

# The Blood Collection

Presented By:

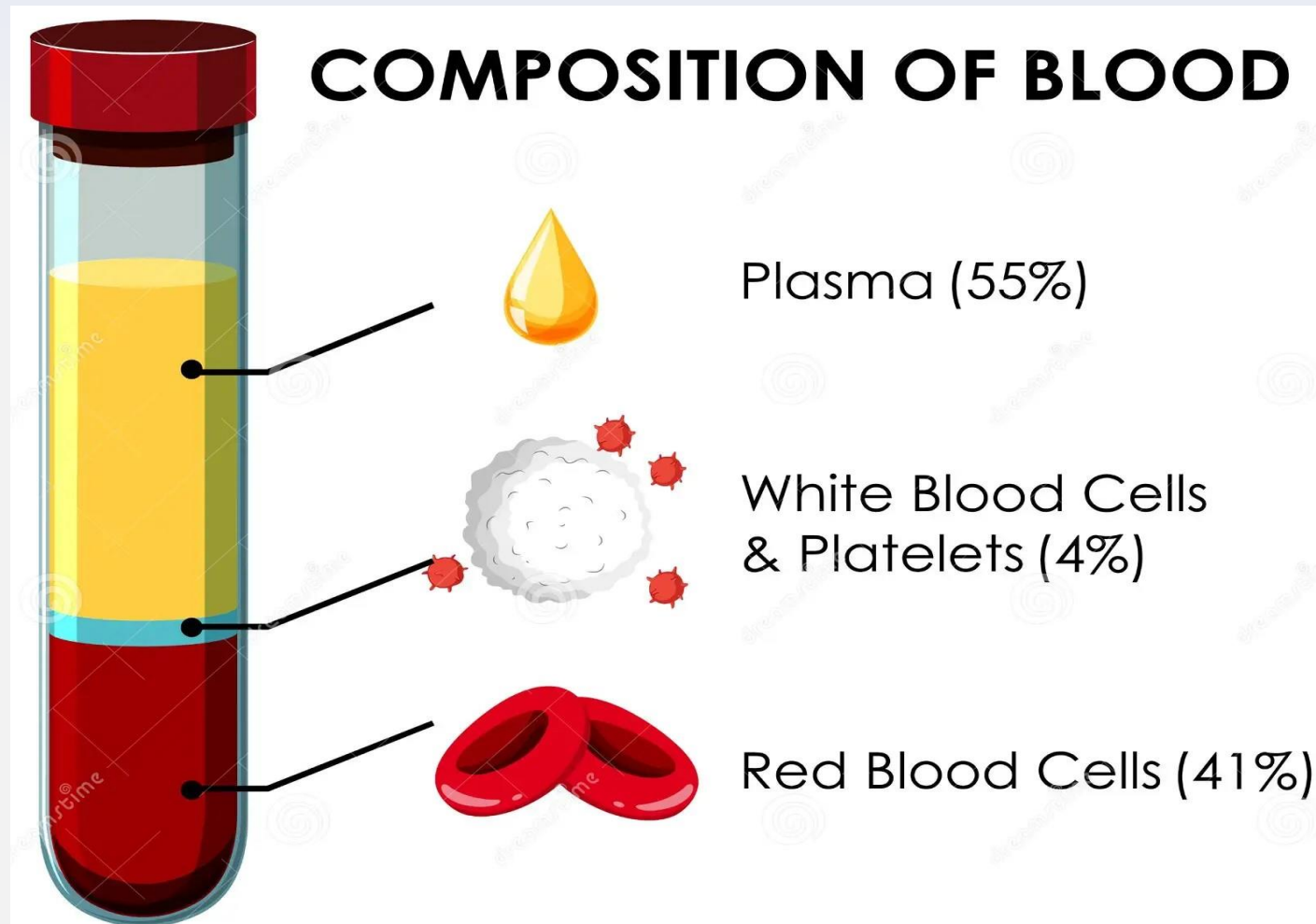
Asst. Lect. Mohammed Abbas Abdullah

MSC Biochemistry



# The Blood

- ❖ Blood is a tissue that circulates in a closed system of blood vessels. It consists of a cellular portion (red, white blood cells, and platelets), which forms (45%) of the blood volume and is suspended in the cellular liquid medium plasma (55%) of blood volume.



