

LABORATORY SPECIMEN COLLECTION in the DRAW ROOM and CBOCs

I. Policy: Blood Drawing

A. In-patient Blood Draws:

In-patient blood draws (ward Collect) are performed by the hospital Patient Support Team, extension numbers 59799 or 59610; supervisor telephone extension number 55774.

B. Out-Patient Blood PVAMC Draws:

Out-patient blood draws (Send Patient), are performed at the following locations in the hospital by the PVAMC Laboratory Support Services Team, supervisor extension number 56748.

1. The Main Blood Draw room is located in Bldg 100 room 2C 108 of the hospital. Hours are Monday to Friday from 0700-1700 hours and is closed on weekends and holidays.
2. The Primary Care Clinic Draw Room is located in building 103, room F123. Hours are Monday to Friday from 0730-1630 hours, closed on weekends and holidays.
3. Hematology Oncology Clinic draw room, located in Area A, is open for hematology patients every Thursday from 0900-1400 hours.

II. Ordering Blood Draws

A. CPRS – Computerized Patient Record System

All laboratory testing must be entered electronically by health providers using the CPRS computer system.

B. Telephone Orders for Additional Testing (Add-on Tests) and Laboratory Test Questions

If additional testing is required from a previous specimen with completed results, it is recommended to call the laboratory processing area desk, extension 56715 or you may directly call the following testing area with their extension numbers for your add-on request(s) or laboratory questions:

Blood Bank	56709
Chemistry	56743
Coagulation	56728
Hematology	56726
Microbiology	56768
Send-out tests	56717
Serology ext.	56766
Urinalysis	56725
Toxicology	56759

C. Computer Down Time Forms and Collection Procedure

If CPRS is not available for use, you may use the **Laboratory Computer Downtime Test Order Form**, [Lab Computer Downtime Form.doc](#)

1. When the CPRS or the VISTA computer system is not operational, the Lab Computer Downtime Form must be used to order laboratory tests. It is highly recommended to print a master copy of the computer downtime form so it is available for reproduction in the event that the VISTA or CPRS is not available. It is also highly important that the following information must be legibly written on the form:
 - a. The patient's full name
 - b. Full social security number
 - c. Location of the patient
 - d. Date and time of the specimen collection
 - e. Provider's full name
 - f. Provider's telephone extension number
2. Providers must complete the computer down time form and hand the completed form to the patient before sending the patient to the laboratory for any lab work.
3. Since the printers are not available for printing specimen labels, the phlebotomist must individually write the following information on the labels for each specimen:
 - a. Patient's full name
 - b. Patient's full Social Security number
 - c. Date and time of collection
 - d. Phlebotomist's initial
4. Label each specimen with the completed labels
5. Each patient specimen(s) must be placed inside a biohazard bag separately from other patients.
6. Place the completed Laboratory Computer Downtime Form inside the pouch of the biohazard bag.
7. Store specimen per specimen requirement until it is sent to the laboratory.

NOTE: To access and print forms, point the cursor to the document, right click your mouse button, and then choose "Open Hyperlink".

III. Safety Issues

- A. Standard precautions must be followed when dealing with any patient and/or patient samples. Safe practices are necessary to eliminate nosocomial infection. Treat all blood and body fluids as a source for **potential infections**. **Lab coats** must be worn at all times when drawing blood and handling patient specimens. Gloves must be worn when performing venipuncture and replaced between patients.
- B. Hand Hygiene must be performed after gloves are removed and in between patients.
 1. Liquid hand sanitizer - rub hands for at least **30 seconds**
 2. Soap and water- rub hands for at least **15 seconds**
- C. **The phlebotomy chair, computer key board, and mouse must be sanitized** in between patients using the Cavi-Wipes to eliminate transferring infectious organisms to other patients. Draw chair must be dry before calling the next patient.
- D. Sharps container must be used to dispose used needles and any extra tubes containing patient blood or gauze soaked with blood. Gauze with small amount of blood can be

disposed in the regular trash. Any printouts, patient's labels with patient name and full social security number should be placed in the appropriate collection bin for shredding. Tubes and urine containers labeled with patient's full name and social security information must be discarded in the red biohazard waste containers or sharps containers.

E. Patients on stretchers

Due to limited space, patients on **stretchers** cannot be accommodated at the outpatient draw room areas. Patients will be diverted or sent to Short Stay Unit (SSU). An arrangement or a phone call is necessary with SSU before sending patients on stretcher ext. 57648.

IV. Unacceptable Specimens

All specimens submitted to the laboratory for testing must be appropriate for testing in order for the laboratory to give reliable results. The following are criteria for rejections:

- A. Ammonia specimens are unacceptable if specimens are not delivered on ice.
- B. Therapeutic drug monitoring specimens are unacceptable if:
 - 1. Drug administration time or specimen collection time not indicated. Specimens received in the laboratory without this data will be processed and analyzed, result will NOT contain the dosage and specimen collection elements.
- C. Microbiology specimens are unacceptable for culture if:
 - 1. Specimen received in non-sterile container.
 - 2. Specimens received in formalin.
 - 3. Swabs received without appropriate transport tube.
 - 4. Delay in transport of specimen to lab when special conditions are required.
- D. Hematology and Coagulation specimens are unacceptable if:
 - 1. Specimen is clotted.
 - 2. Insufficient blood for quantity of anticoagulant in collection tube, specifically sodium citrate tubes requiring a 9:1 ratio.
 - 3. Specimen for ESR collected more than 4 hours prior to receipt without refrigeration or more than 12 hours with refrigeration.
- E. Urinalysis specimens are unacceptable if:
 - 1. Un-preserved random urine collected more than 2 hours prior to receipt.
 - 2. Refrigerated random urine for urinalysis collected more than 24 hours prior to receipt.
 - 3. Urine specimens for eosinophils or myoglobin collected more than 1 hour prior to receipt.
 - 4. Acceptability of hemolyzed specimens for Chemistry analysis will be determined by chemistry bench techs.
 - 5. Full criteria for specimens to be rejected or exempted from the policy of unacceptable specimens are fully specified under LG 0019.

V. Unable to Draw

- A. If the test can't be redrawn for any reason, a physician, or nurse responsible for the patient should be notified directly. If the specimen is a unique or difficult to collect specimen, notify your supervisor or the most experienced health technician or other supervisors. Your supervisor will determine the proper course of action to include asking

for Vascular Team or Patient Support Team (other nurses in case of CBOC) if they are available to draw the blood.

- B. In the event that the patient refused to be drawn again or Vascular and Patient Support teams are not available; ask the patient if he or she could come back at a later date and time to have the blood drawn. The provider responsible for the patient must also be notified and inform him or her of the course of action you have taken in order to provide clinically required laboratory services. And sometimes the provider will give instructions when the patient needs to come back for the redraw.
- C. Complete an Occurrence Report form (for main draw room & CCDC draw room only) to include notification of the provider and what corrective action is taken for the redraw.
- D. Remove all the test accession numbers and reorder the tests back on the VISTA computer system for future draws:

VI. Pre-specimen Collection Process

A. Patient check in Process

- 1. Patients upon arrival are directed to take a number from the dispensing machine. This will determine the order of patient's drawing.
- 2. Once the patient's number has been called, a phlebotomist will meet the patient at the door and will escort the patient to the draw station.
- 3. Patient is asked to present a valid VA ID card or other picture ID (i.e. driver's license or military ID), if VA ID is not available.
- 4. Patient is then asked to take a seat at the draw chair. Exceptions; time draws (i.e. FK, GTT) may be seen out of sequence.

