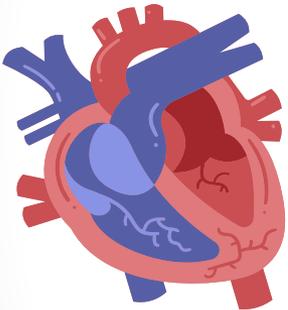
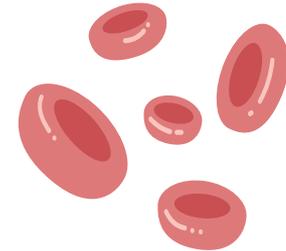




جمهورية العراق  
وزارة التعليم العالي والبحث العلمي  
جامعة المستقبل  
كلية التقنية الطبية والصحية  
قسم تقنيات المختبرات الطبية



## Practical Hematology / 3rd stage ology



Rusul Mushtaq Talib Al-Muhammadawi

Classroom

<https://classroom.google.com/c/ODA3NDIxNzE5>

Mzkz

Class code

cfdolyf

# Blood collection



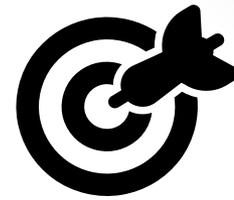
# Blood collection

## General Objective



**By the end of the lesson, the student will be able to recognize and perform the basic steps of blood specimen collection (Phlebotomy) safely and correctly, and distinguish between different types of blood samples and collection sites.**

# behavioral Objectives



## Behavioral Objectives

By the end of the lesson, the student should be able to:

**1. Define** the term *Phlebotomy* and explain its medical importance.

*(Cognitive)*

**2. Differentiate** between types of blood samples (Whole blood, Plasma, Serum) and their uses. *(Cognitive)*

**3. Identify** the common venipuncture sites and the best veins for blood collection. *(Cognitive/Analytical)*

**4. List** the required equipment for blood specimen collection. *(Cognitive)*

**5. Arrange** the steps of venipuncture using syringe and needle in correct order. *(Cognitive/Skill)*

**6. Demonstrate** the procedure of venipuncture while following safety precautions. *(Psychomotor)*

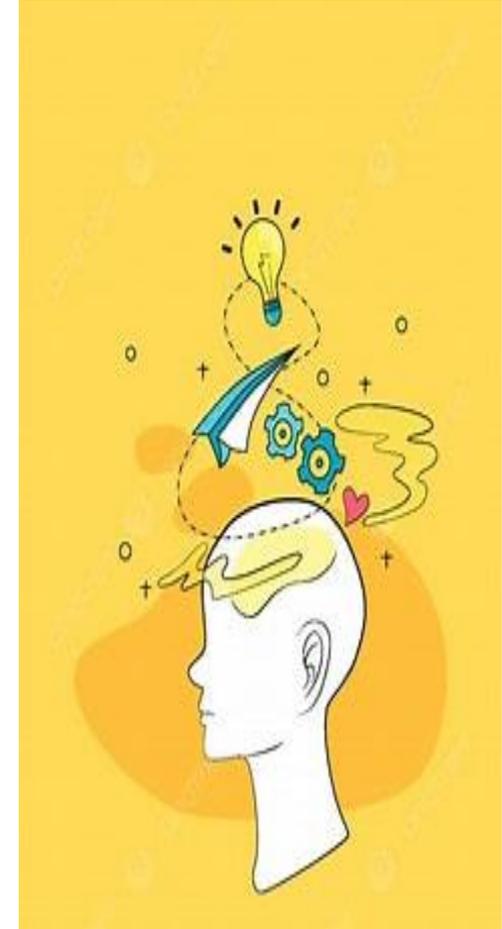
**7. Practice** respectful and professional communication with the patient during blood collection. *(Affective)*

**8. Apply** proper waste disposal methods for contaminated materials after the procedure. *(Psychomotor/Affective)*

# Question (Individual Activity):

**2 minutes.**

**Write down 5 ideas or points that you think are important to consider before, during, and after drawing a blood sample (from practical, ethical, or health aspects).**



اذكر 5 أفكار أو نقاط تعتقد أنها مهمة يجب أن تراعيها قبل وأثناء وبعد عملية سحب الدم (من الناحية العملية أو الأخلاقية أو الصحية)



