

ICU, BTHA, CCU, **SSCU** Nurse Initiated Investigations

Site Applicability

- VGH Intensive Care Unit (ICU)
- VGH Burns Trauma High Acuity (BTHA)
- VGH Cardiac Care Unit (CCU)
- **VGH Spine Special Care Unit (SSCU)**

Practice Level

Regulated Profession	Practice Area	Specialty Trained Basic Competencies	Advanced Competency (requiring additional education)
RN	VGH ICU (including CCOT) BTHA Cardiac Care Unit (CCU) Acute Spine Special Care Unit (SSCU AKA Spine Stepdown Unit)	<p>With advanced specialty education¹ and where the following activities are core competencies and expectations of the role (included in area's competency tool and consolidated during unit orientation):</p> <ul style="list-style-type: none"> • Initiate the following investigations and diagnostics (specific tests detailed on pg. 2): <ul style="list-style-type: none"> ○ Laboratory blood work ○ Microbiology tests (cultures & microscopy) ○ Radiology X-rays (chest and abdominal) ○ 12 Lead ECGs 	<p>Nurse Independent Activities (NIAs):</p> <ul style="list-style-type: none"> • n/a
			<p>Nurse Initiated Protocols (NIPs):</p> <ul style="list-style-type: none"> • n/a

1. formal program of study in Critical Care or High Acuity (e.g. BCIT specialty education course or equivalent)

Purpose

- The purpose of this guideline is to provide direction to critical care and high acuity trained RNs working in the VGH ICU, including RNs on the Critical Care Outreach Team (CCOT) who are providing outreach services, and BTHA, CCU and **SSCU** when independently initiating investigations or diagnostic tests without a client-specific order.

Requirements

- RNs independently initiate these investigations and diagnostics for the purpose of assessment and/or to expedite care and management in situations where time is critical.

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- Communication to the most responsible provider (MRP) is required when independently carrying out any of the investigations or diagnostics included in this guideline; follow-up workflows and processes with the MRP have been established.
- Critical Care and High Acuity RNs independently initiating investigations and diagnostics must adhere to the investigations and diagnostic tests identified in this guideline.
- A client-specific order from an authorized provider is required for investigations and diagnostics not listed in this guideline.
- Client specific-orders by an authorized provider supersede any actions outlined in this guideline.

Need to Know

- This guideline establishes the principles and situations for specialty-trained RNs to independently initiate investigations and/or diagnostic tests.
- The results of these investigations and/or diagnostic tests are interpreted collaboratively with the MRP and the inter-professional team.

Guideline

- Specialty-trained nurses practicing in ICU and BTHA independently initiate investigations and/or diagnostics based on clinical assessment and specialized knowledge and training as described in the VCH Competency Tool: VGH ICU, VCH Competency Tool: VGH BTHA or VCH Competency Tool: VGH Spine Stepdown Unit.

Assessment

- Nurses independently initiate investigations and/or diagnostics in response to patient status changes including deterioration, and/or to assess responses to previous interventions (e.g. Initiating a CBC following a blood transfusion or electrolytes following a potassium infusion).
- Prior to independently initiating any investigations or diagnostics, the nurse will perform a comprehensive assessment that includes head to toe physical assessment findings, reviewing past medical history and current clinical course, reviewing recent laboratory results and other diagnostics, and may include a focused system assessment related to the immediate concern (e.g. respiratory assessment prior to initiating ABG).
- Triggers for initiating investigations and diagnostics could include changes related to:
 - physiologic parameters – e.g. hemodynamics, respiratory, neurologic, acid-base imbalance
 - tubes, drains, dressings and/or other therapeutic devices

Interventions

Nurses may initiate the following investigations and diagnostic tests:

Table 1. Nurse-initiated investigations and diagnostics			
Diagnostic Category	Test(s)	Assessment/Indication	Details
Laboratory	<ul style="list-style-type: none"> Arterial blood gas, Oxyhemoglobin, methemoglobin, carboxyhemoglobin, Venous blood gas, mixed venous blood gas, CBC, INR, PTT, fibrinogen, electrolytes, urea, creatinine, serum osmolality, ionized calcium, lactate, liver function tests, creatinine kinase, triglycerides, troponin I, glucose, Group and screen, Urine electrolytes and osmolality 	<p>Patient status changes related to:</p> <ul style="list-style-type: none"> Worsening respiratory, hemodynamic, neurologic status or distress, or cardiac arrhythmia Significant bleeding expected to require blood product transfusion Alterations in other physiologic parameters such as gastrointestinal, genitourinary disturbance and/or acid-base imbalance Assessing the placement and/or status of invasive line or device (e.g. newly placed CVC) 	<p>Highlighted tests will not be initiated by RNs in the Spine Special Care unit.</p> <p>Highlighted tests will only be order by the MRP (Spine or Spine ICU)</p>
Microbiology	<ul style="list-style-type: none"> Blood cultures, Sputum cultures, Wound cultures, Invasive line tip culture 	<p>Signs and symptoms of infection and/or sepsis</p>	<p>Follow CAUTI Guidelines for urine culture and microscopy</p>
Radiology	<ul style="list-style-type: none"> Portable chest x-ray, portable abdomen x-ray <p>Note: X-ray requests MUST include past patient history and clinical diagnosis. This enables radiologists to provide a more comprehensive report improving physician decisions and ultimately, patient care.</p> <p>Mobile Radiography Request Guidelines</p>	<p>Patient status changes related to:</p> <ul style="list-style-type: none"> Worsening respiratory or cardiovascular status or distress Alterations in other physiologic parameters such as gastrointestinal, genitourinary disturbance Assessing the placement and/or status of invasive line or device (e.g. newly placed CVC or feeding tube). 	<ul style="list-style-type: none"> CXR- antero-posterior (AP) view AXR – 1 view, or AXR for feeding tube

Table 1. Nurse-initiated investigations and diagnostics			
Diagnostic Category	Test(s)	Assessment/Indication	Details
Other	12 lead ECG	Patient status changes related to <ul style="list-style-type: none"> Cardiovascular or hemodynamic instability Arrhythmia 	

Documentation

The following information should be documented in the Nurses Notes (NN) and Critical Care Flow Sheet (CCFS), or Critical Care Outreach Contact Record:

- Patient assessment and trigger(s) to initiate test;
- Specific investigations and/or diagnostic tests initiated;
- Communication with MRP and inter-professional team members;
- Results if/when known;
- Any interventions resulting from the test.

Note: In Cerner – no co-signature required when ordering these investigations and diagnostic tests.

Patient and Family Education

Rationale for initiating investigation or diagnostic test.

Related Documents

- VCH Competency Tool: VGH ICU
- VCH Competency Tool: BTHA
- VCH Competency Tool: VGH Spine Stepdown Unit
- [Nurse Independent Activities \(NIA\) and Nurse-Initiated Protocols \(NIP\)](#)
- [Indwelling urinary catheter: Guideline to prevent catheter associated urinary tract infections \(CAUTI\) - Adult](#)
- [Infection Prevention & Control](#)
- LMMI Mobile Radiography Request Guideline: https://one.vch.ca/dept-project/lower-mainland-medical-imaging/Documents/Mobile_Radiography_Request_Guidelines.pdf

References

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