STANDARDIZED PROCEDURE
REMOVAL OF EXTERNAL VENTRICULAR DRAINAGE CATHETER OR INTRACRANIAL PRESSURE DEVICE (Adult, Peds)

I. Definition

This procedure will take place when a neurosurgery physician deems appropriate. The purpose of this standardized procedure is to allow the Advanced Health Practitioner to safely remove an External Ventricular Drainage Catheter or Intracranial Pressure (ICP) Device.

II. Background Information

A. 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

1. The necessity of the procedure will be determined by the Advanced Health Practitioner in collaboration with the attending physician or his/her designee. Direct supervision will not be necessary once competency is determined, as provided for in the procedure.

2. Designee is defined as another attending physician who works directly with the supervising physician and is authorized to supervise the Advanced Health Practitioner.

3. The Advanced Health Practitioner will notify the physician immediately under the following circumstances:
   a. Patient decompensation or intolerance to the procedure
   b. Outcome of the procedure other than expected

C Indications

1 When the Intracranial Pressure has been normal (15 mm Hg) for 24 hours and no clinical signs or symptoms of hydrocephalus are present.
2. If the device is no longer providing accurate readings.
3. If ventricular drainage system is no longer functioning or indicated.
4. If the risk of infection is greater than the benefits of maintaining the ICP device in place.

D. Precautions/Contraindications

1 Thrombocytopenia (platelet count less than 50,000)

2. Patients with coagulation defects or those receiving anticoagulant therapy.
3. Cutaneous infection at the site of procedure.

III. Materials

1. 4” x 4”
2. Suture removal set for ventricular catheters
3. Sterile bolt remover
4. Sterile gloves
5. Tape
6. 3-0 nylon suture
7. Needle holder
8. Povidone iodine solution or Chlorhexidine
9. Mask
10. Bacteriostatic saline (preservative –free)
11. 3mL syringe

IV. Procedure

A. Pre-treatment evaluation

In collaboration with the physician, note the ICP trends, drainage output and clinical condition of the patient.

B. Patient Preparation

Confirm patient by using obtaining two patient identifiers.
Inform the patient/family of the treatment plan, which includes drain or device removal. Obtain consent which can be verbal from patient.
Perform a time out with the appropriate steps.

C. Perform Procedure

1. Remove head dressing
2. Using sterile technique, scrub injection port at 3-way stopcock with povidone iodine/chlorhexidine applicator for 1 minute.
3. Wait at least 1 minute to dry completely.
4. Insert and withdraw no more than 1 mL of non-bacteriostatic saline (Preservative-Free saline). Gently pulse while infusing to dislodge any clots or material that may be anchoring the catheter to the ventricle wall.
5. Remove sutures anchoring the catheter or bolt.
6. Withdraw the subdural or intraventricular catheter with a steady pull.

7. Check to see that catheter tip does not appear torn or ragged.
8. For removal of an ICP Bolt using a sterile bolt remover, turn counter clockwise.
9. If necessary, suture exit site after prepping with povidone iodine.
10. Apply a non-adherent dressing covered with a transparent adhesive occlusive dressing.
11. Observe the patient for clinical signs of increase ICP post removal
12. Notify physician if:
    a. Unable to withdrawal catheter
    b. Excessive bleeding or CSF drainage from exit site continues after suture or a steady pressure dressing has been applied.

D. Follow-up treatment

1. Write an order for nursing to check head dressing for drainage 1-2 hours post catheter or bolt removal and contact provider if any drainage noted or change in level of consciousness
2. Follow up treatment: Instruct the patient and family on wound care, as needed, and on signs and symptoms of infection.

E. Termination of treatment

1. If catheter or bolt removal meets with significant resistance or pain
2. If catheter fractures.

V. Documentation

A. Written record: 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, EBL, 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 findings are reviewed with supervising physician

VI. 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 EVD 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. The Advanced Health Practitioner will observe this procedure at least three times in entirety.
4. The Advanced Health Practitioner will perform **three** treatments/procedures under the direct observation of the supervising physician and such additional procedures as may be necessary to verify clinical competence.
5. The Advanced Health Practitioner will ensure the completion of competency sign off documents and send them directly to the medical staff office.

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

Questions about this procedure should be directed to the Chief Nursing and Patient Care Services Officer at 353-4380.

VIII. HISTORY OF POLICY

Revised April 2012 by Subcommittee of the Committee for Interdisciplinary Practice
Reviewed April 2012 by the Committee on Interdisciplinary Practice
Prior revision October 2008
Approved April 2012 by the Executive Medical Board and the Governance Advisory Council.

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