

PROCEDURE SKILLS ROTATION

Participants: Internal Medicine Interns
Duration: Two weeks
Location: UW and HMC
Contacts: Melissa (Moe) Hagman, MD - UW
(mhagman@u.washington.edu, pager 540-9725)
Mark Smith, MD - HMC
(nesta@u.washington.edu, pager 540-6115)

History of the Rotation

Welcome!

The Procedure Skills rotation, new in 2005, was conceived in response to feedback from outgoing residents who felt that they would have benefited from increased exposure to common internal medicine procedures. Several factors have altered the resident procedure training experience including work hour restrictions and departmental financial pressures (i.e. some procedures that were traditionally within the domain of medicine residents are now being performed by Radiology). Additionally, there is a movement within medicine and within our institution to expand procedural training in a simulator-based environment.

With these issues in mind, the Residency Program developed this rotation to try to increase intern exposure to both actual and simulated patient procedure experiences. This rotation continues to be a work in progress. We welcome your feedback.

Description of the Rotation

This two-week rotation will allow the intern the unique opportunity to focus on acquiring procedural skills in the absence of primary patient care or call responsibilities. Procedure education will be both didactic and hands-on. The intern will have access to training models to increase familiarity with the supplies, sterile technique, and manual skills required for successful airway management, central line placement, and lumbar puncture. He or she will also gain hands-on experience performing procedures in the operating room, on the medical ward, and in ambulatory clinics.

Goals

1. Improve resident exposure to and comfort with procedures early in residency training.
2. Allow residents the opportunity to meet residency program procedure requirements.
3. Improve the quality of resident-to-resident education regarding procedures.
4. Ultimately, to improve outcomes and patient safety.

LEARNING OBJECTIVES

Airway Management

1. List the diagnostic features of a patient requiring assisted ventilation/oxygenation.
2. Describe the clinical settings in which endotracheal intubation might be indicated.
3. List the airway features which must be assessed prior to intubation.
4. List the anatomical features of patients in whom endotracheal intubation may be difficult.
5. Describe and demonstrate how one assembles and uses nasal prongs, standard oxygen mask, non-rebreather mask, and a bag-mask system.
6. Describe and demonstrate the use of the essential pieces of equipment used during a routine emergent endotracheal intubation.
7. Describe the four main categories of drugs frequently used for endotracheal intubation.
8. Describe the FIO₂ of room air, regular oxygen mask, non-rebreather mask, bag-mask system.
9. Describe the pattern of desaturation in healthy, obese, critically ill, and pediatric patients.
10. Describe the appropriate post-intubation care of a patient.
11. Describe the appropriate parameters and concerns that must be entertained prior to extubating a patient.
12. Describe the cost of intubating and ventilation a patient.
13. Describe those management issues that might have been changed that could have prevented the need of intubation.
14. Describe the role of DNAR orders in patients requiring intubation.
15. Learn the essential components of team communication and crew resource management in the safe and expeditious intubation of a patient in extremis.

Central Venous Catheter Placement

1. To understand the indications for central venous catheter placement.
2. To understand the contraindications to central venous catheter placement.
3. To understand to alternatives to central venous catheter placement.
4. To become familiar with the supplies and setup required for successful central venous catheter placement.
5. To become facile in the use of bedside ultrasound as an aid to central line placement.
6. To become adept at identifying anatomic landmarks for the three common insertion sites- internal jugular, subclavian and femoral veins.
7. To become familiar with the complications of central line placement and implement safe practices to minimize their occurrence.
8. To recognize appropriate and inappropriate line placement and procedural complications radiographically.

Lumbar Puncture

1. To recognize clinical situations in which lumbar puncture is indicated.
2. To understand the contraindications to lumbar puncture.
3. To understand when a CT of the head is necessary prior to lumbar puncture.
4. To skillfully explain the lumbar procedure to patients and obtain informed consent.
5. To become adapt at the skills involved in performing lumbar puncture.
6. To become proficient in interpretation of laboratory results from cerebral spinal fluid.
7. To become familiar with the potential complications of lumbar puncture and the management of these complications.

Thoracentesis

1. To recognize clinical situations in which thoracentesis is indicated.
2. To understand the contraindications to thoracentesis.
3. To identify pleural effusions on AP, PA, lateral, and decubitus chest xrays.
4. To skillfully explain thoracentesis to patients and obtain informed consent.
5. To become adapt at the skills involved in performing thoracentesis.
6. To become proficient in interpretation of laboratory results from pleural fluid.
7. To become familiar with the potential complications of thoracentesis and the management of these complications.

GENERAL SCHEDULE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
AM			ORIENTATION Airway Sim Lab Thoracentesis Sim Lab	Conferences at UW	Central Line Sim Lab LP Sim Lab
PM			Procedure Coverage	Continuity Clinic	Procedure Coverage
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
AM	Roosevelt Outpt Procedure Clinic	Airway Training (OR) Procedure Coverage	Airway Training (OR) Procedure Coverage	Conferences at UW	Airway Training (OR) Procedure Coverage
PM	Procedure Coverage	HMC LP Clinic (1)	Procedure Coverage	Continuity Clinic	Procedure Coverage
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
AM	Roosevelt Outpt Procedure Clinic	Airway Training (OR) Procedure Coverage			
PM	Continuity Clinic	HMC LP Clinic (2)			

RESIDENT RESPONSIBILITIES

Airway Training: The Procedure Intern will spend time in the operating room with Anesthesia staff gaining skills in airway management. He or she will be exposed to and perform bag-mask ventilation, laryngeal mask airway, and endotracheal intubation. He or she may also be called on to support other procedures, such as peripheral IV placement or arterial line placement should the need arise.