B. Verifying Patient's Identification

Verify the correct patient by asking for the patient's full social security and ask to verbally **STATE** two other identifiers:

- 1. Patient's full name including the middle name.
- 2. Full date of birth.
- 3. Street address if present in VISTA information

NOTE:

- 1. If the patient is uncomfortable to verbalize their personal information, give the option for the patient to write their full name and full social security number on a piece of paper and inform the patient that it will be discarded in the waste bin for shredding.
- 2. Blood draw may not be performed if patient refuses to cooperate in verifying their full name and full social security number.
- 3. Notify your supervisor or any other section supervisors anytime a patient refuses to cooperate or give required patient identification prior to blood draw.

VII. Patient without ID (VA, Driver's License or military ID

- A. If a patient has no picture identification, a **Patient Without ID Form, ([PATIENTS WITHOUT ID FORM.DOC](#))** or use a blank printer paper for patient to write the full name, social security number, date of birth and address. The information written by the patient **will then be used to cross check** with the patient's information in the VISTA

computer system (i.e. Full name, full social, date of birth, address and telephone number if available).

- B. In the event that a patient is unable to fill a **Patient Without ID Form**, and is escorted by a relative, ask the relative to fill the form and crosscheck with the information in the computer.

VIII. Patient Without Laboratory Orders

If there are no current laboratory test orders for the patient, check for laboratory orders up to **30 days old or future lab orders up to 14 days ahead**. **Make sure to call the ordering provider(s) before you accession any future lab orders or confer with your supervisor**. If lab test orders are not found, check patient's clinic appointment or ask the patient who directed him/her to the laboratory and perform the following:

- A. Write patient's information in the "**Patient's Without Orders**" form. ([PATIENTS WITHOUT ORDER FORM.DOC](#)) The patient may be asked to wait at the patient waiting area while trouble shooting the patient's lab orders. You may call another patient while waiting for a lab order(s). The use of this form is encouraged as a management tool for data gathering (i.e. number of patient's without lab orders, etc.)
- B. Patients from Primary Care Providers including all CBOCs patients:
1. Go to the PVAMC **intranet** page.
 2. Under the "**Clinical Resources**", (located on the left hand side)
 4. Click on "**Provider Profile**", and then click on "**Primary Care**"
 5. Point the cursor to "**Select Name**" and press left button on the mouse.
 6. Scroll down with your mouse and select the correct provider.
 7. Call or page the **Primary Nurse Manager** first and if unsuccessful, then call **Facilitator**. You can also call or page the provider, nurse manager or facilitator as a last resort. Inform the nurse manager or the facilitator that you have a patient without a lab order and tell the nurse manager or the facilitator who the provider is.
 8. Your third option is to call the provider directly. Most of the time the provider is with a patient and you have a better chance to contact the facilitator than the provider.

IX. Patients from Specialty Clinics

- A. Look at the telephone numbers for Specialty Clinics that is found by going to the **PVAMC intranet page**.
- B. Go to the **Vista Phone Book**.
- C. Click on **SERVICE**.
- D. Click on **SEARCH**.
- E. Call or page the **Clinic Facilitator** or the **Clinic Coordinator**.
- F. If unsuccessful, call or page the patient's provider. Patient's providers are usually with another patient and there is a better chance in contacting the nurse manager or facilitator of the clinic.

X. Written and Courtesy Laboratory Orders:

1. Vista Downtime forms

2. Miscellaneous slips (i.e. Cytology request forms, etc.)
3. Courtesy Lab draws (i.e. patients from other VA's, organ donors, etc.)

NOTE:

The following steps must be performed when patient(s) from outside VISN 20 stops by the laboratory to have their laboratory test performed.

- a. Ascertain that the patient is enrolled under VISN 20 by checking if the patient's name appears in the VISTA computer system. If the patient is not enrolled, instruct the patient to go to the enrollment office, Bldg. 100, Room 1D-137. Tell the patient also to come back to the lab once he/she has enrolled into VISN 20.
- b. Notify your supervisor once the patient is back from enrollment office in order to find out if the patient has lab orders entered in the CPRS-Vista Web.
- c. Notify Veterans Integrated Referral System (VIRS) Office in Bldg. 101 Room 206A; you have to go through room 206 to get to room 206 A. You can also call their office at extension 55171, 55932 or 55933 to request lab orders to be entered for the patient.
- d. Complete Patients Without Order Form.

XI. Accessioning Patient Lab Orders (ACC/PO)

- A. Verify patient's identification by performing pre-specimen collection process in section **VI-B, steps 1 to 3** as stated above.
- B. Type **ACC (Accessioning Menu Option)** and press **ENTER**.
- C. Type **PO (Phlebotomy Order Lookup)** then press **ENTER**. Type the first letter of the patient's last name and last four of the Social Security, then press **ENTER**.
- D. Select the correct patient and press **ENTER**.
- E. Press **ENTER** again and the laboratory order numbers appear. Check the laboratory order dates. If there are multiple uncollected orders, choose only the lab orders that are for current date or most recent date (**30 days old or 14 days ahead**).
- F. Copy the lab order number by double clicking the mouse left button twice to highlight the current lab order number; put the cursor to the **Select order number**, then push left button of the mouse and select **Copy** and then press left button of the mouse again.
- G. On the **Select Order Number** prompt, right click the mouse and select, **Paste**.
- H. Is this the **Correct Order**? Enter **YES** if this is the correct order and press **ENTER**. If this is not the correct order, enter NO. At the **Enter Order Number** prompt, enter the correct order number.
- I. At the **Collection Date and Time** prompt, enter **Now (N)**. Always change the date/time to now.
- J. Do you have the entire order? Enter **YES** if all the specimens will be collected. Enter **NO** if one or more of the samples will not be collected at this time. Answer YES or NO to each sample type as appropriate.
- K. Type **N** or **NOW** when the prompt ask you for **Collection Date @Time**; press **ENTER**
- L. Type the name of the printer and press **ENTER**.
- I. **MAKE SURE TO CHECK ANY OTHER CURRENT ORDERS AND OLD ORDERS BY PERFORMING THE FOLLOWING:**
 1. Type **ACC (Accessioning Menu Option)**, then press **ENTER**
 2. Type **ORD (Order/test status)**, then press **ENTER**

3. Press the **space bar** and then press **ENTER** to bring back the patient's name on the computer screen.
4. Press **ENTER** after patient's name shows up and the prompt **continue**:
5. Press **ENTER** after the prompt **TODAY//**
6. Press **ENTER** again
7. Press **ENTER** at the **prompt orders for dates**:
8. Check for any other lab orders that are **On Collection List** at this time and accession as needed.

XII. The Correct Order of Draws for Different Tubes

The order of draw was established to eliminate the "possibility" of carryover of additives between tubes and to minimize the effects of tissue factor on coagulation specimens. EDTA (NA2) causes more carryover problems (sodium or potassium levels) than any additives; consequently sodium or potassium test should never be collected after EDTA tubes have been drawn. Tissue thromboplastin pick up by the needle during skin penetration can also interfere with coagulation testing.

Waste tubes are not necessary except if coagulation tests are the only tube(s) to be drawn. Red top tubes do not have any preservative and is usually used as a **discard** (drawn) before blue top tubes. Purple top tube (EDTA), sodium heparin (green top), or another blue top tube should not be used as a discard or before the blue top tube because it might add an additional anticoagulant to the second (blue top) tubes thereby prolonging the coagulation test(s).

