

# LANCASHIRE & SOUTH CUMBRIA PRIMARY CARE TRAINING HUB

## Clinical Education Session Handbook

# Venepuncture



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## Introduction

Venepuncture is the procedure of entering a vein with a needle in order to obtain a sample of blood for diagnostic purposes.

Venepuncture breaches the circulatory system, therefore, to minimise the risk of injury and/or infection to both staff and patients, standard infection control precautions and transmission-based precautions (SICPs and TBPs) should be adhered to.

This phlebotomy venepuncture clinical education session is aimed at all healthcare staff whose role include taking bloods and are looking to improve their skills in venepuncture. The aim is to improve confidence and skills whilst obtaining a blood sample and allows practice using a synthetic arm.

## Equipment Required

Equipment for venepuncture should include:

- PPE
- Handwashing facilities
- 2 chairs
- A trolley for laying your equipment on to.
- Clinical, general and sharps waste bin.
- Alcohol skin wipes.
- Clinell Wipes (or alternative for wiping down surfaces)
- Needles
- Blood sampling vials
- Kidney dish / alternative
- Tourniquet
- Swabs
- Plasters
- For the purpose of the clinical education session – prosthetic arm, stand, IV fluid bags, water, and red food colouring.

## Things to Consider

### How do I prepare for taking a blood sample?

Sample takers need to consider:

- Quality assurance in phlebotomy
  - Considerations to education and training - Education and training is necessary for all staff carrying out [phlebotomy](#).
  - Include an understanding of anatomy, awareness of the risks from blood exposure, and the consequences of poor infection prevention and control.
  - Not taking samples unless they are competent to do so
  - Identifying any personal training needs
  - Completing all training required, and attending regular updates
  - Keeping up to date with changes and current best practice
  - Monitoring their own practice
  - Standard Operating Procedures - SOPs are required for each step or procedure. They should be written and be readily available to health workers.
  - Correct Identification of the patient - For blood sampling, after samples have been taken from a patient or donor, a system of identification and tracking is essential to ensure that the sample is correctly matched with the result and with the patient or donor
  - The condition of the sample - The condition of the sample should be such that the quality of the results is satisfactory.
  - Safe Transportation - Making safe transportation of blood or blood products part of best practices will improve the quality of results from laboratory testing
  - Incident Reporting - A system is required for reporting all adverse events. A logbook or register should be established with accurate details of the incident, possible causes and management of adverse events
  - Ensuring the paperwork is completed correctly and the test result is followed up appropriately

Think about your environment....

Review the consulting room where procedure takes place. Consider the layout and location of rooms to ensure there is a confidential quiet, clean, private area that is welcoming.

Make sure all your equipment is ready at hand before you start and make sure you will not be disturbed.

Adhere to Infection control Policy

Good lighting is available in the area.

How can I make sure the patient is ready?

- Welcome the patient when they arrive and introduce yourself.
- The patient should be put at ease from the start, welcoming them is an important part of this.
- You should check name, date of birth and address to make sure they are correct.
- It is important that the patient understands what you are going to do in the procedure and what to expect; including taking the sample, receiving results and what will happen if the result is abnormal.
- Before proceeding you should be confident that the patient is fully informed and is therefore able to consent to the process.

Patients with specific needs or disabilities

It is important to consider specific needs in relation to blood sampling.

These reasons may include:

- disability (physical or mental) and the patients' physical limitations
- language barriers and cultural beliefs

Language and cultural differences can affect understanding or the screening process. It is important to take measures to ensure all patients understand the purpose of the procedure for taking the sample. Language translation services are available. Primary care is responsible for sourcing and offering language support if needed.

