PREPARATION OF FISTULA NEEDLES TO COMMENCE HAEMODIALYSIS VIA AVF OR GRAFT AND REMOVAL OF NEEDLES AT END OF DIALYSIS SESSION

A) PREPARATION

Wash hands using ayliffe technique

Wash trolley with soap and water and wipe with Trust approved alcohol-impregnated wipe.

Collect equipment:
Hospital approved dressing aid pack.
3 x 10ml syringes.
1 x green needle.
1 vial of heparin (strength dependent upon prescription).
Fistula needles
1 x insulin syringe.
70 % chlorhexidine spray.
Clean roll of micropore tape.
Blood bottles if required.
Goggles or visor.
If pt requires local anaesthetic either 1 x ampule of lignocaine 1% or ethyl chloride spray.

Open dressing pack and let inner fall onto trolley.

Open up pack and open other equipment onto sterile field.

Use Trust approved alcohol hand rub and put on gloves.

Into two of the 10ml syringes draw up 5mls of saline 0.9% and prime the fistula needles each with its own syringe left attached. If pre bloods need to be taken leave one of the needles dry.

In the 3rd syringe draw up prescribed amount of heparin and set aside.

If patient requires local anaesthetic draw up 1ml of lignocaine into insulin syringe, or open ethyl chloride spray.

**B) NEEDLING TECHNIQUE**

Explain the procedure to the patient and ensure that the patient fully understands.

Position patient comfortably and place a pillow under their arm.

Assess the fistula, visually and by touch, to determine vessel position, depth and general condition. Pay particular attention to presence of bruit, signs of infection, previous needling sites and any bruising or swelling not associated with infection. Refer to the patients care plans and documentation and also the patients own comments to determine any previous needling problems.

Any inflamed/ infected areas should be avoided during cannulation. The arterial needle should be placed below the inflamed area and the venous needle above. This will reduce the risk of contamination of the extra-corporeal circuit and systemic circulation.
Use a tourniquet if needed, but ensure that it is left on for the minimum time necessary. Do not apply a tourniquet to needle a graft, unless needling has proved difficult on previous occasions.

Clean the skin with chlorhexidine using circular movements, with friction, from the site of cannulation outwards.

Administer local anaesthetic if needed.

Always try to needle in a different site from previous needling to prevent weakening of the vessel wall or aneurysms.

Insert the needle into the vessel, pulling the skin taut above the site to prevent vessel movement. Bevel should be up for both grafts and fistulas, this ensures that the healing process of the vessel is maximised and less painful for the patient. Try and ensure that the needle goes into the same puncture site as the local anaesthetic.

Slowly introduce the needle at 45° into the vessel until blood appears at the end of the tubing or until you feel a ‘pop’. Then advance the needle along the vessel straightening as you advance, until it lies close to the arm.

Draw back on the syringe to ensure you have a good flow and release the tourniquet before you inject back. Slowly inject back observing for signs of swelling or discomfort. Clamp the needle and secure inplace with tape.

Check the flow once again after taping in place.

Repeat procedure for second needle.

Once both needles are in place you can administer heparin and commence dialysis treatment, using the bottom needle as arterial and the top needle as the venous return.

Ensure needles are secure and no signs of swelling or discomfort.

Dispose of waste appropriately.

Document in patient’s records.
C) REMOVING NEEDLES

Remove needles at a similar angle to insertion and never apply pressure before the needle is completely out.

Apply pressure to site using sterile gauze.

Do not use clamps on grafts and only on fistulas if necessary.

Once bleeding has ceased, use folded gauze to protect the area and secure with three pieces of tape.

Ensure patient knows what to do if the site starts to bleed and that they have a supply of gauze and tape in case of bleeding.

Ensure patient knows to remove dressings after approx. 4-6 hours.

REFERENCES