The order of draw for evacuated tubes can be remembered as "**stop, light, red, stay, put, green, light, go**", **first letter of each word stands for tube, S=sterile, L= light blue R=red, S= Serum Separator Tubes or gold tubes, P = Plasma Separator tube or light green, G= green, L= lavender, G=gray:** [\(Guide to Correct Order of Lab Draws\)](#)

Syringe draws were designed to deliver first blood to those tubes mostly affected by micro-clot formation; thereby sterile, blue, lavender, green, gray and red are the established order of draws.

XIII. Therapeutic Drug Monitoring

The use of drug measurements is an aid to the management of patients receiving prescribed drugs are important for the optimization of therapy drugs ([List of Therapeutic Drugs for the TDM Form](#)) whose toxic or desired effect cannot be assessed clinically. A Therapeutic Drug Monitoring (TDM); ([Therapeutic Drug Monitoring Form](#)) Form must accompany each specimen drawn that appears on the TDM drug form (See attached form at end of this document). The following information in the TDM Form must be accurately filled out:

- A. Patient identification – you may attach the large specimen label to the form
- B. Date of last dose
- C. Time of last dose
- D. Date of blood draw
- E. Time of blood draw

- F. Name of person who drew the blood
- G. Random, not emergency draws.

XIV. PHLEBOTOMY

- A. Apply tourniquet on patient's arm to assess what size and type of needle to use.
Choose an appropriate needle based on the patient's physical characteristics and the amount of blood to be collected. Choose a Vacutainer system, syringe system or winged infusion set (butterfly). Use butterfly as a last resort.
- B. Ensure that there are no foreign objects (i.e. toothpick, gum, etc.) in the patient's mouth during the collection process. Reassure the patient, regarding the blood collection.
- C. Assemble supplies: collection tubes, tourniquet, alcohol prep pads, gauze pads, gloves, and any other needed items. Match appropriate tubes for each label.
- D. Ask the patient to extend their arm onto the armrest. The arm should be supported by the armrest so that the arm is straight from the shoulder to the wrist and not bent at the elbow. The arm should be below heart level.
- E. Verify any timing or diet restrictions for samples being collected. Therapeutic drug monitoring orders require a TDM data form (MCM#1137) to be filled out by the person collecting the specimen.
- F. Verify Collection Tubes:
Double-check to be sure that the appropriate collection tubes are selected for the tests ordered. This can be determined from the labels, the miscellaneous slip or the test description in the computer. To find out what appropriate tubes to draw, go to the Lab Service Main Menu, then type – **Information**, then type, **Test**, and finally type – the **Test Name** as it appears on the label.

NOTE:

- 1. For "**Miscellaneous Tests**", specimen requirements could be found under the test's comments. Call the Send Out Section at extension 56717 for any questions regarding "**Miscellaneous Tests**".

G. Select a Vein Site:

- 1. **Never under any circumstances re-use a needle**, even if it is on the same patient, or in the same puncture site. Once a needle is out, **it is out**.
- 2. Ensure the patient's hand is closed so the vein will become more prominent and easier to enter. **Do not** let the patient pump their hand. **Do not** slap the area in an attempt to make the vein "pop up". An instant "hot pack" may be used.
- 3. The preferred veins are the median cubital and cephalic veins. The veins in the hands are also acceptable. Some veins will be restricted for use in dialysis or IV therapy. The 3rd vein of choice is the basilic vein, and great care should be taken to avoid the brachial nerves and artery.
- 4. Areas to avoid:

- a. Never draw blood from the **volar surface of the wrist**, within 4 inches of the hand. The opportunity for arterial puncture and/or nerve damage is significantly greater in this area.
- b. Extensive scarred and/or healed burn areas.
- c. Mastectomy: consult physician before drawing from the side on which a mastectomy was performed.
- c. Hematoma area: if no other sites are available, draw distal to the hematoma site (towards the hand).
- d. Intravenous therapy: Not applicable to the Portland VA Outpatient drawing room. If the other arm is not an option, collect below the IV site (towards the hand). Refer to the procedure for specimen collection from patient with an IV. If there are no other options available contact the Patient Support Team and request that they come to the laboratory draw room.
- d. With dialysis/cannula, fistula or vascular graft: draw only after consulting with the attending physician.
- e. Foot/leg veins – need a physician's order. If none, go to Short Stay. If the patient needs to go to Short Stay, then Short Stay must be contacted first to make arrangements.
- f. Locate veins by palpating and tracing the path of the vein several times with the index finger.

NOTE:

- 1). Arteries, unlike veins, pulsate, are more elastic and have thicker walls. Thrombosed veins lack resilience, feel cord-like and roll easily.
- 2). Remember the “3 D’s” – **D**epth of the vein, **D**iameter of the vein and **D**irection of the vein.

H. Clean the venipuncture site.

With a sterile alcohol prep pad, clean the collection site in a circular motion from the center outward. Allow the area to dry. **DO NOT** touch the area once it is cleaned. If further contact with the venipuncture site is necessary, **be sure to clean the site again.**

NOTE:

- 1). If blood cultures are ordered:

Use Chlorhexidine prep – wipe up and down vigorously to cleanse the draw site for 30 seconds. Do not touch the area to be punctured again. Allow to air dry.

I. Tourniquet application

- a. Tourniquet application should not be left on for more than 1 minute as much as possible because it is uncomfortable and it causes hemo-concentration (increase concentration of protein, cells and coagulation factor).
 - 1). Wrap the tourniquet around the arm three or four inches above the venipuncture site. Tuck the end under the last round.
 - 2). If the tourniquet is applied for vein selection, it should be released and reapplied after two minutes.

- 3). The tourniquet should be applied if possible, over the patient's gown or clothing or a piece of gauze to prevent the skin from being pinched. The tourniquet is thrown away after each venipuncture.

J. Venipuncture Using Vacutainer System:

1. Secure the needle to the venipuncture adapter. Rotate the needle until it is firmly seated. Needles for routine venipuncture should be 21 gauge, 1" length.
2. Tap all collection tubes containing additives to ensure that the entire additive is dislodged from the stopper and the tube wall.
3. Insert the tube into the vacutainer adapter. Do not push it onto the rubber sheathed multi-sample needle as the vacuum may be lost.
4. Make sure the patient's arm is in a downward position, lower than the heart to prevent reflux and obtain best venous flow. Patient can place fist under elbow to extend antecubital area.
5. Remove the needle sheath and rotate the Needle-Pro device away from the needle
6. Grasp the patient's arm firmly. Use the thumb of the non- dominant hand to draw the skin taut, anchoring the vein two to four inches below the venipuncture site. **Never** place your forefinger above the selected puncture site in an effort to further anchor the vein.
7. With the bevel up, line up the needle with the vein and insert the needle at a 15-30 degree angle into the vein. Grasp the flange of the vacutainer adapter with your forefinger of the non-dominant hand and push the tube forward with our thumb until the multi-sample needle punctures the stopper. The label on the tube should be facing down so blood flow into the tube is visible.
8. As the blood begins to flow, instruct the patient to open his/her fist, and release the tourniquet. (Always remove the tourniquet before withdrawing the needle).
9. Allow the blood to flow into the tube until it stops so that the proper dilution of blood to additive can occur. If multiple sample tubes are to be collected, remove each tube from the holder with a gentle twist-and-pull motion to replace it with the next tube. During tube transfer, hold the needle apparatus firmly and motionless so that the needle remains comfortable and in vein during tube changes. Gently mix/invert a full tube in one hand while holding the needle apparatus and waiting for another tube to fill.
10. Fill the tube until the vacuum is exhausted and blood stops flowing. This will ensure the correct ratio of additive to blood. It is normal for the tube not to be completely filled. Blue top Tubes must be filled completely to ensure a 9:1 ratio.
11. When drawing Prometheus profiles or large numbers of tubes, ask the patient or have another health technician to assist with tube inversion as tubes are collected.

