



Your Fistula Needles

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Inserting buttonhole needles
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Using sharp needles

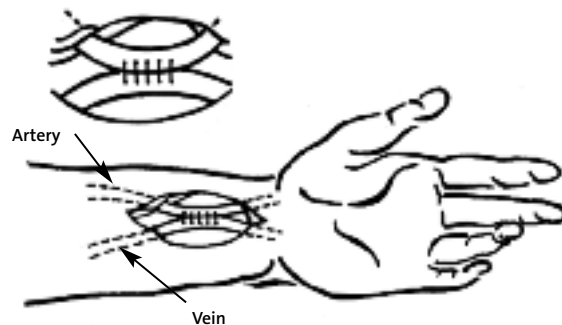


1. Think clean.

Clean, clean, clean. We cannot emphasize this enough. Protect yourself from infection. Wash your hands and use the proper technique every time you insert your needles.

2. Plan ahead.

- Choose your sites carefully. Choose the straightest points possible. Remember that needles are not curved, even though your fistula might be. Your training nurse will help you find appropriate sites.
- Bruises and swelling can happen if the needle pierces through the underside of the vessel (fistula/graft). To avoid this, plan ahead. **Look, Listen and Feel** your fistula/graft every time. Draw a path where the needle is to go if you need to. Fistulas have a tendency to move, so make sure you know where you are going with your needle.
- If the needle has gone through the wall of the fistula/graft and you feel pain, take the needle out and try again. Don't assume the pain will just go away. If you are on dialysis and you notice pressure and pain, stop dialysis and insert a new needle above the old spot.





Your Fistula Needles

How to insert sharp needles

Have machine set up and ready to go BEFORE needling.

What supplies are needed?

- A clean towel or drape
- Chlorohexadine swabs or other disinfectant wipes (ask your care provider).
- Gauze 2–4 (2x2” squares)
- 3 (10cc) syringes
- Heparin 1000 units/ml
- 1 21-gauge needle
- Tape (1 inch and ½ inch) or tegaderm
- 2 fistula needles
- 1 tourniquet (if you have a fistula)

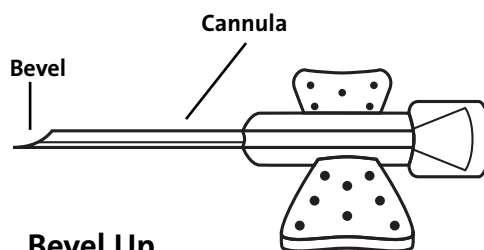
Optional supplies

- Numbing cream or Xylocaine
- Blood detector (enuresis alarm) if you will be sleeping on dialysis.
- Gloves (have your helper use them)

Why is this important?

To keep blood off your table and to keep your surfaces clean.

Amuchina may be used as an alternative to chlorohexadine swabs if you have skin problems.



Ask your care provider about how to secure your needles.

To prevent contamination.

Notes from training





Your Fistula Needles

Instructions



1. **Wash** your hands and fistula/graft arm for a full minute.

2. **Prepare** your needling surface and assemble your supplies on your drape or towel.

a) Draw up your initial dose of heparin using a 21-gauge needle and one 10cc syringe.

b) Attach two empty 10cc syringes to the fistula needles (leave clamp open).

c) Cut off pieces of tape approximately 6–10 inches long or open tegaderm.

3. **Look, Listen and Feel** your fistula or graft.

Related points to note

This initial wash removes oils from your skin. Washing your hands and arm is the best way to prevent infections.

To keep blood off your table and to keep your surfaces clean.

Ask your nurse if you are unsure about your initial heparin dose.

Swab the tops of the heparin bottle and ensure clean technique while drawing up heparin.

Some people may use “wet needles” with saline in them instead of the empty syringe.

Ensure that needles stay put.

Look for bruising, discoloration or other skin problems.

Listen to your fistula with your ear. Make sure you can hear a swishing sound.

Feel the vessel and think about where you are going to insert your 2 needles. Imagine where the end of the needles will be on both of your needle sites. (Needle tips need to be more than 2 inches apart.) Change needle sites if you have a Gortex graft.

(Report anything unusual to your nurse.)



Your Fistula Needles

Instructions...cont.

4. Apply tourniquet (for fistula only).

Apply 4 inches higher than your venous needle site.

Optional: Draw outline of the vessel.

Related points to note...cont.

Do not use a tourniquet on a graft as it will damage your graft.

Drawing on your skin helps identify where your fistula/graft is and what direction it is going.

5. Clean fistula or graft.

Use 2 separate disinfectant swabs. Clean each site in a circular motion, center first and then move outward. Use more swabs if needed.

