GUNDERSEN HEALTH SYSTEM®

Standard Operating Procedure

Subject	Venipuncture for Blood Collection
Index Number	Lab-1360
Section	Laboratory
Subsection	Specimen Collection and Processing
Category	Departmental
Contact	Collins, Regina
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References

Required document for Laboratory Accreditation by the College of American Pathologists (CAP), Centers for Medicare and Medicaid Services (CMS) and/or COLA

Applicable To

Employees of Gundersen Medical Center clinical laboratories, Gundersen St. Joseph's Hospital laboratories, Gundersen Tri-County Hospital laboratories, Gundersen Boscobel Area Hospital and Clinic laboratories, Gundersen Palmer Lutheran Hospital and Clinics and Gundersen Moundview Hospital and Clinic laboratories.

Detail

PRINCIPLE:

Phlebotomy is an invasive procedure for obtaining blood for laboratory analysis. Testing is done on a patient's blood to diagnose or rule out a disease process or to monitor drug therapy.

Crucial steps in securing a quality blood sample are:

1. Proper patient identification: (see Lab-1330; *Patient Identification*)
2. Proper labeling: (see Lab-1330; *Patient Identification*)
3. Proper site selection and technique: See Procedure Notes section of this procedure)
4. Correct tube selection: (listed on computer label or Specimen Requirement Manual on Gladiator)
5. Maximum Amount Guidelines for Pediatric Patients (see attachment)
6. Proper filling of the tube: (see Lab-1300; *Anticoagulants and Tubes*)
7. Order of draw or filling of tubes: (see Lab-1300; *Anticoagulants and Tubes*)

A few tests require documentation of the hours fasting, (i.e. LPA, Glucose). The hours fasting should be noted on the sample label and entered into the computer while capturing the collection or receiving information.

SPECIMEN:

1. Patient Preparation:
    a. Fasting patients should have only water in the hours preceding a "fasting" blood draw (unless otherwise stated)
2. Type:
    a. Verify special requirements for any unfamiliar test on the Lab department website.
3. Handling Conditions:

   a. All samples need to be transported in a timely manner via the dumbwaiter, pneumatic tube system, via courier, or hand delivered.
   b. Specimens sent through the pneumatic tube system must be double bagged in zip-lock bags. Pneumatic tubes should contain bubble-wrap for cushion. Specimens that are transported by other means must be in containers that prevent leakage according to OSHA guidelines (1910-1030 (d) (2) (xiii)).
4. All specimens must be collected and handled while wearing proper PPE.

REAGENTS/MATERIALS:

1. Tourniquet
2. Alcohol Wipes
3. 2 X 2 Sponges
4. Tubes - See Lab-1300 *Anticoagulants and Tubes*
5. Vacutainer holder
6. Needles
   a. Safety Syringe/Vacutainer Needles
   b. Safety Butterfly – Blood Collection Sets
7. Syringe
8. Blood Transfer Devices
9. Sharps container
10. Gloves
11. Gauze wrap (unless excluded population patient)
12. Bandage for excluded population patients including: Behavioral health, EMS Behavioral Health, Medical Specialties, and prisoner patients. For Regional clinic patients, please follow manager guidelines.
13. Marking Pen
14. Requisition (Lab Label)

Note: Blood collecting supplies are obtained through Lawson or affiliate purchasing department. Expiration dates are checked, and stock is rotated to avoid having expired materials.

EQUIPMENT/ INSTRUMENTATION: N/A

QUALITY CONTROL: N/A

Implementation

Basic Phlebotomy

1. Hand hygiene
2. Greets patient
3. Identifies self and explains procedure
4. Identify full name and DOB of patient
5. Applies tourniquet
6. Check extremities for suitable vein selection
7. Releases tourniquet
8. Performs hand hygiene

9. Selects equipment based on vein selection
10. Selects tubes needed for test(s) ordered – verify expiration dates
11. Don gloves
12. Applies tourniquet
13. Cleanses the site with alcohol and allows it to air dry completely
14. Perform phlebotomy
15. Release tourniquet and apply appropriate pressure
16. Inspect site of puncture and apply appropriate gauze wrap or bandage
17. Gauze wraps must be used for all La Crosse hospital patients and in lieu of Coban in the outpatient La Crosse clinics. Gauze wraps must not be used on special population patients including: Behavioral Health, EMS Behavioral Health, Medical Specialties, and prisoner patients. For Regional clinic patients, please follow manager guidelines.
18. Label specimens at bedside/drawing station (in the presence of the patient)
19. Properly sanitize affected work area and supplies.
20. Remove gloves
21. Hand hygiene

PROCEDURE NOTES:

1. Positioning the patient
    a. Patients must not be drawn standing.
    b. If a patient is sitting in a chair that is not a phlebotomy chair, be prepared to position yourself directly in front of the patient in case of syncope, fainting or seizures.
2. Response to
    a. Syncope, Fainting, Seizures:
        i. Remove tourniquet and needle.
        ii. Support patient to safe position.
        iii. Call for assistance
            1. Inpatients - put call light on for assistance.
            2. Outpatients - Ask for assistance from co-workers. Lower patient to mat and follow GL-6129, Code Blue and Medical Response Plan.
    b. Vomiting
        i. Outpatients - If a patient states that they feel sick, a small emesis bag may be given to the patient. If it is very sudden, a garbage can with plastic liner may need to be used.
        ii. Inpatients - Patients have emesis basins in their bedside stands. Give that to the patient and push the call light button for assistance.
        iii. In the outpatient setting, if a patient has fainted and begins to vomit, turn them on their side so that they do not choke. Place paper towels next to them for easier clean up.
    c. Hematoma at puncture site:
        i. Remove tourniquet and needle.
        ii. Elevate arm and apply direct pressure to puncture site.
        iii. Apply pressure bandage to the site.
    d. Refusal to have blood drawn:
        i. Try to persuade the patient to have blood drawn by stating that the physician needs the result to make decisions about his/her care.

