






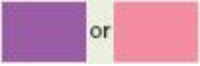







<p>Category: Order of Draw</p> <p><b>Blood Cultures</b></p>	<p>Blood cultures <b>MUST</b> be drawn <b>first</b> to avoid bacterial contamination</p>
<p>Category: Color of Stopper</p> <p><b>Yellow (SPS)</b></p> 	<p>Contains sodium polyanethol sulfonate. Used to collect whole blood samples for blood culture specimens</p>
<p>Category: Color of Stopper:</p> <p><b>Red “plain”</b></p> 	<p><b>Glass tube</b> contains no additive--used for serum test(s) that cannot be collected in SST tubes</p> <p><b>Plastic tube</b>, although presumed to be a “non-additive” tube, actually contains ultra-fine clotting agents!</p>
<p>Category: Color of Stopper</p> <p><b>Light blue</b></p> 	<p>Contains sodium citrate anticoagulant--used mainly in coagulation studies</p>

<p>Category: Color of Stopper</p> <p><b>Gold or Red/Gray “tiger top” (SST)</b></p> 	<p>Contains a gel separator and clot activator--most commonly used tube where serum is required</p>
<p>Category: Color of Stopper</p> <p><b>Royal blue</b></p> 	<p>Contains sodium heparin anticoagulant. This tube is required for collection of trace elements</p>
<p>Category: Color of Stopper</p> <p><b>Dark green</b></p> 	<p>Contains sodium heparin anticoagulant—for “plasma” studies. Complete filling of the tube is necessary for accurate results</p>
<p>Category: Color of Stopper</p> <p><b>Light green (mint) (PST) or green/gray mottled</b></p> 	<p>Contains lithium heparin anticoagulant as well as a gel separator</p>

<p>Category: Color of Stopper</p> <p><b>Lavender</b></p> 	<p>Contains EDTA anticoagulant--used for hematology, hemoglobin electrophoresis and hemoglobin A1c</p>
<p>Category: Color of Stopper</p> <p><b>Pale yellow (ACDA) or (ACDB)</b></p> 	<p><b>ACDA:</b> Contains acid citrate dextrose solution 'A'. Used primarily for flow cytometry testing</p> <p><b>ACDB:</b> Contains acid citrate dextrose solution 'B'. Used primarily for bone marrow donor registry</p>
<p>Category: Color of Stopper:</p> <p><b>Black</b></p> 	<p>Contains sodium citrate solution. Used to determine ESR.</p>
<p>Color of Stopper:</p> <p><b>Gray</b></p> 	<p>"Glucose tube". Contains sodium fluoride and potassium oxalate anticoagulant--used primarily for lactate testing</p>

<p>Requisition Slip Preparation:</p> <p><b>Patient name</b></p>	<p>LAST name first followed by FIRST name and MIDDLE initial</p>
<p>Requisition Slip Preparation:</p> <p><b>Confidential patient identification</b></p>	<p>In special circumstances, to maintain a higher level of confidentiality, patient identity may be protected by using a code name/number instead of the patient's name</p>
<p>Requisition Slip Preparation:</p> <p><b>Patient gender &amp; date of birth</b></p>	<p>Important information not to be overlooked, because many reference ranges are determined by patient gender and/or age</p>
<p>Requisition Slip Preparation:</p> <p><b>Date &amp; time of collection</b></p>	<p>Date and time must be recorded at time of specimen collection or completion of the requisition</p>

<p>Requisition Slip Preparation:</p> <p><b>Specimen priority</b></p>	<p>Indicate specimen priority for each test--STAT means immediately!</p>
<p>Requisition Slip Preparation:</p> <p><b>Collector/Phlebotomist</b></p>	<p>Requisition must include name or initials of collector</p>
<p>Requisition Slip Preparation:</p> <p><b>Referring physician</b></p>	<p>Indicate the name and location of the ordering physician</p>
<p>Requisition Slip Preparation:</p> <p><b>Patient address and phone number</b></p>	<p>Patient address is not required for patients with a valid patient ID number. Patient phone number is often required on lab requisitions</p>

