

Peripheral venous access for apheresis in Adults. Best practice guide.



Therapeutic apheresis procedures cannot be performed without adequate venous access. Good blood flow is required to optimise the success of the procedures, particularly in Stem cell collection where interrupted flow can severely reduce the amount of cells collected.

Peripheral venous access is the preferred option unless treatments are daily for a prolonged period or the patient is confused and unable to co-operate.

This guide is aimed at optimising success in peripheral cannulation for apheresis.

Fail to prepare-prepare to fail!

Taking the time to prepare both yourself and the patient/donor is key to successful cannulation.

For treatments that are pre-booked carry out a vein assessment before the treatment date and use the opportunity to identify any potential problems such as a need to plan for deep vein cannulation under ultrasound or insertion of a central venous catheter.

Give advice such as ensuring that your patient/donors are well hydrated on the day and to keep their arms warm. Reassuring and explaining what will happen will also help to reduce anxiety.

Preparation on treatment day.

Put the patient/donor at ease, explain the process again and gain consent. Vasodilation is easier in relaxed patients. (*Lavery 2007*)

Ensure your patient/donor is comfortable and their arms are in a good position for cannulation. Their extended arm should be below the heart to encourage venous congestion.



Support the arm with a pillow, use heat pads to keep the arms warm if needed

Consider using a BP cuff inflated to around 60mmhg to allow the veins to fill. If the arterial circulation is impaired the veins will not fill. Tourniquets are less effective in achieving adequate vasodilation and are less comfortable.

Adjust the bed/couch height so that you can maintain a good posture and avoid bending/twisting.

Use aids to visualise veins if necessary such as electrical stimulation or infrared devices.

Ensure you have all your equipment ready.

Concentrate on the task. Don't let yourself be distracted

Select the correct device depending on size of vein and type of procedure. To achieve optimal access blood flow for MNC collections use the integral needle on the collection set or a fistula needle with a back-eye wherever possible.

The larger veins in the cubital fossa are well anchored and will better support the negative draw pressure of the machine. The arm should be kept straight to optimise flow. For procedures where flow rates are lower e.g. red cell exchange/extra corporeal photopheresis an 18G peripheral cannula may work well.

The smaller veins in the lower part of the arm will normally support the return flow rates via an 18–20G cannula. This also gives the patient/donor the use of one arm during the procedure.



Take your time when palpating for suitable veins. Identify mental markers to help with visualising the intended insertion site.

Wash your hands, clean the skin using an approved solution, allow to air dry and use aseptic no touch technique (ANTT). If you need to re-palpate, you must clean the skin again.

Optimise your cannulation technique

Once you have identified the insertion site, insert the cannula or needle smoothly – hesitation increases the risk of failure.

Use a three point grip with the bevel up. Tether the skin to prevent skin puckering and to anchor the vein. Check the angle of insertion.



Observe for flashback and advance the cannula into the vein. Remove the stylet once the cannula is in position and secure the cannula.

Flush with 0.9% Saline to check patency and ensure that it is not painful before using.

Note

On very rare occasions where a treatment is required urgently and there are delays getting a central venous catheter inserted and options for peripheral access are limited, it may be possible to use one arm for both access and return. If this is the case, the return needle should be well above the access needle insertion site. Use different veins as far as possible to prevent recirculation. An understanding of the vasculature of the arm is essential.

Reference

Ingram P, Lavery I (2007) Peripheral intravenous cannulation: safe insertion and removal technique. *Nursing Standard*.22,1,44-48