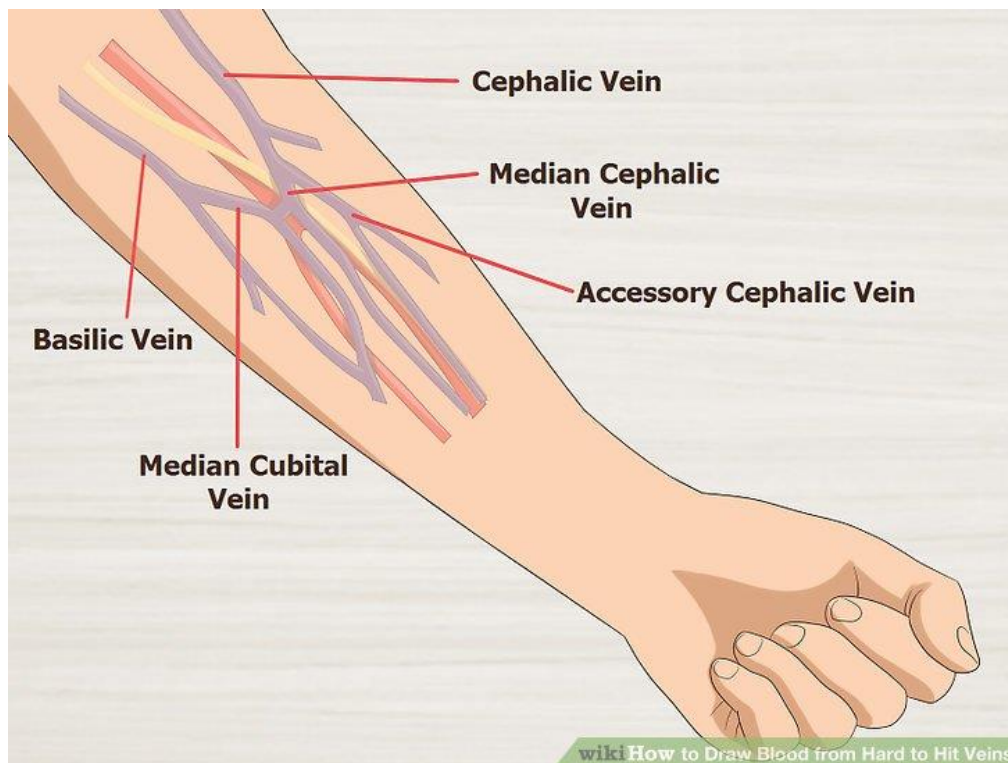
- the need for assistance and seeking specialist advice if necessary

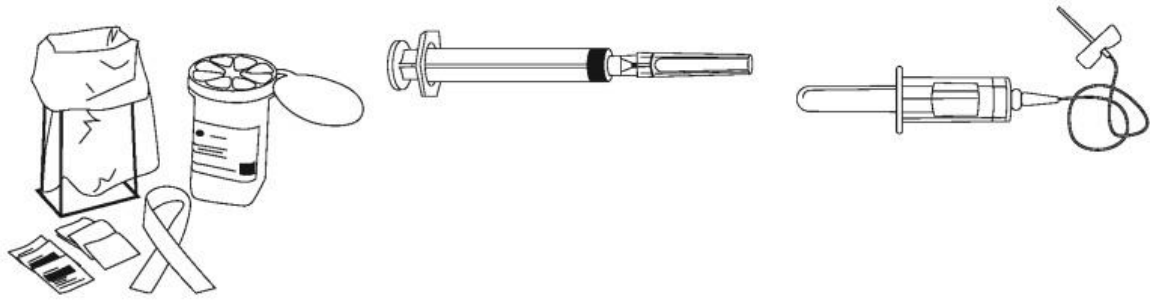
## Let's get Practical!