<p>Requisition Slip Preparation:</p> <p><b>Copy to</b></p>	<p>If additional copies of reports are required for other physicians or facilities provide name and address!</p>
<p>Collection Sites:</p> <p><b>Collection sites for blood specimens</b></p>	<p>(1) Antecubital area of the arm (2) Back of hand or side of wrist (3) Foot or ankle only with written permission of physician or nurse</p>
<p>Collection Sites:</p> <p><b>Collecting blood from a vein with IV line</b></p>	<p>Collect below an IV line or saline lock--IV must be turned off by physician/nurse for a minimum of 3 minutes prior to collection</p>
<p>Collection Sites:</p> <p><b>Patient with mastectomy</b></p>	<p>Phlebotomists will not collect from the arm or hand from the side of a mastectomy</p>

<p>Collection Sites:</p> <p><b>Collecting blood from limbs with indwelling artificial access</b></p>	<p>Phlebotomists will not collect from limbs with indwelling artificial access devices (other than IV/saline lock)</p>
<p>Collection Sites:</p> <p><b>Phlebotomists will not collect samples from (anatomically -- where?)</b></p>	<p>Phlebotomists will not collect from fistulas, shunts, arterial lines, or heparin and saline locks</p>
<p>Follow-up Procedure:</p> <p><b>Patient refuses blood work</b></p>	<p>Notify the nursing unit personnel of the situation. Record a written explanation, for example: "Patient refuses blood work"</p>
<p>Priority Definition:</p> <p><b>Routine</b></p>	<p>Analysis will be routinely performed -- result provided within standard processing time</p>



<p>Priority Definition:</p> <p><b>ASAP</b></p>	<p>Analysis will be routinely performed -- tests will be ordered as call/fax routine and will be communicated to the referring physician</p>
<p>Priority Definition:</p> <p><b>Call Routine</b></p>	<p>Routine tissue processing followed by result communication by phone when available</p>
<p>Priority Definition:</p> <p><b>Fax Routine</b></p>	<p>Routine tissue processing followed by result communication by fax when available</p>
<p>Transportation:</p> <p><b>Packing specimens marked Frozen to be taken to another location for testing</b></p>	<p>(1) DO NOT freeze specimens at the collection site on weekdays unless otherwise noted (2) Store specimen in refrigerator until courier pickup (as soon as possible!) (3) Clearly mark "FREEZE" on the specimen container</p>

<p>Priority Definition:</p> <p><b>Call STAT</b></p>	<p>Test is of critical nature -- the results must be available from within 30 minutes to an hour of receipt of the sample at the laboratory and be phoned to the ordering physician's office or other contact number as indicated</p>
<p>Priority Definition:</p> <p><b>Fax STAT</b></p>	<p>Test is of critical nature--test results must be available from within 30 minutes to an hour of receipt of the sample at the laboratory and be faxed to the ordering physician's office or other contact number as indicated</p>
<p>Transportation: <b>Transportation of refrigerated specimens to another location for testing</b></p>	<p>MUST be kept refrigerated before forwarding unless otherwise indicated -- when ready to forward, enclose ice pack to assist in maintaining temperature</p>
<p>Order of Draw:</p> <p><b>How is the order of draw for multiple samples of blood established?</b></p>	<p>When establishing an order of draw for blood collections, one needs to look at the additives and the tests to be collected</p>

<p>Order of Draw:</p> <p><b>Citrate tubes (coag tubes)</b></p>	<p>Citrate tubes (coag tubes) should never be drawn alone or as the first in the sequence of multiple draws -- Always draw one other tube before the citrate to reduce contamination by tissue fluids which could initiate the clotting mechanism</p>
<p>Order of Draw:</p> <p><b>Anticoagulants</b></p>	<p>Tubes with anticoagulants should be drawn last so that they can be properly mixed as quickly as possible</p>
<p>Mixing:</p> <p><b>Mixing collected blood with anticoagulants</b></p>	<p>It is essential that any tube with Anticoagulants is inverted 6-8 times to mix the blood</p>
<p>Order of Draw:</p> <p><b>According to the NCCLS standard H3-A5</b></p>	<ol style="list-style-type: none"> <li>1) Blood culture bottles and tubes</li> <li>2) Citrate tubes (coagulation tests)</li> <li>3) Serum tubes (red) with or without anticoagulants</li> <li>4) Heparin tubes</li> <li>5) EDTA</li> <li>6) Oxalate/Fluoride tubes</li> </ol>

