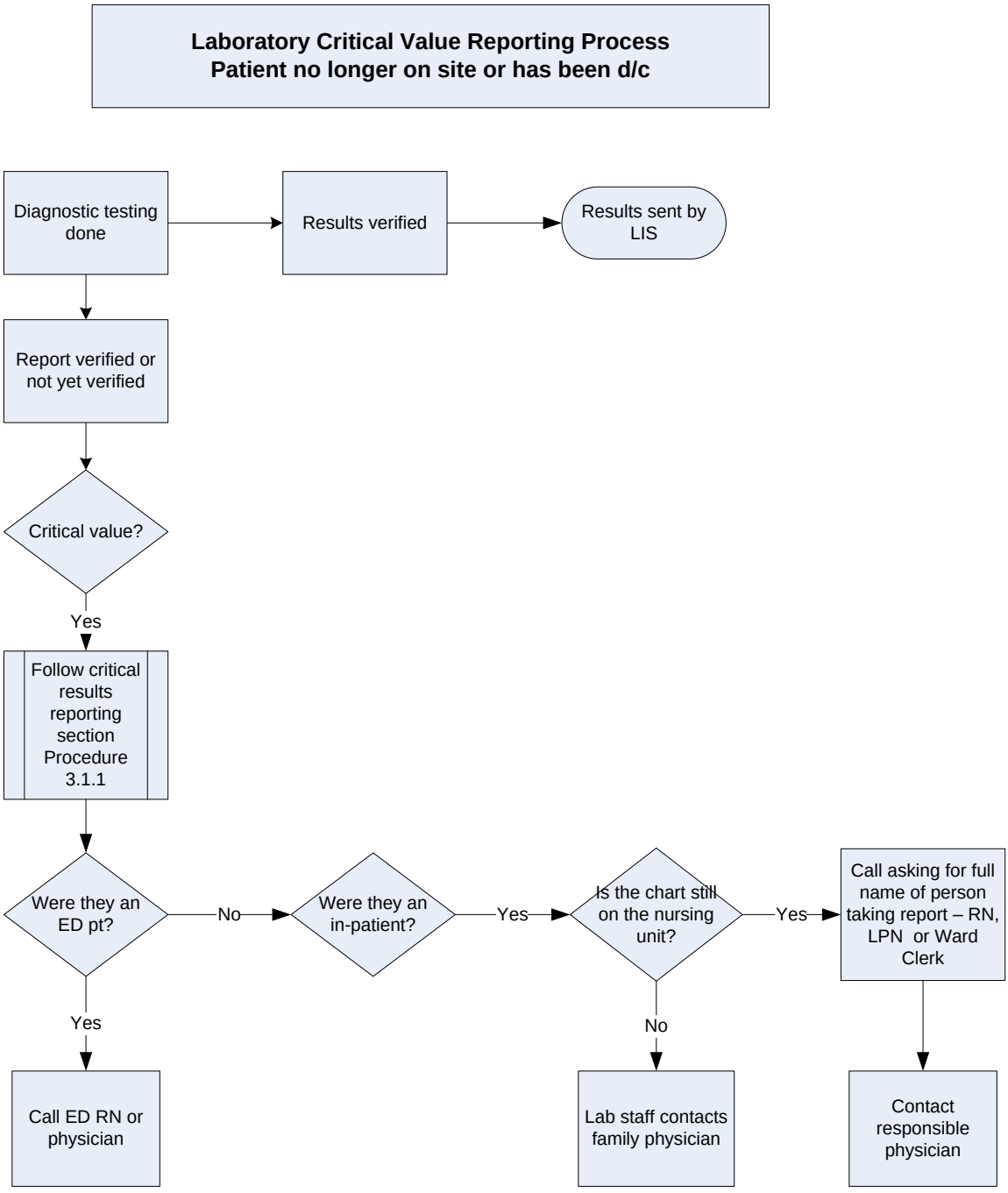
Patient is On-site or in an Ambulatory Setting



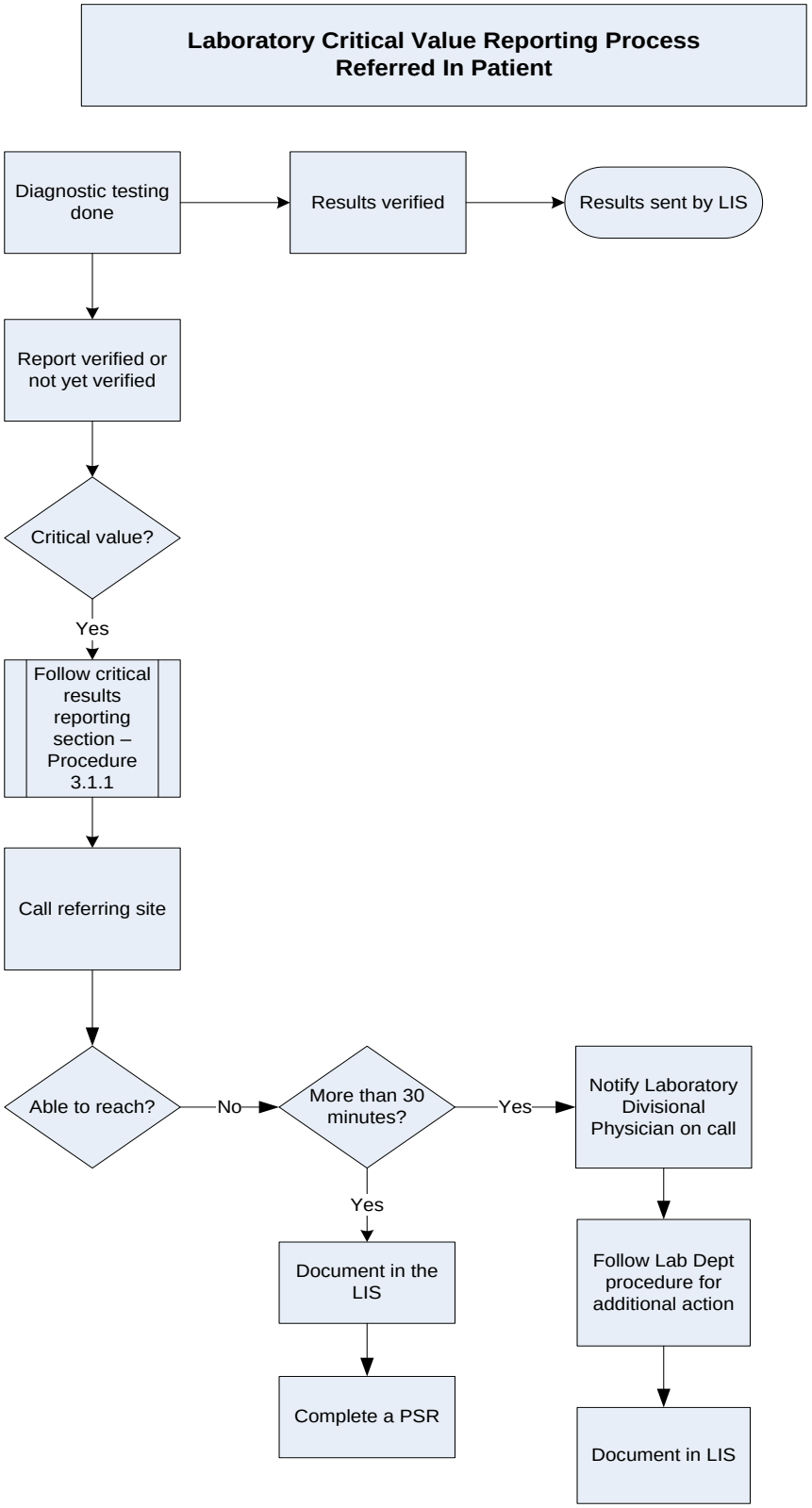
Community-Based Patient



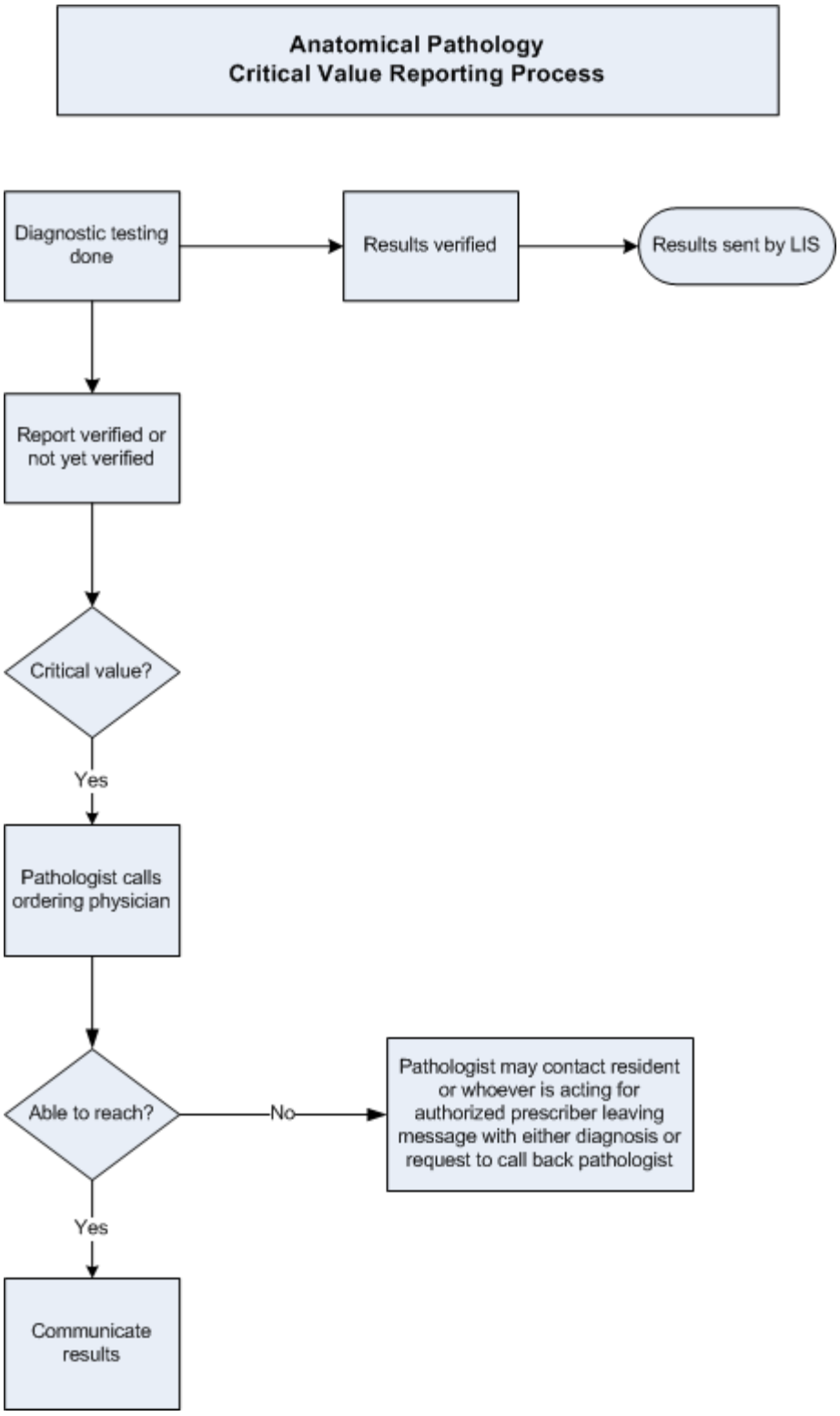
Patient No Longer on Site or has been Discharged



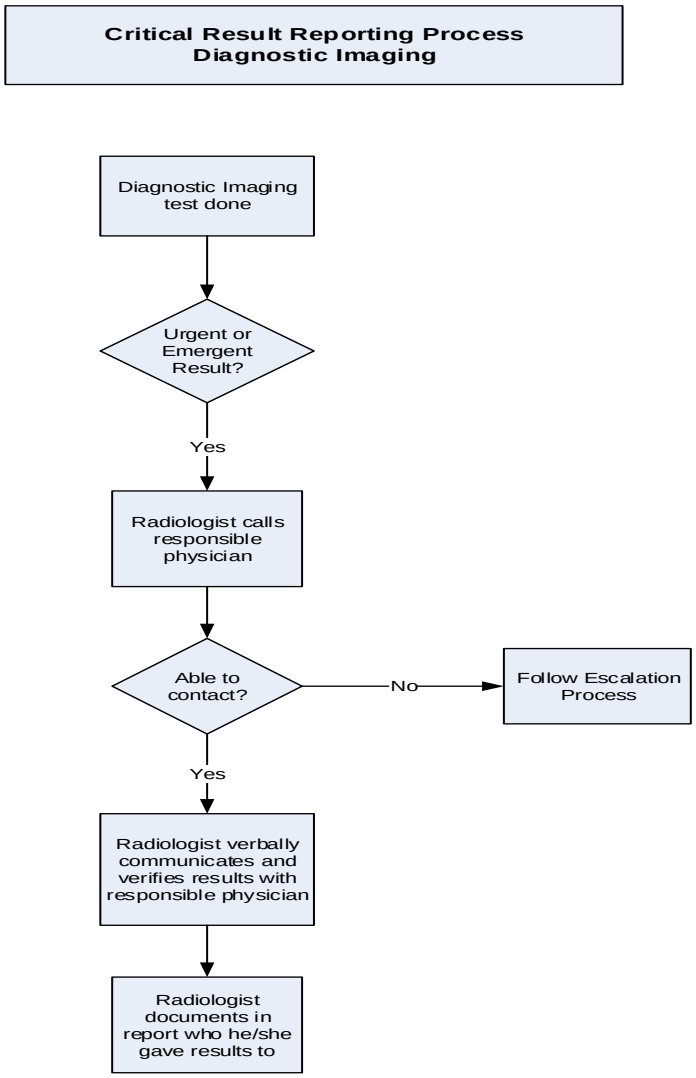
Referred In-Patient



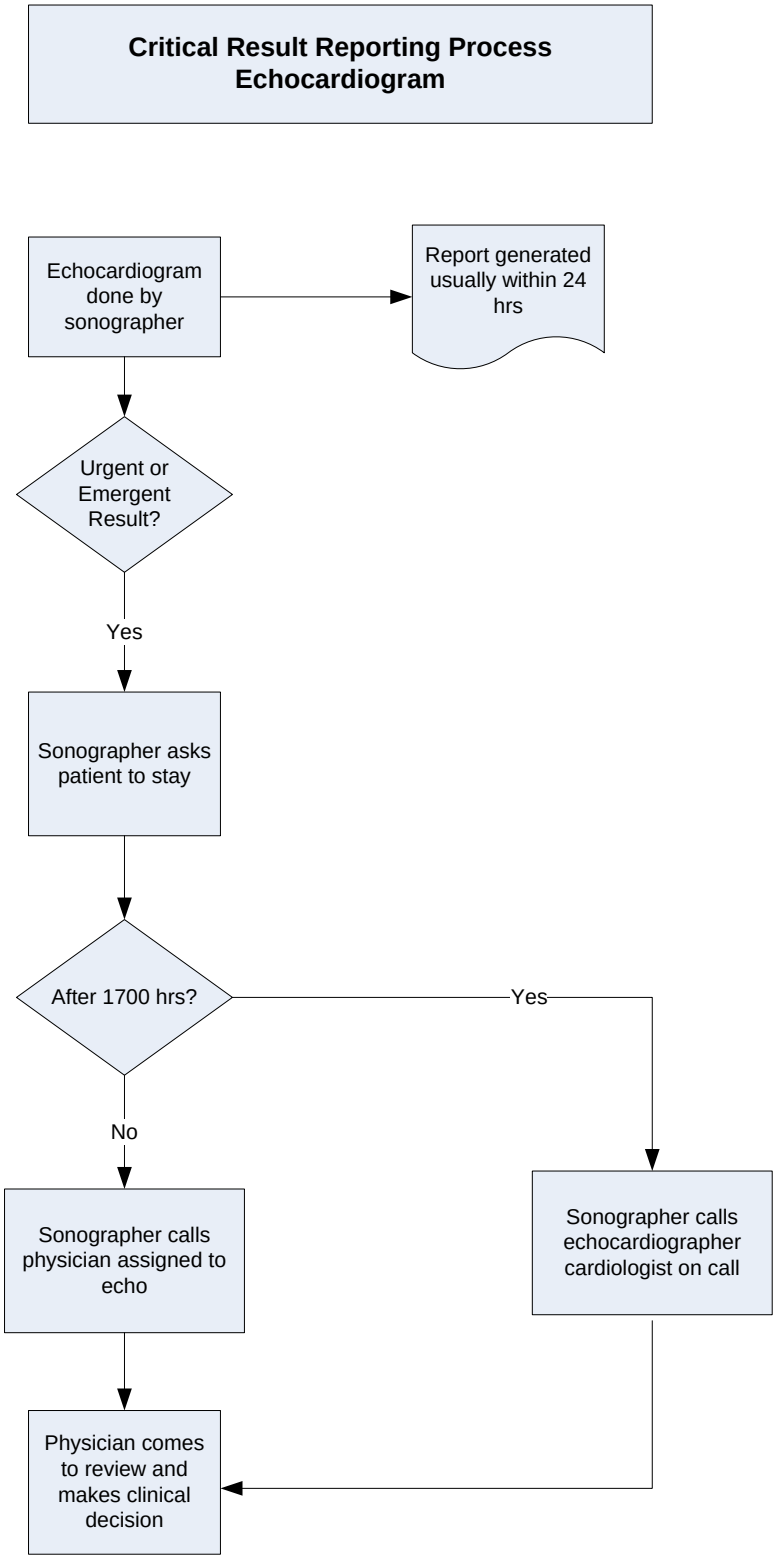
Anatomical Pathology



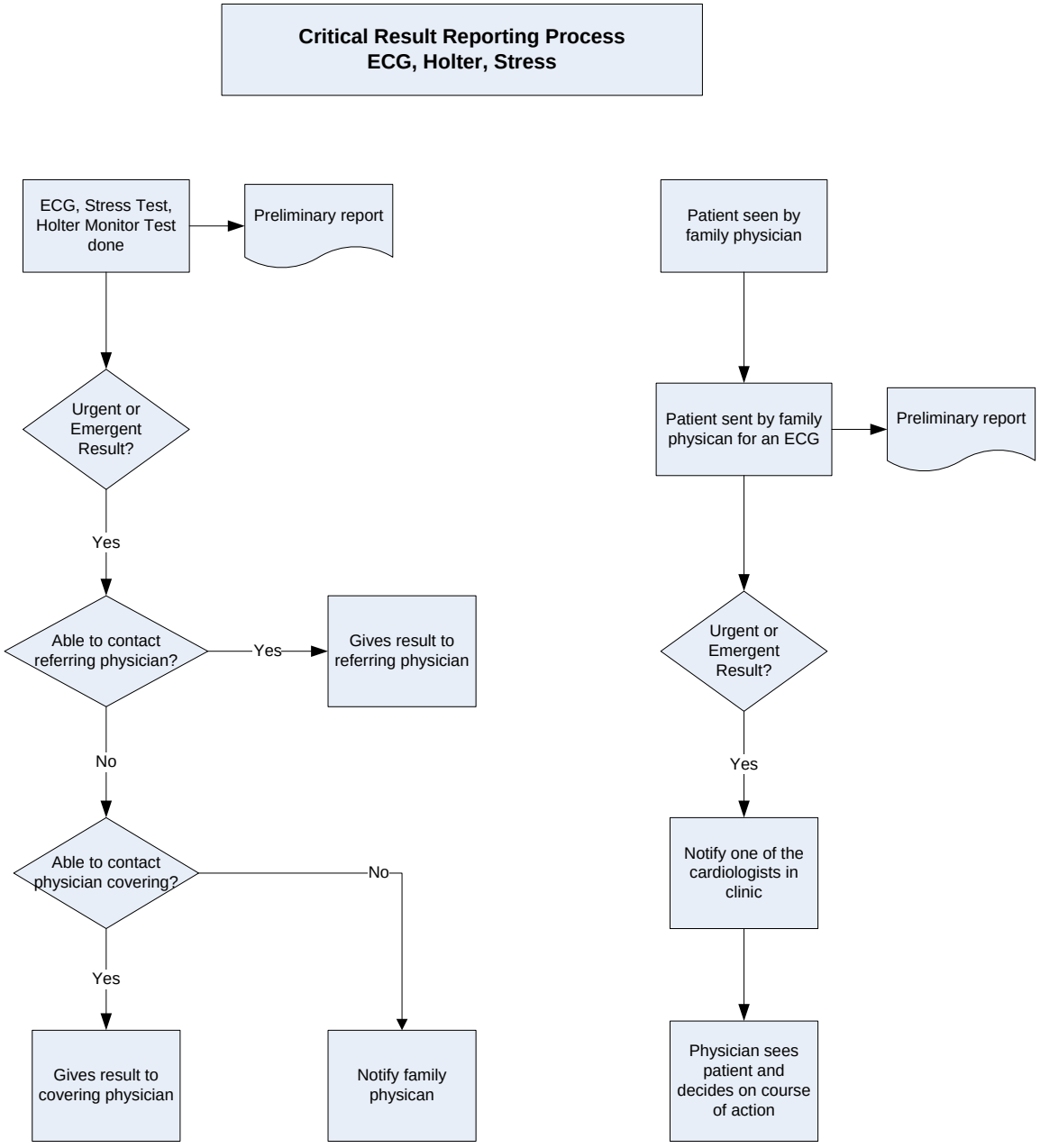
Diagnostic Imaging



Echocardiogram



