

Venipuncture

Caredemy

Online Training Academy



CAREDEMY
ONLINE SKILLS FOR CARE

Course Name:

- *Venipuncture*

Course Description:

- *This course will give an overview of venipuncture and demonstrate how to identify suitable veins. This course will also demonstrate proper safety procedures and view potential complications associated with venipuncture.*

Course Learning Objectives:

At the end of this course, the learner will be able to:

- *Describe the term venipuncture.*
- *Identify problems in finding suitable veins for venipuncture.*
- *Explore complications that can arise from venipuncture.*
- *Demonstrate appropriate responses to mitigate problems that occur from complications.*
- *Demonstrate proper health and safety procedures.*

Target Audience:

- *All clinical staff working in health care settings and venipuncture*

Course Requirements:

- *Participants must complete all learning modules and pass the multiple-choice course assessment.*

Core Clinical Framework:

- *This course meets the outcomes of the framework.*



What is Venipuncture?

Venipuncture is defined as puncturing a vein. Venipuncture is used by phlebotomists, nurses, and other healthcare professionals to both withdraw blood from a vein for diagnostic purposes, and to monitor levels of blood components or drugs.

Influencing Factors During Venipuncture

- Temperature of environment
- Anxiety present in patient
- Any medications a patient may be taking
- Age and weight of patient
- The position of the patient's body
- Any injuries that may be present
- Privacy/dignity concerns

Characteristics of a Good Vein

A good vein will possess several qualities. Healthcare workers should take adequate time to access veins before performing venipuncture to reduce risk of damaging the vein and potentially causing harm to the patient

A good vein will:

- Be bouncy
- Feel soft
- Refill after being depressed
- Have a large lumen
- Appear straight
- Be visible
- Be well supported



Veins to avoid

It is crucial that veins that show the following physical symptoms not be used. Using these veins can result in further complications. Always consult a more experienced colleague if you are unsure of a vein.

Do not use if vein is:

- Bruised
- Infected
- Hard/Fibrosed
- Adjacent to an infection
- Near a bone

Selecting a Good Site

Some of the most frequently used veins include:

- median basilic
- median cubital
- median cephalic veins in the ante - cubital fossa

Veins on the dorsum of the hand are also able to be used if the veins in the elbow and forearm are too difficult to identify.

- The veins on the dorsum are thin walled, easily movable superficial veins and are usually more difficult to puncture.

Distal veins should always be used first.

Use palpation to detect healthy veins.

Always set aside an adequate amount of time for palpation and inspection of patient's hand and arm to select a site.



Devices Used In Venipuncture

In venipuncture, there are several devices that can be used. The device used will change depending on both the condition and accessibility of the patient's vein.

The intravenous device for blood sampling in Shropshire is the VACUETTE system. Optimum gauge is 21 standard wire gage (swg) . This device allows blood to be withdrawn:

- at a reasonable speed
- without discomfort to the patient
- without damage to the sample.

There are also alternative devices including the smaller gauged needle (22swg black needle) and the winged infusion device (23 swg)

Preparing the Skin For Venipuncture

One of the most vital aspects of venipuncture is cleanliness. Contamination is possible via cross infection by the provider to the patient, and via the skin flora of the patient. Taking steps to ensure cleanliness is a crucial step in venipuncture.

Always practice good handwashing techniques before performing venipuncture. **ALWAYS** use an alcohol swab at the site of venipuncture. Before breaching the skin, ensure the area is completely dry. Do not fan or blow on the area to decrease the time it takes to dry. This can easily transfer bacteria and decontaminate the site.



Hemolysis

Hemolysis results from damage or destruction of red blood cells and liberation of hemoglobin. When the cells are ruptured it causes discoloration of the serum, staining it pink or slightly red.

Hemolysis elevates potassium, LDH, AST, ALT, phosphate, magnesium and ammonia levels and decreases levels of red blood cells.

Hemolysis can be brought upon by a patient with medical conditions such as fragile cells. However, most cases of hemolysis come from how a sample is collected, handled, and stored.

Causes of Hemolysis

- Vigorously shaking of bottles
- Taking too much time in drawing and collecting a sample
- Using a needle too small for the amount of blood drawn
- Frothing as drawing up
- Drawing from a vein that has hematoma
- Storing samples in a refrigerator too close to its freezer compartment

How to Prevent Hemolysis

- Ensure you are using the correct needle size
- Gently invert tubes. **NEVER SHAKE**
- Ensure you collect the correct amount of blood per tube.



Procedure of Venipuncture

Following procedures is important not only to ensure the safety of a patient, but it also can calm a patient suffering from anxiety. Fear of needles is very common and can cause great discomfort for patients. Following a rigid routine will ensure you appear calm and confident and alleviate some of the patient's anxiety while also ensuring their safety.

- Ensure you have adequate lighting
- Ensure you and the patient have privacy
- Verify the patient's information
- Consult patient to address any medical conditions or concerns
- Place arm in dependent position. You may ask the patient to clench their fists . You may also apply moist heat to the area.
- Select the best vein
- Wash hands and/or use antibacterial alcohol rub.
- Put on gloves
- Clean the area of the patients arm you will be using with an alcohol swab
- Inspect your device to ensure its integrity and that you are using the proper device
- Insert needle smoothly at a 30-degree angle
- **DO NOT** apply any pressure to the needle
- Insert blood bottle into vacutte holder and fill to blood line
- Place non-woven gauze over the puncture point
- Remove needle and discard of it immediately into a labeled sharp object box.
- Apply pressure to puncture site until bleeding subsides
- Invert sample 4 to 6 times
- Properly label your bottle and fill up applicable forms
- Inspect the puncture site
- Apply bandage or similar
- Ensure the comfort of patient
- Discard waste
- Follow local procedure for transportation of your sample



Needlestick Injuries

When handling needles it is crucial to always be aware of yourself and others around you to avoid a needlestick. If you were to get stuck with a needle:

- Wash the area under running water
- Encourage the wound to bleed
- Report the incident to your supervisor and fill out appropriate paperwork.

First Aid

Two of the major complications you will encounter during venipuncture are fainting and hemorrhage.

When encountering a fainting patient:

- Check airway breathing circulation
- Lie patient flat with legs raised
- Reassure and comfort the patient
- If patient is not recovering, call 911

When encountering hemorrhage:

- Put on gloves and apply direct pressure to the puncture site
- Elevate limb above the heart
- Add further dressing over the first dressing
- Seek further help if necessary.

