SUNY Downstate Medical Center -University Hospital of Brooklyn Network
Department of Pathology Policy and Procedure

Subject: VEN 2 Collection Of Blood Specimen

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LTR: LTR13941

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Supporting Documents: Lab-1, Lab-2

Approval Workgroup: Laboratory Administration Approval Group

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I. PURPOSE:

To assure a systematic process and environment where venipuncture and blood specimens collection are consistent with the patient's and the phlebotomist's safety.

II. DEFINITION(S):

Venipuncture: Puncture of a vein for any purpose.

Phlebotomists: People trained to draw blood from a patient for clinical or medical testing, transfusions, or research.

III. POLICY:

Blood specimens must be collected according to the procedures established by University Hospital of Brooklyn to assure quality laboratory results. The phlebotomist must use his/her skills as a collector, in accordance with hospital policies and the National Patient Safety Goals established by The Joint Commission to collect blood specimens in a safe manner.

IV. RESPONSIBILITIES:

Pathology Staff, Nursing, Medical Staff.

V. PROCEDURES / GUIDELINES:

1. **Introduce yourself and explain what you are going to do**. Identification badge must be worn and visible when collecting blood specimens.

2. **Gloves must be changed and:**

    a. Hands washed after contact with each patient. You must change your gloves immediately if the gloves are visibly contaminated with blood or if they show evidence of perforation tears or leaks.

    b. Artificial nails are not acceptable when drawing blood. Natural nails cannot be longer than $1/8^{th}$ of an inch over the fingertips.

3. **Review the order to ensure all labels are associated with each patient.**

    a. Labels are matched with the patient's medical record number and the name.

    b. Patient identification from wristband (for inpatients) with patient's name, medical record and date of birth clearly identified.

    Proper patient identification is mandatory.

    Do not draw blood if the armband is missing. Notify the nurse, the clerk or physician.

4. **Outpatients have no ID band.**

    Identification must be made by asking the patient or parent of a minor to say their full name and confirm date of birth.

    Be polite, use active communication such as please tell me your name and date of birth.

If patient does not speak English and there is no interpreter around, use the **cyracom transparent Language services phone.**

5. **Supplies needed.**

    a. Collection tubes
    b. Tourniquet
    c. Alcohol pads
    d. Clean gauze pads
    e. Gloves
    f. Paper tape or Band-Aid
    g. Specimen labels

Note: Check all expiration of blood tubes and blood culture bottles before drawing blood. Inspect all supplies for imperfections. Notify supervisor or person in charge immediately if defected material is found, select the appropriate type of needle based on the patient's age specific characteristics. Venipuncture in small vein is facilitate by the use of 21or 25 gauge butterfly needle

Select the system for drawing the blood sample.

6. **Evacuated collection tube system**

    The system is composed of these basic elements: a sterile blood collection needle, a holder that is used to secure both the needle and the evacuate tube containing a pre-measured vacuum and premature additive.

    Syringe is not recommended but can be used when extremely necessary.
    When using syringe, slowly withdraw the proper amount of blood by gently pulling back on the plunger of the syringe. Before transferring the blood to the appropriate vacutainer tubes, remove the butterfly and replace with a 21 Gauge or larger needle. Pierce the stoppers of the vacutainer tubes and allow them to fill without depressing the plunger. This will maintain the correct ratio of blood.

7. **Reassure the patient:**

    The phlebotomist must gain the patient's confidence and assure the patient that, although the Venipuncture will be slightly painful, it will be short duration. It is wise to tell the patient when the needle enters the skin so the patient is not startled

    Note: Be sensitive to everyone especially those with a disability such as hard of hearing, blind or impaired mobility.
    Be cautious with psychiatric patients and patient on restraints.

8. **Position Patient:**
    a. <u>Procedure for seating patient (mostly used in an outpatient setting)</u>
        — Ask the patient to be seated comfortably in a chair.
        — Have the patient position his/her arm on the slanting armrest and extend the arm to form a straight line from the shoulder to the wrist.