Ask your nurse about what antiseptic to use.

6. Insert arterial needle.



a) Remove plastic cover and hold the needle by the plastic wings with the black dot facing up.

b) Insert your needle at 25° angle for fistulas or a 45° angle for grafts.

Watch for the pulse (flash back).

Flatten your angle once you see the blood pulsing (flash back).

To prevent infections make sure you don't touch the metal of the needle.

If the pulsing stops in the tubing change your angle.

Discomfort or resistance may indicate that you need to change needle direction or angle.



Your Fistula Needles

Instructions...cont.

- Slowly advance the needle to the white end in the same direction as the fistula.
- c) Secure needle wings.
- d) Check the flow of the blood by pulling up and down on the syringe.
- e) Syringe should be in a vertical position.
- f) **(Optional)** Place folded gauze under the needle if desired.
- g) Clamp the needle.

Related points to note...cont.

To avoid going through the back side of the vessel.

To prevent needles from falling out.

Watch for air! Ensure your syringe is in a vertical position.

See troubleshooting guide if there is any pain or if it is difficult to push or pull blood.

This is important if your fistula graft is deep, to ensure the angle doesn't change during dialysis.

7. Insert venous needle.

Follow the instructions for inserting the arterial needle (in #6 above).

Give yourself the initial heparin dose by replacing the empty syringe with the heparin-filled syringe.

Check your flows as you draw up the blood into the syringe and mix it with the heparin. Return blood and heparin and close clamp.



8. Remove tourniquet.

Vessels can clot if tourniquet is left on for long periods.



Your Fistula Needles

Instructions...cont.

9. Connect to machine.

Double check both needles one last time by pulling and pushing up on the syringe.

Close both clamps.

Connect to blood lines — *red* to lower site, *blue* to top needle.

Open needle clamps and start dialysis.

If you will be sleeping while on dialysis, tape enuresis alarm to venous site.

Related points to note...cont.

To ensure needles haven't clotted.

Review your machine training guide.

Review this with your training nurse.

Enuresis alarm will sound if it detects moisture. Make sure you use this if you sleep while on dialysis.



End of dialysis — taking out your needles

What supplies are needed?

- 1 clean towel or drape
- Gauze _____
- Tape (1 inch and ½ inch) or other dressing

Optional supplies if doing open take off:

- Gloves (have your helper use them)

Why is this important?

To keep blood off your table and to keep your surfaces clean.

ASK your care provider about what to use for removing needles and securing puncture site.

To prevent contamination.

Instructions

1. Clean/Sanitize your hands.

This includes your helper. Your helper should also wear gloves.

Related points to note

Using hand sanitizer will help kill any bacteria that may be living on your hands.





Your Fistula Needles

Instructions...cont.

2. Prepare the supplies.

Ensure that you have **at least a 500ml bag of saline.**

Prepare your supplies, open gauze, prepare any tape and/or band aids.

Related points to note...cont.

You will need at least 500ml of saline to safely rinse back your blood.

3. Rinse back

Follow your machine manual or flip chart.

If you do an open take-off because you have a Gortex graft or are instructed to by your nurse, see section below. Ask your nurse for any special instructions.

4. Check blood pressures

Perform sitting and standing blood pressures.

If your blood pressure is lower than ___/___ and you are feeling lightheaded, make sure there is enough saline in your infusion bag, turn the blood pump on again and give yourself more saline until you feel better. Repeat your blood pressure. Turn the blood pump off and clamp your needles and bloodlines.

5. Check post dialysis weight.

If your weight is lower than your goal weight and you are feeling light-headed, open bloodlines and venous lines and return some more saline.



Your Fistula Needles

Instructions...cont.

6. Take out needles.

Remove needles one at a time by grasping the needle tubing with your fistula hand and placing gauze over the puncture site with your other hand. Pull the needle out slowly while ensuring the gauze is over the puncture site. Do not apply pressure until needle is out. Hold each puncture site for at least 10 minutes with sterile gauze.

Related points to note...cont.

If your puncture site is still bleeding, reapply pressure for another 5 min. Repeat as needed.

If you consistently need to hold your site for longer than 15 minutes, contact your training nurse. You may need to decrease your heparin or have your fistula examined.

If after 1 hour your fistula is still bleeding, call your nurse or go to hospital emergency.

7. Apply band aids or dressing.

Keep band aids/dressing on for 4 hours, then remove and check if scab is present. If your puncture site has started to bleed, apply a new dressing and check again in a few hours.

