




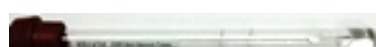

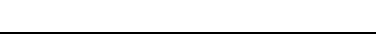


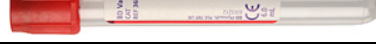





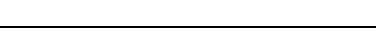



## Venous Blood Collection Order of Draw

Order of Tube Collection	Tube type	Invert tubes (# of times)	Notes
	<b>Blood Culture</b> <b>Green</b> Aerobic <b>Orange</b> Anaerobic <b>Yellow</b> Pediatric	3-4	<ul style="list-style-type: none"> <li>One set of blood cultures includes one aerobic bottle and one anaerobic bottle</li> <li>Remove plastic cap, then clean top of bottle with alcohol prior to sample collection</li> <li>Collect Aerobic bottle first, followed by Anaerobic bottle</li> <li>Collect 8-10 mL sample into each bottle</li> <li>Only collect 1 yellow bottle for pediatric blood culture order</li> <li>Pediatric sample collection volume based on weight of child</li> <li>Maximum pediatric bottle draw volume: 4 mL</li> </ul>
	<b>SPS</b> Yellow	8	<ul style="list-style-type: none"> <li>AFB/Mycoplasma culture</li> <li>Contains Sodium Polyanethol Sulfonate</li> <li>Similar in appearance to ACD-A tube</li> </ul>
	<b>NaCit</b> Light Blue	3-4	<ul style="list-style-type: none"> <li>Completely fill tube to line indicated on label</li> <li>1.8 mL tube is sufficient for PT/INR, PTT, Fibrinogen, D-Dimer</li> <li>Collect larger volume tube for all other Coagulation studies</li> <li>If using a butterfly collection set, the tubing must be primed with blood first in order to ensure the tube is sufficiently filled. If necessary, collect a separate light blue top tube to prime the tubing (fill the tubing with blood instead of air). Discard this tube.</li> </ul>
	<b>NaCit</b> Black ESR tube	8	<ul style="list-style-type: none"> <li>For ESR testing only</li> <li>Fill to at least minimum line (1mL). Do not exceed maximum fill line.</li> <li>If using a butterfly collection set, the tubing must be primed with blood first in order to ensure the tube is sufficiently filled. If necessary, collect a separate light blue top tube to prime the tubing (fill the tubing with blood instead of air). Discard this tube.</li> <li>Place label lengthwise at top of tube</li> </ul>
	<b>Clear</b> No Additive	0	<ul style="list-style-type: none"> <li>Very similar in appearance to Red top tube containing Clot Activator</li> <li>Can be used to prime (fill) winged (butterfly) collection tubing prior to coagulation sample collection if necessary as a discard tube</li> </ul>
	<b>RTT</b> Red	5	<ul style="list-style-type: none"> <li>Preferred tube for most therapeutic drug testing</li> <li>Spray-dried clot activator is visible as a light coating inside of tube</li> </ul>
	<b>SST</b> Gold with gel separator	5	<ul style="list-style-type: none"> <li>Suitable for most routine Chemistry tests</li> <li>Completely fill dedicated SST tube for ionized calcium</li> <li>Allow to clot 30 minutes prior to centrifugation</li> <li>When spun, gel creates physical barrier between serum and cells to maintain sample integrity</li> </ul>
	<b>SerumDB</b> Dark Blue – Trace Element	5	<ul style="list-style-type: none"> <li>Serum for Trace Element testing</li> <li>Similar in appearance to Dark Blue EDTA tube</li> <li>Label shows red triangle at top with red strip along side of tube</li> <li>After complete mixing, minimize sample contact with stopper by transporting and handling in upright position.</li> </ul>
	<b>PST</b> Light Green with gel separator	8	<ul style="list-style-type: none"> <li>Preferred tube for most routine Chemistry tests</li> <li>Lithium heparin plasma separator tube</li> </ul>
	<b>LiHep</b> Dark Green	8	<ul style="list-style-type: none"> <li><b>Choose correct tube for test</b> as Dark Green cap is used for both Sodium heparin and Lithium heparin tubes</li> <li>Lithium heparin without gel must be used for Blood Gas</li> </ul>
	<b>NaHep</b> Dark Green	8	<ul style="list-style-type: none"> <li><b>Choose correct tube for test</b> as Dark Green cap is used for both Sodium heparin and Lithium heparin tubes</li> <li>Sodium Heparin tube <b>follows</b> Lithium Heparin in order of draw</li> </ul>
	<b>EDTA</b> Lavender	8	<ul style="list-style-type: none"> <li>3 mL sample sufficient for most on-site testing</li> </ul>
	<b>EDTA</b> Lavender	8	<ul style="list-style-type: none"> <li>For Transfusion Medicine samples</li> <li>Larger sample size may be required for other referred-out tests</li> </ul>
	<b>EDTA</b> Dark Blue – Trace element	8	<ul style="list-style-type: none"> <li>Plasma for Trace element testing</li> <li>Similar in appearance to Dark Blue Serum tube</li> <li>Label shows dark blue tab at top with light blue stripe below</li> <li>After complete mixing, minimize sample contact with stopper by transporting and handling in upright position.</li> </ul>
	<b>EDTA</b> Tan	8	<ul style="list-style-type: none"> <li>For Lead testing</li> <li>Protect from environmental contamination by storing tubes and supplies in zip-closed plastic bag</li> <li>Handle only after thorough hand washing and when wearing gloves</li> </ul>
	<b>ACD-A</b> Yellow	8	<ul style="list-style-type: none"> <li>ACD-A – 8.5 mL sample</li> <li>Contains Acid Citrate Dextrose (ACD)</li> </ul>
	<b>ACD-B</b> Yellow	8	<ul style="list-style-type: none"> <li>ACD-B – 6 mL sample</li> <li>ACD concentration differs slightly from ACD-A tube</li> </ul>
	<b>NaFI</b> Grey	8	<ul style="list-style-type: none"> <li>For glucose and lactic acid (lactate) samples</li> <li>Samples for lactate should be collected without the use of a tourniquet, or immediately after the tourniquet is applied</li> <li>If tourniquet is used, do not release until tube is filled</li> </ul>