<p>Order of Draw: <b>If blood is clotted in the syringe...</b></p>	<p>If blood is clotted in the syringe DO NOT force the blood through the needle into the sample tube. Remove the needle and the tube stopper; then deliver the blood to the tube</p>
<p>Site Preparation: <b>The FIRST STEP in preparing the puncture site</b></p>	<p>The first step: decontaminate the area of the intended puncture site</p>
<p>Site Preparation: <b>The preferred antiseptic to prepare the puncture site</b></p>	<p>A prepackaged 70% isopropyl alcohol pad</p>
<p>Site Preparation: <b>Alternative antiseptic to prepare the puncture site</b></p>	<p>Povidone-iodine (Betadine) may be used as an alternative to alcohol</p>

<p>Site Preparation:</p> <p><b>Povidone-iodine (Betadine)</b></p>	<p>Used for blood cultures, bleeding times, and arterial punctures</p>
<p>Site Preparation:</p> <p><b>What is the purpose for stabilizing the vein?</b></p>	<p>Pulling the skin taut keeps the vein from rolling and reduces resistance allowing a cleaner entry of the needle</p>
<p>Order of Draw:</p> <p><b>Microtainer collection method order of draw</b></p>	<p>(1) Blood gases (2) Slides/smears (3) EDTA tubes (4) Other additive tubes (5) Serum tubes</p>
<p>Order of Draw:</p> <p><b>Rationale behind the order of draw for evacuated tubes</b></p>	<p>Following the recommended order of draw for blood specimens is important for specimen integrity -- It diminishes the possibility of cross contamination between tubes due to the different additives present</p>

<p>Order of Draw:</p> <p><b>Transferring blood from syringes to evacuated tubes</b></p>	<p>This method assumes that the blood in the last syringe is the most "fresh" and will be the first syringe to transfer its contents into a tube</p>
<p>Order of Delivery:</p> <p><b>Order of transferring collected blood from the syringe to evacuated tubes</b></p>	<p>Blood clotting starts the second the blood leaves the body -- It is vital to fill the tubes with anticoagulants first, and clot tubes last</p>
<p>Order of Transfer:</p> <p><b>Order of syringe transfer to evacuated tubes</b></p>	<p>(1) Sterile draw first (blood cultures) (2) Lavender - First syringe transfer (3) Blue - Second syringe transfer (4) Green - Third syringe transfer (5) Gray - Forth syringe transfer (6) Red - Last syringe transfer</p>
<p>Missed Draw:</p> <p><b>Points to consider when a blood sample could not be obtained</b></p>	<p>(1) Tube position and (lack of) vacuum (2) Needle (bevel) position (3) Collapsed or rolling vein (4) Using a vacuum tube when a syringe would have been more appropriate (5) Using a butterfly with a vacuum tube</p>

<p>Missed Draw: <b>Recording a missed draw</b></p>	<p>Complete a "Missed Draw Form" stating the reason why the blood could not be drawn -- One copy of the form is placed in the patient's chart, and the other is filed in the laboratory for supervisor review</p>
<p>Blood Collection Systems: <b>Evacuated tubes</b></p>	<p>Consists of a double headed needle, the needle holder, and a color coded glass vacuum tube which may or may not contain an additive</p>
<p>Blood Collection Systems: <b>Syringe system</b></p>	<p>Consists of a syringe and sterile needle</p>
<p>Blood Collection Systems: <b>Monovette system</b></p>	<p>A combination of the syringe principle and the Vacuum technique developed by Sarstedt</p>

<p>Blood Collection Systems:</p> <p><b>The blood lancet</b></p>	<p>A sharp blade which is designed to create a puncture -- Comes in a variety of styles and point lengths</p>
<p>Charting Procedure:</p> <p><b>What should be recorded in patient's chart?</b></p>	<p>Chart procedure in the patients chart and record any difficulties or complications during procedure</p>
<p>Requisition Slip Preparation:</p> <p><b>What are the five most essential things to be included on the requisition slip?</b></p>	<p>(1) Name (2) Place (3) Time (4) Date (5) Type of specimen sent to lab</p>
<p>Microcollection:</p> <p><b>What is one of the most commonly performed procedures in clinical practice?</b></p>	<p>Blood glucose testing</p>



<p>Microcollection:</p> <p><b>Other terms for microcollection: (name them!)</b></p>	<p>(1) Microsampling (2) Capillary puncture (3) Heel stick (4) Finger stick</p>
<p>Microcollection:</p> <p><b>In a “finger stick” which finger is usually the finger of choice?</b></p>	<p>Middle finger</p>
<p>Microcollection:</p> <p><b>Why should swollen or edematous areas not be used?</b></p>	<p>Swollen or edematous areas should not be used because of possible contamination with tissue fluids</p>
<p>Microcollection:</p> <p><b>Why is microcollection the collection method of choice for newborn infants?</b></p>	<p>Newborns have little blood volume It is very dangerous to remove too large an amount of blood</p>

