

Ultrasound Curriculum

The curriculum in bedside ultrasonography provides a balance of didactic and hands-on learning. The ultimate goal of the curriculum is to guide residents towards imaging proficiency. By the end of training, all residents will be comfortable with multiple application of limited bedside ultrasonography in emergency medicine practice.

Didactics sessions begin during [R1 orientation](#). They are designed to facilitate a greater understanding of the utility and limitations of emergency ultrasonography. Each topic includes both small-group discussion and hands-on practice with a variety of ultrasound machines.

- Curriculum Orientation
- Physics and Knobology
- Trauma
- Intraperitoneal Abdomen
- Extraperitoneal Abdomen and Pelvis
- First-Trimester Pregnancy
- Cardiac
- Soft-Tissues
- Procedures

Throughout the R1 year, residents will gain experience in the clinical settings of three EDs. Bedside ultrasonography is used extensively at Wright-Patterson Medical Center, where residents rotate for their combined adult & pediatric ED experience each year. Multiple core and clinical faculty, who are credentialed in emergency ultrasonography, will help residents gain a solid foundation in this important skill set.

Ultrasonography is also covered in the three-year didactic curriculum. During the [concentrated topic in emergency medicine on imaging](#), ultrasound is discussed in the context of all applications of use to emergency physicians, including those performed by professional medical sonographers and interpreted radiologists. Decision-making, indications, and limitations of each study are the focus of these lectures.

Increased clinical experience with ultrasound will continue throughout the R2 year in EDs and ICUs. Additionally, for two weeks, R2s will have a concentrated experience in bedside ultrasonography. Residents will be given a personalized training session with a licensed medical sonographer during the first week of the rotation. Special attention will be given to aortic, biliary and renal ultrasound. Pelvic ultrasound will be demonstrated using a simulator. During the rotation, residents will also have the opportunity to learn and practice pelvic ultrasonography at several obstetrical and gynecological clinical sites.

Residents will complete assigned readings from one of the residency-approved emergency ultrasonography textbooks and complete an ultrasound self-assessment test. They will also be encouraged to review a series of online and CD/DVD-based training materials. At least one shift during the month-long selective will be worked with one of the core faculty credentialed in emergency ultrasonography.

During the second-year selective, residents will be expected to perform a set amount of ultrasound studies on emergency department patients. During this period, residents are only expected to perform ultrasounds. They have no other clinical responsibilities. Recorded images and resident reports will be saved to a disc and presented to the Ultrasound Director at the end of the rotation for quality review and feedback. The residents can use their reviewed studies to assist them with hospital credentialing upon graduation. Although two weeks are specifically set aside for emergency ultrasonography, residents who desire a more intensive and advanced experience can expand the selective to four weeks.

Following the mandatory R2 rotation, residents will continue to accumulate studies through the remainder of their training to be used to document competency for future hospital credentialing. Ultrasound research opportunities are plentiful. Through didactics, training sessions, and hands-on experiences, the Integrated Residency in Emergency Medicine is working towards making itself a leader in emergency ultrasonography. It is already graduating emergency physicians who will bring this vital skill to the bedside.