Note: Chairs should have armrests and not be on wheels

    b. <u>Procedure for having patient lie down</u>

- Ask the patient to lie on his/her back in a comfortable position.
- Have the patient extend his/her arm to form a straight line from the shoulder to the wrist.

9. **Inappropriate sites for Venipuncture.**

    a. Scarred areas (healed burn area)
    b. Arm or side of mastectomy (pay attention to note on bed side)
    c. Hematomas
    d. Foot, Leg
    e. Intravenous lines in both hands
    f. Thromboses veins
    g. Shunt, Fistula, cannula, vascular graft or arterial line
    h. Edematous arms
    i. Above an IV site

10. **Ready to perform Venipuncture.**

    a. Use a tourniquet to make the veins more prominent and easier to enter.

Note: Never leave the tourniquet on for longer than 1 minute. Tourniquet must be discarded immediately if soiled.

11. **Cleaning method for Venipuncture.**

    a. Clean the vein site with prepared alcohol pad from sterile package. Except for Blood culture (See procedure for blood culture)
    b. Cleanse the vein site with circular motion from the center to the periphery.
    c. Allow the area to dry for about 30 seconds.
    d. Do not:
        - Dry with gauze pad.
        - Touch the vein site after cleaning

Note: If the Venipuncture proves difficult and you must touch the vein again, **clean the site again.**

12. **Inspect the needles (bevel always up).**

13. **Grasp the patient's arm.**

14. **Perform Venipuncture.**

    a. Sanitize/wash hands
    b. Wear gloves (gloves must be changed after contact with each patient)

Preferred veins:

- Median Cubical
- Cephalic
- Basilic

} Tend to be anchored better and are usually less painful and don't bruise as easy.

Note: The dorsal side of the hand or wrist should be used only if arm vein have been determined unsuitable. The posterior surface

15. **Fill the tube until vacuum us exhausted.**

Note:

- Mix immediately after drawing each tube that contains an additive by gently inverting the tube 5 to 10 minutes.
- Do not mix vigorously to avoid hemolys

16. **New order of draw for multiple collections based on CLSI Standard H3-H6.**

a. Blood culture
b. Light blue (buffered sodium citrate tube)
c. Red top tube
d. Green Heparin and light green (sodium or lithium)
e. Lavender (EDTA)
f. Pink, white or royal blue (EDTA)
g. Gray (sodium Florida/Potassium oxalate)

Note: Pay attention to the shelf life of citrate tubes. Expired tubes may result in

- Under filled tube
- Erroneous results
- Impact patient care

When using a winged blood collection set for Venipuncture and coagulation (Citrate tube) is the first specimen tube to be drawn, a discard red top tube with no additive should be drawn first. The discard tube must be used to fill the blood collection set tubing's" dead space" with blood. 1CC of blood is enough for the discard tube. This important step will ensure maintenance of the proper blood to additive ratio of the blood specimen

Note: In the event the wrong tube was drawn, never pour from one tube into another. Each tube contains additives and this may result in life-threatening erroneous test results.

If a blood sample cannot be obtained:

- ***Change the position of the needle.*** If the needle has penetrated too far into the vein, pull it back a bit. If it has not penetrated far enough, advance it farther into the vein. Rotate the needle half a turn.
- ***Try another tube.*** The tube being used may not have sufficient vacuum.
- ***Loosen the tourniquet.*** The tourniquet may have been applied too tightly, thereby stopping the blood flow. Reapply the tourniquet loosely.

Note *e: Probing is not recommended.* Probing is painful to the patient. In most cases, it is advisable to try another puncture in a site below the first site, or use of another vein on the other arm.

It is advisable not to attempt a venipuncture more than twice. If you do not obtain blood on the first puncture, re-prep the site and use a new needle for a second puncture. The first needle is contaminated and must not be used again. Do not re-sheathe used or unsterile needles into their plastic covers. Discard all needles properly.

