Hemodialysis: Post-Dialysis Hemostasis for Arteriovenous Fistulas and Arteriovenous Grafts

Site Applicability

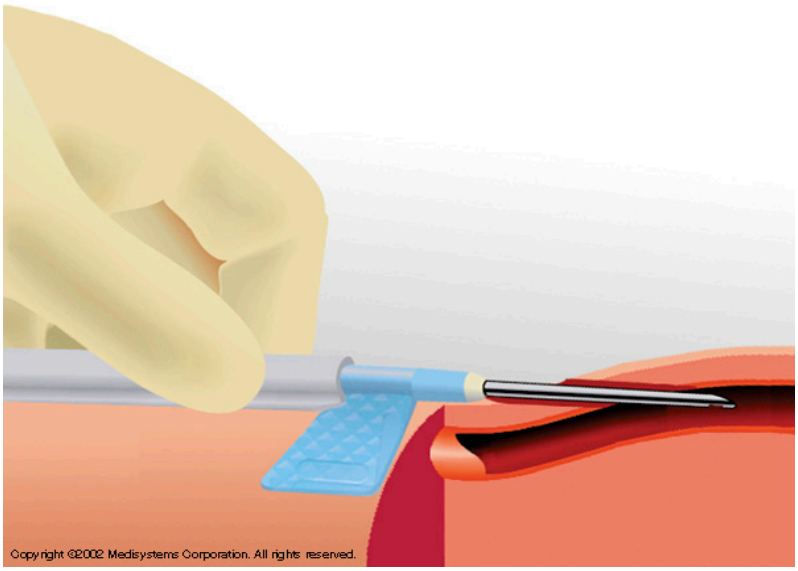
All PHC Renal Program Hemodialysis (HD) units (In-Centre and Community Dialysis Units)

Practice Level

Specialized: Nurses who have completed the required education and who provide care in the PHC Renal Program Hemodialysis specialty.

Need to Know

1. Many instances of access thrombosis are preventable. The key to access longevity is nursing assessment. Three steps in vascular access assessment; **LOOK, LISTEN** and **FEEL.**
2. Hemostasis is best achieved by applying mild, digital, localized, direct pressure, using two fingers over the needle sites.



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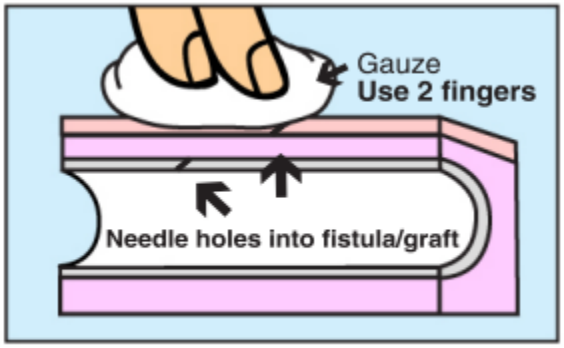
Procedure

The following steps are used to achieve hemostasis in an arteriovenous fistula (AVF) or arteriovenous graft (AVG) post-hemodialysis:

1. Remove the venous needle at the same angle it was inserted. Do not apply pressure while the needle still remains in the vein.
2. Apply mild, direct pressure using sterile gauze and a two-finger technique over each needle site for at least 10 minutes (longer if clinically indicated.) Two-finger technique is necessary, as there are two points of entry during cannulation – the surface level skin, as well as the vein wall puncture. One finger should be placed over the needle entry site, and one just above it.



How to hold pressure over the needle hole

3. If able, have the patient hold the site. If unable to do so themselves, arrange for a family member/support person to do so. In the event that they are not able to hold and do not have family/support to assist, the nurse should perform this function.
4. If prolonged bleeding is noted, inform the vascular access team and/or the nephrologist.

In the event that the nurse is unable to assist the patient, tourniquets may be used if the patient has been reviewed by the nephrologist and an **order has been placed**.

If using a tourniquet, the following information must be reviewed before applying to a patient's access:

- Use one tourniquet at a time to a needle site to avoid excessive pressure over the access.
- Tourniquets should never be used during hypotensive episodes. The combination of poor blood supply through the access due to hypotension and the constrictive effect of overly tight tourniquets can cause an access to thrombose.
- Never use tourniquets on grafts (graft material does not have elastic properties like native vessels). Tourniquets may compress too much and the graft material may not rebound back to its original diameter causing a stenosis or thrombosis.

- If a tourniquet is used, ensure a bruit and/or a thrill is present above and below the tourniquet. If not present readjust the tourniquet to allow blood flow through the access.
- Check the access for a thrill while waiting for hemostasis to occur and before discharging the patient home.

