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ROUTINE VENIPUNCTURE GUIDELINES

MATERIALS

1. Safety Needles, 22g or less
2. Butterfly needles. 21g or less
3. Syringes
4. Vacutainer tube holder
5. Transfer Device
6. Blood Collection Tubes.
    - The vacuum tubes are designed to draw a predetermined volume of blood.
    - Tubes with different additives are used for collecting blood specimens for specific types of tests.
    - The color of cap is used to identify these additives.
7. Tourniquets. Single use, disposable, latex-free tourniquets
8. Antiseptic. Individually packaged 70% isopropyl alcohol wipes.
9. 2x2 Gauze
10. Sharps Disposal Container. An OSHA acceptable, puncture proof container marked "Biohazardous".
11. Bandages or tape

SAFETY

1. Observe universal (standard) safety precautions.
2. Observe all applicable isolation procedures.
3. PPE's will be worn at all times.
4. Wash hands in warm, running water with a appropriate hand washing product,
5. If hands are not visibly contaminated a commercial foaming hand wash product may be used before and after each patient collection.
6. Gloves are to be worn during all phlebotomies, and changed between patient collections.
7. Palpation of phlebotomy site may be performed without gloves providing the skin is not broken.
8. A lab coat or gown must be worn during blood collection procedures.
9. Needles and hubs are single use and are disposed of in an appropriate 'sharps' container as one unit.
10. Needles are never recapped, removed, broken, or bent after phlebotomy procedure.

11. Gloves are to be discarded in the appropriate container immediately after the phlebotomy procedure.
12. All other items used for the procedure must be disposed of according to proper biohazardous waste disposal policy.
13. Contaminated surfaces must be cleaned with freshly prepared 10% bleach solution. All surfaces are cleaned daily with bleach.
14. In the case of an accidental needlestick, immediately wash the area with an antibacterial soap, express blood from the wound, and contact your supervisor.

PROCEDURE

1. Identify the patient, two forms of active identification are required.
    - Ask the patient to state their name and date of birth.
    - This information must match the requisition.
2. Reassure the patient that the minimum amount of blood required for testing will be drawn.
3. Verify that any diet or time restrictions have been met.
4. Order of Draw
    - The following order of draw is the approved order as established by CLSI.
    - This order of draw should be followed whenever multiple tubes are drawn during a single venipuncture.
    - This is to prevent cross contamination by the tube additives that could lead to erroneous results.

1. Blood Culture
2. Light Blue Top (plasma): 3.2% sodium citrate. These tubes are used for coagulation tests and need to be completely filled to ensure the proper ratio of blood to anticoagulant.
3. Red Top (serum): Plain and gel. Used for chemistry and reference tests.
4. Green Top (plasma): With and without gel, contains lithium heparin. These tubes are used primarily for chemistry tests.
5. Lavender or Pink Top (plasma): Contains EDTA. Used primarily for hematology and blood bank testing.
6. Gray Top (plasma): Contains sodium fluoride/potassium oxalate. Used by chemistry for glucose testing.
7. Yellow Top (plasma and cells): Contains ACD solution A or B. Used for Genetics testing.

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NOTE: When using a winged blood collection set for venipuncture and a coagulation tube is the first tube needed, first draw a discard tube (plain red top or light blue top). The discard tube does not need to be filled completely.

1. Assemble the necessary equipment appropriate to the patient's physical characteristics.
2. Wash hands and put on gloves.
3. Position the patient with the arm extended to form a straight-line form shoulder to wrist.
4. Do not attempt a venipuncture more than twice. Notify your supervisor or patient's physician if unsuccessful.
5. Select the appropriate vein for venipuncture.
    - The larger median cubital, basilic and cephalic veins are most frequently used, but other may be necessary and will become more prominent if the patient closes his fist tightly.
    - At no time may phlebotomists perform venipuncture on an artery.
    - It is not recommended that blood be drawn from the feet .The Providers permission is required to draw from this site.
    - Extensive scarring or healed burn areas should be avoided
    - Specimens should not be obtained from the arm on the same side as a mastectomy.
    - Avoid areas of hematoma.
    - If an IV is in place, samples may be obtained below but NEVER above the IV site.
    - Do not obtain specimens from an arm having a cannula, fistula, or vascular graft.
    - Allow 10-15 minutes after a transfusion is completed before obtaining a blood sample.
6. Apply the tourniquet 3-4 inches above the collection site.
    - Never leave the tourniquet on for over 1 minute.
    - If a tourniquet is used for preliminary vein selection, release it and reapply after two minutes.
7. Clean the puncture site by making a smooth circular pass over the site with the 70% alcohol pad, moving in an outward spiral from the zone of penetration.
    - Allow the skin to dry before proceeding.
    - Do not touch the puncture site after cleaning.