Note: A phlebotomist should not attempt to draw from a patient more than twice. If the first attempt is unsuccessful, the patient's drawing site needs to pre re-prepped and a new needle and holder must be used. After the second attempt, notify the nurse. Another phlebotomist should start the process from the beginning; this includes patient identification.

If unable to obtain specimens, the nurse must be informed and the reason must be recorded on the list with the name of the notified nurse.

17. **Release the tourniquet.**
    Remove the tourniquet gently when blood begins to flow adequately after the first tube of blood has been obtained to allow blood circulation to return to normal. Removing the tourniquet also reduces bleeding at the Venipuncture site after the specimen is obtained. Tourniquets must be removed within 1 minute.

18. **Open patient's hand.**
    This reduces the amount of venous pressure as muscles relax. Do not allow the patient to pump the hand.

19. **Place the gauze.**
    Lightly place the gauze pad over the Venipuncture site.

20. **Remove the needle from the patient's arm.**
    Apply slight pressure to the pad. Remove the needle slowly while keeping the bevel in an upward position and immediately engage the safety device on the needle.

21. **Bandage the arm.**

    a. **Under normal conditions:**
    1. Slip the gauze pad over the site, continuing mild pressure.
    2. Apply paper tape or a Band-Aid over the Venipuncture site after making sure that stasis is complete.
    3. Tell patient to leave on the bandage for at least 15 minutes.

    b. **When the patient continues to bleed or if the patient is on Coumadin:**
    1. Apply pressure to the site with a gauze pad until the bleeding stops.
    2. Wrap a bandage tightly around the arm over a gauze pad.
    3. Tell the patient to leave on the bandage for 15 minutes.
    4. You should be alert to excess bleeding. Apply pressure for 5 minutes. If bleeding persists longer than 5 minutes, alert a nurse so that the attending physician can be notified of the problem. Continue pressure on the site as long as necessary to stop the bleeding.

22. **Dispose puncturing unit.**
    - Always engage safety feature immediately after needle is withdrawn and before disposing of blood needle.
    - Dispose of needles and holder promptly in an appropriately labeled sharp box, to prevent their reuse or accidental injury.
    - Do not re-sheathe any used or unused needles into their plastic covers. Do not remove the used needle from the holder with your fingers. Do not shear, bend, or break the needle. The entire assembly must be discarded as a unit into a puncture-resistant sharps container.
    - Always drop the discarded item gently into the container; never use force. Never reach into a sharps container.

Note: Visually inspect the sharps container. If it is full, use another sharps container, bring it to the nurse, clerk's attention.
All accidental needlesticks MUST BE REPORTED to the supervisor or designate as soon as possible after the occurrence. The employee will report to the Employee Health Service (or Emergency Department after 4 PM) for treatment and documentation.
Test not collected on Inpatient by the phlebotomist:

a. Ammonia
b. Lactate
c. Pyruvate
d. Peak and Trough
e. Time test (Glucose tolerance test, GCT 2hr PP)
f. Stat specimen
g. Blood gases
h. Bleeding Time

Test that require special/ consent form:

a. Chromosome Analysis
b. AFP maternal, Quad Screen, 1st Trimester Screen.
c. HIV AB **(Out patient)**
d. Hepatitis Genotype **(Out patient)**
e. Cystic Fibrosis

Blood Culture Collection

Supplies:

1. Two Bact. /Alert one (blue top) aerobic bottle, one (burgundy top) anaerobic } adults volume 10 ml in each bottle
   or one yellow top (pediatric 1 to 4 ml)
2. Needle set
3. Gauze
4. Gloves
5. Chloraprep ® One Step SEPP

*Optional items – large blood culture adapter syringes

Volume: Adults – 10 ml
Pediatric – 1 to 4 ml

Procedure:

1. Remove plastic cap from each blood culture bottle and disinfect the top using an alcohol pad, discard pad and allow top of bottle to dry.
2. Remove Frepp (Chloraprep®) from kit. Hold in a horizontal position and pinch the handle once to break the ampoule. DO NOT continue to squeeze handle. Place sponge on selected Venipuncture site, and depress once or twice to saturate. Scrub vigorously with back and forth motion for 30 seconds and **allow to air dry**.

