

Crosstown Clinic: Phlebotomy for Blood Sample Collection via Venipuncture

Site Applicability

Crosstown Clinic

Practice Level

RN, RPN, LPN: Advanced Skill

- Required Education:
 - [LearningHub](#) Course: [VC Phlebotomy - Blood Collection eLearning Course](#) (30 minutes),
 - [LearningHub](#) Course: [Transportation of Dangerous Goods – Specimens by Ground](#) (90 minutes), and
 - Completion of a five blood draws observed by a clinician trained and experienced in phlebotomy.
- If experience and training has been obtained outside of PHC, nurse must complete the VC Phlebotomy- Blood Collection eLearning Course, and complete five blood draws observed by a clinician trained and experienced in phlebotomy.
- Clinicians providing lower limb phlebotomy must complete a minimum of 5 successful blood draws observed by a clinician trained and experienced in lower limb phlebotomy.

RNs	Venipuncture without an order may be performed for the purpose of collecting blood samples. https://www.bccnm.ca/Documents/standards_practice/rn/RN_ScopeofPractice.pdf
RPNs	Venipuncture without an order may be performed for the purpose of collecting blood samples. RPNs are limited to using short peripheral venous devices to take blood. https://www.bccnm.ca/Documents/standards_practice/rpn/RPN_ScopeofPractice.pdf
LPNs	Require an order from an authorized health professional and only collect blood samples from clients 14 years of age and older using a peripheral evacuated system. https://www.bccnm.ca/Documents/standards_practice/lpn/LPN_ScopeOfPractice.pdf

Need to Know

- Clients of Crosstown often have difficulty accessing community lab services independently for a variety of reasons (e.g., mobility issues, social determinants of health). Performing phlebotomy on site can be more convenient and accessible for these clients than issuing a lab requisition, given that they attend the clinic regularly to receive opioid agonist treatment for their opioid use disorder(s).

This material has been prepared solely for use at Providence Health Care (PHC). PHC accepts no responsibility for use of this material by any person or organization not associated with PHC. A printed copy of this document may not reflect the current electronic version.

- Safety of client and clinician must be assessed prior initiating phlebotomy and the approach to discussion and consent to tests is collaborative and may include interdisciplinary team members.
- Crosstown Clinic uses St. Paul's Hospital lab to process blood samples and St. Paul's Hospital lab requires a specific order of draw and tubes be used for the specific tests they accept.
- Veins for venipuncture should be superficial, large, and palpable with tourniquet application.
- A provider order is required for lower limb phlebotomy.
- Lab requisitions must be submitted to St. Paul's lab under a registered clinician MSP number (MD, NP, Certified Practice RN).
- **Avoid venipuncture and collections from:**
 - Arms with fistulas or vascular grafts (never draw bloodwork from these)
 - Hematomas
 - Burn sites or scarred areas
 - Edematous areas
 - Use caution and only as last resort on arm as same side as previous mastectomy or lymph node dissection
 - The inner wrist area

Equipment and Supplies

- Client Labels
- Chlorhexidine 2% + Alcohol 70% - swab pads or applicator (applicator preferred)
- Tourniquet
- Gauze Pads
- Adhesive bandage (e.g. Band-Aid™ or equivalent)
- Non sterile gloves
- Blood Collection Tubes (choose the appropriate tube for the required lab test as the [Providence Health Care Pathology and Laboratory Medicine Test Catalog](#))
- Single-use BD Vacutainer® push button blood collection set with 12" tubing, 23 G x 0.75", with pre-attached holder. (Order # PS: 00104110)



- Sharps Disposal Unit

Procedure

Pre-Procedure:

