# Epidural and Perineural Catheter: Removal

## Site Applicability

SPH and MSJ Acute and Critical Care Areas

## Practice Level

RN with supplemental epidural and perineural analgesia education

## Need to Know

- The only acceptable VTE prophylaxis with Epidural /Perineural Therapy:
  - Low molecular weight heparin (LMWH) such as enoxaparin 40mg or less subcutaneous **daily** OR dalteparin 5000 units or less subcutaneous **daily** OR
  - unfractionated heparin 5000 units or less subcutaneous **BID OR TID** while epidural catheter in situ
- Contact Acute Pain Service (SPH) pager 34011 or Anesthesiologist (MSJ) if any other anticoagulant, antiplatelet, or thrombolytic is ordered or given with an epidural/perineural in situ and/or **prior to** epidural/perineural removal
- Do not remove epidural/perineural catheter:
  - For at least 12 hours after the last dose of LMWH (enoxaparin or dalteparin)
  - For at least 4 hours after the last dose of heparin
- After catheter removal, do not administer
  - LMWH (enoxaparin or dalteparin) for at least 4 hours
  - Heparin for at least 1 hour
- Only the Acute Pain Service or an anesthesiologist can order epidural/perineural removal orders OR discontinue epidural/perineural analgesia PowerPlans.
- Epidural/perineural catheters are inserted by anesthesiologists—the average length of epidural catheter inserted inside the patient is approximately 10 to 15 cm
- The CADD-Solis keys are to be kept in a secure location
- The epidural/perineural catheter will have either a black tip or silver/clear tip indicating the catheter is intact.

## Equipment and Supplies

| | |
|---|---|
| • Non-sterile gloves<br>• Alcohol swab<br>• Band-aid | • May need adhesive remover wipes to help remove all the tape<br>• **For stump catheters only**: need suture remover |

## Procedure

| PROCEDURE | RATIONALE |
|---|---|
| 1. An acute pain service (APS) or anesthesiologist's order for epidural/perineural catheter removal is required. | The APS (SPH) or anesthesiologist on call (MSJ) will assess the patient's coagulation status etc. and timing of VTE prophylaxis. This is to prevent the risk of bleeding. |
| 2. Ensure patient has a patent IV access | |
| 3. Wash hands and put on disposable gloves | Maintain asepsis throughout procedure |
| 4. Explain to patient what you are doing and what to expect | |
| 5. Loosen tape and dressing while holding loops of catheter to keep it secure. | May need to use adhesive remover wipes |
| 6. Inspect site for redness and/or swelling. | If redness or swelling is noted at the insertion site—this may indicate infection, if an infection is suspected call the Acute Pain Service, pager 34011 (SPH) or the anesthesiologist on call (MSJ) |
| 7.<br>a. For epidural removal: have patient bend forward at the waist or bring legs up to chest i.e. fetal position<br>b. For perineural – a comfortable position<br>c. for Stump catheters, will need to remove dressing prior to perineural removal | a. To separate the vertebrae in the back so that the epidural catheter can be removed easily<br>b. If difficulty removing perineural, may help to change position of limb |
| 8.<br>a. Epidural/Perineural: Grasp the catheter close to the insertion site and slowly pull, applying steady tension. | a. Firm tension is needed as the epidural/perineural catheter may catch on tissue |