# Blood Collection

- ❖ It is a procedure to obtain a sample through a vein or artery to perform required analyses
- ❖ Blood tests are usually performed on blood taken from veins or arteries
- ❖ Blood collection methods include
  1. Venipuncture (penetrating a vein with a needle) with an evacuated tube system, syringe method, or butterfly infusion set.
  2. Capillary blood system whereby the skin puncture is done with the use of a lancet.
- ❖ Use of the evacuated blood collection system is preferable because it allows the blood to pass directly from the vein into the evacuated tube eliminating the need for specimen transfer.
- ❖ Venous blood is used in most biochemical tests
- ❖ Arterial blood is used for some tests such as blood gases

# Materials Required For Blood Withdrawal



Gloves



Needles



The Hub



Evacuated Collection Tubes



Alcohol Wipes



Syringes



Bandages/Tape



Gauze Sponges



Povidone/Iodine Swabs/Wipes

**Sample Requisition Form for Laboratory Processing**

Patient Name \_\_\_\_\_  
Patient ID \_\_\_\_\_ Sex \_\_\_\_\_  
Source of Specimen \_\_\_\_\_  
Date Collected \_\_\_\_\_ Time \_\_\_\_\_ Place \_\_\_\_\_  
Physician \_\_\_\_\_ Location \_\_\_\_\_  
Diagnosis \_\_\_\_\_

**TESTS REQUESTED:**

\_\_\_\_\_ Electrolyte Panel \_\_\_\_\_ Complete Blood Count  
\_\_\_\_\_ Hepatic Panel \_\_\_\_\_ Prostate / PTT

Requisition Form



Tourniquet



Sharps Container

# Blood Collection Tubes

❖ The type of tubes depends on the type of tests the laboratory is required to perform

## Tubes for obtaining whole blood or plasma

1. Ethylenediamine Tetraacetic Acid (EDTA tube)
2. Trisodium Citrate
3. Sodium Fluoride
4. Heparin Tube



# Tubes For Obtaining Serum

1. Gel Tube
2. Plain Tube



## Capillary Tubes

1. Blue Capillary
2. Red Capillary



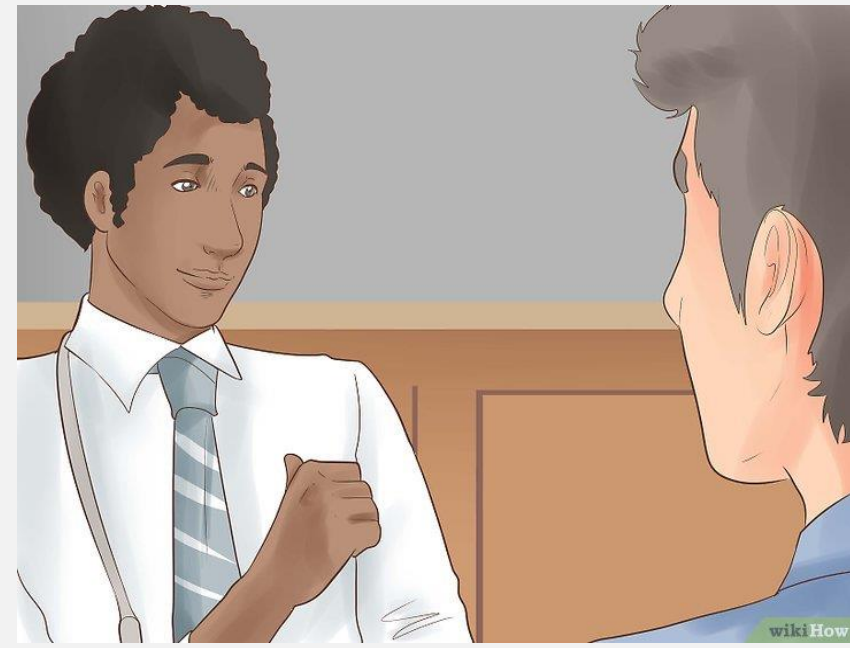
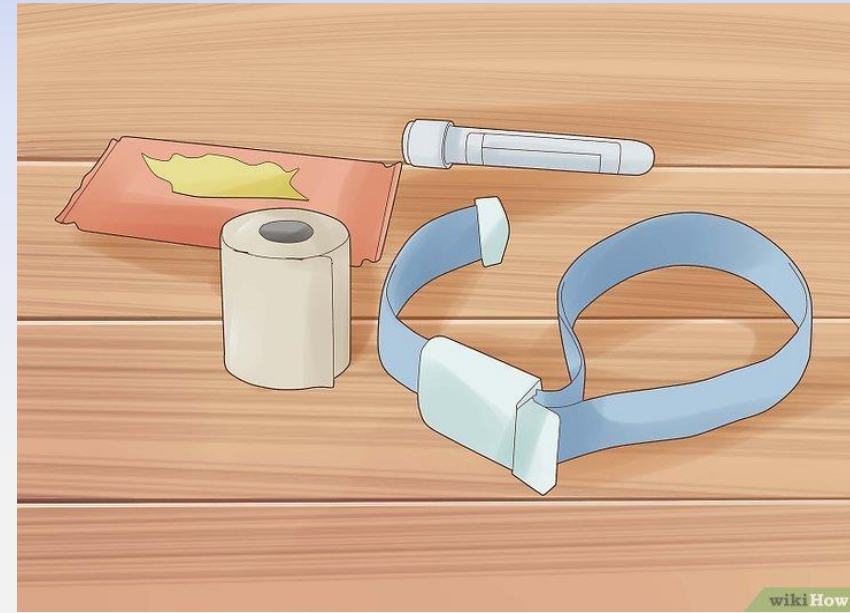
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# Steps to draw blood