Method A:

1. Attach multiple sample luer adapters to winged set. This may be used separately or a blood culture adapter may be attached to the winged set-up.
2. Insert needle into the Venipuncture site.

3. While holding the adapter, insert adapter needle into the aerobic culture bottle and allow to fill (10 mL).
4. Remove adapter needle from the aerobic bottle and insert it into the anaerobic bottle. Allow to fill (10 ml).
5. If additional blood work is ordered, attach a vacutainer tube holder or use culture adapter insert to the luer of the syringe and proceed with the blood draw.

Method B: Two syringes are needed

1. Attach syringe to the winged needle set.
2. Insert needle into the Venipuncture site.
3. Draw one syringe: 10 ml of blood for each of the two culture bottles.
4. Attach 18 gauge needle to a syringe. Insert into the aerobic bottle and allow to fill. DO **NOT FORCE BLOOD INTO BOTTLE**. Remove needle and syringe from bottle and discard both into a biohazard "sharps" container.
5. Repeat procedure with anaerobic bottle and second syringe.
6. If additional blood work is required, you have the option of drawing additional syringes of blood, replacing the syringe with a Luer adapter and Vacutainer holder, or re-sticking the patient.
7. Label the culture bottles with patient's name and MRN, fill in appropriate areas on the requisition form, i.e., Date/time drawn, location of Venipuncture site, whether peripheral or line draw, and name or initials of person drawing the sample.
8. Send all culture bottles to Microbiology (Tube station 73) without delay.

Note:

- This procedure must be performed using strict aseptic technique. Attention should be paid to maintaining sterility of the blood culture bottle tops as well as any needles and syringe openings.
- Use the following guidelines to distribute blood collected into blood culture bottles:
  - Less than or equal to 4 ml blood: use one (**yellow**) pediatric bottle.
  - 4 – 10 ml's of blood: place in one (**green**) aerobic bottle.
  - 10 – 20 m l's of blood: divide evenly into both (**green**) aerobic and (**orange**) anaerobic bottles.
- Drawing 20 ml of blood using one syringe for both bottles is not encouraged. There is the risk of aerosol production when the needle is removed from the first bottle as "spray back" may occur. A face shield must be worn if this technique is used.
- Care should be taken to avoid letting air into the anaerobic blood culture bottle. Expel any dead air space in syringe before injecting blood.

* If more than one set is requested, the collection site must be written on each set- For example " right arm" etc.

Procedure for Blood Bank specimen collection

1. For "Type and Screen," a series of bar-coded labels will be generated. The largest label is to Be placed on the right side of the orange requisition, **REQUEST FOR BLOOD COMPONENTS CARD.**

2. The ordering physician is to sign in the "Requested by" space on the left side of the orange requisition.

3. The specimen is to be drawn, labeled with the remaining large bar-coded labels, and the Labels must be signed by the phlebotomist at the patient's bedside.

4. The phlebotomist who collects the specimen must also sign in the "Signed by" space on the left side of the card. By signing the orange requisition, the collector is attesting that the proper patient identification checks were performed.

Note: Specimen Type: Blood Volume: 6ml: pink top tube

5. Specimen label lacking the following information will be rejected:
   A. Patient's full name
   B. Patient medical record number
   C. Phlebotomist signature
   D. Phlebotomist initial on the tube

6. Other Specimen Rejection Criteria:

   A. Discrepancy in information between specimen and the requisition.
   B. Illegible information on specimen and/or Requisition
   C. Broken or leaking specimen container
   D. Wrong anticoagulant/wrong specimen container
   E. Hemolyzed (in vitro)

ACTION:
Notify physician/patient location and request new specimen with new corresponding paperwork

23. **Labeling blood collection tubes and recording time of collection.**

The patient and the patient's blood sample must be positively identified at the time of collection. Blood samples must be obtained in stopper tubes and identified with a firmly attached barcode label.

