

# Venepuncture



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## Objectives

- Differentiate between an artery and a vein
- Identify and name the commonly used veins for venepuncture and cannulation
- Be aware of nerves in the arm
- Understand how to choose an appropriate vein for venepuncture and cannulation avoiding hazardous anatomical structures

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## Professional Accountability

- All staff who practise venepuncture must have received approved training and documented, supervised practice.
- The onus is also on individuals to ensure their knowledge and skills are maintained, both from a theoretical and practical perspective.
- All practitioners must operate within the protocols/guidelines of their particular organisation

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## Guidelines for Professional Practice

- Consent
- Vicarious Liability
- Duty of Care
- Accountability

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- **IGNORANCE IS NOT A DEFENCE**
- It is your responsibility to keep up to date with current practices
- **Extended Roles**
- Where do your responsibilities lie?

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## Professional responsibility

Never carry out a procedure that you have not been trained to do, signed as competent to do or do not feel confident to do.

Registered and non-registered staff have responsibilities to act lawfully

Keep up to date with current practices

Remember these skills are extended roles and should not take priority over basic nursing care

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## Legal and Professional Issues

- Development of competence in the skills...Check the local Trust policy!
- Are there any exclusions to performing the skills on specific patients group? Check the local Trust policy!
- Informed consent for the procedure
- Documentation. Check the local Trust policy!
- Remember to sign and date, print your name legibly.

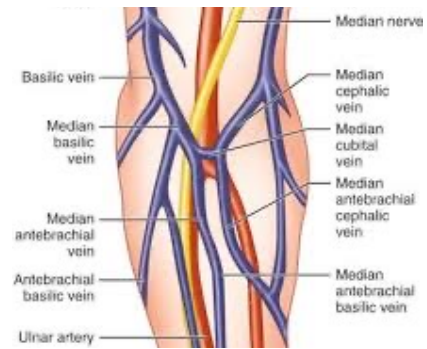
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## Anatomy

- The most common site for venepuncture is the Antecubital Fossa where the Median Cubital, Cephalic and Basilic veins lie close to the skins surface making them easily accessible. They are the most prominent, there are numerous of them and they have been shown to minimise discomfort (Weinstein, 1997).
- Always use veins in the upper extremities before using lower extremity sites for VENEPUNCTURE. Veins of the lower limbs are usually only used in exceptional circumstances in adults.
- However! For CANNULATION you should start distally and work proximally

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## Nerves in Arm



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## Nerves of the arm to consider

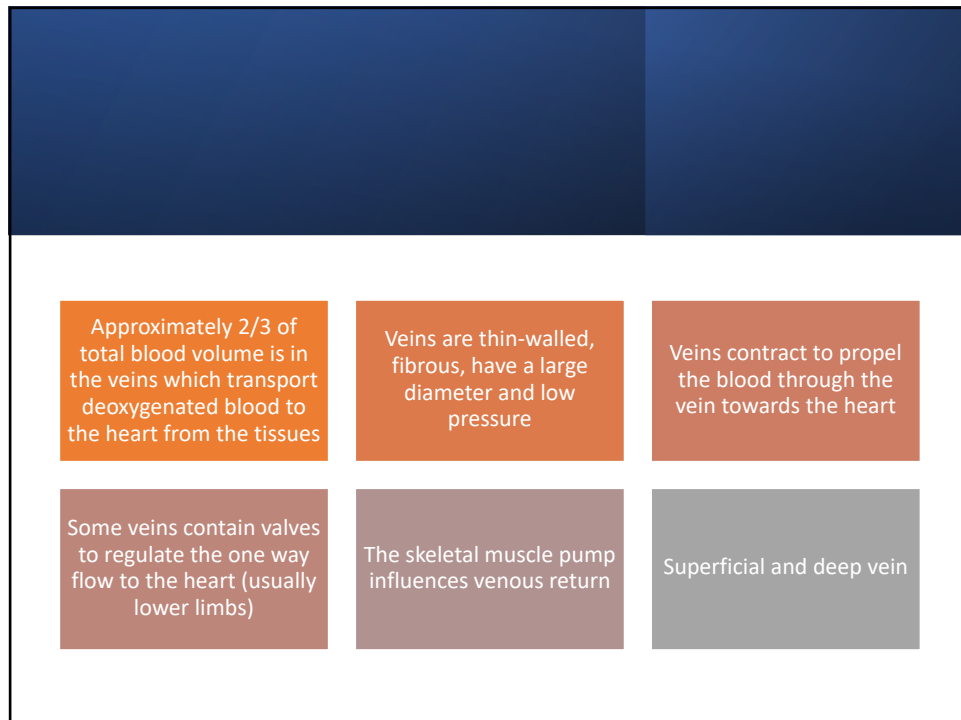
Three main nerves run past the elbow and wrist to the hand.

