These procedures are intended to describe procedures performed by Nurse Practitioners and/or Certified Nurse Midwives (depending on the clinical privileges granted to the individual practitioner) at UC San Diego Health.

I. Definition:

The purpose of this procedure is to allow the Advanced Health Practitioner (AHP) to remove lumbar subarachnoid catheters when they are no longer required or are not functioning.

Lumbar subarachnoid catheters are used frequently on the Neurosurgical service for intraoperative and postoperative fluid drainage to decrease cerebrospinal fluid (CSF) pressure. Typical situations in which the patient might have a lumbar subarachnoid drain are in the presence of CSF leak from an operative incision, or when they are used intraoperatively for decreasing intracranial pressure. Patients who have transsphenoidal pituitary surgery have a drain inserted preoperatively in order to manipulate the intracranial pressure in the area of the pituitary. The drains are frequently left in overnight in order to use them if CSF leak occurs. Most often the drains are simply removed at the request of the Attending Surgeon on the first or second day post-op.

II. Background Information:

A. Setting: The setting (inpatient vs outpatient) and population (adults vs pediatrics) for the Advanced Health Practitioner (AHP) is determined by the approval of the privileges requested on the AHP Privilege Request Form. If the procedure is being done on a Pediatric patient, make sure Child Life is involved and use age appropriate language and age appropriate developmental needs with care of children, as appropriate to the situation.

B. Supervision

The necessity of the procedure will be determined by the AHP in verbal collaboration with the attending physician or his/her designee. Direct supervision will not be necessary once competency is determined, as provided for in this procedure. At that time, general or indirect supervision is acceptable.

Designee is defined as another attending physician who works directly with the supervising physician and is authorized to supervise the AHP.

The Advanced Health Practitioner will notify the physician immediately upon being involved in any emergency or resuscitative events or under the following circumstances:

1. Patient decompensation or intolerance to the procedure
2. Bleeding that is not resolved
3. Outcome of the procedure other than expected

C. Indications

1. Lumbar drain no longer patent and/or needed in medical management of patient.
2. Neurosurgical team Attending or designee decides to discontinue lumbar catheter.
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D. Precautions/Contraindications
   1. Notify Supervising Physician for continued leakage of CSF from the catheter insertion site after removal.

III. Materials
   1. Chlorhexadine
   2. Sterile gown, sterile gloves, hat and mask.
   3. Sterile gauze pads (2 4X4 pads and 2 2X2 pads)
   4. Suture removal set
   5. Sterile specimen containers
   6. Tegaderm plastic occlusive dressing

IV. Lumbar Subarachnoid Catheters
   A. Pre-treatment Evaluation
      Review the drain output over the last 24 hours, the color and appearance of the CSF drainage, the appearance of the drain insertion site and the patient’s vital signs.
   B. Set up: Gather necessary supplies
   C. Prepare patient:
      1. Explain the procedure to the patient.
      2. Instruct the patient as to the sensations they may experience.
   D. Perform procedure:
      1. Remove dressing and all tape
      2. Assess drainage site
      3. Don hat, mask, sterile gown, and sterile gloves
      4. Prep the site with the Chlorhexadine.
      5. Remove any sutures that are present
      6. Prepare tubes and sterile scissors to send catheter tip for culture if indicated
      7. Slowly withdraw lumbar catheter.
      8. Examine catheter to make sure that it is intact. Use sterile technique to prepare tip for culture if ordered or indicated.
      9. Apply firm constant pressure at site with sterile gauze for 3-5 minutes.
      10. Cover site with 2X2 and plastic occlusive dressing.
      11. Keep site dressed for at least 24 hours.
   E. Post-procedure/Follow-up treatment:
      1. Notify MD on team for inability to remove catheter or for broken catheter
      2. Instruct patient to remain flat in bed if tolerated for 1-2 hours after drain removal to decrease chance of spinal headache.
      3. Assess the site for continued drainage post drain removal.
      4. If site appears infected, send culture and notify Neurosurgical team.
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5. Notify Attending Neurosurgeon for any unusual or prolonged drainage.

V. Documentation

A. Documentation is in the electronic medical record
   1. Documentation of the pretreatment evaluation and any abnormal physical findings.
   2. Record the time out, indication for the procedure, procedure, type and size of catheter removed, EBL, amount of drain output, the outcome, how the patient tolerated the procedure, medications (drug, dose, route, & time) given, complications, and the plan in the note, as well as any teaching and discharge instructions.

B. All abnormal or unexpected findings are reviewed with the supervising physician.

II. Competency Assessment

A. Initial Competence
   1. The Advanced Health Practitioner will be instructed on the efficacy and the indications of this therapy and demonstrate understanding of such.
   2. The Advanced Health Practitioner will demonstrate knowledge of the following:
      a. Medical indication and contraindications of lumbar subarachnoid catheter removal.
      b. Risks and benefits of the procedure
      c. Related anatomy and physiology
      d. Consent process (if applicable)
      e. Steps in performing the procedure
      f. Documentation of the procedure
      g. Ability to interpret results and implications in management.
   3. Each Advanced Health Practitioner is to directly observe this procedure at least three times in its entirety.
   4. The attending surgeons or designee will directly supervise each nurse practitioner a minimum of three times for each procedure, or more often if needed, until competency is demonstrated.
   5. Designee is defined as another attending physician who works directly with the supervising physician and is authorized to supervise the Advanced Health Practitioner.
   6. A copy of the signed competency certificates will be retained by the practitioner’s department for the personnel file and will also be sent to the medical staff office for the credentialing file.
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B. Continued proficiency

1. The Advanced Health Practitioner will demonstrate competence by successful completion of the initial competency.

2. Each candidate will be initially proctored and signed off by an attending physician. Advanced Health Practitioner must perform this procedure at least three times per year. In cases where this minimum is not met, the attending, must again sign off the procedure for the Advanced Health Practitioner. The Advanced Health Practitioner will be signed off after demonstrating 100% accuracy in completing the procedure.

3. Demonstration of continued proficiency shall be monitored through the annual evaluation.

4. A clinical practice outcomes log is to be submitted with each renewal of credentials. It will include the number of procedures performed per year and any adverse outcomes. If an adverse outcome occurred, a copy of the procedure note will be submitted.

VII. RESPONSIBILITY

Please contact the Advanced Practice Council if you need help. The administrative assistant for the Chief Nursing Officer can direct you. Call; 619-543-3438.

VIII. HISTORY OF PROCEDURE
Revised by the Committee of Interdisciplinary Practices: 2/26/2014, 9/28/2016
Reviewed by the Medical Staff Credentials Committee: 3/5/2014, 10/6/2016
Approved by the Medical Staff Executive Committee: 3/20/2014, 10/7/2016