  Never discharge a patient home with tourniquets or tight circumferential dressings in place.
- **Never use tourniquets on new and developing AVFs** because they are particularly vulnerable to hematoma formation, infiltration and bruising. AVFs should be considered new and developing if 17 gauge steel needles or 16 g angiocaths are being used.
- **Check thrill every 10 minutes above and below the needle sites.**
- **Tourniquets should not be left on longer than 20 minutes.**

Infiltrations

- If an infiltration occurs, remove the needle.
- The site should be held for a minimum of 10 minutes. C-clamp method of holding should be applied (two fingers over the puncture site and the thumb place under the arm to compress the back wall infiltration).

- Ice the site.
- Assess if a second needle can be inserted. If a venous infiltration has occurred, the second venous needle should be place above the infiltration.
- If a moderate to severe hematoma has occurred, the fistula or graft should be assessed with an ultrasound (where available) to determine that the infiltration has been contained by using the colour monitor on the ultrasound machine.

Documentation

1. Document findings from the post assessment in the Hemodialysis Log. Findings that are unusual should also be documented in the progress notes.
2. Document the length of time hemostasis of the needle sites takes to occur.
3. Complete a PSLS if an infiltration occurs.
4. Document ultrasound findings, if ultrasound used for assessment or cannulation.

Patient and Family Education

Teaching re: post-HD access care …

1. Always wear a glove when holding needle sites.
2. Apply gentle pressure to stop bleeding **after** the needles are pulled. Too much pressure will stop the flow of blood through your access. Press only where the needle was and just above (unless the arterial needle was retrograde).
3. Use two fingers to hold each needle site. Hold each site for 10 minutes.
4. Do not leave the hemodialysis unit until your nurse has assessed your access. If a tourniquet has been used, it must be removed before you leave the hemodialysis unit.

   To Apply:

   - The tourniquet is to stay on the puncture site for 10 minutes to stop bleeding.
   - After bleeding has stopped remove the tourniquet and apply a clean gauze or Band-Aid to the puncture site.
   - **Do not leave the tourniquet on for long periods (no more than 20 minutes) and ensure the tourniquet is removed before leaving the unit.**
5. Usually there is no bleeding from the access area after you leave the hemodialysis unit. Should bleeding occur, apply pressure using a clean towel or gauze pad for 10 to 15 minutes. **Do not peek**, this action will disturb the process of clot formation. Use enough pressure to stop the bleeding but not to occlude the pulse in the fistula
   a. When the bleeding stops, tape the dressing in place. **Never wrap tape** all the way around the arm (risk of the fistula clotting off).
   b. Leave the new dressing on for four to six hours before trying to remove it.
   c. If you are unable to stop the bleeding go to the Emergency Department
6. If an infiltration has occurred ice for the first 24 hours. Warm compresses can be applied after the first 24 hours.
      i. Consult your nephrologist if medication is needed for discomfort.

Related Documents

1. B-00-11-10191 - Hand Hygiene (Corporate Policy)
2. B-00-07-13027 - Face Protection: Masks, Goggles and Face Shields – Infection Control
3. B-00-07-13038 - Spills: Blood and Body Fluids (Infection Control)
4. B-00-13-10055 - Hemodialysis: Heparin Protocol
5. B-00-12-10029 - Hemodialysis: Removal Of Fistula Needles from AV Fistula or Graft
6. B-00-13-10058 - Hemodialysis: Patient Assessment Pre, Intra and Post Dialysis
7. Blood and Body Fluid Exposure Protocol Occupational Health and Safety

References

1. BC Renal (August 2020). Care of needling sites post-hemodialysis for fistulas and grafts (hemostasis) Accessed June 8 2022 at: http://www.bcrenalagency.ca/resource-gallery/Documents/Care%20of%20Needling%20Sites%20Post%20Hemodialysis%20for%20Fistulas%20%20Grafts%20(Hemostasis).pdf
2. European Dialysis and Transplant Nurses Association/European Renal Care Association. Parisotto, M.T. (Ed) (Sept 2016). Vascular access cannulation and care: a nursing best practice guide for arteriovenous graft. Accessed at https://www.edtnaerca.org/resource/edtna/files/Vascular_Access_Graft_book.pdf
3. European Dialysis and Transplant Nurses Association/European Renal Care Association. Parisotto, M.T., Pancirova, J. (Eds) (Sept 2018). Vascular access cannulation and care: a nursing best practice guide for arteriovenous fistula. Accessed at https://www.edtnaerca.org/resource/edtna/files/VA_2018.pdf

Persons/Groups Consulted:

PHC Radiologist

PHC Hemodialysis Clinical Practice Group

Nephrologist

Vascular Surgeon

Vascular Access Educator Group of BC

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