

Blood collection

1-Capillary or peripheral Blood:

This method used to draw a small amount of blood in special micro tubes (capillary tubes) so, only a few test can be performed.

Material :

- 1.Lancet
2. Capillary tubes
- 3.Alcohol
- 4.Cotton

Procedure

1. Disinfect the area by 70% alcohol and allow to dry
2. Deep quick stab the area by disposable blood lancet, the puncture should be about 3 mm
3. Wipe off the first drop of Blood and a little pressure is applied
4. Never press out Blood
5. Take the Blood
6. Apply slight pressure over the area(Do not use excessive pressure because the blood may become diluted with tissue fluid).

Sites for capillary puncture:--

- 1.Finger pulp
- 2.Heel pulp or great toe (in infant)
- 3.Ear lobe

2- Venous Blood venipuncture:

When you need a large volume of blood, a venous sample of blood must be obtained

- **Preparation for blood collection**

1. Read the request of the patient.
2. prepare equipment for blood sampling (Tourniquet, Alcohol, Cotton, Adhesive strip, Sterile Disposable syringes)
3. Prepare the suitable tubes for each test.

- **Positioning the patient and choosing the vein**

- a. The patient should sit Comfortable in a chair or sit up in bed.
- b. In order to avoid problems with hemoconcentration and hemodilution, the patient should be seated for 15 to 20 minutes before the blood is drawn.
- c. Avoid arm with burn area, hematoma , scaring , recently injected or withdrawn syringe (tissue fluid accumulation alters test results).
- d. Apply tourniquet to distend the vein (tourniquet obstructs the venous return so it helps to distend the vein) .

Note As a rule, the tourniquet should not be placed too tightly or left on the patient for more than 2 min.

- **What are the effects if it left for more than 2 min?**

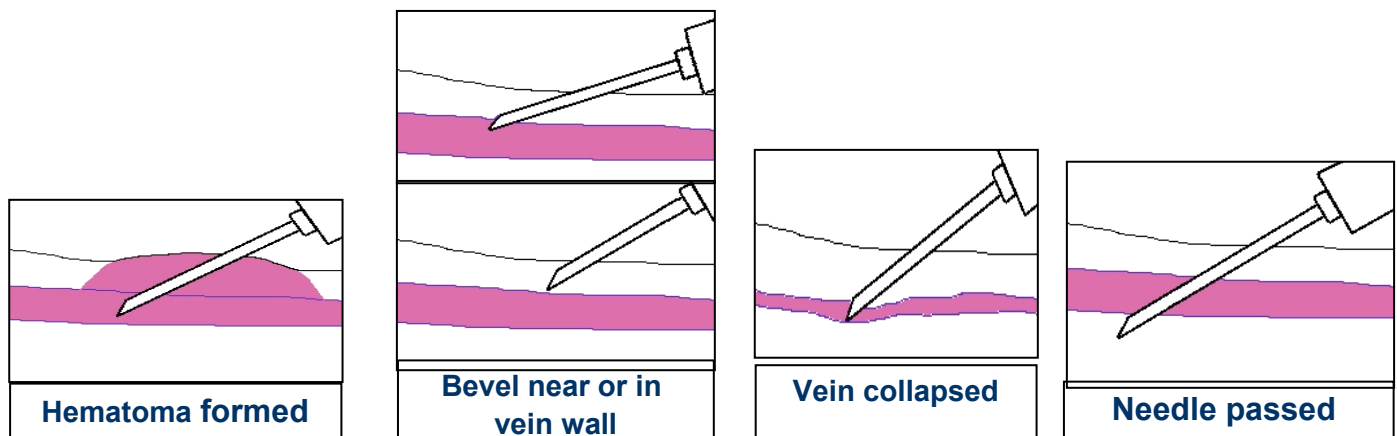
Prolonged application of the tourniquet results in partial stasis of blood which leads to hemoconcentration that increase concentration of serum enzymes, potassium, proteins, and protein-bound substances as calcium.

