1. **PURPOSE**

   1.1 To safely remove epidural catheters once they are no longer required by the client for pain management.

2. **POLICY**

   2.1 Registered Nurses identified by their manager will be certified in this Special Nursing Procedure to remove the epidural catheter with a written anesthesiologist/designate order.

   2.2 If there is any concern about safe epidural catheter removal, the nurse will notify the anesthesiologist to remove the catheter.

   2.3 If a patient with an indwelling epidural catheter requires full anticoagulation, the anesthesiologist must be notified prior to the initiation of the anticoagulation therapy. Notify Anesthesia prior to the initiation of any fibrinolytic or anti-platelet therapy.

   2.4 If the patient is receiving anticoagulation therapy, timing of epidural catheter removal will be according to the following guidelines:

   - **2.4.1** With regards to patients that are on a continuous epidural infusion and are receiving unfractionated heparin postoperatively, when the morning dose of subcutaneous heparin is due it will be held and the epidural catheter removed at that time. Administer the heparin dose 1 hour after removal of the catheter. If the patient has received heparin for more than 4 days, platelets and PTT should be assessed prior to removal.

   - **2.4.2** With regards to patients that are on a continuous epidural infusion and are receiving low-molecular weight heparin (LMWH).

     - **2.4.2.1** *Twice daily dosing.* This dosage regimen may be associated with an increased risk of spinal hematoma. Indwelling catheters should be removed prior to initiation of LMWH thromboprophylaxis. If a continuous technique is
selected, the epidural catheter may be left indwelling overnight and removed the following day, with the **first dose** of LMWH administered **two hours** after catheter is removed.

2.4.2.2 **Single daily dose.** Indwelling epidural catheters may be safely maintained. The catheter should be removed **a minimum** of 24 hours after the last dose of LMWH. Subsequent LMWH dosing **should occur** a minimum of 2 hours after catheter removal.

3. **PROCEDURE**

3.1 If possible, position patient side-lying with legs flexed (fetal position) or in the position the patient was situated in when catheter inserted. (If position unknown, check anesthetic record.)

**Note:** Flexed position opens the intervertebral spaces to release the catheter. If the back is extended, the overlying vertebral arches may grip the catheter making removal more difficult.

3.2 Following removal of dressing, remove the catheter with constant gentle traction at 90° angle to the skin surface. Use aseptic technique and standard precautions.

3.3 Stop removal attempt, secure catheter, and call Anesthesia if:

3.3.1 The patient experiences paresthesia (abnormal sensations of tingling, numbness or pain). Paresthesia may indicate the catheter tip is wrapped around a nerve root. Traction could result in permanent nerve injury.

3.3.2 Removal requires too much traction.

3.4 After withdrawal, the catheter is inspected to ensure the catheter tip has not broken off. This is rare, but can occur during placement or removal.

3.5 Assess the catheter site for bleeding, bruising, swelling, redness or discharge.

3.6 After removal of catheter, swab site with chlorhexidine swab and apply small bandaid.

3.7 Check time of last administration of medication. Continued monitoring may be required related to the medication. Refer to: Epidural/Intrathecal Analgesia – Care of Patients Receiving Policy#1047.

3.8 Re-check insertion site one hour following catheter removal.

3.9 **Report to the anesthesiologist if**

- unable to remove catheter
- on removal, the catheter tip is not intact
- there is alteration to sensation or movement during or following removal
- persistent fluid leakage, localized bleeding or expansion of bruising or hematoma is noted
3.10 **Documentation**
- date & time of removal
- condition of catheter tip
- bleeding, fluid drainage, hematoma at catheter site
- patient tolerance of procedure
- complications and interventions

4. **REFERENCES**

