

STANDARDIZED PROCEDURE FOR CENTRAL LINE REMOVAL (Adult, Peds)

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

This procedure will take place when a central line needs to be discontinued. This may be because the line is no longer needed or is no longer functioning as it should be. The purpose of this standardized procedure is to allow the Advanced Health Practitioner to safely remove a central line.

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 Advanced Health Practitioner in collaboration with the physician and 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. Anyone performing this procedure must first complete the CVC module online.

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 under the following circumstances:

1. Patient decomposition or intolerance to the procedure
2. Unexpected resistance is met during catheter withdrawal
3. Bleeding that is not resolving
4. Outcome of the procedure other than expected

C. Indications

The physician or his/her designee has declared that the central line should be removed

D. Precautions/Contraindications

The insertion site should be carefully inspected before the catheter is removed to identify the suture(s), and to look for signs of infection.

III. Materials

Use hospital prepared central line removal kit.

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IV. Removal of Central Line Procedure

A. Pre-treatment evaluation

1. Correct patient identification will be obtained with two patient identifiers. The Advanced Health Practitioner and a physician will inspect the insertion site and the clinical picture. Working in corroboration, the necessity of the procedure will be determined along with the expected outcomes of the procedure, and the treatment plan.
2. Evaluate for the potential to experience pain and pre-medicate the patient appropriately.

B. Set up: gather all necessary supplies

C. Patient Preparation

1. Inform patient of the treatment plan, which includes central line removal. Perform a time out prior to the start of the procedure.
2. Position the patient in supine and Trendelenberg position or head of bed flat only when Trendelenberg position is contraindicated, e.g., platelets <50,000, increased ICP, post eye surgery. If catheter is in the femoral area, position patient flat and supine. Attempt for removal will not be made if patient is in sitting position.

D. Procedure performed by Advanced Health Practitioner

1. Remove dressings
2. Identify the anchoring suture(s)
3. Remove all sutures
4. In one motion, gently and firmly withdraw the catheter while having the patient hum or exhale
5. Using an occlusive sterile dressing with antibiotic ointment, firmly hold pressure to the site for at least two minutes, or until bleeding/drainage has subsided
6. Dress the site using the same sterile dressing, unless saturated.
7. Properly dispose the drainage catheter
8. For patient able to follow instructions:
 - a. Gauze with antibiotic ointment will be held over site in preparation for catheter removal. The patient will take in a deep breath, exhale halfway then hold the breath. An alternative is to have patient hum during the time of withdrawal of the catheter. The patient will practice this maneuver. Sterile occlusive dressing gauze with antibiotic ointment will be applied to seal the skin entry site as the catheter is removed. After removal, pressure will be held for 2-3 minutes or until bleeding has stopped. After removal, a sterile occlusive dressing will be applied over the site.

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9. For patients unable to follow instruction or receiving mechanical ventilation:
Gauze will be held over site in preparation for catheter removal. The patient's respiratory cycle will be monitored. Catheter will be removed in a steady motion during the patient's exhalation phase. Simultaneously sterile occlusive dressing with antibiotic ointment will be applied to seal the skin entry site as the catheter is removed. After removal, pressure will be held for 2-3 minutes or until bleeding has stopped. After removal, a sterile occlusive dressing will be applied over the site.
10. Sterile occlusive dressing using a gauze and transparent dressing will be applied. Use of extra tape if transparent dressing not occlusive.
11. Ensure dressing is occlusive before elevating the head of the bed.
12. Occlusive dressing will remain intact for 24 hours.

E. Post-procedure

1. If air entrapment is suspected, patient will be placed in Trendelenberg position and turn left side down, obtain STAT portable chest xray and oxygen applied at 100%. Patient may be transferred to ICU.

F. Follow-up treatment

Instruct the patient on wound care, as needed, and on the signs and symptoms of infection.

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, 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.

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.

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2. The Advanced Health Practitioner will demonstrate knowledge of the following:
 - b. Medical indication and contraindications of central line removal
 - c. Risks and benefits of the procedure
 - d. Related anatomy and physiology
 - e. Consent process (if applicable)
 - f. Steps in performing the procedure
 - g. Documentation of the procedure
 - h. Ability to interpret results and implications in management.
3. Prior to performing procedure, CVC module must be completed.
4. Advanced Health Practitioner will observe the supervising physician perform each procedure at least once and perform the procedure **three** times under direct supervision.
5. Supervising physician will document Advanced Health Practitioner's competency prior to performing procedure without direct supervision.
6. 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

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 POLICY

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