<p>Microcollection:</p> <p><b>What is the site of choice to collect a blood sample from neonates?</b></p>	<p>In neonates, the blood is generally obtained from the heel</p>
<p>Microcollection:</p> <p><b>Microcollection may be the procedure of choice for the following adults: (name them!)</b></p>	<p>(1) Severely burned (2) Obese patients (3) Patient with thrombotic tendencies (4) Patient with very poor veins (5) Geriatric patients (6) Patient is extremely apprehensive (7) Patient's vein is to be saved for another procedure</p>
<p>Microcollection:</p> <p><b>Babies should never be stuck with a puncture device that exceeds ___ millimeter(s)</b></p>	<p>two millimeters (2 mm)</p>
<p>Microcollection:</p> <p><b>What is an automatic puncture device?</b></p>	<p>Automatic puncture devices are spring loaded lancets, such as the Autolet</p>

<p>Microcollection: <b>What is a Unopette™?</b></p>	<p>The Unopette is a system composed of a micropipette and dilution system</p>
<p>Microcollection: <b>What is a Unopette used for?</b></p>	<p>Used to prepare dilutions of the blood sample</p>
<p>Microcollection: <b>What should never be put on the puncture site of an infant or very small child after the blood is drawn?</b></p>	<p>Band aid or adhesive tape</p>
<p>Microcollection: <b>To stimulate adequate blood flow from the puncture site, do what to the area for 1 to 2 minutes?</b></p>	<p>massage</p>

<p>Microcollection:</p> <p><b>Why must tissue fluids in the blood sample be avoided?</b></p>	<p>Tissue fluids contain coagulation factors that can accelerate clumping of the blood making the sample unacceptable for testing</p>
<p>Normal values:</p> <p><b>What exactly does the hematocrit reading show?</b></p>	<p>What per cent of the blood is plasma and what per cent are RBC</p>
<p>Normal values</p> <p><b>Normal hematocrit values for a newborn?</b></p>	<p>45 - 50%</p>
<p>Normal values:</p> <p><b>Normal hematocrit values for a one year old ?</b></p>	<p>27 - 44%</p>

<p>Normal values:</p> <p><b>Normal hematocrit values for a woman?</b></p>	<p>36 - 48%</p>
<p>Normal values:</p> <p><b>Normal hematocrit values for a man?</b></p>	<p>40 - 55%</p>
<p>Microcollection:</p> <p><b>What test is done to determine if a patient is anemic?</b></p>	<p>The microhematocrit test</p>
<p>Blood Sample Preparation:</p> <p><b>Centrifugation causes the blood to separate into three distinct layers: (name them!)</b></p>	<p>(1) Plasma (2) Buffy coat (3) Red blood cells</p>

<p>Blood Sample Preparation:</p> <p><b>What are dilutions of blood samples prepared with the Unopette used for?</b></p>	<p>(1) WBC counts (2) Platelet counts (3) Hemoglobin determinations (4) RBC counts</p>
<p>Blood Sample Preparation:</p> <p><b>What is the name of the machine which spins the tubes around at a great rate of speed?</b></p>	<p>Centrifuge</p>
<p>Venipuncture Equipment:</p> <p><b>What size (gauge) of a needle is used to collect from a vein from the wrist, back of hand, or ankle?</b></p>	<p>25 G</p>
<p>Venipuncture Equipment:</p> <p><b>What size (gauge) of a needle is used to collect from children?</b></p>	<p>25 G</p>

<p>Venipuncture Equipment: <b>Color (top) of the plain tube</b></p>	<p>Red top</p>
<p>Venipuncture Equipment: <b>Color (top) of citrate (coagulation) tube?</b></p>	<p>Blue top</p>
<p>Venipuncture Equipment: <b>Color (top) of ESR tube?</b></p>	<p>Black top</p>
<p>Venipuncture Equipment: <b>Color (top) of heparinized tube?</b></p>	<p>Green top</p>

<p>Venipuncture Equipment: <b>Color (top) of EDTA (blood count) tube?</b></p>	<p>Purple top</p>
<p>Venipuncture Equipment: <b>Color (top) of fluoride tube?</b></p>	<p>Gray top</p>
<p>Venipuncture Equipment: <b>Color (top) of CPD tube?</b></p>	<p>Yellow top</p>
<p>Venipuncture Equipment: <b>What elements is a trace metal tube used for?</b></p>	<p>Zinc, copper, and aluminium</p>