ii. Inpatient: If patient still refuses, inform the patient's nurse of the incident and return to the lab.
iii. Outpatient: Call department to inform physician.
iv. If a physician insists that blood be drawn on a patient, and the patient is refusing (because of a lack of cognitive awareness), never attempt the procedure alone. Always ask for assistance. Refuse to draw the patient without proper help holding the patient. The CRT may need to be called to help.
v. For pediatric patients: It may be advantageous to draw the patient in pediatrics where staff can assist in securing the patient for phlebotomy.

3. Site selection:
    a. Look for a soft palpable vein in the antecubital area.
    b. Double check that there are no restrictions for venipuncture in the extremity (i.e. IV placement, mastectomy procedure).
    c. In some cases, it may be necessary to draw in an arm that has an IV. When doing so, the tourniquet must be tied below the IV and the draw should occur at least 4 inches below the IV insertion point. Never draw above an IV while fluid is running as it will dilute the specimen.
    d. In extreme cases, it may be necessary to have the Nurse shut the IV off for 2 minutes prior to drawing the specimen. A 5ml discard tube should be drawn first, then the specimen.
    e. Foot veins may be used if the patient does not have any of the following conditions**. A foot draw must be approved by the provider and this should be documented in the Beaker notes.**
        i. History of Deep Vein Thrombosis (Blood Clots)
        ii. Pre or Post CABG (leg veins are used for grafting)
        iii. Diabetes (Patient may be prone to infections)
        iv. Edema (fluid)
    f. Inappropriate sites for drawing are:
        i. above an IV with fluids running
        ii. an extremity with venipuncture restriction per patient or provider.
        iii. an area with a hematoma
        iv. inside of wrist
4. Application of the tourniquet:
    a. Tourniquet is applied to increase venous filling. This makes the veins easier to access.
    b. Apply tourniquet 3-4 inches above the puncture site.
    c. The tourniquet should not be on for more than 2 minutes. If this does occur, release tourniquet, let the extremity rest for 5 minutes and reapply tourniquet.
5. Failure to obtain blood:
    a. Follow Difficult Draw Procedures in Gundersen Health System Phlebotomy Course, chapter 8. Located in Inpatient and Outpatient phlebotomy labs.
    b. The draw site may be enhanced by warming the area with warm moist towels or a gel heel warmer.
    c. If necessary, ask permission to draw from a foot.
    d. Check with the nurse about the possibility of shutting off the IV for 2 minutes to allow the IV solution to be flushed through the vein. It is recommended that the first blood

drawn be discarded (5 mls) and not used for testing purposes. Document how long the IV was shut off and the amount of discard.

e. Determine if the test can be done from a microtainer tube(s) using Lab-1236 Skin Puncture.
f. If unsuccessful after 2 attempts, ask for another phlebotomist to attempt the venipuncture. If this is not possible, other arrangements for collection may need to be made. (i.e. return next day or another Gundersen Health System facility)
g. If blood cannot be obtained by any of the above methods, the patient's nurse will notify the doctor regarding alternative methods in the in-patient setting. In the out-patient setting, the doctor's office should be notified of failure to obtain blood and let them decide what steps to take (possibly having the patient return another day, or calling IV Therapy for assistance).

CALCULATIONS: N/A

INTERPRETATION: N/A

LIMITATIONS:

Proper Phlebotomy technique assures the best possible specimen for accurate test results.
Specimen quality can be greatly compromised by:

1. Not properly identifying the patient.
    a. Erroneous results could cause great patient harm
2. Improper tourniquet application
    a. Leaving the tourniquet on longer than 2 minutes can cause hemo-concentration and affect test results
3. Improper supplies or technique
    a. Hemolysis is the most common side effect of a traumatic draw. Red blood cells are lysed causing the plasma to become red in color. This change interferes with many test results. The most common causes for a hemolyzed specimen are:
        i. Use of a small gauge needle
        ii. Too much pressure on the vein (pulling on the syringe plunger to forcefully, or using a vacutainer with more vacuum than the vein can support)
    b. Mixing the specimen too vigorously or forcing the blood through a transfer device. (gentle inversion, not shaking)

REVIEW AND CHANGES:

This document and all attached forms should be reviewed optimally on an annual basis, with 2 years as the maximum review date. Review will be done by the Technical Leader, Supervisor, Manager, Medical Director or designated person. Changes require retyping the document or form and review by the Medical Director.

REFERENCES:

1. PHLEBOTOMY TECHNIQUES, A Laboratory Workbook, Phelan, Susan, ASCP Press, Chicago, IL.
2. TODD, SANFORD & DAVIDSOHN - Clinical Diagnosis and Management by Laboratory Methods, 16th Edition, Henry, J.B., J.B. Saunders & Co., Philadelphia, PA.

3. Clinical Laboratory Standards Institute, Infobase 2013, April 2013, General Laboratory Documents (GP).