1. Median

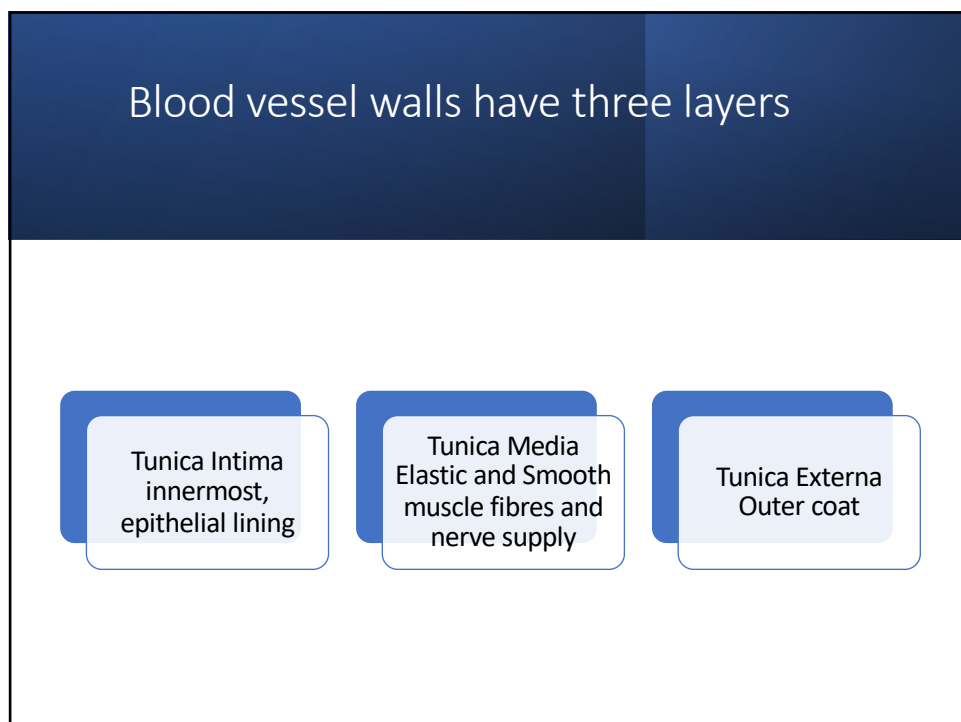
2. Ulnar

3. Radial

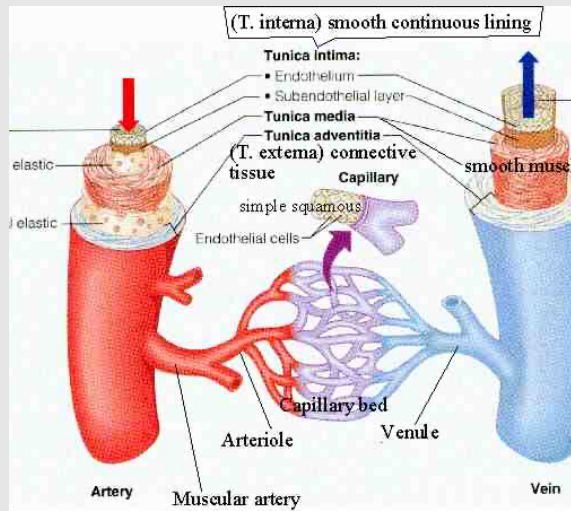
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Anatomy  
and  
Physiology

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- Dorsal
- Cephalic
- Basilic
- Cubital Fossa

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- 14G Large volume replacement
- 16G Rapid transfusion of whole blood or blood components
- 18G IV Maintenance/ NBM patients
- 20G IV analgesia
- 22G Paediatrics, elderly, chemotherapy patients
- 24G Paediatrics, neonates

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Basilic vein

Median cubital vein

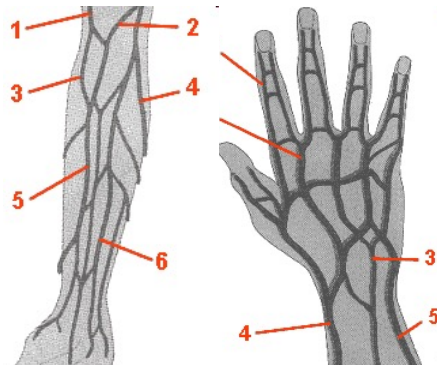
Median cephalic vein

Cephalic vein

Take a note: Patients are often aware of their “best” sites

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- Fibrosed, inflamed or fragile
- In bruised areas
- In sites closed to infection
- On affected sides of pts with CVA or post mastectomy/ post axillary dissection
- In areas severely affected disabling disease eg. Rheumatoid arthritis
- In limbs where intravenous/subcutaneous infusion is already sited

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Venepuncture cause a break of the skin --  
- 3 areas of possible contamination to consider:

- Protection from skin flora of the practitioner (wash hands and wear gloves)
- Protection from patients own bacteria (cleans the skin properly)
- Innoculation/exposure prone procedure (avoidance of needle stick injuries and blood spillages)

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## Infection control

Hand washing - before and after palpation

Wearing gloves

Cleanse the skin with a chlorhexidine and alcohol based solution for 30 seconds

Leave the skin to dry thoroughly

Do not re-palpate after the cleaning!