K. Venipuncture Procedure Using the Butterfly System

1. The butterfly system is to be used **ONLY** if a regular vacutainer adapter system will not work for whatever reason. CLSI standards (M29-A3, vol. 25, No. 10 section 9.2 Blood Collection) specifically state that 75% of all needle stick injuries arise from syringe/winged infusion set use. Prometheus draws require use of the

butterfly because of the volume of tubes being drawn, as does the new blood culture collection system.

NOTE: Use discretion when patient personally requests the use of butterfly.

2. Open sterile butterfly package and unwind tubing and winged apparatus. Stretch tubing slightly to straighten.
3. For use with vacutainer adapter:
Thread the butterfly into a vacutainer adapter. Rotate the unit until it is firmly seated.
4. For use with a syringe:
 - a. Attach the appropriate butterfly assembly to the syringe.
 - b. Move the plunger syringe to break the seal. Return plunger to hub so there is no air left in the syringe. To prevent clotting and erroneous testing results, a syringe of < or equal to 20cc should be used.
 - c. Grasp the patient's arm firmly, using your thumb to draw the skin tight and anchor the vein. Place your thumb one to two inches below the venipuncture site.
 - d. With the bevel up, line up the needle with the vein and insert the needle at a 15-30 degree angle into the vein. Grasp the flange of the vacutainer adapter with your forefinger of the non-dominant hand and push the tube forward with your thumb until the multi-sample needle punctures the stopper. The label on the tube should be facing down so blood flow into the tube is visible.
 - e. Withdraw the required amount of blood. Prometheus panels require extensive collection, but the tourniquet should **NEVER** be left on for more than one minute.
5. If blood does not readily flow or you cannot find a site:
 - a. Try another tube (may have bad vacuum.)
 - b. Change the position of the needle by advancing or backing up a bit. **NEVER** move the needle medially or laterally.
 - c. With needle securely in place, carefully re-palpate **ABOVE** puncture site. Try to reposition the needle either by further advancing the needle or backing it up.
 - d. Try another puncture site or ask for assistance.
 - e. **Do not attempt venipuncture more than twice.** Ask another phlebotomist for help or to perform the phlebotomy.

NOTE:

- 1). No more than 4 sticks are allowed on a patient-2 tries x 2 per phlebotomists
- 2.) **After 4 unsuccessful sticks, notify your supervisor or call patient support team at extension 50239/50241, PST team leader 50274**
- 3). If for some reason that Patient Support Team can't obtain blood, contact the **Pick Team (Vascular) extension 55914 or pager *41, 2190**
- 4) If the Pick Team is not available, call the ordering physician by phone and asked if the blood can be obtained on a different day. Ask the physician to reorder the test in the computer for a future date or future visit.
- 5). Advise your supervisor in the event that blood cannot be obtained for whatever reason.

L. Finishing the Venipuncture

1. Ensure that the patient's hand is open, and the tourniquet has been released and the last evacuated tube has been removed from the multi-sample needle device.
2. Place a gauze pad over the puncture site. **DO NOT APPLY PRESSURE UNTIL NEEDLE IS WITHDRAWN.**
3. Remove the needle. Do not scratch the patient's arm while withdrawing the needle. Use a pull / push technique. Pulling the needle out and pushing the gauze in place over the site. Be sure all tubes are mixed by gentle inversion 5 to 10 times.
4. With the gauze pad over the site, ask the patient if possible, to apply pressure over the gauze.
5. If the syringe method was used, fill the appropriate tubes using a transfer device. Mix each tube containing an additive by gently inverting 5-10 times. **Do not shake vigorously.**

M. Disposal of the Needle:

1. Do not recap the needle with the original needle sheath.
2. Upon completion of the specimen collection, press the orange safety device against a hard surface. As the orange device is pressed, the needle should be firmly engaged into the orange sheath. Do NOT use the free hand/thumb to press the safety device over the needle. Butterfly needles should have the push button safety device activated in the patients arm per manufacturer's recommendation.
3. Dispose of all needles in a biohazard sharps container.
4. Dispose of tourniquet. Tourniquets should **NEVER** be reused on another patient.

N. Labeling of Specimens

Labels must be attached to each specimen container. Specimen containers must not be labeled prior to blood collection.

1. Label tubes in front of the patient. **Initial all tubes and write the time of draw.**
2. Place a small label for each sample on the log sheet. Initial the log sheet.
Blood Bank specimens are required to have phlebotomist's signature and date on the Blood Bank pink label.

NOTE:

- a. Make sure that correct label is applied to the tube according to test ordered.
- b. Students performing phlebotomy may initial the tubes and staff observing the students must double check that the tubes collected are labeled correctly.

O. Bandage the Arm.

1. Check the venipuncture site for bleeding. If no bleeding is apparent after 2 minutes, apply a bandage and instruct the patient to leave it on for at least 15
2. Excessive Bleeding: If bleeding persists longer than five minutes, the ordering physician and the physician on call for that department should be notified of the problem. Continue to apply pressure to the site as long as necessary to stop the bleeding. Holding the arm with gauze in place vertically above the heart may help control bleeding.

3. For Patients refusing bandaging, annotate or write “Patient Refused Bandaging,” on the phlebotomy log.

- P. Escort patient to the door.
- Q. Deliver routine specimens to the cherry baskets or directly deliver specimen to the tube station if the specimens are STATS.
- R. Sanitize the mouse, keyboard, and the draw chair.
- S. Remove glove, perform hand hygiene and call the next patient.

T. ADDITIONAL CONSIDERATIONS

- 1. Patient test(s) Inquiries
The phlebotomist should avoid informing the patient of the test(s) being done. The provider can better inform the patient.
- 2. Hematoma
To prevent a hematoma when performing a venipuncture the phlebotomist should:
 - a. Puncture only the uppermost wall of the vein.
 - b. Remove the tourniquet before removing the needle
 - c. Use the major superficial veins
 - d. Partial penetration may allow blood to leak into soft tissue
 - e. Apply a small amount of pressure to the area with a gauze pad when bandaging the arm.
- 3. Indwelling catheters
Drawing from indwelling cardiovascular (arterial, central venous) lines or catheters or heparin lines, heparin lock, cannula, and fistula is not permitted.

XV. Routine Urinalysis, Urine Toxicology, and Urine Culture Test Requests

A. Urinalysis Test Specimen Collection

- 1. All urinalysis test including toxicology specimen requests must be treated as **clean catch** to avoid possible contamination and unnecessary reflex testing with the exception of Chlamydia/GC specimens.
- 2. Future labels must be generated to label urine specimen containers, middle square label on the lid and middle square label will be attached on the side of the urine cup.

Procedure for printing future labels:

- a. From lab main menu option , type Ph, and press Enter
 - b. At the prompt Phlebotomy menu option, type Pr and press Enter
 - c. At the prompt Choose 1-4, press 4 and Enter
 - d. At the prompt, Enter order number: type the lab order number you want to print and press Enter
 - e. At the prompt, Is this the correct patient, YES? // , press Enter
 - f. At the prompt Device: Home //:, type the name of your printer and press Enter
3. Patient will be asked to confirm that the label in the container is the correct patient's name before handing the urine specimen container and a towelette.