**Define** it: to take blood from a person's body for medical reasons .

**blood** :The circulatory system includes the heart, which pumps blood through the arteries to all parts of the body and returns the blood to the heart

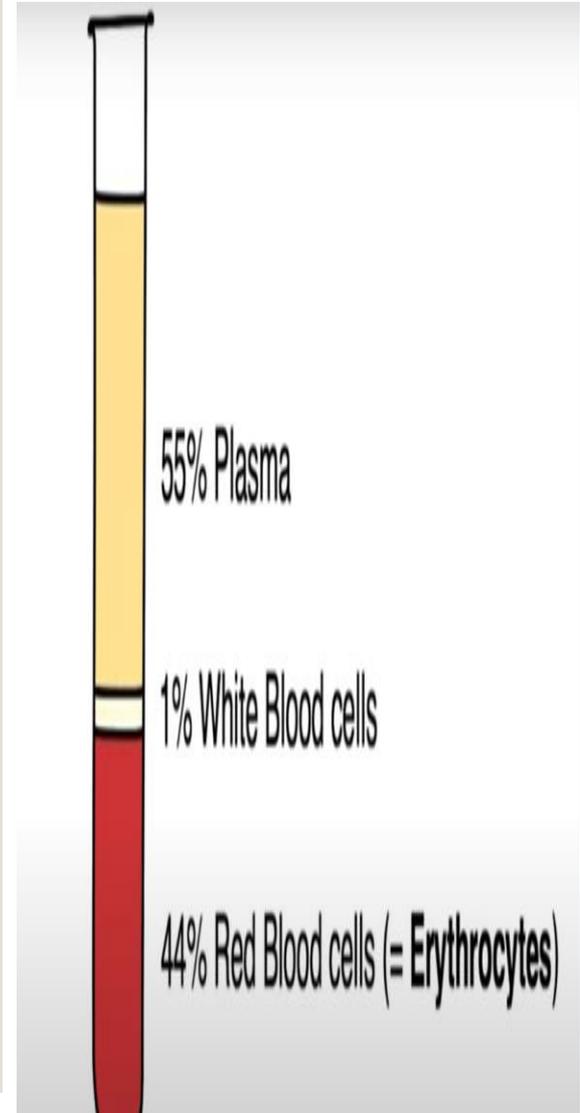
Vein path. Blood is a red, viscous liquid that circulates in the blood vessels. Its volume in adults is **about 5-6** liters, depending on the person's weight.

# Blood is composed of



**1- A pale yellow liquid called plasma, which constitutes 55% of the blood volume.**

**2- Red and white blood cells and platelets swim in this fluid. These cells make up about 45% of the blood volume .**



# types of blood samples



**There are three types**

## **1- Whole blood sample**

**-Some tests are generally done with a sample of whole blood, such as complete blood count (CBC)**

**and sedimentation rate red blood cells ESR and cumulative glucose**



# types of blood samples



**2- plasma sample**

**3- serum sample** It is to put the blood in a tube with an anticoagulant, then we inverted the tube several times



immediately after the withdrawal to mix anticoagulant with blood

The blood does not clot and retains all its components in a normal state, i.e.

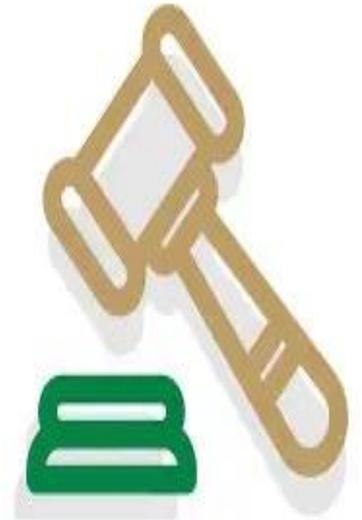
# General rules for drawing blood



1- A patient is not allowed **to eat or keep a lump or fever in his mouth** while drawing blood, for fear of **suffocation** .

2- It is not allowed **to keep the thermometer that measures the temperature in the patient's mouth** during withdrawal.