1. Check the requisition for test, client information, and specific requirements if Hazardous Drug Precautions are required. See the Hazardous Drugs Control Matrix for [Group 1](#) and [Group 2](#) drugs as needed.
2. Prepare labels and verify accuracy of client information on the label with the requisition.
3. Refer to St. Paul's Hospital lab procedures for appropriate collection tubes and methods; St. Paul's Hospital lab is available by phone to clarify additional questions as needed (1-877-747-2522).
 - Search for appropriate collection tubes and methods using the Test Catalog: https://www.providencelaboratory.com/test_catalog.php
4. Collect equipment and appropriate tubes for required tests.
5. Verify client identification:
 - Ask client for first name, last name and date of birth, and compare them to the labels, requisition, and health record.
6. Obtain verbal informed consent. Ensure client aware of which tests are about to be drawn, agrees to the tests, and has had an opportunity to ask questions about the tests/procedures/outcome of test result prior to draw.
7. Discuss previous venipuncture experiences, including history of fainting, painful or unsuccessful draws. Provide reassurance and include client in decision-making regarding location and number of attempts.
8. Provide heat for area for venipuncture (i.e. hot pack: facecloth/towel in warm/hot water, heat up small IV bag) as needed prior to draw to encourage vessel dilation.
9. Have labels printed and ready for placing on blood sample tube after successful blood draw.
10. Perform hand hygiene and don gloves.

Procedure:

1. Assess arm(s) for vein/site for blood draw. Apply tourniquet, assess, palpate and select appropriate vein, then release tourniquet.
 - a. Best veins for venipuncture are in the mid-arm area around the antecubital area:
 - Median cubital
 - Cephalic
 - Basilic



- b. Other areas to assess for veins if no appropriate veins in the mid-arm area:

- Forearm



- Hand – smaller, shorter veins and can be more painful for the client/patient.



2. Select the 23-gauge blood collection set.
3. Reapply the tourniquet above the intended venipuncture site. The tourniquet should be tight enough to impede venous return but should not obstruct arterial blood flow.
 - a. Tourniquets should not be applied for longer than one minute as localized stasis can occur which will lead to erroneous results.
4. Clean intended venipuncture site and surrounding area with CHG/alcohol applicator or swab for at least 30 seconds and allow skin to dry. Do not re-palpate or touch the skin after cleaning.
5. Use correct procedure to insert needle:
 - a. Stabilize the vein by anchoring the vein with your thumb. Apply traction to the skin below the intended puncture site.



- b. Hold the device firmly, ensure the bevel of the needle is up and insert the needle through the skin at an angle of 10 to 30°, then observe for flashback of blood into the tubing.
- c. If flashback is observed, lower angle slightly (do not go completely flat on skin) and advance needle approximately 1 to 2 mm. Secure the device with tape if needed.
- d. Release skin traction slightly. Ensure needle in vein is stabilized; do not move needle.
- e. Connect blood sample tubes to vacutainer.



- f. Fill tubes according to Order of Draw (see [Appendix A](#)).
 - g. When the blood draw is nearly finished (during the filling of the last tube), release the tourniquet.
 - h. Place a folded, sterile 2 x 2 gauze pad over insertion site, withdraw the needle from the vein and immediately apply pressure to the puncture site until the bleeding stops.
 - i. Cover puncture site with a dressing or adhesive bandage and advise client to leave site covered for at least one hour.
 - j. Discard and dispose of supplies appropriately.
6. Gently invert tubes as per lab policy: Refer to quick reference guide ([Appendix A](#)) which specifies the number of times depending on color of the tube.
7. Place pre-printed labels correctly on the blood sample tube. Ensure label does not extend beyond the tube. Refer to [Appendix B](#) for proper label application.
8. **Post Procedure:**
 - a) Ensure client is aware of the expected follow-up care provided by the clinic for test results and how these results will be communicated.
 - b) Ensure specimens are labelled and lab requisition is filled out correctly with all of the required information.
 - c) The Clinical Nurse Leader is to package the specimens [Lower Mainland Laboratories TDG Ground Transport Manual](#).
 - d) The specimens are to be transported to St. Paul's Hospital Lab through Vancity Couriers. Select "Super Panic" service, select "DG" from vehicle type options, and provide a complete description in the instruction box so that VanCity Couriers can send a TDG certified courier.
 - e) Store blood specimens in correct storage sites (fridge/room temp) until they have been picked up by Vancity Couriers.
 - f) Document the blood collection procedure in EMR.

Troubleshooting tips when blood not easily withdrawn.

- Slowly and carefully change the position of the needle in the vein.
 - If the needle has penetrated too far into the vein, pull it back slightly.
 - If the needle has not penetrated far enough, advance it further into the vein.
 - Rotate the needle half a turn.
- Try another tube.
 - The tube being used may not have sufficient vacuum.
 - Do not pull and push introducer into tube over and over. This will disrupt the vacuum and blood sampling will be affected.
- Loosen the tourniquet.