- The patient's first and last name
- Date of birth
- A medical record number
- The collection date
- The time of collection
- First initial and last name of the phlebotomist or person collecting specimen.

Note: The label must be placed on the tube before leaving the side of the patient.

24. **Proper placement of specimen labels.**

a. The specimen label must be placed on the tubes using the white label of the tube provided by the manufacturer as a guide.
b. Place the patient's last name at the top of the tube right under the cap. To achieve this, hold the specimen in your left hand by the cap and with your right hand, place the label with the last name at the cap end. This will ensure that all labels are put in the same direction.
c. The specimen is collected you must label the tube.
d. Last name and first initial are the preferred choice of acceptable collector ID. It is a legal proof that you verified the patient identification and you are saying that the blood specimen is in-fact, of this patient. Labeling of specimens must occur in the presence of the patient

e. HIPPAA: when disposing of labels with patient's name or medical record, they must be disposed of in the confidential recycling bin or discarded in the biohazard bin where waste is incinerated.

Note: Remember to destroy any extra label to avoid a mislabeling event. Mislabeling event meaning the name on the tube does not match the name on the requisition. Patient identification's protocol is followed and checked before and after the blood is drawn, there will be no labeling error. Verbal counseling on the first offense and written counseling on the second offense will be given on all mislabeled events which may lead o disciplinary action.

Other labeling issues are specimen not signed, wrong tubes are drawn. This will be looked at on an individual basis.

25. **Specimens for Inpatient.**

a. Place specimen in a zip-lock biohazard specimen transport bag and bring specimens to the Laboratory Central Receiving or sent specimens via the pneumatic tube where available.
b. When sending specimens to Laboratory Central Receiving via the Pneumatic Tube ensure that the canister leaves the station before walking away.

26. **Delivery of specimens for Outpatients/Satellites.**

a. Bag each patient's specimens separately in a tightly closed biohazard bag.
b. Place requisition slip on outside of specimen bag pocket. Specimens can be sent to the Laboratory Central Receiving via the pneumatic tube or messenger.

A STAT sticker must be placed on all tubes for all STAT requests.

Note: In case the pneumatic tube is not working, call the Laboratory Central Receiving at ext. 4216, 2815 or 1036.
All effort must be made to deliver all specimens to the Laboratory Central Receiving in timely manner either by messenger service or by lab personnel.

27. **Procedure for blood collection for Outreach Referral. (Outpatient Department)**

Referral means when a physician is not in our system but refer his/her patient to our Institution for laboratory test.

The following information's are required:
Physician must submit a script to the patient which includes the following:

a. Responsible physician's name
b. Office address, city, state, zip code, office fax and telephone numbers, UPIN number and diagnosis code
c. The patient presents the script at the registration window in the OPD Phlebotomy area.
d. The registrar registers the patient in Eagle 2000 for the Laboratory services as Private Referred Lab, with the Suite location of "OPC".

The attending physician's code used is 6961 (Referral, O). If the Referring physician's information is on Eagle, that is entered also. If the referring physician is not in Eagle the staff enters the physician's name, license and telephone number in the Eagle system's General Note file (GNE), for billing purposes.
The labels are then processed on the Cerner system.

Note: Test order that maybe unclear, unfamiliar must be confirmed with the referring physician before placing the order. Request via telephone is not accepted. Results are not to be given or discussed with patients in any instance.

e. The Phlebotomist will collect the specimens and document all the information on the referral O book. Copy of the requisition and the script are kept on file.
f. Test which is processed in house is faxed or mailed to the referring physician within 24 hours.
g. The Laboratory will refer to the Reporting critical values procedure.
h. A Caller Back field is provided in CERNER to access the referral O physician's phone number during OPD phlebotomy Services off hours.