3- **The patient must be greeted, welcomed and circulated with respect and dignity**



# Where to perform the withdrawal in the laboratory



There must be a place designated for a pull-out for patients who can walk. Conditions must be met next in place For blood draw .To be clean and tidy To be isolated from the rest of the laboratory and the public, to give privacy to those whose blood is drawn The lighting should be good. And the place should be air conditioned



# Blood can be drawn from the following areas of the body

## 1. Vein



## 2-Types veins

There are three types of veins :

**1- Median Cubital Vein:-** The first option is considered: It is located in the neighborhood closest to a patient.

-It is often the largest vein, and there are muscles that help to stabilize it, and it is less painful, which is why it is considered a vein Best to pull.

**2- Cephalic Vein:** The second option is considered: It is located in the farthest side of the patient (**Side big finger**)

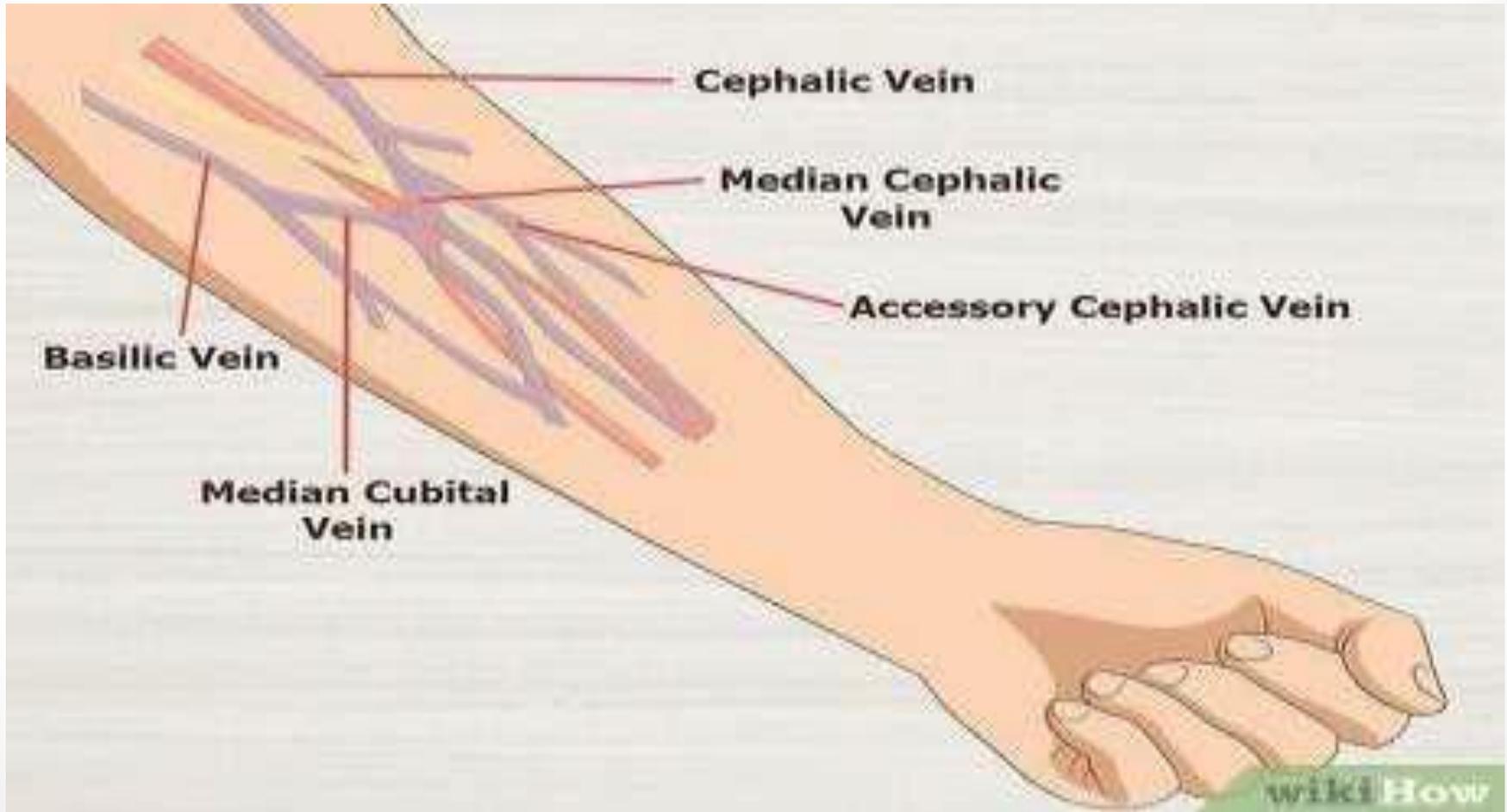


# Blood can be drawn from the following areas of the body



3- There is a third vein present in this area, which is **Basilic Vein**. It is located in the **nearest**. They should only be used as a last resort because of the difficulty of reaching it and its proximity **From an artery, nerves, and tendons** that make the possibility of injury more likely. The best place to pull is from the veins in the front of the elbow (elbow), which form the letter Y.

