Kaweah Health: GME Ultrasound G & O, General Surgery

Overview

The goal of the point of care ultrasound (POCUS) curriculum is to provide a practical and didactic experience to enable general surgery residents to develop foundational proficiency in POCUS applications relevant to acute care, trauma, and procedure guidance. Residents will develop foundational knowledge and skills in ultrasound physics, machine maintenance, image generation, acquisition, interpretation, and clinical integration of focused ultrasound findings. This curriculum is designed in alignment with ACGME Surgery Milestones and with the American College of Surgeons ultrasound education framework. These support surgeon-performed ultrasound as part of contemporary surgical training and practice. For complete details on the rotation specifics for surgery, please select the "General Surgery" tab found at www.kaweahem.com/ultrasound

All general surgery residents will achieve a foundational level of skill in core surgical POCUS applications appropriate to early surgical training, full competency requires additional ultrasound training.

By completion of the required POCUS experience, general surgery residents will be able to:

- Patient Care (PC): Select appropriate focused ultrasound applications for common surgical and acute care indications, obtain interpretable images and begin integrating findings into bedside clinical decision making at a foundational level.
- Medical Knowledge (MK): Describe basic ultrasound physics, probe selection, machine controls, artifacts, and normal versus common pathologic findings for core surgical applications.
- Interpersonal and Communication Skills (ICS): Communicate POCUS findings clearly to supervising physicians and the care team and document examinations appropriately.
- Professionalism (PROF): Use POCUS within the scope of training, recognize limitations, seeks imaging when indicated, and follow documentation and quality assurance processes.
- Practice-Based Learning and Improvement (PBLI): Incorporate direct observation, image review, simulation, and QA feedback to improve image acquisition, interpretation, and clinical application
- Systems-Based Practice (SBP): Use POCUS to improve efficiency, support timely diagnosis, guide procedures, and follow workflow for study review, documentation, and image archiving.

Residents should, upon completion of this rotation, feel comfortable using the Sonosite PX unit and the Sonosite Synchronicity workflow sufficiently to perform focused studies, submit them for review, document findings, and archive completed examinations in the appropriate clinical workflow.

Scheduling

- Scanning shifts will be scheduled every weekday except for the required Thursday afternoon and during surgical conference.
- Time off requests must be approved by both the Surgical PD and the GME ultrasound director.

Surgery-Specific Applications

Residents will develop foundational proficiency in core surgical POCUS applications relevant to emergency general surgery, trauma, and bedside procedural care, including the following:

- Trauma and free fluid assessment, from eFAST exams
- Hepatobiliary applications, including focused gallbladder assessment and recognition of common biliary pathology.
- Abdominal applications, including assessment for free fluid, bowel-related pathology, and selected acute abdominal conditions.
- Soft tissue applications, including differentiation of cellulitis versus abscess and identification of fluid collections relevant to bedside procedures.
- Vascular and procedure-guidance applications.
- Other applications include evaluation of hernia, appendix, and renal/urinary.

Scanning Responsibilities

- Demonstrate foundational proficiency development by performing two scans per hour per 8-hour day. This equates to 48 scans to be done during the three full day scanning sessions.
- Your first and last exam should be respectively within 30 minutes of the start and end of your shift.
- Know how to assign oneself, perform, interpret, document, and assign studies to the ED attending.
- Scan with the ultrasound faculty and/or fellow when they are present and with the ED patient's attending physician when they are not present.
- Be listed as the primary performer for at least 75% of the exams.
- For each exam, there can be multiple observers, but only the primary performer and one additional performer get credit toward their total number required for successful completion of the rotation.
- After completing a scan, use Connect Messenger to notify the attending that the exam is complete and place a brief note stating "POCUS complete" in the ED progress note.

- Make up missed or tardy shifts at the discretion of both the ultrasound and general surgery program directors.
- Demonstrate familiarity with the Sonosite PX unit and Synchronicity to fully complete scans.
- Recognize that these scan numbers are intended to provide a broad foundational experience with core applications; achievement of full POCUS competency, requires additional experience

For each core application area, the resident will be able to:

- Identify relevant anatomy and sono-anatomy.
- Select the appropriate probe, preset, and machine settings for the examination being performed.
- Acquire standard views and optimize image quality.
- Distinguish normal from common pathologic findings.
- Recognize indeterminate or concerning findings that require additional work-up.

Passing Requirements for Rotation Include

- Complete all required modules in the 4-week POCUS 101 Course.
- Attend surgical-specific conference days and Thursday afternoon image review.
- Set up an account in Sim Lab BodyWorks Eve and perform exams in each topic.
- Maintain equipment using “CLEAR” (Clean, Locate, Energize, Augment, Remove).
- Demonstrate commitment to research by enrolling patients in any ongoing ultrasound research
- Through QA review and direct observation, demonstrate the ability to obtain interpretable images and provide appropriate basic interpretations for core surgical applications at a foundational level.
- Demonstrate sufficient familiarity with the ultrasound machine and Sonosite Synchronicity workflow to assign oneself, perform, interpret, document, and assign studies to the ED attending.
- Successful completion of this rotation will contribute evidence toward achievement of relevant ACGME Surgery Milestones in patient care, medical knowledge, communication, professionalism, practice-based learning, and systems-based practice. Residents seeking advanced POCUS competency will need additional ultrasound experience.