- Welcome
- Check identity
- Explain the procedure fully – explain that the test may feel uncomfortable.
- Answer any questions relating to the procedure
- Get informed consent

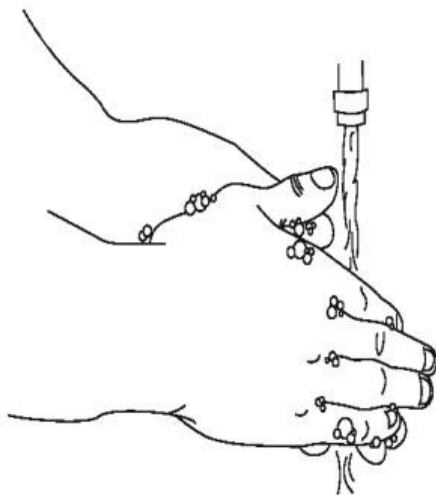
### Selecting the site

- Extend the patient's arm and inspect the antecubital fossa or forearm.
- Locate a vein of a good size that is visible, straight, and clear. The diagram below shows common positions of the vessels, but many variations are possible. The median cubital vein lies between muscles and is usually the easiest to puncture. Under the basilic vein runs an artery and a nerve, so puncturing here runs the risk of damaging the nerve or artery and is usually more painful. DO NOT insert the needle where veins are diverting, because this increases the chance of a haematoma.
- The vein should be visible without applying the tourniquet. Locating the vein will help in determining the correct size of needle.
- Apply the tourniquet about 4–5 finger widths above the venepuncture site and re-examine the vein





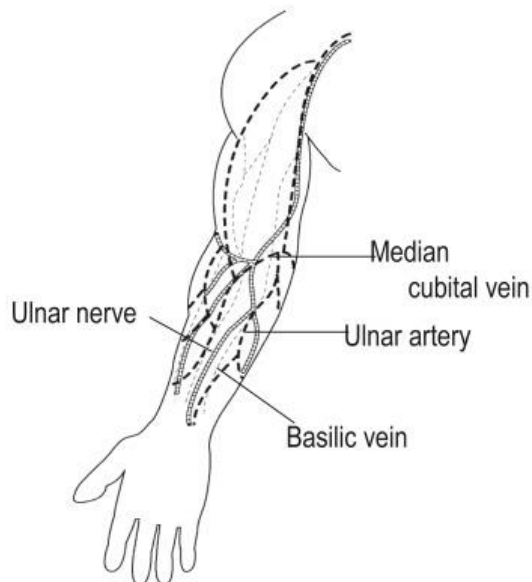
1. Assemble equipment and include needle and syringe or vacuum tube, depending on which is to be used.



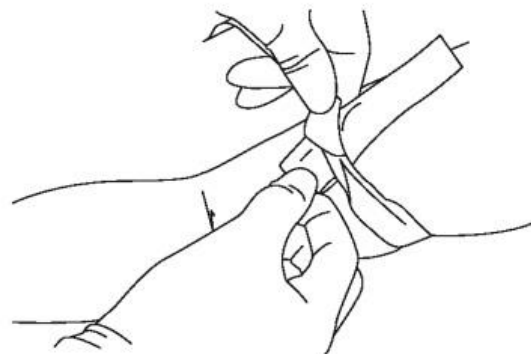
2. Perform hand hygiene (if using soap and water, dry hands with single-use towels).



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.



## Using the Mannequin

Place the prosthetic arm on a flat surface.

Set up the stand and place one IV bag on the stand and lie the other flat on the surface next to the arm.

Connect the end of the IV bags lines to the prosthetic arms lines and follow instructions on the bags for filling with water – ideally with red food colouring in to make as realistic as possible.





