SYSTEMIC TREATMENT CHEMOTHERAPY

PROCEDURE

CATEGORY: System-Level Clinical **REVISION DATE:** January 18, 2023

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TITLE: **CENTRAL VENOUS CATHETER – IMPLANTED PORT ACCESS, DEACCESS AND CARE**

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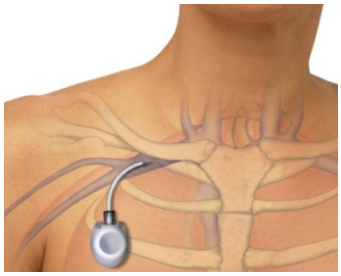
Approval: Clinical Policy & Procedure Committee Melissa Bertrand	**Date:** April 5, 2023

PURPOSE

To outline the procedure for implanted venous port access, deaccess and care.

PROCEDURE

Special Instructions



- **Pediatric patients require administration of hepalean 100 units/mL when deaccessing central lines. Please follow the unit specific protocol/individual patient passports provided by the tertiary centre**
- Only nurses certified in this advanced nursing skill are authorized to access and deaccess implanted ports. Nurses certified in care and maintenance of central venous catheters are able to provide care of already accessed ports.
- To prevent damage to the port's integrity, use only an appropriate size non-coring needle to access it.
- Only power-injectable ports and non-coring needles designed for power injection can be used for diagnostic or radiologic imaging tests because they can withstand the high-pressure injection required. The presence of a power injectable port can be determined by the identification card given to the patient at the time of insertion. Some power-injectable ports are identifiable by palpation of "bumps" located on the port septum. Palpation alone should not be used as the sole identification that the access is a power port. If the port is rated for power injection, "CT" can be seen on the x-ray image of the port.
- Non-coring needles must be changed weekly with dressing change.
- Do not access a port if a port pocket infection is suspected. Draw blood cultures peripherally and not through the port.

Method

See Appendix A for Accessing an Implanted Venous Access Device
See Appendix B for Deaccessing an Implanted Venous Access Device (Dormant for up to 4 Weeks)
See Appendix C for Obtaining a Blood Specimen from an Implanted Venous Access Port

Monitoring and Care

1. Adults only: Flush accessed, but not in use venous access ports daily with 2 x 10 mL sterile preservative free 0.9% sodium chloride . Flush non-accessed/not in use port with sterile preservative free 0.9% sodium chloride monthly; consider extending frequency to 3 months.
2. Change transparent dressing every 7 days and when compromised (loose, wet, soiled).
3. Change non-transparent dressing (gauze) every 2 days and when compromised (loose, wet, soiled). Replace gauze dressing as soon as possible with sterile transparent dressing.
4. When gauze is used under the transparent dressing to solely support the wings of the noncoring needle, when the gauze does not obscure the access site, and its integrity is not compromised (eg. not visibly soiled and remains free of moisture, drainage, or blood), change the transparent dressing every 7 days.
5. Label the dressing with the date of application and initial it.
6. Change all add-on devices (stopcocks, extension sets, inline filters) with each administration set replacement, whenever the integrity of the device is compromised, or with suspected contamination.
7. Change needleless connector if the connector has been removed for any reason, if blood is visible in the needleless access device, before drawing a blood culture from the port, or upon suspected contamination.
8. Change the non-coring needle and needleless connector every 7 days when port access is required for ongoing infusion therapy.
9. Assess for signs and symptoms of port-related complications, including localized and systemic infection, cellulitis, phlebitis, pinch off syndrome, infiltration, or extravasation. **Reportable conditions: Redness, edema, tenderness, pain, or drainage at the site; erosion of skin exposing port body; fever; elevated white blood cell count.**
10. Assess, treat, and reassess pain.

References and Related Documents

CVAA Canadian Vascular Access & Infusion Therapy Guidelines 2019

Infusion Nurses Society (INS). (2021). Infusion therapy standards of practice. Journal of Infusion Nursing, Vol.44 Number 1S.

APPENDIX A

Accessing an Implanted Venous Access Device

Equipment

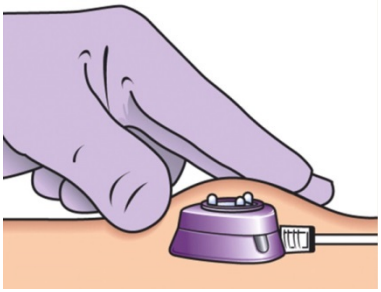
- Transparent securement dressing
- Sterile gloves
- Clean gloves
- Procedure mask x 2 (one for nurse and one for patient)
- 2% chlorhexidine with 70% alcohol swabstick (sensitivity to chlorhexidine may require an alternative cleaning agent (i.e. proviodine) which is available in swabsticks)
- Antiseptic (2% chlorhexidine with 70% alcohol or 70% alcohol) wipe x 2
- Barrier film (i.e. Cavillon swabstick) if applicable
- Blue pad
- Sterile 10 mL 0.9% sodium chloride pre-filled syringe x 2
- Needleless connector
- Non-coring Huber needle 22g (unless otherwise indicated) of appropriate length
- Sterile dressing tray if not using sterile glove package as sterile field
- Topical analgesic cream (or anesthetic dermal patch) as prescribed by physician (to be applied at least 30 minutes before performing procedure)