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## Local anesthesia

- Topical anaesthetic can be used to minimise pain for children and needle phobic patients
- Ametop – can be used for venepuncture after 30 minutes, cannulation after 45 minutes
- Emla – can be used for cannulation and venepuncture after 1 hour

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## Possible complications of the procedures

- Fear/phobia/pain may cause the patient to move
- Haematoma formation
- Puncturing an artery
- Thrombophlebitis/infection
- Extravasation

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## Inappropriate site for Venepuncture

- 1 Arm on side of Mastectomy.
- 2 Oedematous areas.
- 3 Haematomas.



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- Arm in which blood is being transfused.
- Scarred areas.
- Arms with fistulas or vascular grafts.
- Sites above an IV cannula.



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## Complication of Venepuncture

- Local and systemic infections.
- Phlebitis.
- Thrombus.
- Air Embolism.
- Accidental insertion into an artery.
- Bleeding if disconnected.
- Extravasations

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The Blood Collection System

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## Procedure:



- Equipment :
  - 1- Tourniquet .
  - 2- Disposable gloves .
  - 3- Antiseptic swab ( alcohol swab ) .

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## Cont' Equipment :

- 4- Cannula .
- 5- Normal saline solution.
- 6- Tap .
- 7- Transparent IV dressing.
- 8- Three way stop cock.



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## Venepuncture in Practice

- Introduce yourself and explain procedure
- Confirm patient's identity
- Ask patient for information regarding previous successful venepuncture.
- Privacy
- Decontaminate hands as per Trust policy and put on a disposable apron
- Ask patient to rest back, assess suitability of the veins, support with pillow

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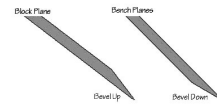
## Venepuncture in Practice

- Apply tourniquet firmly, approx 5-10 cms above needle insertion site
- Confirm suitability of vein
- Clean area with alcohol swab for at least 10 secs. Allow to dry
- Don gloves
- Prepare equipment
- Support limb with other hand, pulling the skin taut with thumb

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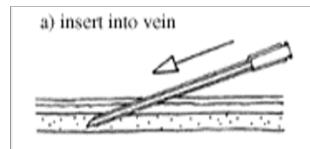
## Performance Phase

- 1- Remove the needle guard .
- 2- Hold the patient arm so your thumb is positioned approximately 2 inch from the site.
- 3- Insert the needle, bevel up, through the skin at an angle .



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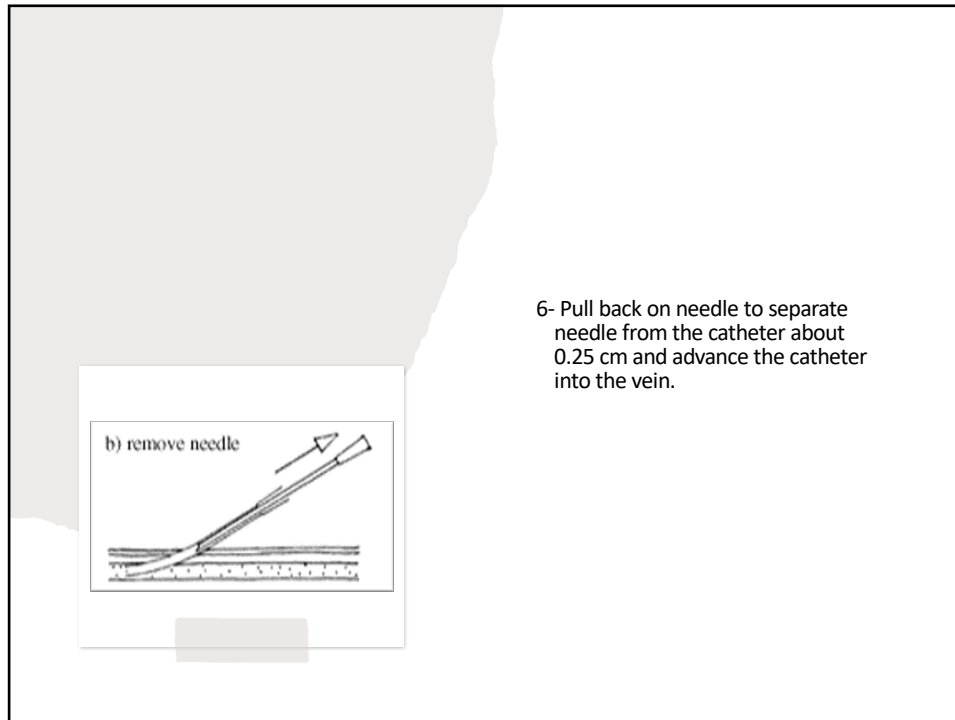
## Performance Phase



- 4- When the needle is inserted inside the vein , lower the cannula to the skin level.
- 5- Advance the cannula 0.5 to 1.5 cm in to the vein .