## Venepuncture

- Anchor the vein by holding the patient's arm and placing a thumb BELOW the venepuncture site.
- Ask the patient to form a fist so the veins are more prominent.
- Enter the vein swiftly at a 30-degree angle or less and continue to introduce the needle along the vein at the easiest angle of entry.
- When obtaining multiple tubes of blood, use evacuated tubes with a needle and tube holder. This system allows the tubes to be filled directly.
- Once sufficient blood has been collected, release the tourniquet BEFORE withdrawing the needle. Some guidelines suggest removing the tourniquet as soon as blood flow is established, and always before it has been in place for two minutes or more.
- Withdraw the needle gently and apply gentle pressure to the site with a clean gauze or dry cotton-wool ball. Ask the patient to hold the gauze or cotton wool in place, with the arm extended and raised. Ask the patient NOT to bend the arm, because doing so causes a haematoma.
- Discard the used needle and syringe or blood sampling device into a puncture-resistant [sharps container](#).
- Check the label and forms for accuracy. The label should be clearly written with the information required by the laboratory, which is typically the patient's first and last names, file number, date of birth, and the date and time when the blood was taken.
- Discard used items into the appropriate category of waste. Items used for [phlebotomy](#) that would not release a drop of blood if squeezed (e.g. gloves) may be discarded in the general waste, unless local regulations state otherwise.
- Perform [hand hygiene](#) again, as described above.
- Recheck the labels on the tubes and the forms before dispatch.
- Inform the patient when the procedure is over.



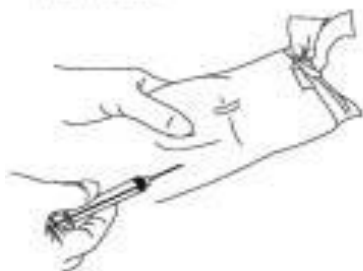
6. Ask the patient to form a fist so that the veins are more prominent.



7. Put on well-fitting, non-sterile gloves.



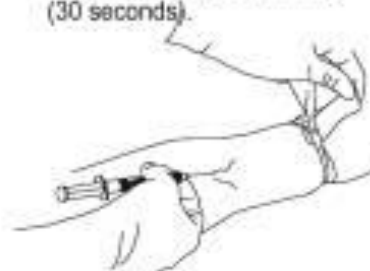
8. Disinfect the site using 70% isopropyl alcohol for 30 seconds and allow to dry completely (30 seconds).



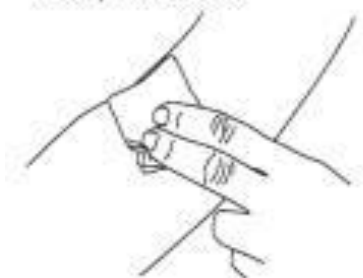
9. Anchor the vein by holding the patient's arm and placing a thumb **BELOW** the venepuncture site.



10. Enter the vein swiftly at a 30 degree angle.



11. Once sufficient blood has been collected, release the tourniquet **BEFORE** withdrawing the needle.



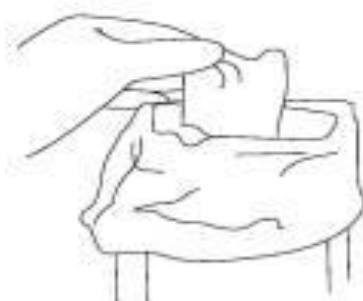
12. Withdraw the needle gently and then give the patient a clean gauze or dry cotton-wool ball to apply to the site with gentle pressure.



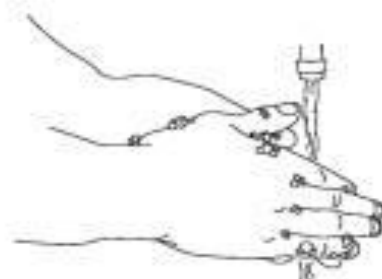
13. Discard the used needle and syringe or blood-sampling device into a puncture-resistant container.



14. Check the label and forms for accuracy.



15. Discard sharps and broken glass into the sharps container. Place items that can drip blood or body fluids into the infectious waste.



16. Remove gloves and place them in the general waste. Perform hand hygiene. If using soap and water, dry hands with single-use towels.

## Needlestick Injury

Note - Best practice is to wear non-sterile disposable gloves, nitrile, or latex, when undertaking venepuncture. The wearing of gloves has been shown to reduce the volume of blood transferred in a needlestick injury by 52% compared with not wearing gloves, which can help reduce the risk of acquiring a blood-borne virus (BBV) if you sustain a needlestick injury.