ECG, Holter, Stress



VERSION HISTORY

<table>
<tr><th>Major Revisions (e.g. Standard 4 year review)</th><th>Minor Revisions (e.g. spelling correction, wording changes, etc.)</th></tr>
<tr><td></td><td>March 2016:
• Revisions made to Procedure numbers 3.1.1.1, 3.1.2.1, 3.1.3.1 and 3.1.4.2.
• Additions made to Appendix A “HLA Critical Values” page 15
• Revisions and additions to Appendix B “Laboratory Critical Values Notifications Exceptions” pages 18-21</td></tr>
<tr><td></td><td>2017-01-11 revised Lab Critical value Reporting Process Community-based Patient Flowchart</td></tr>
<tr><td></td><td>2017-06-05 – changes made to appendix A</td></tr>
<tr><td></td><td>2018-02-21 – Changed the following Chemistry Critical Values, Appendix A:
• pH value:
From Less than 7.2 to Less than 7.20
From Greater than 7.6 to Greater than 7.60
• Ionized Ca:
From Less than 0.75 mmol/L to less than 0.80 mmol/L
From Greater than 1.6 mmol/L to Greater than 1.60 mmol/L</td></tr>
<tr><td></td><td>2018-08-14 Amended Appendix B by adding:<table><tr><th>Test</th><th>Exception</th></tr><tr><td>Blood Transfusion Critical Values
• Serious transfusion reactions
• Serious errors
• Serious product recalls
• Issues causing blood or blood products to be unavailable within the expected time frame due to supply issues, specimens problems, delays in antibody identification, lack of appropriate type of blood products, etc.</td><td>Results reported as per section processes and procedures.</td></tr></table></td></tr>
</table>

<table>
<tr><th>Major Revisions (e.g. Standard 4 year review)</th><th>Minor Revisions (e.g. spelling correction, wording changes, etc.)</th></tr>
<tr><td></td><td>• Complex serological problems including incompatible units</td></tr>
<tr><td></td><td>2019-03-13– Changed the following Chemistry Critical Values, Appendix A:
<table><tr><td>Glucose</td><td>Less than ~~2.2~~ 2.5 mmol/L</td><td>Greater than 25.0 mmol/L
Greater than 15 mmol/L less than ~~16~~ 17yrs</td></tr></table></td></tr>
<tr><td></td><td>2021-08-24 Interim VP of Operations, Central Zone approved change
• Changed all reference to Capital Health to Central Zone
• Revised definition for Authorized Prescriber
• Updated Appendix A
• Removed Appendix B (Appendix C became Appendix B)</td></tr>
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