| | |
|---|---|
| b. Stump catheters, remove suture(s) then grasp the catheter close to the insertion site and slowly pull it straight towards you, applying steady tension. | b. For stump catheter, remove suture before pulling catheter |
| 9. If you encounter resistance, reposition patient, try again, if resistance persists; stop and notify the APS physician at SPH or anesthesiologist on call at MSJ. | |
| 10. Once epidural/perineural catheter is out, inspect the tip to make sure it is intact. | Both epidural and perineural catheters will have either a black tip or clear/silver tip indicating it is intact |
| 11. If the catheter is intact, discard it. If the catheter is damaged:<br>a. Cut off the tip with sterile scissors and place in a C&S container<br>b. Notify APS immediately at SPH and notify the anesthesiologist on call at MSJ | |
| 12. If you suspect infection;<br>a. Cut the tip of the catheter with sterile scissors and place in a C & S container<br>b. Take a swab of the site for C & S<br>c. Notify APS (SPH) or anesthesiologist on call (MSJ) | |
| 13. Wipe catheter site with an alcohol swab. | |
| 14. Apply band-aid to the site. | |
| 15. Discard remaining infusion solution recording amount wasted (with a witness if opioid is in the epidural solution) as per procedure | |

## Documentation

1. In 'Interactive View and I & O' document the removal of the epidural/perineural catheter in pain modalities under 'pump related activity'.
2. **Important NOTE: Once epidural/perineural removal is documented, you need to "Inactivate" the dynamic group.
3. Document epidural opioid medication bag wastage co-signed by 2 RNs in the **Omnicell**

## Related Documents

1. B-00-07-10061 – Automated Dispensing Cabinets (ADC): Omnicell
2. B-00-12-10123 – Narcotics and Controlled Substances: Wastage
3. B-00-13-10003- Epidural Analgesia
4. B-00-13-10221 - Perineural Anesthesia/Analgesia Pain Management with or without Patient Controlled Perineural Analgesia

## References

1. Horlocker, T., Vandermeuelen, E., Kopp, S., Gogarten, W., Leffert, L. & Benzon, H. (2018). Regional anesthesia in the patient receiving antithrombotic or thrombolytic therapy. American society of regional anesthesia and pain medicine evidence-based guidelines (Fourth Edition). Regional Anesthesia and Pain Medicine 43, (3), 263-309. doi:10.1097/AAP.00000000000763
2. McCaffery, M. & Pasero, C. (2011) Pain Assessment and Pharmacologic Management, St. Louis, MS: CV Mosby
3. Neil, J., Barrignton, M., Brull, R., Hadzic, A., Hebl, J., Horlocker, T., Huntoon, M., Kopp, S., Rathmell, J & Watson, J. (2015). The second ASRA practice advisory on neurologic complications associated with regional anesthesia and Pain Medicine: Executive summary 2015. Regional Anesthesia and Pain Medicine, 40 (5), 401-430. doi: 10.1097/AAP.0000000000286Practice Guidelines (2017). Practice advisory for the prevention, diagnosis, and management of infectious complications associated with neuraxial techniques: An updated report by the American Society of Anesthesiologists task force on infectious complications associated with neuraxial techniques and the American Society of Regional Anesthesia and pain medicine. Anesthesiology 126, (4), 585-601.
4. Tsui, B, Kirkham, K, Kwofie, M, Tran, D, Wong, P, Chin, K, Sondekoppam, R. (2019) Practice advisory on the bleeding risks for peripheral nerve and interfascial plan blockade: evidence review and expert consensus. Canadian Jounrnal of Anesthesia, 66, 1356-1384. Doi: 10.1007/s12630-019-01466-w
5. Yang, W, Kim, J (2023). Regional anesthesia in patients receiving antithrombotic or thrombolytic therapy: Part 1. Open Anesthesia

**Groups/Persons Consulted:**

APS physicians

PHC Head of Anesthesiology, MSJ Anesthesiologists

Nurse Educators Surgery, PACU, CSICU

ACPR Medication Safety Pharmacist

**Developed/Revised By:**

CNS Acute Pain Service

| | |
|---|---|
| **First Released Date:** | July 1994 |
| **Posted Date:** | 29-JUN-2023 (including Perineural) |
| **Last Revised:** | 29-JUN-2023 |
| **Last Reviewed:** | 29-JUN-2023 |
| **Approved By:** *(committee or position)* | PHC |
| | Professional Practice Standards Committee |
| **Owners:** *(optional)* | PHC |
| | Acute Pain Service |