Procedure for blood collection for Research Study. (Outpatient Department)

1. Research Coordinator will bring/send patient to the OPD Lab Services with a Research slip containing the following information:
2. Patient study ID #.
3. Project Title
4. Patient Date of Birth
5. Ordering Physician
6. Tests requested

Note: Upon review the request the phlebotomist will:

1. collect the specimen
2. Initial and date the collection
3. Give a copy to the coordinator and send a copy to the Laboratory Central Receiving for registering and ordering.
4. The Laboratory Central Receiving personnel will review the label and place a small label on the copy and file.
5. The specimens will be forwarded to the appropriate Laboratory for processing.

PROCEDURE FOR ADVERSE PHLEBOTOMY EVENTS

Evaluate the patient symptoms and provide appropriate care by following this protocol.

General	1. At the first sign of a reaction, discontinue the phlebotomy and apply pressure the site 2. In case of a severe reaction ⌑ Call extension 2626 for help immediately. ⌑ Request that the responding individual initiate emergency services ⌑ Complete the Patient/Visitor incident Report Form. ⌑ Notify the supervisor, this form must be completed and forwarded to Administration within 24 hours.
Hematoma	1. **Due to Arterial puncture** Arterial puncture is recognized by bright red blood pulsating into the blood tubing. In any instance, phlebotomist is not allowed to perform arterial puncture but if arterial puncture is suspected. • Discontinue the phlebotomy immediately. • Remove the tourniquet. • Apply direct pressure to the phlebotomy site for at least 10 minutes (uninterrupted). • Notify the nurse in charge and the supervisor or person in charge. 2. **Due to Venous puncture** • Hematoma may occur during or after Phlebotomy. • Discontinue phlebotomy. • Remove tourniquet. • Use 3-4 sterile gauze pads to apply firm direct pressure to the phlebotomy site for 7-10 minutes. • While maintaining pressure, elevate the patient's arm above the level of the heart. • After 7-10 minutes apply dressing to the phlebotomy site • For Outpatient, if the patient complaints of pain of numbest refer the patient to the ER or if the patient has additional concerns advise him/her to follow up with their physician.
Nausea and vomiting	1. If nausea occurs • Instruct the patient to breathe slowly and deeply. • Apply cold compress to forehead and neck. • If severe, assist the patient to the sick room to a side lying position.
Dizziness and Fainting	• Discontinue phlebotomy procedure. • If the patient is seated, assist him/her to a lying position. • Place the patient on his/her back, lower his/her head and raise hi/her feet above the level of his head. • Loosen any restrictive clothing. • Assess the patient's breathing pattern. • Monitor the patient for signs of recovery. If there is no trend toward recovery, call for help. • Apply cold compress to the patient's forehead and/or back of the neck. • If the patient is not revived within 2-3 minutes call 2626. • Do not leave the patient unattended until completely recovered or help arrives.

OPD Phlebotomy Services Hour of operation

MONDAY, FRIDAY	8AM-7AM
TUESDAY, WEDNESDAY, THURSDAY	8AM-8PM

The OPD PHLEBOTOMY Services is closed in observance of the following Holidays:

LABOR DAY
COLUMBUS DAY
VETERANS' DAY
THANKSGIVING DAY
CHRITSMAS DAY
NEWYEAR'S DAY
Dr. MARTIN LUTHER KING, Jr. DAY
WASHINGTON'S BIRTHDAY
MEMORIAL DAY
INDEPENDENCE DAY

VI. ATTACHMENT:

None

VII. REFERENCE:

Clinical and Laboratory Standards Institute. Procedures for the collection of Diagnosis Blood Specimens by Venipuncture; Approved Standard -----5th Edition. Vol. 23(32)

Garza, D; Becan-Mc Bride, K Phlebotomy Handbook 5th Ed.
College of American Pathologists Publication Committee, Phlebotomy Editorial Group