Module 10 – Troubleshooting Guide

Your safety and wellbeing are our priority. Issues can occur during your treatment and it is important that you recognize the symptoms. This guide will teach you how to react and know when to contact your home dialysis team.

Hypotension (low blood pressure)

Problem: Low blood pressure on or off dialysis.

Cause:

- Fluid has been removed too quickly
- You may have gained weight and your target weight needs to be increased

Symptoms:

- Headache
- Dizziness
- Feeling light-headed
- Blurred vision
- Cramping
- Feeling warm
- Abdominal discomfort
- Yawning, sleepiness
- Nausea
- Vomiting
- Loss of concentration
- Restless
- Blood flow problems while on the dialysis machine (low arterial pressure alarms)

Solution:

1. Stop fluid removal.
2. Lie back or at least try to get your feet up
3. Check BP.

Important to note:

On my machine to STOP fluid removal press:

_____.

If you are feeling comfortable and your BP has improved, increase your hourly UF back to desired amount, however, you may want to consider decreasing your ***UF target***.

Reminder:

UF Target is the amount of fluid your machine is taking off during dialysis.

If your BP is below 100mmHg or if your symptoms are severe:

1. Give yourself approximately 200 mLs of normal saline via the saline infusion line.
2. Turn blood flow down to 200 mLs/min.
3. Open clamps on saline line and saline infusion port.
4. Close (Red) arterial clamp on bloodline.
5. Once saline has been administered, re-open (Red) arterial line clamp and close both saline line clamp and the infusion port clamp.
6. Re-check BP, if BP remains low and/or you are still feeling unwell, administer another 200 mL normal saline as per above step.

If your BP still does not improve:

- If you continue to feel unwell and your BP has not improved, discontinue dialysis and return your blood.
- If your symptoms are severe after discontinuing dialysis, consider going to the hospital, or call for an ambulance.

If your BP improves:

- If your BP improves and you feel better after giving yourself saline, consider decreasing the total fluid removal or decrease the UF rate to a minimum of 0.1 L/hour for remainder of run. This will allow for little or no further fluid removal during treatment.

Questions to consider:

1. Review Target Weight calculation to ensure you have made no mistakes.

2. Re-check setting of Total UF volume—did you set the machine incorrectly?
3. Is your appetite okay? Are you gaining true weight?
4. Are you constipated? Is some weight gain from stool in the bowel?

Important to note:

Consider increasing your target weight for future runs. Talk to your educator for direction if you are unsure.

Clotted dialysis access needle

Problem: No flow or poor flow from your access needle.

Cause:

- If you have trouble placing your needle, a blood clot may form in the needle.

Solution:

1. Try to clear the blood clot from the needle by pulling back on the syringe plunger.
2. Clamp off your needle and add a new 10 mL syringe.
3. Look for blood clots in your first syringe by squirting the blood onto a gauze pad.
4. Never push blood into your body that might be clotted.
5. If you are able to remove the clot, flush your needle in and out,

then add 10 mL pre-filled saline syringe to the needle, and instill saline to prevent needle from clotting.

6. If you are not able to fix the needle, remove and place a new "wet" needle (a needle primed to the tip with saline).

Clotted fistula or graft

Problem: You are unable to feel a *thrill*, or a buzz, over your graft or fistula, and you cannot hear a *bruit*.

Cause:

- Wearing tight fitting clothing, jewelry, carrying purses, or grocery bags over your graft or fistula arm might reduce the blood flow in your access.
- Taking blood work or blood pressure readings on your fistula or graft arm.
- Coming off dialysis underweight (too dry)
- Low blood pressure.
- Removing fluid too quickly.

Solution:

1. Call your nurse or kidney doctor right away.
2. You will be asked to go to the emergency room as soon as possible to avoid delays in de-clotting.

Bleeding around the needle entry point

Problem: Fresh blood is oozing from your needle entry site and will not stop.

Cause:

- Using the same needle site over and over will weaken a graft.

- Using sharp needles in a well formed fistula buttonhole site can make too large of a hole in the vessel wall, causing blood to leak out.

Solution:

1. Lower the blood pump speed to 200 mL/min.
2. Place a 2 x 2 gauze pad under the leaking needle.
3. Place a 2 x 2 gauze pad over the leaking needle and press very lightly for five minutes.
4. If the blood loss does not stop or slow down, you will have to end your treatment, or circle the blood to fix the needle.

Trouble placing your needles

Problem: Pain and swelling, or a lump at needle site when placing needles.

Cause:

- Needle ***infiltration***. This means the needle has accidentally poked through the wall of your fistula or graft. This is called a “blown” needle. Blood leaking into the area around your fistula or graft, causes swelling and pressure, which is painful. **You cannot use this needle site for dialysis until the area has healed.**

Solution:

1. Take out the needle and apply gauze pad to stop the bleeding.
2. Place a small ice pack over the swollen area to help reduce any swelling and bruising.
3. Wait for the bleeding to stop.