Vein-puncture:

1. Check the syringe
2. The plunger must be pushed firmly to the bottom of the cylinder to prevent injection of air into the vein, this can be fatal.
3. Use 70% alcohol as disinfectant the site in concentric circle and let it to dry for 30–60 sec to avoid hemolysis and burning sensation.
4. Enter by the needle at 45 degree angle (under the skin and then into the vein), When the needle enter the vein there is sudden lose of resistance and blood come in the head of needle
5. Remove the tourniquet once the needle has been inserted

Note If the needle were removed prior to the Tourniquet being removed, blood would be forced out of the venipuncture site, resulting in hematoma.

6. Withdraw blood gradually by gently pulling upon the syringe plunger
7. Place a sterile cotton piece over the point where the needle entered the skin.
8. Remove the syringe quickly
9. Dispose of contaminated materials and needles in special disposal containers.



VENIPUNCTURE

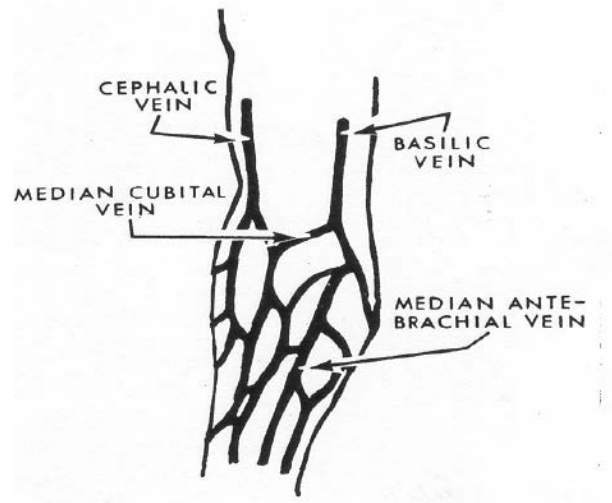


Figure 1. Site of venipuncture.

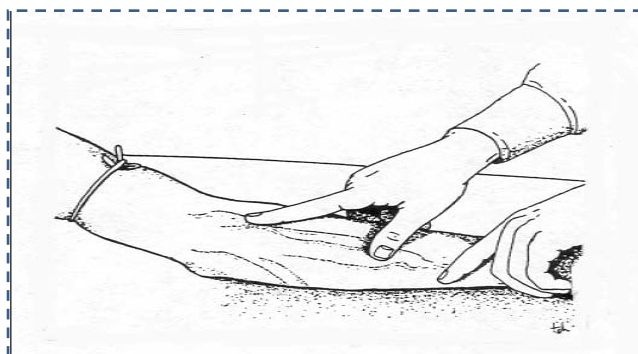


Figure -2. Venipuncture procedure: Locate the vein.

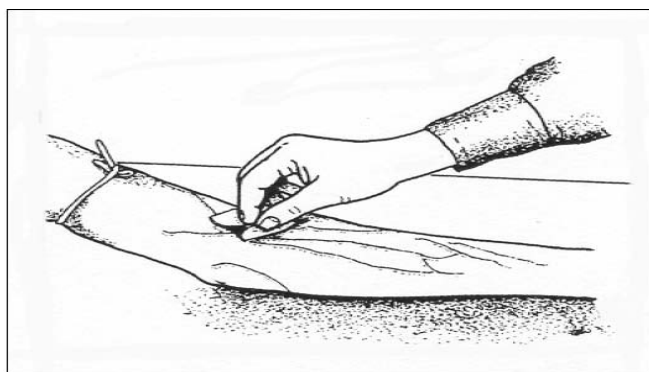


Figure -3. Venipuncture procedure: Clean the puncture site.

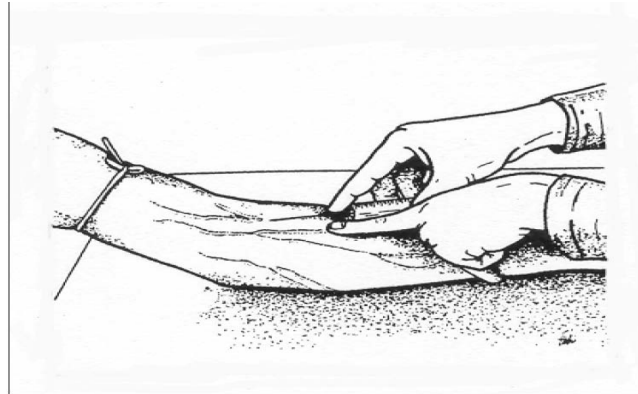


Figure -4. Venipuncture procedure: Guide needle toward the vein.

