



ULTRASOUND

Tampa General Hospital

Rotation Director: Gregg Baran, M.D.

General Goals and Overview: Ultrasound is one of the primary imaging modalities for rapid noninvasive evaluation of many regions of the human body and can provide real time multiplanar assessment that requires that the radiologist play an active role during the examination. Therefore, to become an expert in ultrasound, a radiologist must be able to scan a patient while understanding the complex anatomy and pathology.

Daily Work:

The resident is expected to arrive immediately following morning conference. On Thursday mornings and mornings without conference the resident will arrive at 8:00 am. The usual workday will end at *approximately* 5:00 pm, but the resident should not leave until all cases have been reviewed and dictated. The resident will assist/perform procedures after appropriate pre-procedural evaluation. The resident will review diagnostic ultrasound examinations and will perform real time scanning of patients as needed.

Educational Goals and Objectives:

First and Second Year Residents

Patient Care

- Identify normal ultrasound anatomy and state the indications for examination of abdomen, female and male pelvis, neck (e.g. carotid, thyroid), scrotum, lower extremity deep venous system, RLQ
- Perform an ultrasound-guided thoracentesis and paracentesis
- Perform an ultrasound of the RUQ including assessment of the liver, biliary tree, GB and pancreas
- Perform an ultrasound of the lower extremity deep venous system from the groin to the popliteal vein.
- Be able to critique the technical quality of an ultrasound examination

Medical Knowledge

- Discuss the ultrasound features of the most common diseases involving the: liver, RLQ, gallbladder, uterus, spleen, ovaries, pancreas, prostate, kidneys, bladder, thyroid, testes/scrotal contents
- First trimester obstetrical ultrasound:

- Normal findings: gestational sac appearance, size, gestational sac growth, yolk sac, embryo, cardiac activity including normal embryonic heart rate, amnion, chorion, normal early fetal anatomy/growth, crown-rump length measurement, correlation with BHCG levels and menstrual dates
- Pathology: spontaneous complete/incomplete abortion, ectopic pregnancy, blighted ovum, embryonic death, subchorionic hematoma, gestational trophoblastic disease

Interpersonal and Communication Skills:

- Respond to clinical service requests for interventional ultrasound, portable ultrasound, and routine departmental studies in a logical, professional and organized fashion.
- Assist ultrasonographers with scanning and medical questions in a timely and professional manner.
- Interpret and dictate all the ultrasound studies in which the resident was directly involved with before the end of the working day.

Practice-Based Learning and Improvement:

- Identify, rectify and learn from personal errors
- Incorporate feedback into improved performance
- Efficiently use electronic and print resources to access information

Professionalism:

- Demonstrate respect for patients and all members of the health care team
- Respect patient confidentiality
- Present oneself as a professional in appearance and communication.
- Demonstrate a responsible work ethic with regard to work assignments

Systems-Based Practice:

- Demonstrate knowledge of ACR standards for diagnostic ultrasonography
- Demonstrate knowledge of ACR appropriateness criteria when applicable to ultrasound examinations

Third and Fourth Year Residents

Patient Care:

- Diagnose and discuss the ultrasonographic findings of diseases related to the following organ systems:
 - Liver and biliary including pancreas
 - Adrenal, renal, bladder
 - Spleen
 - Female GU system including uterus, adnexae, and fallopian tubes
 - Male GU system including prostate, penis, seminal vesicles, scrotum
 - Pleural space
 - Upper and lower extremity deep venous systems
 - Thyroid
 - Arterial tree including carotid and intra-abdominal arteries
 - Neonatal brain

- Demonstrate proficiency at thoracentesis, paracentesis, complete abdominal, pelvic (including transvaginal), vascular and small parts ultrasound.

Medical Knowledge:

- Demonstrate ability to supervise the appropriate imaging evaluation of a specific disease or patient using the ACR appropriateness criteria when appropriate.
- Demonstrate a working familiarity with all ultrasound machines in the section.

Interpersonal and Communication Skills:

- Demonstrate interest and ability in teaching first and second year residents.
- Call the referring physician for positive results
- Communicate effectively with all members of the health care team

Practice-Based Learning and Improvement:

- Identify, rectify and learn from personal errors
- Incorporate feedback into improved performance
- Efficiently use electronic and print resources to access information

Professionalism:

- Demonstrate respect for patients and all members of the health care team
- Respect patient confidentiality
- Present oneself as a professional in appearance and communication.
- Demonstrate a responsible work ethic with regard to work assignments

Systems-Based Practice

- Demonstrate knowledge of ACR standards for diagnostic ultrasonography
- Demonstrate knowledge of ACR appropriateness criteria when applicable to ultrasound examinations

Evaluation:

- Monthly global evaluations submitted by primary faculty assigned to ultrasound
- Technical staff feedback via 360^o evaluation regarding resident:
 - Interaction with support staff
 - Technical expertise regarding equipment utilization
- Medical knowledge assessed by ACR In-Training Examination
- All evaluations are based on the specific objectives stated in this manual.
- Daily work habits and performance assessed
- Interactive skills with clinicians and section members assessed
- Individual feedback given at end of rotation unless requested earlier by staff or resident