4. If you have a “spare” buttonhole site, use this site and rest the “blown” site until the swelling and bruising is gone.

5. If you do not have a “spare” buttonhole you may be able to place a new needle just above, or to the side of your buttonhole tunnel.

6. Patients with a graft, and those patients who do not use the buttonhole technique, will need to find a new site away from the blown site.

7. If you are not able to place another needle, or feel comfortable doing so, you can delay your treatment until the next day. However, you should first consider the following:
   - Is it safe to miss this run?
   - When did you last dialyze?

If you are not sure what to do, call your nurse for assistance.

Needle problems while on hemodialysis

Problem: Pain and swelling, or a lump, near the needle site during the run.

Cause:

- Your needle tip has accidentally poked through the wall of your fistula, or graft, when you moved your arm. Blood is now leaking under your skin into the area around your fistula or graft.

Solution:

1. Return your blood using the good needle. (As described on the next page)

CV Returning your blood when the venous return needle has "blown"

1. Stop the blood pump.
2. Place clean drape under your access limb.
3. Close the clamp on both your arterial and venous bloodlines and on both needles.
4. Close the clamp on the infusion line and add a safety clamp (scissor clamp) to the infusion line. Carefully disconnect the clamped saline infusion line and add a sterile recirculation connector to the end of your saline infusion line.
5. Disconnect your arterial bloodline from your arterial needle.
6. Attach your arterial bloodline to the saline infusion line using the recirculation connector.
7. Disconnect your venous bloodline from your blown venous needle.
8. Attach the venous bloodline to your good arterial needle.
9. Open the clamp on the saline infusion line (roller clamp).
10. Open the clamps on the arterial and venous bloodlines and the arterial needle.
11. Set the blood pump speed to 150 mL/min.
12. Turn on the blood pump and return your blood through the arterial needle.
13. Once you have safely returned the blood, take out the blown needle and apply gauze.
14. Place a small ice pack over the swollen area to help reduce any swelling or bruising.
15. Wait for the bleeding to stop.

16. Take out the second needle as usual.

17. Plan to rest your fistula or graft for one day.

NX Returning your blood when the venous return needle has "blown"

1. Stop the blood pump.

2. Place a clean drape under your access limb.

3. Close the clamps on both the arterial and venous bloodlines and both needles.

4. Carefully disconnect the arterial line and attach it to the red "Y" saline spike.

5. Carefully disconnect the venous line and attach it to the arterial needle.

6. Open the clamps on the arterial and venous bloodlines and at the arterial needle.

7. Open the clamp at the red "Y" saline spike.

8. Set the blood pump speed to 150 mL/min.

9. Turn on the blood pump and return your blood through the arterial needle.

10. Once you have safely returned the blood, take out the blown needle and apply gauze.

11. Place a small ice pack over the swollen area to help reduce any swelling or bruising.

12. Wait for the bleeding to stop.

13. Take out the second needle as usual.

14. Plan to rest your fistula, or graft, for one day.

Important to remember:

Let your nurse know if you are unable to return your blood. Losing a circuit of blood will lower your hemoglobin for a few weeks and may make you feel weak, or more tired, than usual.

CV Returning your blood when the arterial needle has "blown"

1. Stop the blood pump.
2. Place clean drape under your vascular access arm.
3. Close the clamp on both your arterial needle and arterial blood bloodline.
4. Add a safety clamp to the saline infusion port (scissor clamp). Carefully disconnect the clamped saline infusion line and add a sterile recirculation connector to the end of your saline infusion line.
5. Disconnect your arterial bloodline from your arterial needle.
6. Attach your arterial bloodline to the saline infusion line using the recirculation connector.
7. Open the clamp on the saline infusion line (roller clamp).
8. Open the clamps on the arterial bloodline and the venous needle.
9. Set the blood pump speed to 150 mL/min.
10. Turn on the blood pump and return your blood through the venous needle.
11. Once you have safely returned the blood, take out the blown needle and apply gauze.

12. Place a small ice pack over the swollen area to help reduce any swelling or bruising.
13. Wait for the bleeding to stop.
14. Take out the second needle as usual.
15. Plan to rest your fistula or graft for one day.

NX Returning your blood when the arterial needle has "blown"

1. Stop the blood pump.
2. Place clean drape under your vascular access arm.
3. Close the clamp on both your arterial and venous bloodlines, and on both needles.
4. Carefully disconnect the arterial line and attach it to the red "Y" side of the saline bag spike.
5. Open the clamps on the arterial and venous bloodlines and the venous needle.
6. Open the arterial (red) "Y" spike on the saline bag.
7. Set the blood pump speed to 150 mL/min.
8. Turn on the blood pump and return your blood through the venous needle.
9. Once you have safely returned the blood, take out the blown needle and apply gauze.
10. Place a small ice pack over the swollen area to help reduce any swelling or bruising.
11. Wait for the bleeding to stop.
12. Take out the second needle as usual.
13. Plan to rest your fistula or graft for one day.