# Blood can be drawn from the following areas of the body

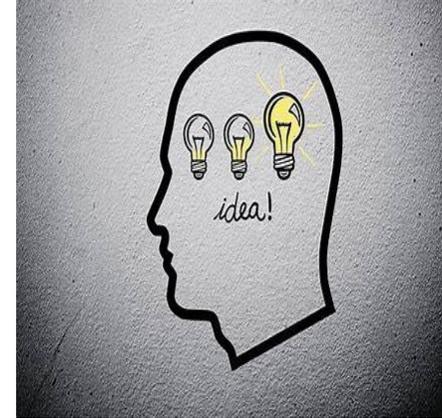


# Individual Activity

**cfldolyf**

**3 minutes.**

**If you discover during a blood draw that the vein you selected is unsuitable or difficult to access, how would you proceed? What factors would you consider when choosing a safer alternative vein?**



إذا اكتشفت أثناء سحب الدم أن الوريد الذي اخترته غير مناسب أو يصعب الوصول إليه، كيف ستتصرف؟ وما هي العوامل التي ستأخذها في الاعتبار لاختيار وريد بديل بأمان؟

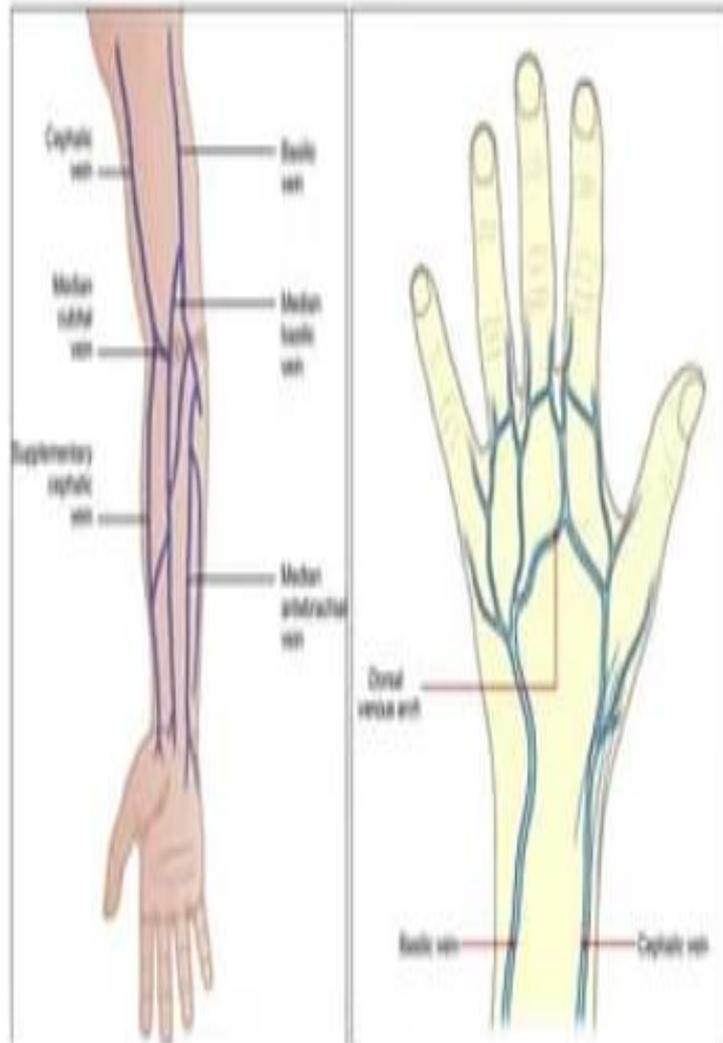
# Blood can be drawn from the following areas of the body

**2- Arteries : carries oxygenated blood** , so it is used in **blood gases measurement** but they are not used in all the other testes **because** they are deep and have thick wall .