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## Cont' Performance Phase

- 7- Apply pressure on the vein beyond the catheter tip , release the tourniquet and slowly remove the needle .
- 8- immediately connect the three way stop cock and flush the catheter to make sure that the canula is intact .



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## Performance Phase

9- Apply the transparent IV dressing and adhesive tap to secure the cannula .



10- label the strip of tape with an arrow indicating :

- The date
- The time .
- The nurse initial signature .



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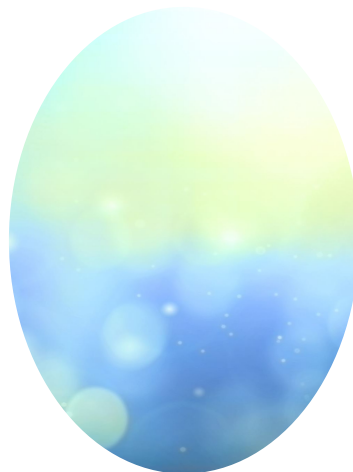
## Follow up phase

- Assess the site of IV cannula insertion for sign of hematoma , bleeding , or any complication .
- Monitor patency of the
- cannula by flushing it with 2-1 ml normal saline .
- Standard dwell time for a short peripheral catheter is 3 days .
- Nursing documentation on the patient file .

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## Venepuncture in Practice

Release	Release the tourniquet
Remove	Remove needle gently
Apply	Apply sterile cotton gauze swab to puncture site
Apply	Apply firm pressure over the swab for 2 mins
Dispose	Dispose of needle in sharps bin
Apply	Apply adhesive tape
Agitate	Agitate containers where appropriate

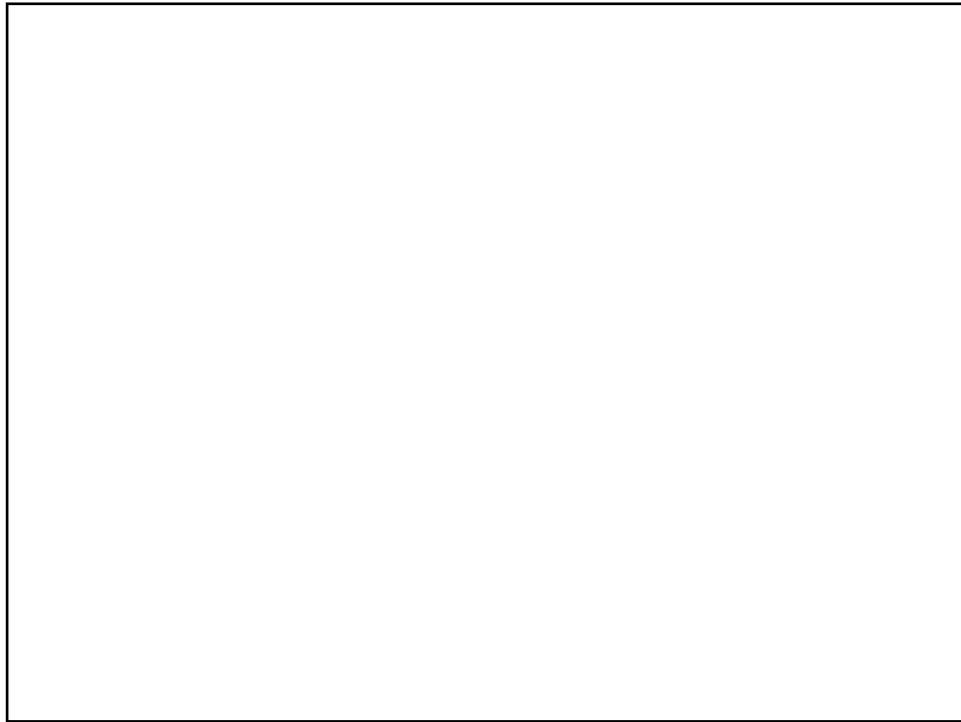


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## Venepuncture in Practice

Remove	Remove disposable gloves and apron and wash hands
Label	Label specimen bottles
Ensure	Ensure pathology request form is completed
Tell	Tell patient how and when he may expect results
Send	Send specimens

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