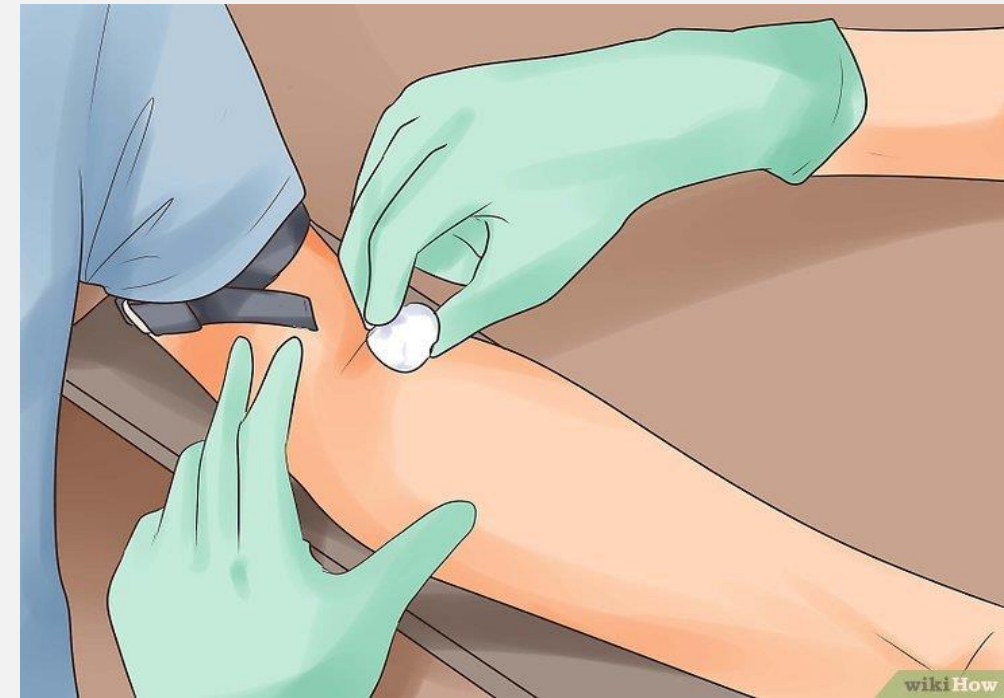
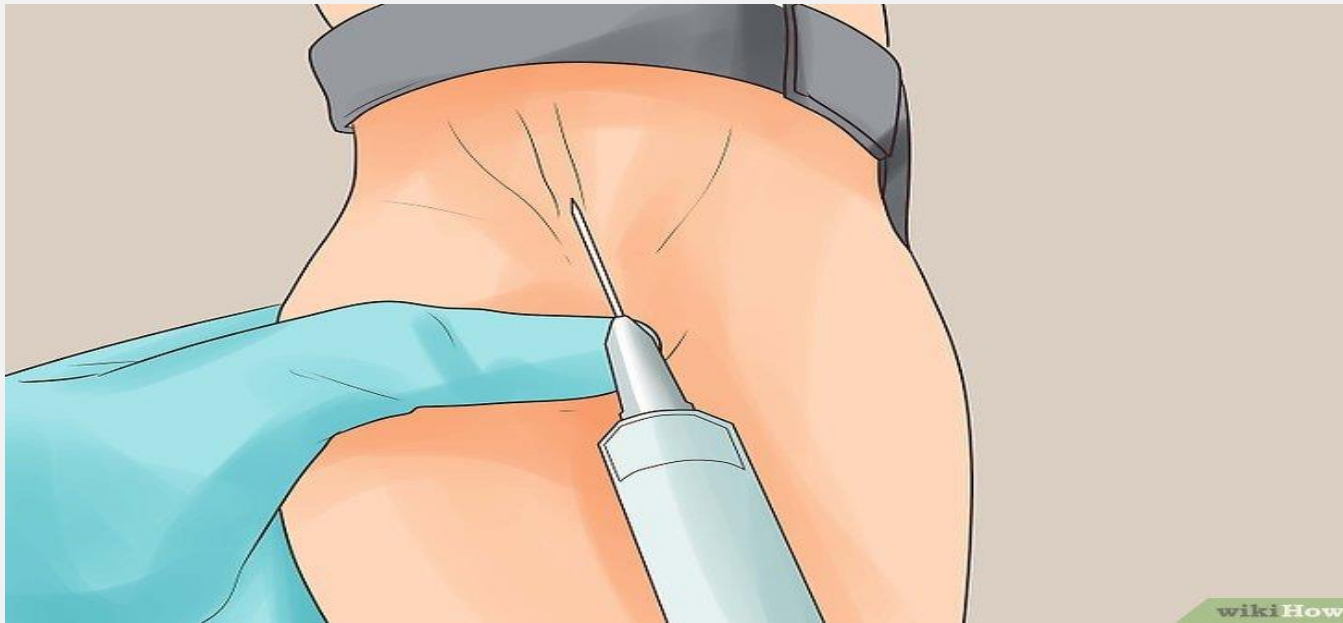
1. Ensure that you have all the equipment required to draw blood
2. Identify the patient and explain the procedure to them, ensuring their consent and reassuring the patient that the minimum amount of blood required for testing will be drawn.
3. Select an appropriate site for venipuncture, usually the inner elbow area where veins are easily accessible.
4. Wear gloves and place a tourniquet three fingers apart over the intended venipuncture site to congest the veins and make them more visible and accessible.