8. Clean up your supplies and machine.

Follow your machine manual or flip chart.

Disinfecting your machine after every dialysis is mandatory. Bacteria will grow inside the machine if it is not cleaned daily.

Make sure you also clean the outside of your machine using a rag and a mild bleach solution. This will kill any bacteria growing on the surface of your machine.



Buttonhole needling (for fistulas only)

1. How to establish a buttonhole track

Think about it like an earring hole.

- A consistent person (you or your helper) develops the track. It usually takes between 8–18 times before you can start to use dull needles. Your first buttonhole track happens during your initial home hemodialysis training session.
- Choose your sites carefully. Choose the straightest points possible. Remember, needles are not curved although your fistula might be. Your training nurse will help you find appropriate sites.
- Consistency is important. Use the same hole, the same angle and the same direction each time you insert a needle.
- If you plan to dialyze every day, it is a good idea to create some spare buttonhole tracks so that you can alternate between them.
- Buy some sharp tweezers (or ask your care provider for other options) to remove scabs. If using tweezers, clean them with alcohol before and after use. Be gentle.
- Soaking scabs with antiseptic will also help you remove them.
- Never use a buttonhole track on a Gortex (synthetic) graft. Fabric doesn't grow back.

2. How to care for your buttonhole track



- **Clean, clean, clean** — make sure you clean your sites before and after removing the scabs.
- Don't force the needles in, they should just slide in.
- Report any redness, pain or swelling to your nurse.
- If you think your fistula is infected, go to your nearest hospital emergency.



Your Fistula Needles

Inserting buttonhole needles

Ensure the machine is set up and ready to run BEFORE needling.

What do you need?

- 1 clean towel or drape
- Chlorohexadine swabs or other disinfectant wipes (ask your care provider)
- Gauze 2–4 (2x2” squares)
- 3 (10cc) syringes
- Heparin 1000 units/ml
- 1 20-gauge needle
- Tape (1 inch and ½ inch)
- 2 fistula needles
- 1 tourniquet
- Sharp tweezers or _____

Why is this important?

To keep blood off your table and to keep your surfaces clean.

Amuchina may be used as an alternative to chlorohexadine swabs if you have skin problems.

Optional supplies

- Numbing cream (Emla)
- Xylocaine and insulin needles
- Blood detector (enuresis alarm) if you will be sleeping while on dialysis
- Gloves (have your helper use them) To prevent contamination.

Notes from training





Your Fistula Needles

Instructions



1. **Wash** your hands and fistula/graft arm for a full minute.

2. **Prepare** your needling surface and assemble your supplies on your drape or towel.

a) Draw up your initial dose of heparin using a 21-gauge needle and one 10cc syringe.

b) Attach two empty 10cc syringes to the fistula needles. (Leave clamp open.)

c) Cut off pieces of tape approximately 6–10 inches long or open tegaderm.

3. **Look, Listen and Feel** your fistula or graft.

Report anything unusual to your nurse.

Related points to note

This initial wash removes oils from your skin. Washing your hands and arm is the best way to prevent infections.

To keep blood off your table and to keep your surfaces clean.

Ask your nurse if you are unsure about your initial heparin dose

Swab the tops of the heparin bottle and ensure clean technique while drawing up heparin.

Some people may use “wet needles” with saline in them instead of the empty syringe.

Ensure that needles stay put.

Look for bruising, discoloration or other skin problems.

Listen to your fistula with your ear make sure you can hear a swishing sound.

Feel the vessel and think about where you are going to insert your 2 needles. Imagine where the end of the needles will be on both of your needle sites. (Needle tips must be more than 2 inches apart.)



Your Fistula Needles

Instructions...cont.

4. Remove scabs.

Using a disinfectant swab, soak scabs until scab is soft.

Gently lift scab off with a disinfectant swab or use clean tweezers or _____ if scab doesn't come off easily.

Related points to note...cont.

Talk to your nurse about what disinfectant to use.

Soaking the scab helps lift it off
Try to avoid puncturing the skin.

5. Apply tourniquet.

Apply 4 inches higher than your venous or top needle site.

Optional: Draw an outline of the vessel.

Drawing on your skin helps identify where your fistula/graft is and what direction it is going.

6. Clean fistula or graft.

Use 2 separate disinfectant swabs and clean each site in a circular motion, centre first and then move outward. Use more swabs if needed.

Ask your nurse which antiseptic to use.

7. Insert arterial needle.



a) Remove plastic cover and hold the needle by the plastic wings with the black dot facing up.

To prevent infections make sure you don't touch the metal of the needle.