4. Patient will be instructed to read the instructions on how to collect clean catch urine specimen posted on the wall inside the bathroom and to bring the urine specimen back.
5. The urine specimen will be accessioned when received to reflect accurate time of collection.

B. Urine Toxicology Test Requests:

1. Urine specimen containers including urine toxicology containers must be labeled with future labels. NO LARGE BARCODE LABEL should be used on the urine cups.
2. Patient will be asked to confirm that the label in the container is the correct patient's name before handing the urine specimen container and a towelette.
3. Accession the specimen once the urine specimen is brought back to reflect the accurate specimen collection time.

XVI. Blood Culture Collection

It is highly recommended by American Society of Microbiologist that at least two blood cultures are necessary to optimize detection of bacteremia. Call the provider if there is only one set of order for blood cultures. Oftentimes, two sets of blood cultures are desired and providers are not aware that it requires two sets of orders. Wait at least 30 minutes if two sets of blood culture are to be drawn on the same arm for some reason (i.e. fistula on the other arm). **Volume required per set is 10-20 mls.**

- A. Prepare the patient's skin with Chloraprep, scrubbing in a vertical fashion for 30 seconds, and then allow to air dry for 30 seconds.
- B. Remove the flip top cap on the bottles; disinfect the septum (the top of the bottle) with 70% alcohol.

C. Butterfly Collection Method:

1. When using the butterfly system for collection, always collect the **GREEN Aerobic** bottle first. Use the **Male Angel Wing** transfer device to collect blood into the blood culture bottles using the butterfly method.
2. Unscrew the end of the butterfly and attach the Male Angel Wing adapter. Remove the insert and insert the Aerobic bottle first during the blood collection process. Fill with 5-10 cc's of blood, NO MORE, NO LESS.
3. Label the specimens being sure not to cover up the barcode on the bottle.

D. Syringe Collection Method:

1. When using the syringe method for collection, always collect the maroon **Anaerobic** bottle first. Fill the bottles with 5-10 cc's of blood, NO MORE. Use the **Female Angel Wing** transfer set for the syringe method.
2. Screw the syringe into the Angel Wing adapter after blood collection. Remove the insert from the Angel Wing adapter and insert the Anaerobic bottle into the adapter first. Fill the bottle with 5-10 cc's of blood, NO MORE.
3. If two blood cultures have been ordered, obtain the second set in the same manner as

- the first, using a different venipuncture site (the other arm).
4. If the other arm cannot be used for blood collection, wait 15 minutes before using \ the same arm.
 5. Label the specimens being sure not to cover up the barcode on the bottle.

XVII. 24 Urine Specimen Collection

A. Labeling the Collection Container

1. Obtain the following supplies:
 - a. Appropriate 24 hour urine collection container (some 24 hour collection may require acid wash (Nitric Acid or HCL).
 - b. "Patient Instructions Given" label (PIG)
 - c. Collection instruction booklet
 - d. Urine transfer "hat" for female patients or sterile urine cup for male patients.
2. Look up test collection requirements to determine if the 24 urine specimen needs acid preservative, acid washed container, or requires dietary or medication restrictions, (i.e. refrain from caffeine, etc.).
 - a. If you need a 24 hour urine collection container(s) requiring preservative(s) or acid washed container(s), call Send Out Section of the laboratory at extension 56717.
3. Write the pertinent information in the PIG label and attach it on one side of the 24 hour urine collection container. ([24 Hour Urine Patient Instruction Given \(PIG\) Label](#))
4. Place a START/STOP label on the container for the patient to annotate the start and stop times of the urine collection ([24 Urine Start/Stop Label](#))
5. Print a future label and attach it to the 24 hour urine collection container: ([Procedure for Printing Future Labels](#))

NOTE:

- a. 24 Hour Urine Creatinine Clearance requires blood creatinine collected within 72 hours of the urine creatinine collection.

B. Verbal Instruction for the Patient

The following instructions must be verbally explained to the patient:

1. Begin collection on a Sunday, Monday, Tuesday, or Wednesday to ensure that someone will be at the lab to receive the specimen when collection is finished.

NOTE:

- a. Ask the patient how much water he/she normally drinks during a normal 24 hour day to determine if the patient needs more than one container for a 24 hour collection. If the patient needs more than 1-24 urine container, instruct the patient to fill one container at a time.
- b. Label each container and write "1 of 2" and "2 of 2" on the respective container
2. Start collection at the time when the patient normally wakes up.
3. The first void of the day should be done in the toilet. It is not counted as part of the 24 hour urine collection.

4. Instruct the patient to write down the date and time of the first void on the urine collection container as the start time. From this point on all urine is to be collected and added to the 24 hour collection container. The urine should be collected in a urine collection “hat” or sterile urine cup and transferred to the collection container. The patient should keep the 24 hour urine collection container refrigerated or on ice.

SAFETY NOTE:

Remember to inform the patient not to splash or urinate directly into the urine container if it contains acid.

5. Exactly 24 hours after collection was started, the patient should empty their bladder one last time and transfer the urine to the collection container.
6. Instruct the patient to deliver the specimen within 24 hours of finishing the collection.

C. Receiving 24 hour specimens.

When the 24 hour urine specimen is received from a patient, the following collection information must be checked **before** the patient leaves the laboratory.

1. The START and the STOP time of collection were filled out by the patient.
2. The collection is a complete 24 hour collection (i.e. 0600 Nov 24, 2011 to 0600 Nov. 25, 2011).
3. Check if the 24 hour urine test requires blood collection, (i.e. 24 hour Creatinine Clearance). If there was already a creatinine test done, it must be within 72 hours of the completed 24 hour urine collection.

4. Accessioning the 24 hour urine specimen

When accessioning the 24 hour urine specimen, the time and date when the 24 hour urine was completed is used as the time of collection. Record also the following information under the comment section:

- a. PIG or no PIG
- b. Date and time the collection was completed
- c. Total Volume
- d. If there is an associated serum

XVIII. Blood Bank specimens for Type and Screen:

A. Type and Screen (T&S) orders are placed in CPRS by the ordering provider.

1. For patients requiring transfusion, the provider will also specify in CPRS the particular blood component desired.
 - a. An additional specimen is not required for the blood products order, even though a separate accession label will be generated.

B. Patients may or may not be wearing a hospital wristband.

1. **The patient must be wearing a hospital wristband at the time of T&S specimen collection if:**
 - a. **The patient is to be transfused with blood products within the next three days (three days includes the day of specimen collection);**
 - b. **The potential exists for the patient to be transfused with blood products within**

the next three days; or

c. The patient is scheduled for surgery or a procedure within the next three days.