<p>Venipuncture Equipment:</p> <p><b>What is another name for thin, black top tube?</b></p>	<p>ESR tube</p>
<p>Blood Sample Preparation:</p> <p><b>What is one major culprit of cross contamination between Vacutainer™ tubes?</b></p>	<p>Cross contamination can occur between the contents of Vacutainer™ tubes when taking multiple samples</p>
<p>Blood Collection Tubes:</p> <p><b>Red Top Glass Tubes</b></p>	<p>Chemistry and viral antibody testing. No anticoagulant is contained in the tube</p>
<p>Blood Collection Tubes:</p> <p><b>Red Top Tubes (Non-Barrier)</b></p>	<p>Certain blood bank testing, chemistries and drug levels</p>

<p>Blood Collection Tubes: <b>Light Blue Top Tube</b></p>	<p>Coagulation testing</p>
<p>Blood Collection Tubes: <b>Lavender Top Tube (EDTA)</b></p>	<p>Hematology, chemistry, blood bank, and virology testing</p>
<p>Blood Collection Tubes: <b>Light green Top Tube (PST)</b></p>	<p>HCG's and other routine chemistry tests</p>
<p>Blood Collection Tubes: <b>Green Top Tube</b></p>	<p>Hematology, chemistry, and virology testing</p>

<p>Blood Collection Tubes: <b>Brown Top Tube</b></p>	<p>Cytogenetic testing and other specialty tests</p>
<p>Blood Collection Tubes: <b>Black Top Tube (ESR)</b></p>	<p>Sedimentation (SED) rates</p>
<p>Blood Collection Tubes: <b>Gray Top Tube</b></p>	<p>Certain chemistry testing</p>
<p>Blood Collection Tubes: <b>Yellow Top Tubes</b></p>	<p>Certain reference tests requiring whole blood</p>

<p>Blood Collection Tubes: <b>Navy Blue Top Tube (No Additive)</b></p>	<p>Certain reference tests</p>
<p>Blood Collection Tubes: <b>Navy Blue Top Tube (EDTA)</b></p>	<p>Certain reference tests</p>
<p>Microbiology/Virology Collection Kits: <b>Gen-Probe Collection Kits</b></p>	<p>For the collection of GC and Chlamydia -- Male and female kits are available from the Microbiology Laboratory</p>
<p>Microbiology/Virology Collection Kits: <b>Blood Culture Bottles (Oragon Teknika Bact/Alert)</b></p>	<p>Aerobic and anaerobic bottles are available</p>

<p>Microbiology/Virology Collection Kits:</p> <p><b>Isolator Tubes</b></p>	<p>Used for the isolation of mycobacteria, fungal organisms, fastidious aerobic organisms as well as for the removal of antibiotics from cultured blood</p>
<p>Microbiology/Virology Collection Kits:</p> <p><b>Swab/Culturette™</b></p>	<p>Sterile dacron swabs with ampule of holding medium -- Used for all aerobic cultures</p>
<p>Microbiology/Virology Collection Kits:</p> <p><b>Anaerobic Transport Media</b></p>	<p>Used for anaerobic cultures</p>
<p>Microbiology/Virology Collection Kits:</p> <p><b>Viral Transport Media</b></p>	<p>Used for viral isolation for HSV, CMV, varicella, and adenovirus</p>

<p>Venipuncture Equipment:</p> <p><b>What is unique about the needle that is used with a needle holder and Vacutainers™ tubes?</b></p>	<p>(1) It is pointed at both ends (2) The short end is covered with a rubber sheath (3) it is a multi-draw needle</p>
<p>Venipuncture Equipment:</p> <p><b>How long is the long end of the Vacutainer™ needle?</b></p>	<p>Vacutainer™ needle lengths range from 1 to 1 ½ inches</p>
<p>Venipuncture Equipment:</p> <p><b>When would you use the longer 1 ½ inch Vacutainer™ needle?</b></p>	<p>1 ½ inch Vacutainer™ needles are used for patients with very deep veins</p>
<p>Venipuncture Equipment:</p> <p><b>What is the “gauge” of a needle?</b></p>	<p>The gauge of a needle is a number that indicates the diameter of its lumen</p>

