STANDARDIZED PROCEDURE
CHEST TUBE REMOVAL (Adult, Peds)

I. Definition

The purpose of this standardized procedure is to allow the Advanced Health Practitioner to safely remove a chest tube. This procedure will take place when an indwelling chest tube needs to be discontinued. This may be because the chest tube is no longer needed, or because it is no longer functioning.

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 this procedure will be determined by the Advanced Health Practitioner in collaboration with the supervising physician or his/her designee. Designee is defined as another attending physician who works directly with the supervising physician and is authorized to supervise the Advanced Health Practitioner.

Direct supervision will not be necessary once competency is determined, as provided for in the procedure. 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. Unexpected resistance is met during chest tube withdrawal
2. Bleeding that is not resolved
3. Outcome of the procedure other than expected

C. Indications:

1. Amount of drainage has decreased significantly while on water seal, which has resolved the need for chest drainage,
2. The drainage system is no longer holding suction (as indicated by air leak in drainage system),
3. The chest tube is clogged and unable to be cleared,
4. The physician or his/her designee has declared that the drainage catheter should be removed.

D. Precautions: (1) the insertion site should be carefully inspected before the chest tube is removed to identify the suture(s), and to look for signs of infection.

III. Materials

1. Suture removal kit
2. Dressings (gauze, Xeroform)
3. Suture material (2.0 silk)
4. Local anesthetic (1% or 2% lidocaine)

IV. Procedure

A. Pre-treatment evaluation: The serial drainage outputs from the chest tube will be reviewed by the Advanced Health Practitioner and a physician, along with inspection of the insertion site, the chest tube itself, the drainage system and the clinical picture. Working collaboratively, the necessity of the procedure will be determined along with the expected outcomes of the procedure, and the treatment plan.

B. Set up: Gather all necessary materials

C. Patient preparation

1. Ensure proper patient identification by obtaining two patient identifiers.
2. Inform the patient (and family) of the treatment plan, which includes chest tube removal.
3. Position the patient in a comfortable position that gives adequate access to the surgical site.
4. Perform a time out and document all appropriate steps.

D. Perform the procedure

1. Premedicate patient for pain control
2. Remove dressings
3. Identify anchoring sutures
4. Remove sutures if knotted. If “purse-string” sutures are in place, do not remove. Instead, use for closing incision (except in pediatrics).
5. Instruct the patient to take a deep breath and hold it
6. Gently and firmly withdraw the chest tube in a single motion
7. Apply direct pressure to the site with a dressing for at least two minutes or until bleeding/drainage have subsided
8. If the incision is large and purse-string suture was not originally placed, administer local anesthetic and close incision with suture
9. Dress the site with petroleum gauze (Xeroform) and 4x4 gauze
10. Properly dispose of the chest tube catheter and other used materials

E. Post-procedure

Obtain an upright portable chest x-ray

F. Follow-up treatment

Instruct the patient and family on wound care, signs and symptoms of infection and continued drainage.

V. Documentation

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 tube removed, 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.
3. Documentation that x-ray was obtained, and results noted.

B. All abnormal findings are reviewed with supervising physician

VI. Competency Assessment

B. 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 chest tube 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. Advanced Health Practitioner will observe the supervising physician perform each procedure at least once and perform the procedure **three** times under direct supervision.
4. Supervising physician will document Advanced Health Practitioner's competency prior to performing procedure without direct supervision.

5 The Advanced Health Practitioner will ensure the completion of competency sign off documents and provide a copy for filing in their personnel file and a copy to the medical staff office for their credentialing file.

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

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