- The tourniquet may have been applied too tightly, thereby obstructing the blood flow. Re-apply the tourniquet loosely.
 - Reposition the tourniquet if needed - it should be applied 3 to 4 inches above the intended venipuncture site.
 - If a tourniquet has been in place for longer than one minute, it should be released and reapplied after two minutes.
- Do not “probe” or “dig” with the needle in vein. This will cause damage to vein(s) and can be painful for the client.
- **Do not attempt a venipuncture more than twice.** Instead, ask another nurse to try drawing the sample. If the second nurse is also unsuccessful after two attempts, notify the prescriber that a blood sample could not be obtained and send an EMR task to Outreach to assist client to another community lab.

Related Documents

[D-00-12-30072](#) - Phlebotomy for Blood Sample Collection via Venipuncture in Community Settings (VCH)

References

British Columbia College of Nurses & Midwives. (2021). *Licensed Practical Nurses: Scope of practice*.

https://www.bccnm.ca/Documents/standards_practice/lpn/LPN_ScopeOfPractice.pdf

British Columbia College of Nurses & Midwives. (2021). *Registered Nurses: Scope of practice*.

https://www.bccnm.ca/Documents/standards_practice/rn/RN_ScopeofPractice.pdf

British Columbia College of Nurses & Midwives. (2021). *Registered Psychiatric Nurses: Scope of practice*.

https://www.bccnm.ca/Documents/standards_practice/rpn/RPN_ScopeofPractice.pdf

Providence Health Care Pathology and Laboratory Medicine. (n.d.). *Test catalog*.

https://www.providencelaboratory.com/test_catalog.php



















Instructions for use for: 368656 BD Vacutainer® push button blood collection set with 12" tubing, 23 G x 0.75", with pre-attached holder (**will attach when received from BD)

Appendices

- [Appendix A: Order of Draw](#)
- [Appendix B: Labelling of blood specimen tubes](#)

Appendix A:

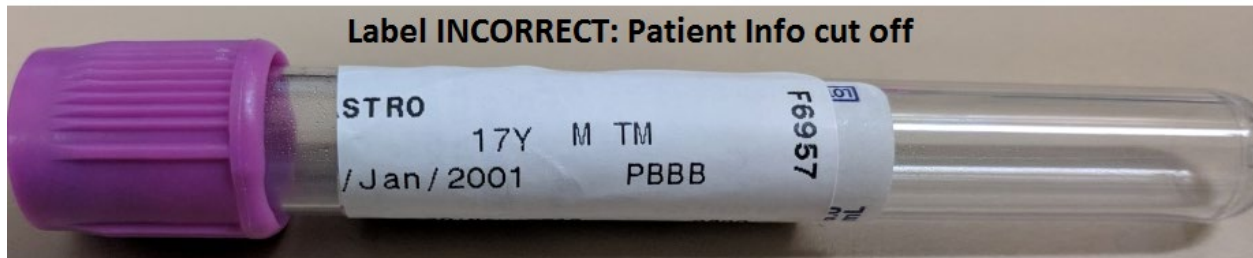
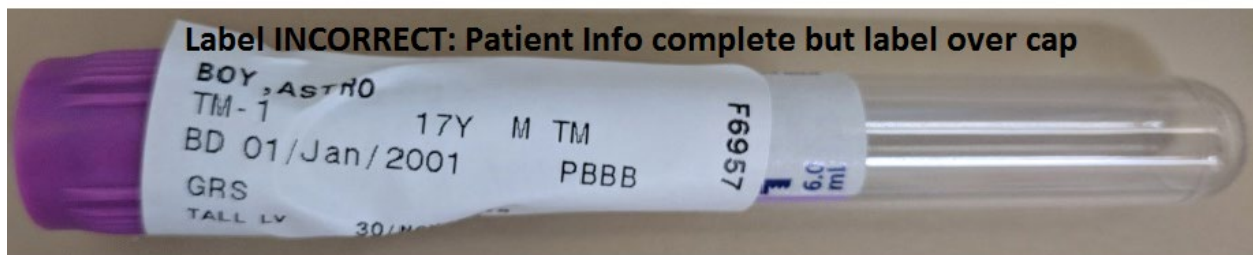
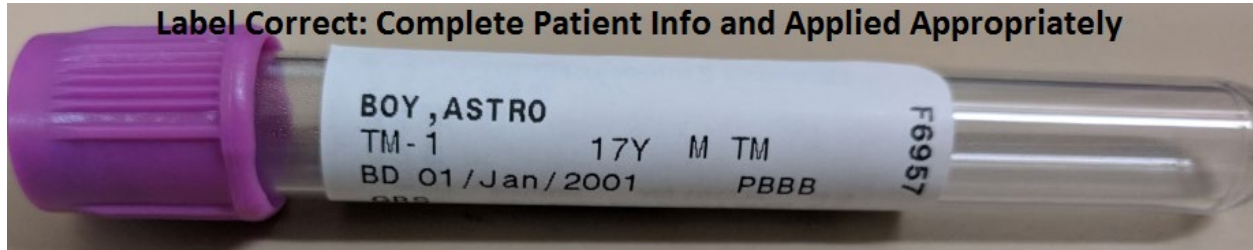
Order of Draw

