

Proposed EM Milestones 2.0 Revisions incorporating POCUS Training

Ideal ask:

- For point-of-care ultrasound (POCUS) to remain as its own standalone sub-competency.
 - The original PC12 should be revised to align with current use practices and include elements of the Knowledge, Skills, and Abilities that form the basis of the EM Milestone 2.0 revision.

Alternative ask:

- For POCUS to be incorporated into the existing revision, both in the language of the EM Milestones 2.0 themselves and within the Supplemental Guide examples. Opportunities to do so are listed below.

1) Patient Care 1: Emergency Stabilization

- a) Reword **PC1, Level 3**: Reassess the patient's status after implementing a stabilizing intervention, including incorporation of POCUS into direct care.

Supplemental Guide suggested examples:

- In a hypotensive patient, a POCUS evaluation is performed to evaluate for potential causes of shock such as pericardial tamponade.
- In a patient presenting in septic shock, a POCUS evaluation of the heart, lung, and inferior vena cava is used to assess fluid status and fluid tolerance.
- During cardiac arrest, a POCUS evaluation is performed to evaluate for reversible causes and to determine the presence or absence of cardiac activity.

2) Patient Care 2: Performance of Focused History and Physical Exam

- a) Remove the example from **PC2, Level 5** Supplemental Guide: "Launches care of a patient with ultrasound-proven cholecystitis without obtaining a CT scan."
 - We emphatically ask that ultrasound NOT be used as an example of the level 5 milestone. Ultrasound is not part of the physical examination, as clarified by ACEP's "Definition of Clinical Ultrasonography" originally approved in January 2014.

- b) More appropriate examples for this milestone include:

- Performs a thoracostomy in a hypotensive trauma patient with unilateral absent breath sounds and jugular venous distention without waiting for a chest x-ray.
- Initiates a General Surgery consultation for an ill-appearing young male with right lower quadrant tenderness suspected to be caused by appendicitis without obtaining a computed tomography (CT) scan.
- Initiates medical management and consults Vascular Surgery when physical exam findings are concerning for acute limb ischemia, before obtaining definitive imaging.

3) Patient Care 3: Diagnostic Studies

- a) Reword **PC3, Level 2** Milestone to include: "Interprets results of diagnostic testing (e.g. electrocardiogram (EKG), diagnostic radiology, point-of-care ultrasound)."
 - POCUS has been shown to be accurate, timely, and cost-effective, while assessing for changes after interventions and over time. The I-AIM model (indication, acquisition, interpretation, and medical decision making) is one approach to POCUS education and may be a model for development of milestones within PC3. (<https://pubmed.ncbi.nlm.nih.gov/22298874/>)
 - PC3, Level 2 Supplemental Guide suggested examples:
 - (1) Understands indications for performing a POCUS scan (e.g. performing a lung and cardiac scan in a dyspneic patient)
 - (2) Understands the indications for performing POCUS for RUQ abdominal pain and identifies findings for acute cholecystitis
- b) Reword **PC3, Level 3** Milestone to: "Orders *and performs* diagnostic testing, considering the pre-test probability of disease and the likelihood of test results altering management."
 - PC3, Level 3 Supplemental Guide suggested examples:
 - (1) While caring for a female patient who is hypotensive, recognizes the need to perform POCUS to evaluate for abdominal free fluid suggestive of a ruptured ectopic pregnancy.
 - (2) While caring for a hypotensive multi-trauma patient, recognizes that POCUS should be performed; and if this shows abdominal free fluid, the patient should go directly to the operating theater.
- c) Add POCUS examples to **PC3, Level 4**. A suggested example is:
 - In a young patient with known history of nephrolithiasis who presents with flank pain, performs a POCUS scan to evaluate for hydronephrosis and recognizes that in the setting of no hydronephrosis and a urinalysis without evidence of infection, a CT is not indicated.
- d) Add POCUS examples to **PC3, Level 5**. Suggested examples include:
 - In a patient with a normal chest x-ray but POCUS showing a pneumothorax, understands that POCUS may be more sensitive than radiography.
 - During a mass casualty incident, uses POCUS to triage and manage patients when CT is not possible or feasible.
 - When caring for a patient suspected to have a pulmonary embolism but who has an IV contrast allergy, uses EKG, laboratory results and POCUS to evaluate for evidence of right heart strain to guide management.

4) Patient Care 8: General Approach to Procedures

- a) Reword **PC3, Level 2** Milestone to include: "Interprets results of diagnostic testing (e.g. electrocardiogram (EKG), diagnostic radiology, point-of-care ultrasound)."
 - POCUS has been shown to be accurate, timely, and cost-effective, while assessing for changes after interventions and over time. The I-AIM model (indication, acquisition, interpretation, and medical decision making) is one approach to POCUS education and may be a model for development of milestones within PC3. (<https://pubmed.ncbi.nlm.nih.gov/22298874/>)
 - PC3, Level 2 Supplemental Guide suggested examples:
 - (1) Understands indications for performing a POCUS scan (e.g. performing a lung and cardiac scan in a dyspneic patient)
 - (2) Understands the indications for performing POCUS for RUQ abdominal pain and identifies findings for acute cholecystitis
- b) Reword **PC3, Level 3** Milestone to: "Orders *and performs* diagnostic testing, considering the pre-test probability of disease and the likelihood of test results altering management."
 - PC3, Level 3 Supplemental Guide suggested examples:
 - (1) While caring for a female patient who is hypotensive, recognizes the need to perform POCUS to evaluate for abdominal free fluid suggestive of a ruptured ectopic pregnancy.
 - (2) While caring for a hypotensive multi-trauma patient, recognizes that POCUS should be performed; and if this shows abdominal free fluid, the patient should go directly to the operating theater.
- c) Add POCUS examples to **PC3, Level 4**. A suggested example is:
 - In a young patient with known history of nephrolithiasis who presents with flank pain, performs a POCUS scan to evaluate for hydronephrosis and recognizes that in the setting of no hydronephrosis and a urinalysis without evidence of infection, a CT is not indicated.
- d) Add POCUS examples to **PC3, Level 5**. Suggested examples include:
 - In a patient with a normal chest x-ray but POCUS showing a pneumothorax, understands that POCUS may be more sensitive than radiography.
 - During a mass casualty incident, uses POCUS to triage and manage patients when CT is not possible or feasible.
- e) When caring for a patient suspected to have a pulmonary embolism but who has an IV contrast allergy, uses EKG, laboratory results and POCUS to evaluate for evidence of right heart strain to guide management.h after placement of a right internal jugular central venous access."

- f) Revise the **PC8, Level 5** Milestone to: “Teaches advanced procedures and independently performs rare, time-sensitive procedures, using ultrasound guidance when indicated”