<p>Venipuncture Equipment: <b>What is the “lumen” of a needle?</b></p>	<p>The lumen, also called the bore, is the circular hollow space inside the needle</p>
<p>Venipuncture Equipment: <b>What are the most frequently used gauges for phlebotomy?</b></p>	<p>20 , 21 , and 22 G</p>
<p>Venipuncture Equipment: <b>What is the “bevel” of a needle?</b></p>	<p>The slanted opening at the end of the needle</p>
<p>Venipuncture Equipment: <b>Inside an evacuated tube, what is the air pressure compared to the outside environment?</b></p>	<p>The air pressure inside the tube is negative, less than the normal environment</p>

<p>Venipuncture Equipment:</p> <p><b>What sizes are the needle holders for evacuated tubes?</b></p>	<p>Holders are available in two sizes, either for adults or for pediatric procedures</p>
<p>Venipuncture Vocabulary:</p> <p><b>Anerobic</b></p>	<p>Growing, living or occurring in the absence of molecular oxygen; pertaining to an anaerobe</p>
<p>Venipuncture Vocabulary:</p> <p><b>Antecubital</b></p>	<p>That part of the arm opposing the elbow</p>
<p>Venipuncture Vocabulary:</p> <p><b>Anticoagulants</b></p>	<p>Anticoagulant solutions are used for the preservation of stored whole blood and blood fractions; to prevent clotting for laboratory analysis</p>



<p>Venipuncture Vocabulary:</p> <p><b>Antiseptic</b></p>	<p>Something that discourages the growth microorganisms - - By contrast, aseptic refers to the absence of microorganisms</p>
<p>Venipuncture Vocabulary:</p> <p><b>Aseptic</b></p>	<p>Refers to the absence of microorganisms</p>
<p>Venipuncture Vocabulary:</p> <p><b>Arterial blood</b></p>	<p>Blood contained within the arteries -- Carries oxygen from the heart and lungs to outlying organs and tissues</p>
<p>Venipuncture Vocabulary:</p> <p><b>Aspirate</b></p>	<p>The material that is withdrawn with a negative pressure apparatus (syringe)</p>

<p>Venipuncture Vocabulary: <b>Basilic vein</b></p>	<p>Large vein on the inner side of the biceps -- Often chosen for intravenous injections and blood drawing</p>
<p>Venipuncture Vocabulary: <b>Betadine™</b></p>	<p>A popular trade name iodine-containing topical antiseptic agent; povidone-iodine</p>
<p>Venipuncture Vocabulary: <b>Blind stick</b></p>	<p>Performing a venipuncture with no apparently visible or palpable vein by a highly skilled phlebotomist</p>
<p>Venipuncture Vocabulary: <b>Blood</b></p>	<p>The fluid in the body that contains red cells and white cells as well as platelets, proteins, plasma and other elements</p>

<p>Venipuncture Vocabulary: <b>Blood cell</b></p>	<p>There are three main types of cells in the blood stream: (1 ) red cell (2) platelet (3) white cell</p>
<p>Venipuncture Vocabulary: <b>Blood clot</b></p>	<p>The conversion of blood from a liquid form to solid through the process of coagulation</p>
<p>Venipuncture Vocabulary: <b>Blood culture</b></p>	<p>A test which involves the incubation of a blood specimen over a certain time to determine if bacteria are present</p>
<p>Venipuncture Vocabulary: <b>Bloodborne pathogens</b></p>	<p>Pathogens which are present in the blood stream and which may be passed to others</p>

<p>Venipuncture Vocabulary: <b>Butterfly</b></p>	<p>A small needle with two plastic wings attached which are squeezed together to form a tab that is used to manipulate the needle</p>
<p>Venipuncture Vocabulary: <b>Centrifuge</b></p>	<p>A laboratory apparatus that separates mixed samples into homogenous component layers by spinning them at high speed</p>
<p>Venipuncture Vocabulary: <b>Circulation</b></p>	<p>The movement of fluid in a regular or circuitous course</p>
<p>Venipuncture Vocabulary: <b>Citrate</b></p>	<p>Citrate chelates (chelate means bind) calcium ions, preventing blood clotting</p>