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8. Perform the venipuncture
    1. Attach the appropriate needle to the hub by removing the plastic cap over the small end of the needle and inserting into the hub, twisting it tight.
    2. Remove plastic cap over needle and hold bevel up.
    3. Pull the skin tight with your thumb or index finger just below the puncture site.
    4. Holding the needle in line with the vein, use a quick, small thrust to penetrate the skin and enter the vein in one smooth motion.
    5. Holding the hub securely, insert the first vacutainer tube following proper order of draw into the large end of the hub penetrating the stopper. Blood should flow into the evacuated tube.
    6. After blood starts to flow, release the tourniquet and ask the patient to open his or her hand.
    7. When blood flow stops, remove the tube by holding the hub securely and pulling the tube off the needle.
    8. Gently invert each tube
        - Light blue top- invert 3-4 times
        - Red and gold tops invert 5 times.
        - All other tubes containing an additive should be gently inverted 8-10 times.
    9. DO NOT SHAKE OR MIX VIGOROUSLY.

    If multiple tubes are needed, follow the proper order of draw
9. Place a gauze pad over the puncture site and remove the needle.
10. Activate the safety device and properly dispose of the vacutainer holder with needle attached into a sharps container.
11. Immediately apply slight pressure to the gauxe pad over the venipuncture site..
    - Ask the patient to apply pressure for at least 2 minutes.
    - When bleeding stops, apply a fresh bandage, gauze or tape.
12. Tubes must be positively identified after filling with a firmly attached patient label.
    - The label must inlude the patient first and last names, DOB,, collection date and time and collectors initials.
    - If no patient labels are available, manually label the tubes with the required information. All labels must include two identifiers .
    - The tube must be labeled before leaving the patient.
13. Observe special handling requirements
    - Some test specimens require special handling for accurate results.
    - Refer to the specific test in the online directory for handling and storage requirements.

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VENIPUNCTURE PROCEDURE USING A SYRINGE:

1. Place a sheathed needle or butterfly on the syringe.
2. Remove the cap and turn the bevel up.
3. Pull the skin tight with your thumb or index finger just below the puncture site.
4. Holding the needle in line with the vein, use a quick, small thrust to penetrate the skin and vein in one motion.
5. Draw the desired amount of blood by pulling back slowly on the syringe stopper. Release the tourniquet.
6. Place a gauze pad over the puncture site and quickly remove the needle.
7. Immediately apply pressure. Ask the patient to apply pressure to the gauze for at least 2 minutes.
8. When bleeding stops, apply a fresh bandage, gauze or tape.
9. Transfer blood drawn into the appropriate tubes as soon as possible using a Blood Transfer Device, as a delay could cause improper coagulation.
10. Gently invert tubes containing an additive 5-8 times.
11. Dispose of the syringe and needle as a unit into an appropriate sharps container.

INFANT/CHILD PHLEBOTOMY

1. Confirm the patient's identification
2. Secure patient to Papoose apparatus for stabilization if child is unable to sit upright on their own.
3. Assemble the required supplies
4. Select the collection site and proceed as routine phlebotomy. If the child is old enough, collect blood as in an adult.

TROUBLESHOOTING HINTS FOR BLOOD COLLECTION

If a blood sample is not attainable:

1. Reposition the needle.
2. Ensure that the collection tube is completely pushed onto the back of the needle in the hub.
3. Use another tube as vacuum may have been lost.
4. Loosen the tourniquet.
5. Probing is not recommended. In most cases, another puncture in a site below the first site is advised.
6. A patient should never be stuck more than twice unsuccessfully by a phlebotomist. The Supervisor should be called to assess the patient.

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REFERENCES

1. NCCLS: Procedure for the Collection of Diagnostic Blood Specimens by Venipuncture; Approved Standard, Sixth Edition, Vol 27, No 26 (H3-A6), 2007
2. Neonatal Procedures: SpecColProc2003.doc
3. Nursing Procedure Manual. Lippincott Online with addenda, 2004.
4. OSHA Safety and Health Bulletin SHIB 03-10-15: Disposal of Contaminated Needles and Blood Tube Holders Used for Phlebotomy.