ELSEVIER Clinical Skills

Blood Specimen Collection: Blood Cultures - CE

CHECKLIST

S = Satisfactory **U** = Unsatisfactory **NP** = Not Performed

Step	S	U	NP	Comments
Performed hand hygiene and donned gloves and PPE as indicated for needed isolation precautions.				
Introduced self to the patient.				
Verified the correct patient using two identifiers.				
Determined whether antibiotics had been administered before specimen collection and informed the practitioner and laboratory of the time of antibiotic administration.				
Assessed the patient's history for risks associated with venipuncture, such as anemia, anticoagulant therapy, low platelet count, a bleeding disorder, venous collapse, traumatic venipuncture, and phlebitis.				
Determined the patient's ability to cooperate with the procedure and his or her experience with blood specimen collection.				
Reviewed the patient's history of venipunctures and asked about signs of adverse responses to previous venipunctures, including a vagal response.				
Assessed the patient for anxiety or fear related to the procedure. Provided reassurance and inquired about how to make him or her more comfortable.				
Assessed the need to apply a local anesthetic to reduce pain from the venipuncture per the organization's practice.				
Assessed the patient for an allergy or sensitivity to antiseptic or analgesic agents or to latex (if latex is used in equipment).				
Assessed the patient for sites contraindicated for venipuncture, such as an IV access site; a site with a hematoma or signs of phlebitis or previous infiltration; a site on the arm on the side of a mastectomy or other lymphatic system compromise; a site affected by radiation, tissue injury, or infection; a site on the arm on the affected side of a stroke; or a current or planned hemodialysis access site.				
Assessed the patient's hydration and perfusion status.				
Assessed the need for equipment to help localize the vein, such as a transilluminator or ultrasound machine.				

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Reviewed the anatomy of the venous system and the organization's practice for the preferred veins for venipuncture.				
Reviewed the manufacturer's instructions for using a blood culture vacuum-extraction system or a syringe and needle for the collection. If drawing blood from a central line, reviewed the manufacturer's instructions for the CVAD, including those regarding connector caps, proper syringe size for flushing and aspiration, and port clamping.				
Determined whether precautions or preconditions needed to be met before the collection of blood specimens for other laboratory tests.				
Consulted with the practitioner about obtaining blood for all required tests during one venipuncture and eliminating routine testing.				
At the patient's side, accessed or completed laboratory requisitions or orders. Obtained computer-generated labels. Compared the labels with the patient's identification band by reading at least two identifiers (per the organization's practice) and having the patient confirm the spelling of his or her full name and date of birth (when possible). Used computer-scanning verification, if available. Did not draw blood if there was a discrepancy between the laboratory requisitions or labels and the patient's identity.				
Reviewed orders for the number of blood culture specimen sets to be drawn and the time required between the venipuncture for each set. Compared them with the laboratory requisitions and labels.				
Identified the appropriate laboratory tubes and bottles and validated the sequence in which the specimens were to be collected (if multiple specimens were required) and the volume required for each test with the laboratory.				
1. Planned to aspirate only the amount needed to avoid blood loss.				
2. Planned to obtain all ordered blood specimens at one time, if possible, to minimize entries into the bloodstream and the risk of infection.				
Identified special requirements for the laboratory specimen, such as whether it needed to be placed in an ice slurry.				

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Reviewed the requirements of the laboratory for labeling and handling the specimens.				
Brought supplies and equipment, including specimen bottles and labels and an ultrasound machine or transilluminator, if required, to the patient's side.				
1. Ensured that all equipment had been cleaned and disinfected using an Environmental Protection Agency-registered disinfectant per the organization's practice.				
2. Ensured that all work surfaces used to hold blood-drawing equipment, including chair arm extensions and tables, had been disinfected to protect the patient and the specimen from contamination.				
3. Ensured that tube expiration dates had not passed and that all equipment and tubes were intact and free from defects or compromises.				
4. Ensured that tubes had been stored upright and at the correct temperature.				
5. Did not preassemble devices before patient identification.				
6. Ensured that devices for the blood collection process were from the same manufacturer.				
Provided privacy for the patient.				
Ensured that the lighting was appropriate for observing vein contours and colors.				
Raised or lowered the bed or chair to a comfortable working height to prevent injury.				
Assisted the patient to a comfortable supine or low-recumbent position and had the patient remove gum, mints, or food from his or her mouth. If drawing blood from a CVAD, positioned the patient so the device was exposed.				
Was prepared to manage venipuncture-associated vasovagal or seizure reactions for an at-risk patient.				
Blood Specimen Collection via Venipuncture				
Performed hand hygiene and donned gloves and appropriate PPE based on the patient's signs and symptoms and indications for isolation precautions.				
Verified the correct patient using two identifiers.				