2. All other T&S specimens may be collected from patients not wearing a hospital wristband, as the specimen will not be used for transfusion testing.
 - a. Exceptions to the wristband rule include, but are not limited to:
 - 1) Prometheus (liver transplant evaluation) workups;
 - 2) Renal transplant evaluation workups; and
 - 3) Pre-surgical/pre-procedure workups drawn more than two days prior to surgery/procedure.
3. Patients can obtain a hospital wristband from Admissions, the Short Stay Care Unit, and the Pre-Surgery Clinic.
 - a. The wristband must be obtained prior to drawing any patient who requires one (see step 1. above).
- C. Verify the identity of the patient.
 1. Ask the patient to state their **full name and full Social Security number**.
 2. Compare the patient's response with the orders (electronic or paper) and
 - a. The patient's hospital wristband, for those patients wearing one.
 - b. The patient's VA card (or other personal ID), for those patients not wearing a hospital wristband.
 3. All patient information must match exactly prior to specimen collection.
- D. As with all specimens, the Blood Bank sample is:
 1. Accessioned at the time of collection; and
 2. Labeled immediately after collection in the presence of the patient.
- E. The Blood Bank specimen is collected in large lavender stoppered EDTA tube.
- F. The Blood Bank specimen label:
 1. Must be legibly **handwritten** and copied directly from the patient's wristband or VA card.
 - a. The standard Blood Bank label is bright pink, although a plain white label is acceptable.
 2. Must include the patient's full name, full Social Security number, date and time of collection and the signature of the phlebotomist.
 3. Must include the CPRS order number, written in the space directly above the patient's full name.
 4. For patients not wearing a hospital wristband, the words "**Not Banded**" must be written at the bottom of the label, directly beneath the time of collection.
 5. Write "**BANDED**" if the patient is wearing a wrist band.
- G. Specimens for Direct Antiglobulin testing only (DAT) are drawn in a small lavender stoppered EDTA tube and may be labeled with a computer generated label.

XIX. Glucose Tolerance Test Procedure

A. Patient instructions (prior to Glucose Tolerance Test):

1. Do not to eat, drink (**except water**), or smoke after evening meal for about 10-12 hours. Patients with diabetes mellitus may have a scheduled evening snack (after medication) **until 9 p.m.**
2. Take morning medication (but NOT diabetic medication) with water.
3. Diabetic patients:
 - a) Take morning diabetic medication (pills or insulin) **after** completion of the Glucose Tolerance Test.
 - b) Bring something to eat **after** completion of the Glucose Tolerance Test (or plan to purchase food).
 - c) While fasting, check blood sugar level **before** driving. Levels lower than 70 mg/dl requires patients to eat or drink immediately and contact their provider.

B. Glucose Tolerance Test (i.e. 2 Hours, 4 hours, etc.):

1. Confirm the patient has been fasting for at least 12 hours but no more than 16 hours. If the patient has fasted for more than 16 hours; consult your supervisor or the patient's provider to determine if the patient needs to be rescheduled.
2. Obtain a Glucose Tolerance Test beverage (10 fl oz.).
3. Inform the patient the following:
 - a. A fasting urine and blood specimen will first be collected.
 - b. The patient has **5 minutes** to drink the Glucose Tolerance Test beverage.
 - c. Food, alcohol, smoking or chewing gum is not allowed during the test.
 - d. Water intake is allowed and encouraged.
 - e. If nauseated, weak, sweaty, or lightheaded the patient must immediately inform laboratory staff (and their provider will be contacted).
 - f. The patient must remain in the patient waiting area until completion of the test.
 - g. The patient will return after two hours for collection of a second urine and blood sample.
 - h. The patients are to hand the Glucose Tolerance Test Worksheet: Patient's Copy to laboratory staff upon return.

NOTE

- 1). If the patient is scheduled for 3, 4 or 5 hours GTT, urine and blood must be collected at 30 minutes, 1, 2, 3, 4, 5 hours after the patient has consumed the glucola beverage.
- 2). Use the Glucose Tolerance Form as a guide, [\(5 HOUR GLUCOSE TOLERANCE TEST WORKSHEET Form.doc\)](#)
4. Start the Glucose Tolerance Test Worksheet:
 - a. Print the accession order for the **SERUM** GTT. Attach the fasting blood glucose label and the 2 hour GTT on the appropriate area of the worksheet.
 - b. Order Glucose Tolerance Test (GTT) for **URINE**. Attach the urine label and the 2 hour urine label on the appropriate area of the worksheet. [\(2 hours GTT Worksheet Form, patient's copy.doc\)](#)
5. Collect the **fasting urine specimen**. Write **FASTING** on the label. Place middle square label on both sides of the urine cup and on the lid. Hand the urine cup to the patient. Ask the patient to confirm the label is correct.

6. Direct the patient to the restroom. Instruct the patient to bring the specimen back to the health technician.
7. Draw the **fasting blood specimen**. Write **FASTING** on the label.
8. Write the collection time of the fasting specimens on the Glucose Tolerance Test worksheet. Reprint extra labels for the remaining draws. (The same accession number is used for all of the remaining specimens).
9. Hand the patient the Glucose Tolerance Test beverage. The patient has **5 minutes to consume the beverage**.
10. Write the time the Glucose Tolerance Test beverage was finished on the Glucose Tolerance Test worksheet.
11. Write the time for the second blood collection on the Glucose Tolerance Test worksheet. Inform the patient when to return 5 to 10 minutes before the second blood draw is due so the second hour of urine specimen can be collected prior to the blood draw.
12. Repeat the following instructions to the patient:
 - a. Food, alcohol, smoking or chewing gum are not allowed during the test.
 - b. Water intake is allowed and encouraged.
 - c. If nauseated, weak, sweaty, or lightheaded patients must inform laboratory staff immediately.
 - d. Patients must remain in the draw room waiting area until completion of the test.
13. Complete and give the Glucose Tolerance Test Worksheet: Patient's Copy to the patient (see below). The worksheet must include the time the patient reports back to the Laboratory (5-10 minutes prior to the second collection time).

Glucose Tolerance Test Worksheet: Patient's
Copy

Patients Full Name	Patient's Full SSN	
	Urine	Blood
Accession Number and Time for Fasting Specimens		
Accession Number and Time for 2nd Hour Specimens		
<u>REPORT BACK TO THE LAB AT:</u>		

15. Collect the second urine specimen 5 to minutes prior to the two hour blood after the patient finished drinking the Glucose Tolerance Test beverage.
 - a). Label a urine cup with the 2nd hour urine accession number.
 - b). Ask the patient to confirm that the label is correct.
 - c). Direct the patient to the restroom. Instruct them to hand the urine specimen to the health technician.
16. Draw and label the 2nd blood specimen.
17. Annotate the collection time for the 2nd urine and blood specimens on the Glucose Tolerance Test worksheet.

XX. Stool Collection for Ova and Parasite, C. Difficile, and Culture

Note: Label all patient specimen containers with future labels.

[Procedure for printing future labels.doc](#)

CAUTION - Fluid in the vials are poisonous, flammable, and carcinogenic. See vial label for contents.

A. Stool **Culture** Collection Procedure

Verbally instruct the patient to perform the following for proper collection of specimen.

1. Patient must empty their bladder before the stool collection.
2. Stool should be passed into a clean, dry container, newspaper, or plastic food wrap. A urine collection hat may also be given for stool collection. The specimen should not be contaminated with water or urine.
3. When applicable, use the swab in the **Cary Blair Culturette tube (red top)** to generously collect sample areas that are bloody or slimy.
4. Put swab back inside the culturette tube and recap tightly.
5. Patient should wash hands with soap and water.
6. The patient should label the specimen with their name, date and time of collection and social security number (only if stool containers do not have future labels.)
7. Deliver stool specimen to the laboratory within 24 hours of collection.

NOTE:

Stool Specimens for Culture are Acceptable if:

- a. Raw stool were received in Microbiology section within 2 hours after collection.
- b. Stool specimens in a Cary Blair transport media are acceptable when refrigerated after collection and received in the lab in < 48 hours; < 24 hours when stored at room temperature.

B. Clostridium Difficile (**C Diff**) Collection Procedure

1. Instruct patient to empty bladder before the stool collection.
2. Stool should be passed into a clean, dry container, newspaper and transfer required amount of stool to the collection container(s). A urine collection “hat” may also be given for collection. The specimen should not be contaminated with urine or water. Only a small amount should be collected. It is not necessary to fill the collection cup.
3. The stool should be transferred to the sterile urine collection cup and **refrigerated**.