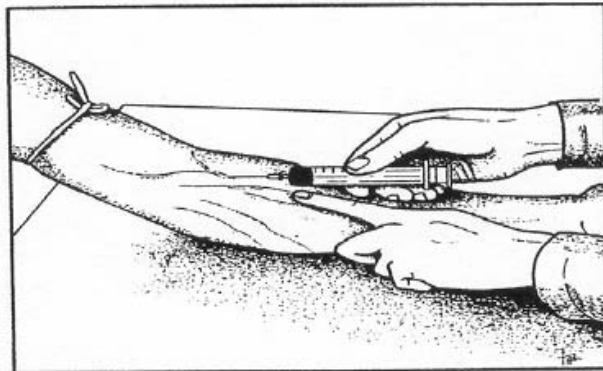


Figure5. Venipuncture procedure: Insert needle into the vein.

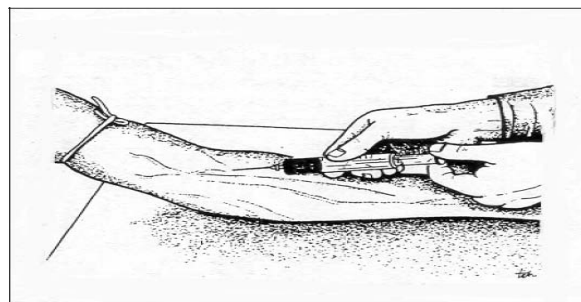


Figure.6 Venipuncture procedure: Aspirate the blood.

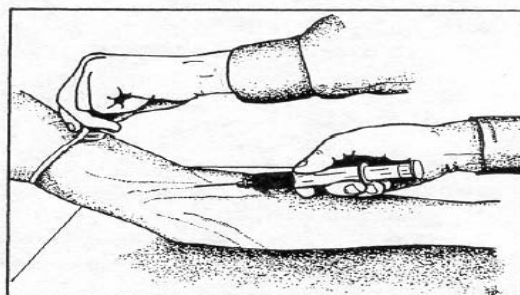


Figure.7 Venipuncture procedure: Remove the tourniquet.

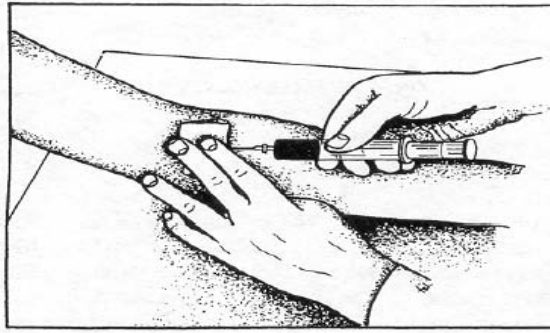


Figure 8 - Venipuncture procedure: Place a sterile pad over the site and withdraw the needle.

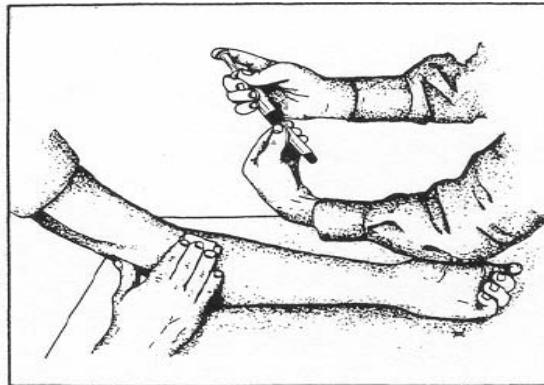


Figure -9. Venipuncture procedure: Have the patient extend the arm and maintain light pressure on the site.

اعداد اساتذة الفسلجة العملي

قسم التمريض

كلية المستقبل الجامعة