St. Paul's Hospital Phlebotomy and CVAD Quick Reference Guide			January 2019
Order of Draw	Tube Top Colour (additives) – Label code	Tests available via SCM at St. Paul's Hospital Laboratory	Mix tube # of times
NOTE: Perform line maintenance procedures as per practice guidelines before accessing CVAD.			
	Green – Aerobic resin Orange – Anaerobic Yellow – Pediatric Black – Mycobact (TB)	<ul style="list-style-type: none"> * Blood Cultures: <ul style="list-style-type: none"> > Vacutainer / Butterfly (Wingset) Method – 1st: Green (aerobic) 2nd: Orange (anaerobic) > Syringe Method with Transfer Device – 1st: Orange (anaerobic) 2nd: Green (aerobic) 	8
	Dark Blue (no additive) – NVY	<ul style="list-style-type: none"> Copper, Selenium, Zinc 	0
	Dark Blue (K2EDTA) – DKBLUE	<ul style="list-style-type: none"> Aluminum (Tube supply kept in Accessioning Supervisor office). Collect separately from other samples. 	3
	Light Blue (Sodium citrate) – BLUE	<ul style="list-style-type: none"> INR, PTT, Fibrinogen, D-Dimer, TT, Low Molecular Weight Heparin Clotting factors, Protein C & S, Von Willebrand Factors, DRVVT, DNHBS, platelet aggregations, HTS 	3-4
	Plain Red (clot activator) – RED	<ul style="list-style-type: none"> Calcitonin (on ice), Progesterone, Estradiol, Cryoglobulin (special collection), Tricyclic Screen Amitriptyline, Desipramine, Imipramine, Nortriptyline, Olanzapine, CAS, Tissue Typing, CH50 	5
	Gold (SST = gel & clot activator) – GOLD	<ul style="list-style-type: none"> Ionized calcium (whole tube), IPTH α-1-Antitrypsin (AAT), Ceruloplasmin, Complement (C3, C4) Electrophoresis, Free Hemoglobin, Haptoglobin, Total Protein Immunoglobulins (A, G, M), Lithium, Pre-albumin, B12, Cortisol, DHEA Digoxin, Ferritin, FSH, FT3, FT4, Growth Hormone, LH, Prolactin, PSA Testosterone, TSH, Thyroglobulin, ATPO (Thyroperoxidase antibody) Apo-A, Apo-B, Cholesterol, HDL cholesterol, Triglycerides (fasting), C-Peptide (fasting), IGF1, Insulin (fasting), 25-hydroxy Vitamin D Lipoprotein A (LPa), IgG subclasses, MONO, Heparin induced thrombocytopenia by Elisa (HITE) 	5
	Gold (Micro & Virol) (SST = gel & clot activator) – GOLD	<ul style="list-style-type: none"> Cryptococcal Antigen, Hepatitis A/B/C antibody & serology CMV serology, HIV serology, Varicella Zoster 	
	Gold (Send out) (SST = gel & clot activator) – GOLD	<ul style="list-style-type: none"> Syphilis, FTA, Toxoplasmosis, H. Pylori, Rubella, Herpes Simplex, Epstein-Barr Virus, Gastrin (Ice – fasting) AMA, APCA, ASMA, Anti-neutrophilic cytoplasmic antibody (ANCA), DSDNA (double strand), CPLX, GBM, Liver Kidney Microsomal (LKM1), Anti S. Cerevisiae (ASCA), Tissue Transglutaminase (TTG), Anti-cardiolipin Ab, Anti-histone, ANAEB (ENA, ANA) 	5