NOTE:

- a. Unformed stool (liquid or soft) must be tested within 72 hours when refrigerated.
- b. Test is not performed on weekends.
- c. Instruct patient to bring specimen to CBOC/Lab within 24 hours after collection.

4. Patient should wash hands with soap and water
5. Patient should label the specimen with patient's name, date and time of collection, and Social Security number.

C. Ova and Parasite Collection Procedure

NOTE: O&Ps should be ordered in sets of 2-3 collected in a span of 5-10 days to best recover parasites that area passed intermittently and fluctuate in number ***

1. Instruct patient to empty bladder before stool collection.
2. Stool should be passed into a clean, dry container, newspaper, or plastic food wrap. A urine collection hat may also be given for stool collection. The stool should not be contaminated with water or urine.
3. With the applicator attached to the lid, collect stool from any area of the specimen that is bloody or slimy, place in the 2 vials (PVA and 10% Formalin) until the liquid reaches the **FILL LINE**, and mash the specimen until well mixed.
4. Replace the cap tightly. Shake hard until well mixed.
5. Wash hands with soap and water.
6. Label specimen vials with patient's name, time and date of collection, and social security number.
7. Place both vials back into the plastic bag, and return to the laboratory.
8. If more than one specimen is required, give instructions for the patient to collect 2-3 specimens spread over 5-10 days.
9. Instruct the patient to bring specimens back to the laboratory after the collection is finished.



Stool O&P Kit



Cary Blair



Sterile Urine Cup

D. Sputum Bacterial Culture (to identify the cause of bacterial pneumonia and other lower respiratory tract infections)

1. A fresh sputum sample (deep respiratory secretions, not saliva), usually collected first thing in the morning.
 - a. Tell the patient to remove dentures (if applicable) and rinse mouth with water.
 - b. Remove the lid of the specimen collection container and cough directly into the container.

2. Specimen not processed within 1 hour after collection should be refrigerated and can be refrigerated overnight.

E. AFB (Acid-Fast Bacilli/TB) Culture

1. Specimen Requirements

- a. **It is highly recommended that patients with suspected tuberculosis infection should collect early morning, deep cough specimen for three (3) consecutive days. Call ordering provider and recommend 3 specimens be collected and to put additional lab orders in CPRS if needed.**
- b. Patient should be given a face mask to wear especially when the patient is coughing.

2. Patient Collection Instruction

- a. Give the patient 3 pre-labeled urine cups, a biohazard bag, and a brown bag.
- b. Instruct the patient to collect the sputum specimens as soon as he/she wakes up in the morning and verbally give following specimen collection instructions:
 - 1). Tell the patient to remove dentures (if applicable) and rinse mouth with water.
 - 2). Remove the lid of the specimen collection container and cough directly into the container.
 - 3). The specimen must be refrigerated for up to three (3) days if the specimens can't be delivered to the laboratory within 2 hours of collection.
 - 4). Place specimens cups inside the biohazard bag and then inside the brown bag for delivery to the laboratory/CBOC.

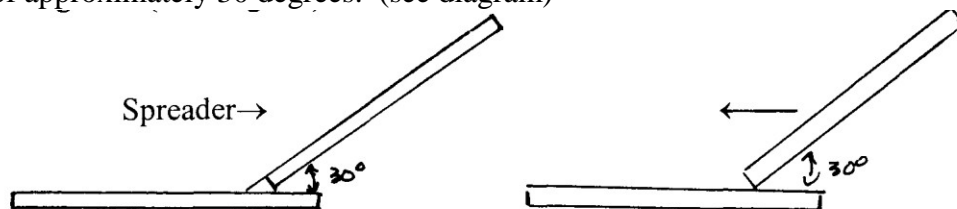
XXI. Additional Information for Community Based Outpatient Clinics (CBOCs) or Satellite Clinics collected laboratory specimens

A. HEMATOLOGY:

1. CBC and COAG (lavender and blue top) tubes must be thoroughly mixed after the draw.
2. Gently invert at least 10 times after the tube is drawn or between tubes.
3. If it was a hard draw or if it took a long time to draw the blood, look for visible clots, mixed in the blood or draw an extra one.
4. CBC tubes can be shared with Chemistry for Hgb A1C test if you cannot draw 2 lavender tubes because the patient was a hard draw from or other reasons. Label the tube with Hematology label only and staple the Chemistry label underneath the hematology label.

5. Make a readable peripheral smear (**for Bend & Salem clinic**). If peripheral smear is unacceptable, manual differential count will not be performed. Procedure for making blood smears are as follows:

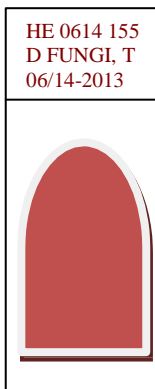
- Visually inspect all specimens for hemolysis and clots.
- Mix the K₂EDTA blood on the rotator for at least one minute to insure adequate re-suspension of cells.
- Using a microhematocrit capillary tube apply a small drop of well mixed blood or albumin/blood dilution on a slide, approximately one-half inch from the non-frosted end.
- Place the end of a second slide (spreader) in front of the drop of blood at an angle of approximately 30 degrees. (see diagram)



- Pull the spreader slide back through the drop then push the spreader forward with a steady even motion. The weight of the slide is the only pressure applied.
- Permanently label the frosted end of the slide with a black felt tip marker or by using the small rectangular label from the 10 part bar code label. Insure the slide contains the following information
 - Accession number
 - Last name, first initial
 - Date

g. Allow the **peripheral smear to air dry** (avoid exposure to moisture).

- Bag the specimens from this patient separately from other patient's specimens.
- Once slides are made, the CBC tubes no longer needs to be on the rocker. Prolong rocking can cause cellular disintegration.
- Slides needs to be readable by hematologists, not too thick, not too short, and should be tapered. Sending unreadable slides is a waste of time. Slides needs to be labeled properly and totally dry before placing it on slide holders. No refrigeration is needed and should not be touching ice or gel pack during transport.



B. BODY FLUIDS – Synovial and Bursa Fluids

- For cell count, differential count, and crystal exam, place at least 0.5 mls of the fluid in K₂EDTA lavender top tube.
- Submit the remaining fluid in the capped syringe (without the needle), for culture and gram stain.
- Call Hematology (ext.56726) for any additional test(s) on the synovial fluid.

C. SPECIAL HEMATOLOGY (Send-Out Tests)

- Lymphocytic Marker - Draw **two** - 5mls dark green top tubes.

2. PCR BCR/ABL – 10 mls EDTA

NOTE:

If a delay in shipping is anticipated (greater than 2 hours after collection especially from Bend and Salem), mix blood sample with **RPMI transport media**. Call Hematology at 56726 to have RPMI sent to your lab prior to having patient scheduled to be drawn. Mix specimen, 1 part blood to equal parts RPMI solution or 1:1 ratio. Store up to 24 hours at room temperature.

- a). **Lymphocytic Markers** – use the small 15 ml conical tube with RPMI labeled “OHSU Immunology”
- b). **PCR BCR/ABL** – use the large 50 ml conical tubes with RPMI labeled “Ship to OHSU MDC for BCR/ABL by PCR”

D.COAGULATION SPECIMENS

1. PT/INR tubes must be full. It is critical that the ratio of anticoagulant to blood remains at 9:1 ration. Make sure that there is sufficient blood in the tube and check for visible clots, particularly if the patient was a hard draw, before you send the patient away.