## Order of Draw Guidelines:

Tubes must be collected in the order indicated according to the tube additive in order to prevent contamination or interference from a preceding tube to a following tube.

- Culture tubes
- Sodium citrate
- No additive
- Clot activator
- Lithium heparin
- Sodium heparin
- EDTA
- Specialty tubes\* – all types
- Glycolytic inhibitor

\*Specialty tubes containing the *same additive* as listed may be collected according to the additive, as shown for the trace metal and Sed rate (ESR) tubes.

## Collection Requirements:

**Strict adherence to the following requirements will help to ensure the accuracy and reliability of the patient test result.**

### Identify your patient:

Check that your **inpatient** is wearing a hospital identification band.

Ask the patient to state his full name and date of birth.

Verify that the patient information matches the requisition and/or labels and the hospital ID band (inpatients).

Verify additional primary identifier:

- For Inpatients: Personal Health Number on facility identification band matches labels/requisition
  - For Outpatients: Personal Health Number on Care Card matches labels and requisition

Fix any discrepancies before collecting a lab sample.

Place a Transfusion Medicine Service (TMS) ID band on the patient's arm after the patient has been properly identified when collecting a sample for possible transfusion.

### Prepare for the collection:

Select the appropriate tubes for the tests ordered.

Check the tube expiration dates. Use only in-date collection tubes.

### Collect the blood sample:

#### Vascular access device (VAD):

- Prepare VAD line for blood sample collection according to Clinical Practice (CPM) protocol.
- Discard appropriate amount of blood when collecting from an indwelling line (VAD):
  - two times the dead space volume for non-coagulation testing
  - 5 mL or six times the dead space volume for coagulation tests
  - Do not discard blood when querying Central Line Associated Blood Stream Infection (CLABSI). First blood removed from line should go into blood culture bottles.
- Note: Do not collect:
  - coagulation samples through power-PICC line
  - samples for diagnostic testing through lines that are also used to infuse medications or therapies:
    - Therapeutic drugs for therapeutic drug monitoring tests
    - Heparin or other anti-coagulant for coagulation testing
    - Parenteral Nutrition for chemistry analytes
- Follow CPM protocol for maintaining the patient lines (VAD collections only) when collection is complete.

#### Venipuncture:

- Follow the steps in the Collecting a Blood Sample by Venipuncture procedure.
- Fill tubes in the correct order as indicated on the Order of Draw chart.
- When using a syringe for collection:
  - transfer blood to Vacutainer® tube(s) using a tube holder that allows syringe attachment
  - allow tubes to fill without placing additional pressure on the syringe plunger
- **Never** transfer sample from one sample tube to another.

**Mix samples immediately following collection.** One mix is 180° tube inversion, allowing bubble to travel the length of the tube, followed by return to upright position.

**Label the tubes** at the time of collection in the presence of the patient with the following information:

- Patient last name, first name
- Patient date of birth
- Personal Health Number (PHN)
- TMS ID number (as read from the identification band) for Transfusion Medicine Service sample
- Collector mnemonic
- Date of collection
- Time of collection

Label each tube individually. Do not wrap a single label around multiple tubes.

Do not pre-label tubes with patient information prior to blood collection.

### Deliver tubes to lab:

Assess samples for acceptability (lab staff):

- Inadequate sample volume (includes under- and over-filled coagulation tubes)
- Presence of hemolysis or other interferent
- Wrong collection tube
- Wrong collection time (ie. therapeutic drug monitoring)
- Inadequate or improper tube labelling
- Prolonged delay in delivery to lab
- Other individual criteria related to the test requested

*Samples not meeting acceptance criteria will require recollection.*

**Refer to:** CS 0010 IH Lab Collecting a Venous Blood Sample Procedure

BacT/Alert® blood culture bottles are products of ©BioMerieux, Inc. [www.biomerieux-usa.com](http://www.biomerieux-usa.com). Images used by permission.  
Vacutainer® tubes are products of ©Becton, Dickinson and Company. [www.bd.com](http://www.bd.com). Images used by permission.