Your Fistula Needles

Instructions...cont.

- b) Insert your needle at 25° angle for fistulas or a 45° angle for grafts.
Watch for the pulse (flash back).

Flatten your angle once you see the blood pulsing (flash back).

Slowly advance needle to the white end in the same direction as the fistula.

- c) Tape down needle wings.
- d) Check the flow of the blood by pulling up and down on the syringe.
- e) Syringe should be in a vertical position.
- f) **(Optional)** place folded gauze under the needle if desired.
- g) Clamp needle.



Related points to note...cont.

If the pulsing stops in the tubing change your angle.

Discomfort or resistance may indicate that you need to change needle direction or angle.

To avoid going through the back side of the vessel.

To prevent needles from falling out.

Watch for air! Ensure your syringe is in a vertical position.

See troubleshooting guide if there is any pain or if it is difficult to push or pull blood.

This is important if your fistula graft is deep, to ensure the angle doesn't change during dialysis.

8. Insert venous needle.

Follow the instructions for inserting the arterial needle (in #7 above).

Give yourself the initial heparin dose by replacing the empty syringe with the heparin-filled syringe.

Check your flows as you draw up the blood into the syringe and mix it with the heparin. Return blood and heparin and close clamp.





Your Fistula Needles

Instructions...cont.

9. Remove tourniquet.

Related points to note...cont.

Vessels can clot if tourniquet is left on for long periods.

10. Connect to the machine.

Double check both needles one last time by pulling and pushing up on the syringe.

Close both clamps.

Connect to blood lines — red to lower, blue to top needle. Open needle clamps and start dialysis.

If you will be sleeping while on dialysis, tape enuresis alarm to venous site.

To ensure needles haven't clotted.

Review your machine training guide.

Review connection procedure with your training nurse.

Enuresis alarm will sound if it detects moisture. If you sleep while on dialysis, use the alarm.

End of dialysis — taking out your buttonhole needles

What supplies are needed.

- 1 clean towel or drape
- Gauze 2–4 (2x2squares)
- Tape (1 inch and ½ inch) or other dressing

Optional supplies

- Gloves (have your helper use them)

Why is this important?

To keep blood off your table and to keep your surfaces clean.

ASK your care provider about what to use for removing needles and securing puncture site.

To prevent contamination.

Instructions

1. Clean/Sanitize your hands.

This includes your helper. Your helper should also wear gloves.

Related points to note

Using hand sanitizer will help kill any bacteria that may be living on your hands.





Your Fistula Needles

Instructions...cont.

2. Prepare your supplies.

Ensure that you have **at least a 500ml bag of saline.**

Prepare your supplies, open gauze, prepare any tape and/or band aids.

Related points to note...cont.

You will need at least 500ml of saline to safely rinse back your blood.

3. Rinse back

Follow your machine manual or flip chart.

If you do an open take-off because you have a Gortex graft or are instructed to by your nurse, see section below. Ask your nurse for any special instructions.

4. Check blood pressures.

Perform sitting and standing blood pressures.

If your blood pressure is lower than ___/___ and you are feeling lightheaded, make sure there is enough saline in your infusion bag, turn the blood pump on again and give yourself more saline until you feel better. Repeat your blood pressure. Turn the blood pump off and clamp your needles and bloodlines.

5. Check post dialysis weight.

If your weight is lower than your goal weight and you are feeling lightheaded, open bloodlines and venous lines and return some more saline.



Your Fistula Needles

Instructions...cont.

6. Take out needles.

Remove needles one at a time by grasping the needle tubing with your fistula hand and placing gauze over the puncture site with your other hand. Pull the needle out slowly while ensuring the gauze is over the puncture site. Do not apply pressure until needle is out. Hold each puncture site for at least 10 minutes with sterile gauze.

Related points to note...cont.

If your puncture site is still bleeding, reapply pressure for another 5 min. Repeat as needed.

If you consistently need to hold your site for longer than 15 minutes, contact your training nurse. You may need to decrease your heparin or have your fistula examined.

If after 1 hour your fistula is still bleeding, call your nurse or go to hospital emergency.

7. Apply band aids or dressing.

Keep band aids/dressing on for 4 hours, then remove and check if scab is present. If your puncture site has started to bleed, apply a new dressing and check again in a few hours.

8. Clean up your supplies and machine.

Follow your machine manual or flip chart.

Disinfecting your machine after every dialysis is mandatory. Bacteria will grow inside the machine if it is not cleaned daily.

Make sure you also clean the outside of your machine using a rag and a mild bleach solution. This will kill any bacteria growing on the surface of your machine.