Method

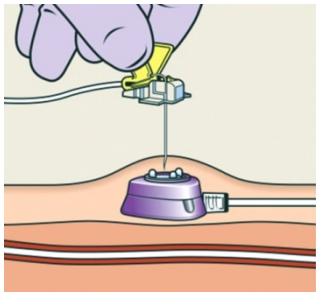
1. Perform hand hygiene.
2. Verify the correct patient using two identifiers.
3. Explain the procedure to the patient. Place the patient in a comfortable reclined position with shoulders/arms back.
4. Palpate the subcutaneous tissue over and surrounding the implanted vascular device to determine the borders, to locate the center of the septum and to ensure depth to determine needle length.
5. Perform hand hygiene.
6. Don mask and clean gloves. Patient to don a mask or look away.
7. Place a blue pad below port area to hold patient clothing/gown back.
8. Open a 2% chlorhexidine with 70% alcohol swabstick and using light friction, cleanse skin over the port and the entire skin area where the dressing will be applied. Scrub horizontally (15 seconds), flip swab then scrub vertically on skin surface (15 seconds). Ensure a total cleansing time of 30 seconds. Allow the site to dry for at least 2 minutes.
9. If required, apply barrier film in swabstick format not a wipe format. Allow to dry for 30 seconds.
10. Remove clean gloves and wash hands.
11. While site is drying, assemble sterile equipment to be placed onto either a sterile tray or onto open sterile glove package.
12. Open a sterile dressing tray or the sterile glove package. Keep the inside of the glove package sterile so it can be used as a sterile field.
13. Open the additional supplies (sterile 10 mL 0.9% sodium chloride pre-filled syringe x 2, needleless connector, non-coring Huber needle) and drop the items onto the sterile field, maintaining the sterility of the supplies. **Choose the smallest-gauge non-coring safety-engineered needle that accommodates the therapy. Select a length that allows the needle to sit flush to the skin and securely in the port.**
14. Perform hand hygiene and don sterile gloves.
15. Prepare the supplies on the sterile field.
    A. Remove the end cap from the non-coring needle tubing and replace it with the needleless connector.

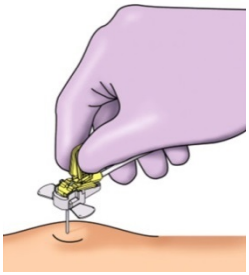
B. Attach a sterile 10 mL pre-filled 0.9% preservative-free sodium chloride syringe to the needleless connector and prime the non-coring needle and tubing to remove all air. Leave the syringe attached to the extension tubing and the clamp open.

16. With your non-dominant hand, palpate the port to locate the boundaries and the center of the septum. Stabilize the port by triangulating it between the thumb and first two fingers of your non-dominant hand.

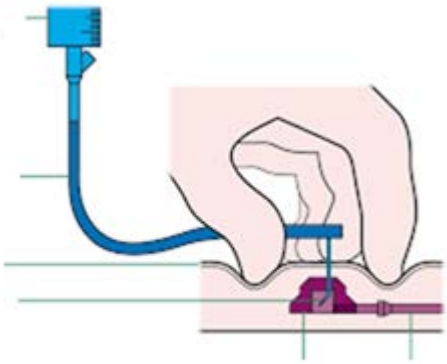


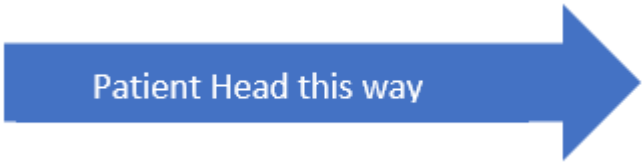
17. With your dominant hand, insert the non-coring needle perpendicular to the skin into the center of the port septum **until the needle tip comes in contact with the base of the port reservoir (the bottom of the port)**. Note that resistance is felt as the needle reaches the base of the reservoir. Once the septum is punctured, avoid tilting or rocking the needle, which may cause fluid leakage or damage to the system.





18. Perform a push/pause turbulent flush of 2-3 mL NS then aspirate for blood return to check the patency of the port. Once verified, continue to flush with remainder of normal saline in syringe. Using push/pause turbulent technique, flush the line with the second 0.9% sodium chloride syringe. Withdraw syringe from connector as you are pushing on the syringe plunger during the last 0.5 mL or clamp extension while flushing last 0.5 mL to create a positive pressure lock. Flush with total of 20 mL. Cleanse connector with antiseptic wipe in between flushes if connector put down.
19. **Never inject against resistance. Do not use the port if unable to obtain blood return. Notify the physician if unable to aspirate blood or flush the port. The Northeast Cancer Centre and Oncology in-patient unit only may follow Medical Directive NECC 02 MANAGEMENT OF THROMBOTIC OCCLUDED CENTRAL VENOUS CATHETER for instillation of Alteplase.**
20. Orient the bevel of the non-coring needle in the opposite direction from the outflow channel where the catheter is attached to the port body as this removes a greater amount of protein/sediment when flushing with this bevel position.See diagram below for the correct position of the non-coring Huber needle.