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Explained the procedure to the patient and ensured that he or she agreed to treatment.				
Indicated the volume of blood needed for each test on the label on each bottle.				
Supported the patient's arm and extended it to form a straight line from the shoulder to the wrist. Placed a small pillow or towel under the upper arm or placed the arm on the arm extension of the chair.				
Placed a clean cloth or paper drape under the patient's arm.				
Identified the best sites for venipuncture per the organization's practice, avoiding contraindicated sites, such as IV access sites.				
1. Chose a vein that was easily visible without applying a tourniquet.				
a. If IV fluid was being administered in one arm, chose a site on the opposite arm. If unable to locate a site on the opposite arm, looked for a venipuncture site distal to the IV infusion site.				
b. Chose a vein that was straight and did not divert into another branch; that had no swelling, hematoma, phlebitis, infection, or infiltration; and that had not had recent venous access or venipuncture.				
2. Considered using ultrasonography or transillumination, per the organization's practice, for a patient with veins that were difficult to observe or palpate.				
3. If a tourniquet was deemed necessary, applied a single-use tourniquet proximal to and four to five finger widths above the site. If the venipuncture site was to be on the same arm as an IV infusion site, placed the tourniquet between the IV infusion site and the intended venipuncture site.				
a. Encircled the extremity and pulled one end of the tourniquet tightly over the other, looping one end under the other.				
b. Applied the tourniquet so it could be removed by pulling one end with a single motion.				

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1. Palpated the selected vein for firmness and rebound.				
2. Instructed the patient to make a fist without vigorously opening and closing it.				
3. If the selected vein could not be palpated or viewed easily, applied a warm compress over the extremity for several minutes (per the organization's practice). If a tourniquet was used, removed the tourniquet and applied a warm compress for several minutes and then reapplied the tourniquet.				
4. Inspected the vein to confirm the selected venipuncture site. If a tourniquet had been reapplied, quickly inspected the vein distal to the tourniquet, then released the tourniquet.				
As prescribed or per the organization's practice, applied a topical anesthetic if required to reduce pain. Removed the anesthetic completely from the skin after the prescribed dwell time.				
Prepared the collection equipment using bottles, holders, needles, syringes, and transfer devices from the same system and manufacturer.				
1. Chose an appropriate-size needle that was small enough to fit in the vein but did not cause hemolysis.				
2. If using a winged-butterfly needle system, ensured that the venipuncture needle with tubing and a safety device was securely attached to the vacuum-extraction system collection barrel. Alternatively, and if required, removed the sterile cap from the rubber sheathed end of the winged-butterfly needle tubing and made the Luer lock connection of the sheathed needle and the collection barrel. If a single-ended, winged-butterfly needle with tubing was used, made the Luer lock connection between the needle and the collection barrel housing of a sheathed needle.				
3. If using a vacuum-extraction system, positioned the culture bottles securely, upright, and close enough to the venipuncture site so the tubing connected to the needle reached from the selected				