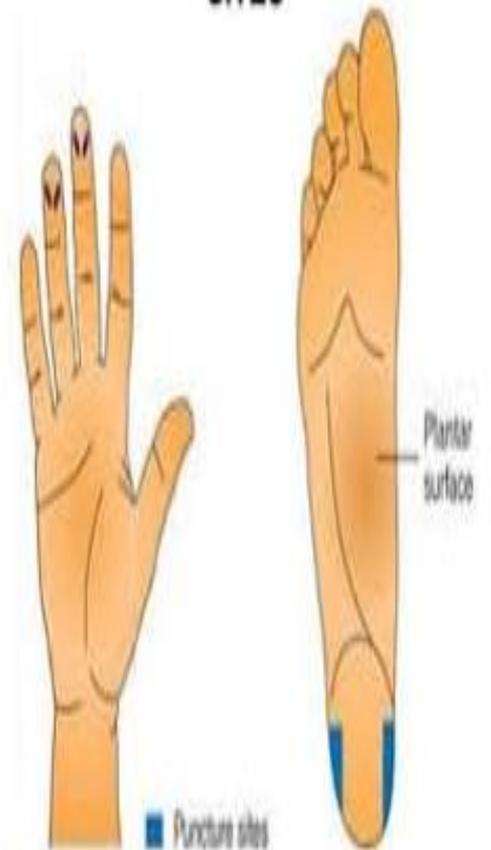
**3- Capillaries** : they can be used , **but they give small amount** which can't be collected in tubes with anti-coagulant. So we use the blood immediately in case of **measuring one thing only** such as **blood sugar test**.



# VENOUS BLOOD COLLECTION SITES



# CAPILLARY BLOOD COLLECTION SITES



# Requirements required to withdraw blood from a vein in this way:

- 1-blood drawing chair.
- 2-Needle
- 3-Syringe
- 4-loading tubes.
- 5-Tube rack.
- 6-medical alcohol
- 7-Gloves
- 8-sterile gauze.
- 9-Tourniquet



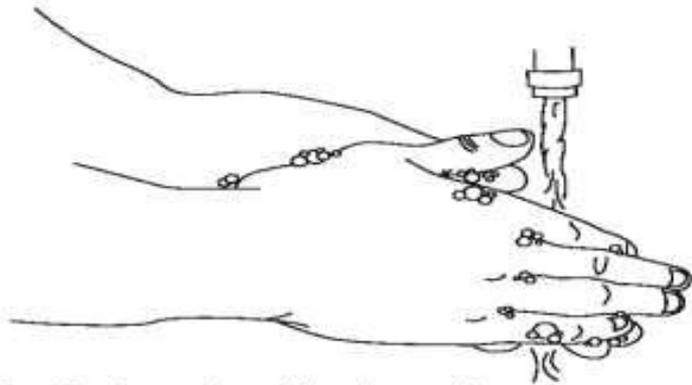
# Steps for taking blood samples from a vein using a needle and syringe

- 1-Read a good download request form**
- 2-Confirmation of the patient's identity.**
- 3-Reassure the patient and obtain his consent for the withdrawal.**
- 4-Make sure the patient is fasting before performing some tests**
- 5-Wash hands and wear gloves**
- 6-Placing the patient and the hand in an appropriate position**
- 7-Put the patient and the hand in the appropriate position.**
- 8-Finding a suitable vein for a traction.**