When: Tuesday and Fridays – 6:45 AM, Wednesdays – 7:45 AM

Where: UW Operating Room – 2nd Floor Main OR

Contact: Moe Hagman, MD (mhagman@u.washington.edu, 540-9725)

Lumbar Puncture Clinic: Each Procedure Intern will spend one afternoon performing lumbar punctures on ambulatory Neurology patients in the HMC LP Clinic.

When: Tuesday afternoons, 1:00 PM-4:00 PM

Where: HMC 4W Clinic – Neurology, 731-3992

Contact: Joe Zunt, MD (jzunt@u.washington.edu, 731-3000)

Roosevelt Outpatient Procedure Clinic: Each Procedure Intern will spend Monday mornings performing outpatient procedures such as skin biopsy at UW Roosevelt Internal Medicine Clinic.

When: Tuesday mornings, 8:00AM-12:00PM

Where: UW Roosevelt General Internal Med. Clinic, 3rd floor, 598-8750

Contact: Kim O'Connor, MD (koconnor@u.washington.edu, 598-6190)

Simulation Lab Training: During the duration of the rotation, the intern will have the opportunity to work through four learning modules created for airway management, central line placement, lumbar puncture, and thoracentesis. This training will be individualized, hands-on, and employ the use of training models. The intern will be asked to view the procedure videos on the New England Journal of Medicine web site <http://content.nejm.org/> prior to the corresponding simulation lab.

When: Please see your individual schedule as times may vary.

Where: UW RR406

Contact: Please see your individual schedule for instructors. Contact Moe Hagman, MD (mhagman@u.washington.edu, 540-9725) if questions

Procedure Coverage: Each intern on the Procedure rotation (listed with paging as the “Medicine Procedure Intern on-call”) will be expected to provide procedure coverage for the medical services at his or her respective hospital on an as-needed basis Monday-Friday 8am to 4pm. Most often, these will be procedures for the post-call Medicine team or procedures performed with a senior Medicine resident whose intern is unavailable on a particular day. These procedures will be staffed by a Medicine attending or a Medicine resident who is qualified to supervise a particular procedure (i.e. is “signed off”). Please be sure to follow-up

on the results of x-rays or fluid analysis from the procedures you perform and provide that information to the appropriate physician caring for the patient at that time (i.e. cross-cover).

Each resident will be asked to record the number and type of procedures performed during the two-week block. Also, please separately record those procedures that you were called to perform but were unable to complete secondary to scheduling or other logistical issues.

When: 8:00 AM – 4:00 PM on Monday through Friday. (The OR, Sim Lab experiences, LP clinics, outpatient procedure clinics, and continuity clinics are mandatory and take precedence over procedures during those times).

Contact: An attending staff schedule will be provided to you on the first day of your rotation.

ECG Module: Each intern will receive ECG educational materials and a packet of ECGs at the beginning of the rotation. Each intern will be asked to read all of the ECGs during the rotation and return a list of their interpretations of the ECGs to Moe Hagman, MD, for feedback.

Scholarly Project: Each intern will be expected to complete a scholarly project during the two-week rotation. This project can be a quality improvement project (i.e. a patient information handout), a research project, or an evidence-based learning module to be shared with other interns at Interns' Report. Ideal topics would include (but are not limited to) those that are a natural offshoot of procedures, including: interpretation of pleural, synovial, ascitic or cerebrospinal fluid; review of venous pressures or waveforms; management of procedure complications; interpretation of post-procedure X-rays; urine sediment analysis; etc. The presentation of the project should be approximately 10 minutes long and should include a handout. PowerPoint presentations are not necessary. Email an electronic copy of the handout to Moe Hagman, MD (mhagman@u.washington.edu) for review.

Educational Conferences: The resident is encouraged to attend as many educational conferences as possible during this rotation (Residents' Report, Chief of Medicine rounds, etc). Nonetheless, recognizing that the purpose of this rotation is to gain experience with procedural skills, the resident is encouraged to actively seek out opportunities to perform procedures. It should also be noted that Sim Labs and clinics are mandatory.

When: Please see your schedule for the conferences available at your institution.

Hints on Where to “Find” Additional Procedure Opportunities:

Check in (or round when possible) with post-call teams.

UW – Ask charge RN on 6NE if you can assist RNs with any peripheral IV, NG tube, or Foley placements. Go to the outpatient procedure floor, 4S, especially in

the mornings, and ask the charge RN if there are any peripheral IVs that need to be placed. Text page interns on Heme-Onc and Cardiology to let them know that you are available to help. Contact senior residents on consult services such as Pulmonary, Rheumatology, Renal, GI, and Hepatology to offer your services.

HMC – Ask charge RN in Emergency Department if you can assist RNs with any peripheral IV, NG tube, or Foley placements. Text page intern colleagues on the wards and contact senior residents on consult rotations to let them know how to contact you.

EVALUATION

The majority of feedback will be provided in real time in a mini-CEX format. Each resident will be asked to complete an online evaluation at the rotation's end; feedback for improvement is very welcome.