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vein to the upright bottle. Rested the collection barrel over the aerobic bottle. Waited to puncture the rubber stopper with the sheathed needle.				
4. If using a winged-butterfly or straight needle attached to a syringe, positioned the culture bottles securely upright and place a sterile transfer device housing a rubber-sheathed needle within reach.				
Located the selected venipuncture site.				
Performed hand hygiene and donned gloves and appropriate PPE based on the patient's signs and symptoms and indications for isolation precautions.				
Prepared the venipuncture site.				
1. Cleansed the skin with alcohol, then allowed to dry completely.				
2. Prepared the insertion site with greater than 0.5% chlorhexidine in alcohol solution, using a back-and-forth motion for a minimum of 30 seconds, and allowed to dry completely.				
3. Disinfected the culture bottle tops with 70% isopropyl alcohol (i.e., alcohol pad).				
Obtained the blood culture specimens.				
1. Located the selected venipuncture site. If a tourniquet was deemed necessary, reapplied the tourniquet and located the vein.				
2. Removed the cap from the venipuncture needle, maintaining the needle's sterility. Informed the patient that he or she would feel a stick.				
3. Placed the thumb or forefinger of the nondominant hand distal to the venipuncture site and gently stretched the patient's skin distal to the patient until it was taut and the vein was stabilized.				
4. If using a butterfly needle, held it by the wings; if using a straight needle attached to a syringe, held it at the hub. Inserted the needle at a 30-degree angle with the bevel up, just distal to the selected site				
5. Slowly inserted the needle into the vein.				
Transferred the specimen to the culture bottles.				

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1. Butterfly-winged needle device method				
a. Placed a safety device on the syringe and distributed the blood volume evenly between the two culture bottles. Ensured a minimum of 10 ml for each bottle. Filled the aerobic bottle first.				
i. Without dislodging the needle from the vein, pushed the attached collection barrel onto the prepared aerobic culture bottle by inserting the sheathed needle through the rubber stopper so the vacuum pulled the blood into the bottle. Collected a minimum of 10 ml of blood into the aerobic bottle.				
ii. Detached the collection barrel and inserted the sheathed needle through the rubber stopper of the prepared anaerobic bottle. Ensured that the culture bottle received a minimum of 10 ml of blood.				
b. Detached the collection barrel after the anaerobic bottle was filled with 10 ml.				
c. If additional blood specimens were required for other laboratory tests, inserted additional specimen tubes into the collection barrel and engaged the sheathed needle, as needed. After tubes containing additives were filled with blood, gently turned them up and down immediately.				
d. If the blood flowed sufficiently into the bottles or tubes and a tourniquet was used, released the tourniquet just before filling the last specimen tube or syringe. If blood flow was slow and a tourniquet was used, waited to release the tourniquet until the last bottle or tube was almost full.				
e. Applied a sterile 2 × 2-in gauze pad over the venipuncture site but did not apply pressure. Quickly but carefully withdrew the needle from the vein, activating the safety mechanism to prevent an accidental needlestick injury.				

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f. Immediately applied pressure over the venipuncture site with gauze until bleeding stopped.				
g. Observed the venipuncture site for bleeding for 5 to 10 seconds before applying a bandage. Used tape or a bandage to secure the gauze and allowed it to remain in place for at least 15 minutes.				
2. Needle and syringe method				
a. Gently aspirated 20 ml of blood into an appropriate-size syringe.				
b. If the blood was flowing sufficiently and a tourniquet was used, released the tourniquet just before filling the syringe.				
c. Applied a sterile 2 × 2-in gauze pad over the venipuncture site but did not apply pressure. Quickly but carefully withdrew the needle from the vein, activating the safety mechanism to prevent an accidental needlestick injury.				
d. Immediately applied pressure over the venipuncture site with gauze until the bleeding stopped.				
e. Observed the venipuncture site for bleeding for 5 to 10 seconds before applying a bandage. Applied gauze with tape or a bandage for at least 15 minutes.				
f. Distributed the blood volume evenly between the culture bottles without replacing the needle. If both anerobic and aerobic samples were needed, filled the anaerobic culture bottle first.				
1. Kept the bottle and syringe upright and inoculated the anaerobic bottle, ensuring that no air was transferred from the syringe into the anaerobic bottle.				
2. Inoculated the aerobic culture bottle with a minimum of 10 ml for the most accurate results.				
Immediately discarded the remaining sharp devices, including the collection barrel and transfer device, into an easily accessible sharps container.				