<p>Venipuncture Vocabulary: <b>Clot</b></p>	<p>A semisolid mass of blood found inside or outside the body</p>
<p>Venipuncture Vocabulary: <b>Coagulation</b></p>	<p>The process of clot formation</p>
<p>Venipuncture Vocabulary: <b>Coagulation Factors</b></p>	<p>Group of plasma protein substances (Factor I-XIII) contained in the plasma, which act together to bring about blood coagulation</p>
<p>Venipuncture Vocabulary: <b>Complete blood count CBC</b></p>	<p>The number of red blood cells, white blood cells, and platelets (per cubic millimeter) -- Also included is the hematocrit (%), hemoglobin concentration (gm%) and the differential</p>

<p>Venipuncture Vocabulary: <b>Contamination</b></p>	<p>The soiling or pollution by inferior material, as by the introduction of organisms into a wound</p>
<p>Venipuncture Vocabulary: <b>Diaphoretic</b></p>	<p>Formation of profuse perspiration (sweat) -- A symptom of syncope</p>
<p>Venipuncture Vocabulary: <b>Differential</b></p>	<p>A count made on a stained blood smear of the proportion of the different leukocytes (WBC's) and expressed as a percentage -- A normal part of a complete blood count (CBC)</p>
<p>Venipuncture Vocabulary: <b>Ecchymosis</b></p>	<p>The skin discoloration caused by a bruise (contusion)</p>

<p>Venipuncture Vocabulary: <b>Edema</b></p>	<p>The swelling of soft tissues as a result of excess water accumulation</p>
<p>Venipuncture Vocabulary: <b>EDTA</b></p>	<p>Ethylenediaminetetraacetate, calcium chelating (binding) agent</p>
<p>Venipuncture Vocabulary: <b>Electrolyte</b></p>	<p>A substance that will acquire the capacity to conduct electricity when put into solution</p>
<p>Venipuncture Vocabulary: <b>Embolus</b></p>	<p>A sudden blockage of a blood vessel by a blood clot or some other and is lodged at a site too small for passage</p>

<p>Venipuncture Vocabulary: <b>Erythrocyte</b></p>	<p>Cells that carry oxygen to all parts of the body</p>
<p>Venipuncture Vocabulary: <b>Factor VIII</b></p>	<p>One of a number of coagulation factors; deficiency causes classic hemophilia</p>
<p>Venipuncture Vocabulary: <b>Fasting</b></p>	<p>Without eating</p>
<p>Venipuncture Vocabulary: <b>Fibrin</b></p>	<p>The protein formed during normal blood clotting that is the essence of the clot</p>



<p>Venipuncture Vocabulary: <b>Fibrinogen</b></p>	<p>The protein from which fibrin is formed or generated in normal blood clotting</p>
<p>Venipuncture Vocabulary: <b>Flash-back</b></p>	<p>The appearance of a small amount of blood in the neck of a syringe or the tubing of a butterfly</p>
<p>Venipuncture Vocabulary: <b>Gauge</b></p>	<p>Needle diameter is measured by gauge; the larger the needle diameter, the smaller the gauge</p>
<p>Venipuncture Vocabulary: <b>Germicide</b></p>	<p>An agent that kills pathogenic microorganisms</p>

<p>Venipuncture Vocabulary: <b>Glucose</b></p>	<p>The sugar measured in blood and urine specimens to determine the presence or absence of diabetes</p>
<p>Venipuncture Vocabulary: <b>Heparin</b></p>	<p>An anticoagulant that acts to inhibit a number of coagulation factors, especially factor Xa</p>
<p>Venipuncture Vocabulary: <b>Hematocrit</b></p>	<p>The ratio of the total red blood cell volume to the total blood volume and expressed as a percentage</p>
<p>Venipuncture Vocabulary: <b>Hematoma</b></p>	<p>A localized collection of blood within tissue due to leakage from the wall of a blood vessel</p>

<p>Venipuncture Vocabulary: <b>Hemoconcentration</b></p>	<p>A decrease in the fluid content of the blood (plasma), resulting in an increase in concentration</p>
<p>Venipuncture Vocabulary: <b>Hematocrit</b></p>	<p>The oxygen carrying pigment of the red blood cells</p>
<p>Venipuncture Vocabulary: <b>Hemolyze</b></p>	<p>The breaking of the red blood cells membrane releasing free hemoglobin into the blood</p>
<p>Venipuncture Vocabulary: <b>Hypodermic needle</b></p>	<p>A needle that attaches to a syringe for the purpose of injections or withdrawal of fluids such as blood</p>