	Light Green (PST = lithium heparin & gel) – LT GRN	<ul style="list-style-type: none"> Albumin, Alkaline phosphatase, ALT, Amylase, AST, BUN (urea), BNP Carboxyhemoglobin, Calcium, Chloride, Carbon Dioxide, CPK Creatinine, CRPB, GGT, Glucose (random or fasting), HCG, Lipase, LD Magnesium, Methemoglobin Sodium, Potassium, RNLP, Phosphorus Transferrin, Total bilirubin, Troponin-T, Uric Acid, Acetaminophen, Ethanol, Salicylates, Ketone, Osmolality Carbamazepine, Phenytoin, Valproic Acid, Tobramycin, Vancomycin 	8-10
	Light Green (Sendout) (PST = lithium heparin & gel) – LT GRN	<ul style="list-style-type: none"> Gentamicin, Rheumatoid Factor (RF), Phenobarbital, Theophylline Ammonia (on ice), Direct Bilirubin 	
	Dark Green (Sodium heparin) – DRK GRN	<ul style="list-style-type: none"> Lead, Mercury Immune Cell Marker, Cytogenetic testing Hepatitis for Hemodialysis patients only 	8-10
	Dark Green (Send out) (Lithium heparin) – DRK GRN	<ul style="list-style-type: none"> TB Interferon Gamma Release Assay (by special request), TB Quantiferon TB Gold TBQ5 – 3 tube special set – supply in Accessioning Supervisor's Office. 	8-10
	Lavender 3 mL (EDTA) – LAV	<ul style="list-style-type: none"> Apolipoprotein E Genotype, Alpha 1 Antitrypsin Phenotype, Hgb A1C Homocysteine (on ice), ACTH (on ice), Renin (on ice), Aldosterone Cyclosporine, Tacrolimus CBC + Diff, HSR, Reticulocytes, Morphology, Malaria, Coombs (DAT) Hemoglobin electrophoresis, Surolimus, HLA B5701 	8-10
	Lavender 6 mL (EDTA) – TALL LV	<ul style="list-style-type: none"> Hepatitis B DNA, HHV 8 DNA PCR, HCV RNA PCR, HCV RNA Genotype, HIV DNA PCR, HIV Genotyping, CMV Antigenemia HIV Viral Load, BK virus PCR Prothrombin Gene mutation (TDNA), Factor 5 Leiden (TDNA) Crossmatch (XMATCH) 	8-10
	Black (Sodium citrate) – BLK	<ul style="list-style-type: none"> ESR 	3-4
	Yellow ACD A 8.5 mL (Acid Citrate Dextrose)	<ul style="list-style-type: none"> HSPP (on Friday after 1400hr and weekend only) 	8-10
	Yellow ACD B 6mL (Acid Citrate Dextrose)	<ul style="list-style-type: none"> B17 	8-10
	Grey (Fluoride K Oxalate) – GREY	<ul style="list-style-type: none"> Lactate 	8-10

For any test not listed, please call St. Paul's Lab at 604-682-2344 Local 63612. For more complete test menu, <http://www.providencelaboratory.com/index.php>

Appendix B

Lab Tube labelling



Persons/Groups Consulted:

Clinical Nurse Specialist IV Therapy, Vascular Access & Chemotherapy
Clinical Nurse Specialist, Substance Use, Urban Health Program
Patient Care Manager, Medicine, Crosstown & Brief Intervention Clinic
Director, Urban Health, HIV & Substance Use / Co-Regional Director, Regional Substance Use & Addictions Program

Developed By:

Clinic Coordinator, Crosstown

First Released Date:	11-APR-2022
Posted Date:	11-APR-2022
Last Revised:	11-APR-2022
Last Reviewed:	11-APR-2022
Approved By:	PHC
	Professional Practice Standards Committee
Owners:	PHC
	Crosstown Clinic