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Did not recap needles or attempt to remove the needle from the collection barrel.				
Repeated the specimen collection sequence for a second set.				
Gently mixed the culture broth and blood in the bottles.				
Examined the culture bottles for signs of external contamination with blood. Decontaminated the bottles, if necessary, per the laboratory's practice.				
Helped the patient assume a comfortable reclining position. Allowed the patient to maintain this position for several minutes.				
Prepared the specimens for the laboratory.				
1. In the presence of the patient, labeled the specimens per the organization's practice.				
2. Prepared the specimens for transport.				
a. Placed the labeled specimens in a biohazard bag.				
b. If the specimens required ice for transport, placed the specimens in a biohazard bag, then placed the bag with the specimens into a second biohazard bag filled with ice slurry.				
Immediately transported the specimens to the laboratory.				
Assessed, treated, and reassessed pain.				
Discarded supplies, removed PPE, and performed hand hygiene.				
Documented the procedure in the patient's record.				
Blood Specimen Collection via a Central Venous Access Device (CVAD)				
Performed hand hygiene and donned gloves appropriate PPE based on the patient's signs and symptoms and indications for isolation precautions.				
Verified the correct patient using two identifiers.				
Explained the procedure to the patient and ensured that he or she agreed to treatment.				
Indicated the volume of blood needed for each test on the label on each bottle.				
Assessed the external CVAD site for signs of infection as well as leakage and dressing integrity and reported signs of sepsis or infection immediately.				

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Selected the appropriate lumen for blood sampling.				
If IV solutions or medications were infusing through the CVAD, determined whether stopping the infusion would affect the patient's hemodynamic stability. If appropriate, stopped all infusions and flushed with 0.9% sodium chloride solution.				
If the tubing had to be detached from the CVAD, placed a sterile cap on it.				
Clamped the port before detaching any tubes, syringes, or devices if the CVAD used a needleless connector cap with no internal mechanism.				
Changed the needleless connector cap, using aseptic technique. Ensured that no air entered the system.				
Disinfected the needleless connector using vigorous mechanical scrubbing for a minimum of 5 to 60 seconds, according to the organization's practice with an appropriate disinfecting agent (e.g., 70% isopropyl alcohol, an iodophor such as povidone-iodine, or greater than 0.5% chlorhexidine in alcohol solution), and allowed the solution to dry.				
Gently aspirated a minimum of 10 ml of blood per bottle for accurate results.				
Connected the syringe to a sterile safety transfer device to fill the bottles. Ensured that the syringe nozzle was not contaminated.				
Kept the bottle and syringe upright and inoculated the anaerobic bottle first, ensuring that no air was transferred from the syringe into the anaerobic bottle. Injected 10 ml of blood into each bottle.				
If a second set of cultures from the CVAD was required, repeated the procedure from a second port. Ensured that the culture bottles were correctly labeled to indicate which port was used to collect each set.				
Immediately discarded the remaining sharp devices, including the transfer device, into an easily accessible sharps container. Did not recap needles or attempt to remove the needle from the collection barrel.				
Repeated the specimen collection sequence for a second set.				

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Changed the needleless connector cap if blood or debris was visible, using aseptic technique and vigorous mechanical scrubbing. Ensured that no air entered the system.				
Locked the port with solution per the manufacturer's recommendation and per the organization's practice.				
Clamped the port or reattached the infusion tubing, using aseptic technique, and resumed the ordered infusion.				
Gently mixed the culture broth and blood in the bottles.				
Examined the culture bottles for signs of external contamination with blood. Decontaminated the bottles, if necessary, per the laboratory's practice.				
Helped the patient assume a comfortable reclining position. Allowed the patient to maintain this position for several minutes.				
Prepared the specimens for the laboratory.				
1. In the presence of the patient, labeled the specimens per the organization's practice.				
2. Prepared the specimens for transport.				
a. Placed the labeled specimens in a biohazard bag.				
b. If the specimens required ice for transport, placed the specimens in a biohazard bag, then placed the bag with the specimens into a second biohazard bag filled with ice slurry.				
Immediately transported the specimens to the laboratory.				
Assessed, treated, and reassessed pain.				
Discarded supplies, removed PPE, and performed hand hygiene.				
Documented the procedure in the patient's record.				

Learner: _____ Signature: _____

Evaluator: _____ Signature: _____

Date: _____