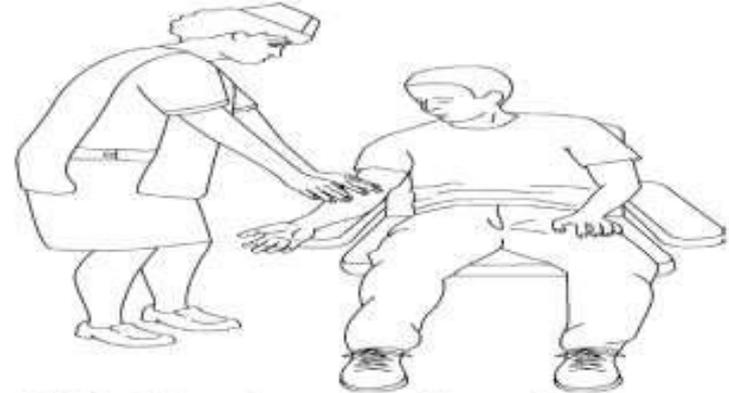




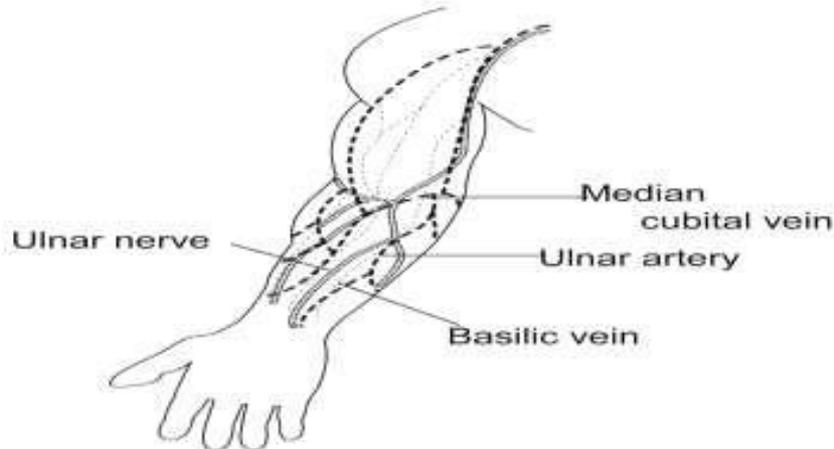
1. Assemble equipment and include needle and syringe or vacuum tube, depending on which is to be used.



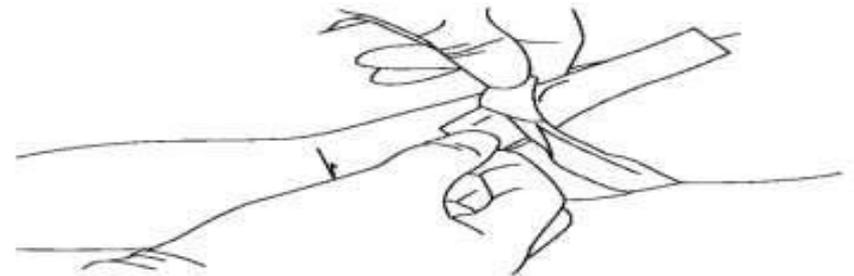
2. Perform hand hygiene (if using soap and water, dry hands with single-use towels).



3. Identify and prepare the patient.



4. Select the site, preferably at the antecubital area (i.e. the bend of the elbow). Warming the arm with a hot pack, or hanging the hand down may make it easier to see the veins. Palpate the area to locate the anatomic landmarks. **DO NOT** touch the site once alcohol or other antiseptic has been applied.



5. Apply a tourniquet, about 4–5 finger widths above the selected venepuncture site.

# Reasons for withdrawing from the above mentioned places

**-The veins in this place are large and close to the surface**

**-Do not twist too much when the needle is inserted .**

**9-Wrap the compression bandage and find a suitable vein**

**10-Clearing the place of withdrawal**

**11-Insert the needle and start drawing the blood sample.**

**12-Stirring tubes containing an anticoagulant.**

**13-Write the complete data on the download tube.**

**14-Medical adhesive mode.**

**15- Elimination of**

**contaminated substances. 16- Poisoning the loading tubes**

**and ordering the loading to the concerned department.**

# Discussion Game



## Q3-Who Am I?

2 minutes.

I form a Y-shape in front of the elbow, I make blood drawing easier and less painful.

أمام المرفق، أجعل سحب الدم أقل Y أنا الوريد المفضل للأطباء أقع في شكل  
ألمًا وأكثر سهولة.

[cfldolyf](https://www.cfldolyf.com)

# Home Work

**cfldolyf**

**Q4-The following are the steps for drawing a blood sample, but they are out of order:**

- \*Insert the needle and collect the blood sample.
- \*Wash your hands and wear gloves.
- \*Apply a tourniquet and choose the suitable vein.
- \*Label the collection tube with patient data.
- \*Dispose of the needle and contaminated materials.
- \*Disinfect the puncture site with alcohol.
- \*Reassure the patient and obtain consent.
- \*Apply gauze and medical tape to the puncture site.



Thank  
you