21. Place a securement dressing over the site, making sure the entire needle and access site have been covered. Label the dressing with the date of application and initial it.
22. If accessing for infusion, open clamp, disinfect the needleless connector using vigorous mechanical scrubbing for a minimum of 15-30 seconds with an antiseptic wipe and allow the solution to dry. While maintaining sterility of the end of the IV tubing, attach IV tubing to connector and initiate infusion therapy. Secure the tubing to the patient's chest or gown/clothing with tape, making sure not to obscure the site for future assessments.
23. Discard supplies, remove PPE, and perform hand hygiene.
24. Document the procedure in the patient's record.

For intermittent infusion:

1. Open clamp, disinfect the needleless connector using vigorous mechanical scrubbing for a minimum of 15-30 seconds with an antiseptic wipe and allow the solution to dry.
2. Attach a pre-filled normal saline syringe. Flush 2-3 mL of normal saline using push/pause turbulent technique, then aspirate gently (pull back 1 mL and pause for 1-2 seconds) to check port patency and verify blood return. Once verified, flush with remainder of normal saline in syringe.
3. While maintaining sterility of the end of the IV tubing, attach IV tubing to connector and initiate infusion therapy.
4. Secure the tubing to the patient's chest or clothing with tape, making sure not to obscure visualization of the site for future assessments.
5. Once infusion therapy complete, disconnect IV tubing and apply sterile cap to end of IV tubing to maintain sterility of line.
6. Disinfect the needleless connector using vigorous mechanical scrubbing for a minimum of 15-30 seconds with an antiseptic wipe and allow the solution to dry.
7. Using push/pause turbulent technique, flush the line with the 2 x 10 mL 0.9% sodium chloride syringes. Withdraw second syringe from connector cap as you are pushing on the syringe plunger during the last 0.5 mL or clamp extension while flushing last 0.5 mL to create a positive pressure lock.

APPENDIX B

Deaccessing an Implanted Venous Access Device

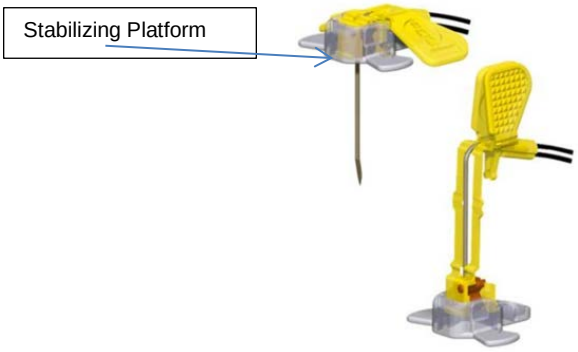
Equipment

- Clean gloves
- Antiseptic (2% chlorhexidine with 70% alcohol or 70% alcohol) wipes
- 10 mL 0.9% sodium chloride pre-filled flush syringe x 2
- Gauze and tape or bandaid

Note: Pediatric patients require administration of hepalean 100 units/mL when deaccessing central lines. Please follow the unit specific protocol/individual patient passports provided by the tertiary centre

Method

1. Perform hand hygiene and don clean gloves.
2. Verify the correct patient using two identifiers.
3. Unclamp the non-coring needle tubing if clamped. Disinfect the needleless connector. Use vigorous mechanical scrubbing for a minimum of 15-30 seconds with an antiseptic wipe and allow to dry.
4. Attach a 10 mL syringe of 0.9% sodium chloride to the needleless connector.
5. **If port is already accessed**, there is no need to check for blood return. Flush port using push/pause turbulent flush for a total of 20 mL normal saline.
   If port has been dormant for up to 4 weeks or more, follow steps outlined in Appendix A to access theport. Perform a push/pause turbulent flush of 2-3 mL normal saline then aspirate for blood return to check the patency of the port. Once verified, using push/pause turbulent technique, flush the line with the second 0.9% sodium chloride syringe. Flush with total of 20 mL. Cleanse connector with 2% chlorhexidine with 70% alcohol wipe in between flushes if connector cap put down. Do not flush port forcibly or use the port if unable to obtain blood return. Notify the physician if unable to aspirate blood or flush the port.
6. Withdraw the syringe from connector cap as you are pushing on the syringe plunger during the last 0.5 mL or clamp extension while flushing last 0.5 mL to create a positive pressure lock. Remove the dressing at the site.
7. Using your non-dominant hand, apply gentle, pressure to the stabilizing platform of the Huber needle. While pressure maintained, grasp the winged flanges of the Huber needle with the thumb and forefinger of your dominant hand and pull the Huber needle straight up and out in a firm, continuous motion, engaging the safety mechanism. Discard the needle in a sharps container.



8. Apply gauze to the site if oozing occurs or apply a bandaid.
9. Discard supplies, remove gloves, and perform hand hygiene.
10. Document the procedure in the patient's record.

APPENDIX C

Obtaining a Blood Specimen from an Implanted Venous Access Port

1. Refer to Central Venous Access Device- Blood sampling through a connector