<p>Venipuncture Vocabulary:</p> <p><b>Multi-sample adapter</b></p>	<p>A device used with a butterfly and Vacutainer™ holder to allow for the withdrawal of multiple tubes of blood during a venipuncture</p>
<p>Venipuncture Vocabulary:</p> <p><b>Order of delivery</b></p>	<p>A term used to define the order in which tubes should be filled with blood after being drawn by syringe</p>
<p>Venipuncture Vocabulary:</p> <p><b>Order of draw</b></p>	<p>Defines the order in which blood sample tubes should be drawn</p>
<p>Venipuncture Vocabulary:</p> <p><b>Oxyhemoglobin</b></p>	<p>Hemoglobin that has been bound with oxygen in the lungs</p>

<p>Venipuncture Vocabulary:</p> <p><b>Palpate</b></p>	<p>To examine or feel by the hand In relation to venipuncture, this technique is used to "feel" a vein</p>
<p>Venipuncture Vocabulary:</p> <p><b>Pathogen</b></p>	<p>Any microorganism that produces disease</p>
<p>Venipuncture Vocabulary:</p> <p><b>Pathogenic</b></p>	<p>Having the capability of producing disease</p>
<p>Venipuncture Vocabulary:</p> <p><b>Pipet</b></p>	<p>A glass or transparent plastic tube used to accurately measure small amounts of liquid</p>

<p>Venipuncture Vocabulary:</p> <p><b>Plasma</b></p>	<p>The fluid portion of the blood in which the cellular components are suspended</p>
<p>Venipuncture Vocabulary:</p> <p><b>Peripheral blood</b></p>	<p>Blood obtained from the circulation away from the heart, such as from the fingertip, heel pad, and earlobe, or from an antecubital vein</p>
<p>Venipuncture Vocabulary:</p> <p><b>Platelet</b></p>	<p>Also known as a thrombocyte, this is a particulate component of the blood, involved in blood coagulation</p>
<p>Venipuncture Vocabulary:</p> <p><b>Red blood cells (RBC)</b></p>	<p>One of the solid components of the blood which is normally a biconcave disc without a nucleus</p>

<p>Venipuncture Vocabulary:</p> <p><b>Sclerosis</b></p>	<p>A hardening; especially from inflammation and certain disease states</p>
<p>Venipuncture Vocabulary:</p> <p><b>Serum</b></p>	<p>Referring to blood, the clear liquid portion of blood that separates out after clotting has taken place -- Since clotting has occurred, serum is fibrinogen deficient Contrast to plasma</p>
<p>Venipuncture Vocabulary:</p> <p><b>Tourniquet</b></p>	<p>A constrictive band, placed over an extremity to distend veins for the purpose of blood aspiration</p>
<p>Venipuncture Vocabulary:</p> <p><b>Vacutainer™</b></p>	<p>An often generic term used to describe equipment used to automatically aspirate blood from a vessel by venipuncture</p>

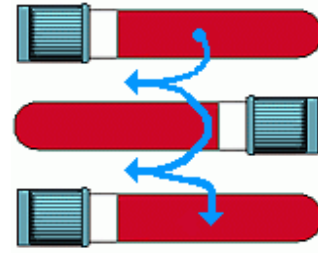
<p>Venipuncture Vocabulary: <b>Evacuated tube or Vacutainer™ tube</b></p>	<p>Blood sample tubes containing a vacuum</p>
<p>Venipuncture Vocabulary: <b>Vein</b></p>	<p>Blood vessels carrying blood to the heart</p>
<p>Venipuncture Vocabulary: <b>Venipuncture</b></p>	<p>The puncture of a vein for any purpose</p>
<p>Venipuncture Vocabulary: <b>Venous blood</b></p>	<p>Blood contained within the veins</p>



<p>Venipuncture Vocabulary:</p> <p><b>Warfarin sodium</b></p>	<p>The sodium salt of warfarin, one of the synthetic coumarin anticoagulants Coumadin™</p>
<p>Venipuncture Vocabulary:</p> <p><b>White blood cell (WBC)</b></p>	<p>Also leukocyte -- A variety of cells within the blood and bone marrow whose general purpose is to help in fighting infection</p>
<p>Venipuncture Vocabulary:</p> <p><b>White cell count</b></p>	<p>The number of white blood cells (leukocytes) found in the peripheral blood and measured per cubic millimeter</p>
<p>Venipuncture Vocabulary:</p> <p><b>Whole blood</b></p>	<p>Blood from which none of the elements have been removed</p>

Blood Sample Preparation:

**When mixing how many turns of a tube equals one inversion?**



**3 turns = 1 inversion**

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