Unusual bleeding at the end of a run

Important to remember:

Let your nurse know if you are unable to return your blood. Losing a circuit of blood will lower your hemoglobin for a few weeks and may make you feel weak, or more tired, than usual.

Problem: It is taking too long for the needle sites to stop bleeding (more than 15 minutes).

Cause:

- You may be using too much heparin.
- You may be taking off your dressings too soon, or too roughly, which can remove your scab and cause bleeding to start again.
- You may have a narrowing (***stenosis***) in your fistula, or graft, which causes increased pressure inside your access.

Solution:

1. Call your nurse to discuss lowering your anticoagulant dose .
2. Leave your dressings on for four hours, or overnight, before carefully removing them.
3. Always track your venous and arterial pressure readings at 200 mL/min at the beginning of your run.

Important to remember:

If the venous pressure (VP) has become higher or if the arterial pressure (AP) has become more positive, let your nurse know. You may need a fistulagram to check for a narrowing or ***stenosis***.

Poor flow from a catheter

Problem: Poor blood flow from the catheter at hook up or during treatment.

Cause:

- A blood clot of fibrin sheath may have formed, creating a “flap’ over the tip of the catheter.
- The catheter may have moved slightly.

Solution:

1. Try coughing deeply. This causes increased pressure in your chest cavity and might help to shift the “flap” at the tip of the catheter.
2. Try changing your position. Move from side to side. Lower your head.
3. If you have a good flow from only one port, use this as your arterial outflow. You may be able to return through the other port. This may mean you have to run with your lines in reverse position.
4. Call your nurse or kidney doctor. You may need to instill a medication called t-PA/Cathflo into your catheter. t-PA/Cathflo helps to dissolve blood clots and fibrin sheaths.

Clotted catheter

Problem: You cannot remove the block (sodium citrate) from one or both limbs of your catheter.

Cause:

- Your catheter might be clotted or it might have moved slightly.

Solution:

1. Try coughing deeply. This causes increased pressure in your chest cavity and might help to dislodge a blood clot at the tip of the catheter.
2. Try changing your position. Move from side to side. Lower your head.
3. Call your nurse or kidney doctor. You may need to instill a medication called t-PA/Cathflo into your catheter. t-PA/Cathflo helps to dissolve blood clots and fibrin sheaths.
4. If t-PA does not help, the doctor will order a linogram or line change.

Circulating your blood while on hemodialysis

If you have needle problems, or if you have excess air in the blood circuit, you may need to circulate your blood (keep your blood moving in the machine). Your blood can safely circulate for up to 20 minutes. This will give you time to safely remove any air, or remove and replace a blown, clotted or leaking needle.

Important to remember:

Always have two 10 or 20 mL prefilled saline syringes, and a sterile recirculation connector, ready on the top of your machine, in case you need to circulate your blood while on hemodialysis.

CV How to circulate your blood in the machine

1. Place clean drape under your ***access***.
2. Stop blood pump.
3. Clamp the arterial and venous blood lines.
4. Clamp the arterial and venous access lines.
5. Carefully separate the arterial bloodline from the arterial access line and attach a 10 mL or 20 mL prefilled saline syringe to the arterial access line.
6. Carefully separate the venous bloodline from the venous access line and attach a 10 mL or 20 mL prefilled saline syringe to the venous access line.
7. Attach the arterial and venous bloodline to the each end of the sterile recirculation connector.
8. Open clamps on bloodlines.
9. Open saline line and saline infusion clamp.
10. Lower blood flow rate to 100 mL/min
11. Restart blood pump.
12. Put machine in Minimum UF.

Recirculation connector

NX How to circulate your blood in the machine

1. Place clean drape under your ***access***.
2. Stop blood pump.
3. Clamp the arterial and venous blood lines.
4. Clamp the arterial and venous access lines.
5. Carefully separate the arterial bloodline from the arterial access line and attach a 10 mL or 20 mL prefilled saline syringe to the arterial access line.
6. Carefully separate the venous bloodline from the venous access line and attach a 10 mL or 20 mL prefilled saline syringe to the venous access line.
7. Attach the arterial and venous bloodline to the each end coloured end of the saline “Y’ spike.
8. Open clamps on the arterial and venous bloodlines and the clamps on the saline “Y” spike.
9. Lower blood flow rate to 100 mL/min.
10. Restart blood pump.
11. Put machine in Minimum UF.

Notes- Troubleshooting Guide