**WITHDRAWING VENOUS BLOOD**

Withdrawing venous blood is the most common invasive procedure. Each step of the process effects the quality of the sample and the safety of the patient.

1. **General guidelines**

* Biological sample i sis always collected according to the guidelines of the laboratory that will analyze it
* Always identify the patient before the procedure
* Introduce yourself and explain the procedure
* Draw blood into the tubes labeled beforehand
* Store the samples according to standards
* ALL BIOLOGIAL SAMPLES ARE CONSIDERED POTENTIALLY INFECTIOUS

1. **Types of the collection**

* Open collection – using syringe and needle, or using capillary blood collection (done in cases when closed vacuum system collection is not possible)
* Closed vacuum system collection – using tubes with vacuum or combined vacuum tubes with a plunger

1. **Equipment (closed system)**

* Gather the equipment, place within easy reach
* Vacuum blood collection tubes
* Clean gloves
* Sterile collection (double ended) needle
* Needle holder
* Tourniquet
* Hand disinfectant
* Skin disinfectant (spray or alcohol wipes)
* Swabs or wipes
* Cloth protection drape
* Lab slip and tube labels
* Sharps/biohazard container
* Emesis basin
* Plaster
* Tubes stand or tray

1. **Patient identification and preparation**

* Introduce yourself and explain the procedure
* Identify the patient by asking the name and date of birth and checking ID band
* Check the name on the lab slip and tube labels
* Place the patient in comfortable position (sitting or lying) with stretched arm, place protective drape under the arm (PHOTO)

1. **Venipuncture site selection**

* Superficial veins of upper arms are used
* The most appropriate vein is medial cubital vein in antecubital fossa; basilic or cephalic veins can also be used
* Do not draw blood from an arm with IV fistula, IV cannula or on the site of radical breast removal with axillar lymph node removal

1. **Procedure – closed, vacuum system**

* Identify the patient
* Perform hand hygiene and don clean gloves
* Select venipuncture site
* Place a tourniquet 5 cm above the selected site
* Ask the patient to open and close fist
* Palpate the vein
  + - 1. Clean the site with alcohol swab and let dry
      2. Or spray the disinfection on the skin and wait 30 seconds
* Assembly the needle and needle holder
* Hold skin taut with nondominant hand
* Remove cap from needle and perform a venipuncture with bevel of needle pointing up 30 degree
* Once the needle is positioned in the vein place the first test tube into the holder all the way so the rubber cap is punctured
* Replace the tube once it is filled with blood
  + - 1. Recommended order of the tubes
* Plain tubes
* Tubes with anticoagulants
* Other tubes with added substances
* Rotate tubes with the substances several times so the substance is mixed with blood
* Release the tourniquet when the last tube is filled
* Remove the last tube from the holder
* Remove the needle and apply pressure over site with gauze, hold for 2 – 3 minutes (longer if the patient takes anticoagulants) with the arm straight
* Place the needle into the biohazard container

1. **Procedure – closed vacuum system using butterfly needle**

* Procedure same as in part 6
* The needle can by secured in place by tape

1. **Procedure – open system using syringe and needle**

* Use needle size 18 – 20G, smaller needle could result in hemolysis of the sample
* Select appropriate lenght of the needle to prevent injury to the vein and surrounding tissue
* Connect needle and syringe
* Perform the venipuncture with the bevel of the needle pointing upwards at 15-30 degree angle
* Watch for the backflow of blood
* Release tourniquet and draw blood by pulling gently on the plunger
* Remove needle from the vein and apply pressure over the puncture site
* Change the needle and transfer blood carefully into labeled test tube