5. Select the appropriate vein carefully, avoid burned, injured, or infected places, if any, and determine the location of the vein by sight and touch

6. Clean the selected venipuncture site with an alcohol 70% swab and allow it to air dry. This helps prevent infections

7. Gently insert the needle through the skin into the vein at a 15 – 30 degree angle and insert about a third of the needle. Once the needle is positioned correctly in the vein, blood will begin to flow into the syringe

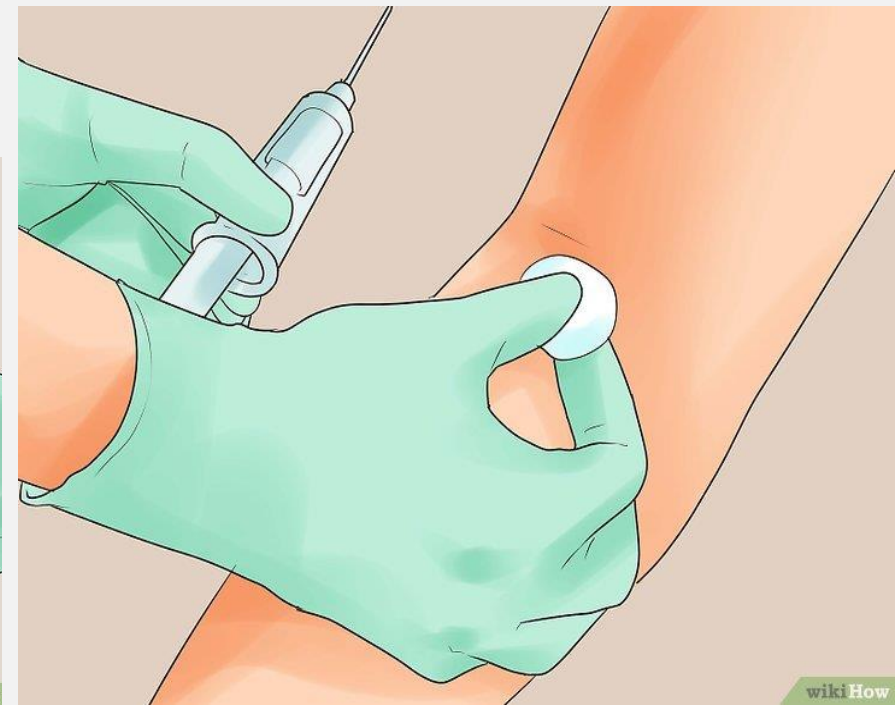
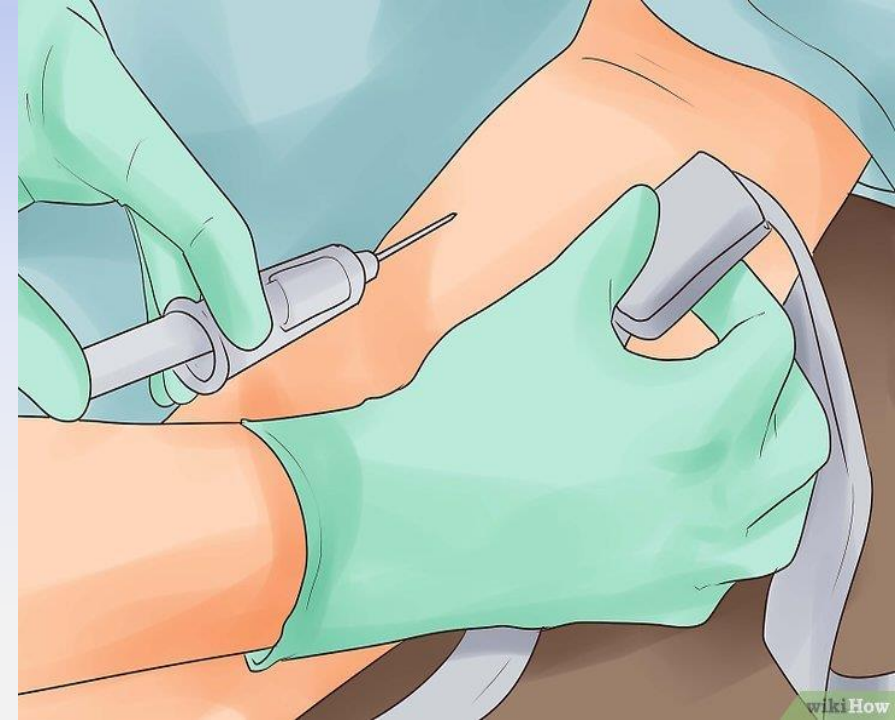


8. Once an adequate amount of blood has been collected, remove the tourniquet withdraw the needle from the vein smoothly, and apply pressure to the puncture site with a sterile gauze pad to stop any bleeding and reduce the risk of bruising.

9. After the procedure, provide the patient with a bandage or adhesive strip to cover the puncture site.

10. Empty the blood in the syringe into the tube used for the required analysis and empty the blood sample slowly so as not to decompose the blood (Hemolysis).

11. Finally, write the patient's information on the sample tube



# Notes About Blood Drawing

- ❖ Do not tie the tourniquet for long periods to search for a vein
- ❖ Do not tie the tourniquet when performing a calcium test.
- ❖ Sometimes the patient is asked to clench and open his fist to generate pressure inside the veins to check the vein before withdrawing), but this condition is not desirable when performing a potassium (K) test.
- ❖ You must check the quality of the syringe, make sure that it is closed and has not been used before, and that it is empty of air, and make sure that the appropriate size and type are used. All of these things help in speeding up the successful completion of the matter.
- ❖ Some patients become very tired during the blood draw. Ask the patient not to look at the needle while it is inserted into the vein.
- ❖ If you are drawing a blood sample from a child, suggest that he sit on his father's knee for more comfort and reassurance.

Thank you...

