

Point-of-Care Ultrasound Training
TRAINING YEAR PGY-1
Inova Fairfax Medical Campus
Internal Medicine Residency Program

Course Director: Hussain Dhanani, MD

1. Educational Purpose and Goals

- a. *To learn proper ultrasound technique to obtain high quality POCUS images*
- b. *Practice interpretation of bedside POCUS exams*
- c. *Incorporate POCUS findings into clinical reasoning and use to guide further radiology-based imaging needs*
- d. *Begin to build personal portfolio of images for QA review as part of internal certification pathway*

2. Principal Teaching/Learning Methods

- a. *Supervised patient care:* Residents will accompany attending physicians who are experienced in POCUS to practice scanning and obtaining images of the major organ systems. Residents may also be invited to accompany midlevel providers for ultrasound-guided paracentesis during this rotation. Level of participation in actual performance of the exam will be at the discretion of the provider.
- b. *Didactics/Small group sessions*
 - i. Faculty will provide discussions and ward-based teaching on ultrasound skills and ultrasound imaging evaluation
 - ii. Noon conference lecture series as well as grand rounds, resident report, Med-Path-Rads and M&M lecture series
- c. *Independent learning and reading* – all residents will spend mornings on independent study to complete required didactic assignments through Butterfly Academy and resources through the American College of Physicians. Residents are also expected to read about patients they see and their conditions (suggested resources below)

3. Educational Content

- a. *Patient/Disease mix* – Residents will have exposure common and rare diseases. Both inpatient and outpatient populations in the Inova health system include patients over age 18 years old that are ethnically diverse. Common exams will include cardiac exams, pulmonary exams, evaluation for free fluid in the abdomen, and volume status exams. Patients may be located on the general medicine wards or in the intensive care units.
- b. *Learning venues*
 - i. Inova Fairfax Medical Campus
- c. *Structure* – The rotation is a one-week block that is paired with one week of rotation in palliative care. This will be limited to 1st year residents as part of their intern foundational learning. Residents will not be on call for this service, although they may be on disaster call for the program during this elective. There are no weekend duties aside from reading. Residents will continue to attend their continuity clinic during this rotation. The chief residents will orient the resident to the rotation at the beginning of the block and will review the specific schedule at that time. Residents will never work

more than 14 hours in a day and typically will work for approximately 10 hours per day, five days per week.

4. Principal Educational Materials

- a. At the beginning of the rotation, the educational director will provide materials, including this curriculum, and a resource list.

5. Methods of Evaluation

- a. Feedback will be given to the resident throughout the rotation as appropriate. At the end of the rotation, the supervising faculty rheumatologist will complete a web-based evaluation (MedHub) and review it with the resident.
- b. The residents will also evaluate faculty and the rotation in an anonymous fashion as appropriate (summarized annually in a composite form).
- c. Mid-level providers may be chosen to evaluate the resident, if applicable (360 degree component)

6. Resource List

- a. Inova.butterfly.com
- b. POCUS Online Learning Activities (acponline.org)
 - i. MEETINGS & COURSES → FOCUSED TOPICS → POINT OF CARE ULTRASOUND (POCUS) PATHWAY FOR INTERNAL MEDICINE → POCUS ONLINE LEARNING ACTIVITIES
- c. Introduction to Bedside Ultrasound: Volume 1 and 2 by Matthew Dawson and Mike Malin
 - i. Free eBook available on iTunes
- d. The Curbsiders Podcast:
 - i. #108 (8/13/2018): Point-of-Care-Ultrasound for the Internist
 - ii. Reboot #108 (8/7/2019): POCUS: Point-of-Care-Ultrasound for the Internist
 - iii. <https://thecurbsiders.com/wp-content/uploads/2018/08/Handout-Dr-Renee-Dversdals-POCUS-Resources-The-Curbsiders-108-Point-of-Care-Ultrasound.pdf>

Learning Venues

- 1. Supervised patient care/Attending rounds for inpatients/Attending review of cases in clinic
- 2. Independent reading

Methods of Evaluation

- A. Attending evaluation
- B. Direct observation with feedback

Competency: Patient Care	Learning Venues	Evaluation Methods
Competently explain to patient role for POCUS and obtain consent for learning examinations		A,B
Know the indications for POCUS exam		A,B

Engage patient with patient focused information during performance of exam and approach with compassion		A,B
Consider patient's comfort in approach to performing ultrasound exam including in re-positioning for optimal imaging windows		A,B
Competency: Medical Knowledge	Learning Venues	Evaluation Methods
Demonstrate understanding of anatomic landmarks in performing POCUS for proper probe positioning		A,B
Identify abnormal findings on routine POCUS exam		A,B
Recommend formal follow up radiologic imaging to appropriately follow up POCUS findings		A,B
Competency: Interpersonal and Communication Skills	Learning Venues	Evaluation Methods
Interact in an effective way with physicians and nurses participating in the care of patients		A,B
Be able to demonstrate and explain concepts related to		A,B
Show understanding of differing patient preferences in diagnostic evaluation and management		A,B
Competency: Professionalism	Learning Venues	Evaluation Methods
Treat team members, primary caregivers, and patients with respect		A,B
Actively engage in the academic process including opportunities to write case reports, manuscripts, and reviews as well as Ability to participate in ongoing research projects and trials		A,B
Attend and participate in all scheduled conferences and meetings		A,B
Competency: Practice-Based Learning		
Identify limitations of medical knowledge in evaluation and management of patients with POCUS and use medical literature (primary and reference), colleagues,		A,B

attendings, and ancillary staff to address these gaps in medical knowledge		
Competency: Systems-Based Practice	Learning Venues	Evaluation Methods
Understand barriers to use of POCUS in providing optimal care of patients		A,B

PGY-1 year

One day intro to POCUS/scanning during intern orientation (late June) and set up of Butterfly Platform access

P&P Rotation – two-week rotation, one week of dedicated POCUS time paired with a week of introduction to palliative care

POCUS week schedule:

- 8a-11:30a – complete assigned modules
 - Butterfly Academy Modules
 - ACP POCUS curriculum modules (<https://www.acponline.org/meetings-courses/focused-topics/point-of-care-ultrasound-pocus-for-internal-medicine/pocus-online-learning-activities>)
 - Print certificate of completion for ACP modules to be added to your residency file
- 12:15-1:30p – attend noon conference
- 1:30p – 3:30p – scanning time
 - Save 5 images from each organ system
 - Will work with chiefs or attending to scan patients in ICU or ward setting
- Image review Time/feedback: Friday PM