### Immediate management of sharps injuries

- Bleed it - if there has been a puncture wound, encourage bleeding of the wound by squeezing it under running water (do not suck the wound).
- Wash it - the injured area or damaged skin should be washed thoroughly with liquid soap and warm running water and dried. Blood or body fluid splashes to the eyes, nose or mouth should be irrigated copiously with water
- Cover it - cover the wound with a waterproof dressing.
- Report it - report the injury to your manager immediately and complete an incident form.
- Seek advice - seek urgent clinical advice immediately, e.g., from your GP, Advance Nurse Practitioner, Occupational Health provider. Out of normal office/surgery hours, attend the nearest Emergency Department (ED).

## Top Tips

- Encourage patients to be well hydrated prior to the procedure
- Best practice is to clean the skin: good skin preparation reduces the risk of infection from colonising skin bacteria. Use a 70% isopropyl alcohol or 2% chlorhexidine in 70% alcohol skin wipe to clean the area for 30 seconds using moderate pressure and allow to air dry
- Reusable tourniquets can harbour microorganisms, such as bacteria and viruses, and therefore pose a risk of transmission of infection. Practices should risk assess the use of reusable tourniquets against single use ones, and if reusable tourniquets are used, a schedule for their decontamination and replacement should be implemented.
- Encourage patients to keep warm – blood circulates better when warm making it easier to obtain a sample
- Be calm and confident
- One of the essential markers of quality of care in [phlebotomy](#) is the involvement and cooperation of the patient; this is mutually beneficial to both the health worker and the patient.
- Check for any previous problems with venepuncture.
- Seek help from a colleague if in doubt

# Clinical Education Session

## Learners Toolkit

# Venepuncture

Name:

Date:



## Evaluation of Learning and Assessment form:

Pre-clinical educations session – what are my learning needs?
Factors that have enabled me to learn & what areas have I found most useful:
Areas still to learn more about & action plan going forward with time scales and who may be able to help.
What did I enjoy most about the clinical education session?
Useful Resources:

## Let's think about it ... Do you...

Know the correct indication blood sampling? - Identify the indications and contraindications for both the practitioner and the patient	
Check patient details & document accordingly?	
Prepare the examination room and prepare the equipment required for venepuncture?	
Explain the procedure to be undertaken?	
Identify the suitable veins for Venepuncture	
Explain the results procedure?	
Keep good records?	
Reflect on communication with the patient?	
Reflect on the patients view of the procedure?	
Reflect on your view of the procedure?	
What can you learn from these reflections?	

## Resources

[Home - Royal Marsden Manual \(rmmonline.co.uk\)](http://rmmonline.co.uk)

The Royal Marsden Manual of Clinical Nursing Procedures.

[Lancashire and South Cumbria Integrated Care Board: Right Person, Right Care \(icb.nhs.uk\)](http://icb.nhs.uk)

Local Services L & SC.

[Clinical topic guides \(rcgp.org.uk\)](http://rcgp.org.uk)

The Royal College of General Practitioners.

[Home - e-learning for healthcare \(e-lfh.org.uk\)](http://e-lfh.org.uk)

Online modules available at e-learning for health

[Best practices in phlebotomy - WHO Guidelines on Drawing Blood - NCBI Bookshelf \(nih.gov\)](http://ncbi.nlm.nih.gov/books/NBK138665/)

[Blood tests - NHS \(www.nhs.uk\)](http://www.nhs.uk)

<https://www.ncbi.nlm.nih.gov/books/NBK138665/>

[https://www.euro.who.int/\\_data/assets/pdf\\_file/0005/268790/WHO-guidelines-on-drawing-blood-best-practices-in-phlebotomy-Eng.pdf](https://www.euro.who.int/_data/assets/pdf_file/0005/268790/WHO-guidelines-on-drawing-blood-best-practices-in-phlebotomy-Eng.pdf)

<https://www.infectionpreventioncontrol.co.uk/resources/venepuncture-general-practice/>

<https://www.infectionpreventioncontrol.co.uk/resources/safe-management-of-sharps-and-inoculation-injuries-general-practice/>