E. SPECIAL COAGULATION STUDIES and Other Tests (Send-Out Tests)

1. Some special coagulation tests (i.e. clotting Factor assays V, VIII, cryoglobulin test), must be collected at the Portland VA laboratory draw room due to special test requirements (i.e. plasma must be separated and frozen at -70 degrees, etc.).
2. Look at the VISTA test information for any unfamiliar laboratory test that is ordered by any provider for the patient or call Portland laboratory for any assistance or information. Specimen collection and storage requirements can be found by performing the following steps:
 - a. From VISTA lab main menu, type Information, press ENTER
 - b. Type TEST (for test information description)
 - c. Type the exact label name of the test, and then press ENTER:

F. URINALYSIS

1. Ask the patient to ascertain if he/she can successfully collect required amount of specimen before accessioning the urine specimen. If the patient is not sure, then print a future label to label the urine cup.
2. Accession and print the label. Place a middle square label on the lid and middle square label on the side of the urine container before handing the urine cup to the patient. Upon receiving the urine cup from the patient, make sure that there is at least 12 cc of urine in the container.
2. Check the lid of the cup to make sure that it is properly installed and tight. Limit 2 urine specimens per biohazard bags when packaging for transport. Positioning the urines cups up right during transport will reduce the chance of spillage.
3. Store the urine specimen in the refrigerator until packaging for transportation. Transport specimen with ice or gel pack.

G. CHEMISTRY

1. The following specimens have to be protected from light after blood draw by wrapping the tubes with aluminum foil, placing the tubes inside gloves or inside a brown/amber sandwich bag.
 - a. Vitamin A
 - b. Vitamin B-1
 - c. Vitamin B-6
 - d. Vitamin K
 - e. Vitamin E
2. **DO NOT ACCESSION DUPLICATE ORDERS FOR THE SAME TEST(S).**
3. [\(THERAPEUTIC DRUG MONITORING FORM \(TDM\)\)](#) must be completely filled when drawing the specimen. The **peak and trough** times must be annotated to help in managing the dosage of the patient's medicine.
4. Gold top and red top tubes must be completely clotted before centrifugation.
5. 24 hour urine specimens must be kept upright during transport.

NOTE:

- a. If the 24 urine container does not have acid preservative, the container must be kept chilled during transport.
- b. Quantitative 24 Hour Porphobilinogen must be refrigerated and protective from light throughout the collection period and during transportation.
6. Lactic Acid - the only acceptable specimen for lactate is a dark green (Sodium Heparin) tube. **It must be kept on ice after blood draw and during transport.**

NOTE ON SHARED CHEMISTRY SPECIMENS:

- a. Do not attach small labels on the bottom of the chemistry tubes to indicate that the specimen is a shared specimen. Extra labels on the chemistry tubes can jam the bar code reader in our Modular Pre-Analytical (MPA) instrument.
- b. Placed shared specimen separately inside a biohazard bag and all labels belonging to the specimen.
7. All green top tubes or gold top tubes **MUST BE** centrifuged if there is a delay of more than **1 hour** in transporting the specimen to the main laboratory after the collection. **Do not pour off specimens collected with serum/plasma separator (gold and green top for SCH, SPL, SSO, CH), since the pour off tube is not compatible with our processing instrument).**

Note:

- All centrifuge instruments being used to centrifuge laboratory specimens must be checked annually by Bio Med, telephone number extension 55080 for RPM and timer check. Daily, weekly and monthly preventive maintenance must be performed as indicated by the instrument and preventive maintenance records kept with the instrument. **(Sorvall T Centrifuge Maintenance Form.doc)**

H. BLOOD BANK

1. The specimen label for Type and Screen must be handwritten to include the following information:
 - a. Patient's full name
 - b. Full Social Security number
 - c. Phlebotomist signature
 - d. Date and time of draw
 - e. If the patient is not wearing a hospital band, the label must also contain the words **"Not Banded"**.
 2. Transport specimen at ambient temperature.
- I. MICROBIOLOGY (see **Section XX** above for additional information)
Culturette must be kept at room temperature. (BBL Culture Swab Plus – (Blue Tip))
C-dif must be refrigerated
- a. Unformed stool (liquid or soft) must be tested within 72 hours when refrigerated.
 - b. Test is not performed on weekends.
 - c. Instruct patient to bring specimen to CBOC/Lab within 24 hours after collection.
- J. ANATOMIC PATHOLOGY
1. Histology Tissue Exams
 - a. All tissues exams must be accompanied with a Tissue Requisition Form 515 ([Tissue Examination Form SF515.pdf](#))\
 - b. All specimens including slides, must be labeled with the patient's full name and full social security number.
 - c. Specimen containers must indicate the type & source location of the specimen (e.g. "3mm punch, left arm").
 - d. Kidney and bladder stones should be sent dry. No fixative is required.
 2. Cytology Exams
 - a. All cytology specimens, gyn and non-gyn, must be accompanied with the appropriate cytology requisition forms, ([Cytology Gyn Requisition Form.pdf](#)) ([Cytology Non-Gyn Requisition Form.pdf](#))
 - b. Cytology slides must be labeled with the patient's full name and full social security number.
- NOTE: Labeling the slide mailer alone is not acceptable
- c. Liquid based cytology specimens must be labeled as stated above and the collection device must be present in the container.
- For assistance call 56795 (Histology) or 56791 (cytology)
- K. Packaging and Shipping Laboratory Specimens to the PVAMC Laboratory
Patient's information security, specimen integrity, and biological safety concerns must be considered when shipping ANY laboratory specimens to the main laboratory of the PVAMC.

1. Packaging
 - a. Specimens must be protected from breakage and prevented from leakage during transport. Absorbent (i.e. 4X4 gauze, absorbent materials, towels, etc.) materials may be used to prevent small leakage.
 - b. Coolers must not be over-packed with specimens to prevent breakage or leakage.
 2. Metal canisters may be used for transporting patient specimens and when using TAXI to deliver specimens to the main laboratory. You may request metal canisters from the main laboratory depending upon availability.
 3. Brown paper bags must be used to place specimens when metal canisters are not available and when using TAXI to transport patient specimens in order to secure patients information from being exposed. Wrapped specimens with absorbents, (paper towel or gauze wrapped with rubber band). Specimens must be placed inside a biohazard bag and finally placed inside a brown paper bag for privacy. Close and fold the top of the brown paper bag and tape or staple the top of the bag shut for security.
 4. You may use the following as helpful hints when packaging laboratory specimens inside a cooler for a long transport to the main laboratory:
 - a. Place ice packs on the bottom of the cooler.
 - b. Specimens that need to stay chilled are placed next to the ice pack (i.e. Coagulation specimen, urine specimens, 24 hour urine containers, etc.)
 - c. Specimens that needs to be kept at an ambient temperature (i.e. CBC specimens) may be placed on top of other specimens or be placed in another transport container without ice or cooling material.
 - d. Place packing material (i.e. paper towel, packing materials, newspaper) next to keep specimens from bouncing around during transport and preventing tubes from breaking.
- L. Supply issues at the CBOC can be called to Logistics office extension 56373 or call lab support services supervisor extension 56748 for assistance.

XXII. REFERENCES

- A. Procedures for Collection of Diagnostic Blood Specimens by Venipuncture, CLSI H3-AS Volume 23, Number 32, Approved Standard, Fifth Edition, July 2003.
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