



The SonoSim Ultrasound Training Solution in Accordance with AAFP's Point of Care Ultrasound Recommended Curriculum Guidelines

The American Academy of Family Physicians (AAFP) has released [recommended guidelines for a standardized point-of-care ultrasound curriculum](https://www.aafp.org/students-residents/residency-program-directors/curriculum-guidelines.html?cmpid=_van_240) within family medicine residency programs. The SonoSim Ultrasound Training Solution matches these new industry recommendations through an ecosystem of cloud-based courses, knowledge assessments, interactive SonoSimulator® scanning cases, performance tracking, and access to real-patient pathology.

Basic Ultrasound	
AAFP Guideline	SonoSim Curriculum
Basic Ultrasound Knowledge	Fundamentals of Ultrasound Course
Physics: Use of piezoelectric effect and generation of ultrasound images; the frequency, wavelength, power, and intensity as it relates to ultrasound	<i>Introduction, Basic Ultrasound Physics</i>
Images: Ultrasound representation of fluid, soft tissues, solid organs, air, foreign bodies, and bone	<i>Basic Ultrasound Physics, Imaging Artifacts</i>
Transducers: Four main types are linear, curvilinear, phased array, and intracavitary; each probe has a different crystal arrangement, size, and footprint that determines its preferred applications	<i>Transducer Basics</i>
Orientation: Sagittal, transverse, and coronal planes; probe marker position and its relation to the patient's body and screen image	<i>Imaging Conventions</i>
Image Optimization: Depth (near and far field) and gain	<i>Ultrasound System Operation</i>
Ultrasound Image Terminology: Echogenicity, artifacts, and anisotropy	<i>Basic Ultrasound Physics, Imaging Artifacts</i>
Scanning Techniques: Sliding, fanning, rotating, and rocking	<i>Cardiology Core Clinical: Introduction</i>
Modes: Two-dimensional, M-mode, and Doppler imaging	<i>Imaging Modes, Doppler Mode Imaging</i>
Applications: Basic core applications of POCUS and incorporation into patient care. Advanced applications are optional and reserved for providers who have mastered the basic core applications	<i>All SonoSim Courses</i>
Safety: Understand the "As Low As Reasonably Achievable" (ALARA) principle and specific safety issues as they apply to ultrasound exposure (e.g., ocular settings, avoidance of first trimester Doppler or color use); understand probe cleaning and which studies need normal versus high-level disinfection	<i>Infection Control & Biosafety</i>
Documentation: Importance and methods of archiving and retrieving images; applicability to clinical decision making and quality improvement	<i>Six-Step Obstetric Examination Course: Introduction</i>

American Academy of Family Physicians, Contra Costa Family Medicine Residency Program, & Baylor University Medical Center Family Medicine Residency. Recommended Curriculum Guidelines for Family Medicine Residents: Point-Of-Care Ultrasound. 2021 Sept. Available from https://www.aafp.org/students-residents/residency-program-directors/curriculum-guidelines.html?cmpid=_van_240

OB/GYN		
AAFP Guideline	SonoSim Curriculum	
Limited First Trimester Evaluation: Essential Ultrasonography Components	First-Trimester Pregnancy Course	SonoSimulator Cases to Scan
Transabdominal & transvaginal scanning techniques	Sonographic Imaging Techniques	<i>First-Trimester Pregnancy Cases</i>
Presence of IUP: Utilize FEEDS (Fundal, Eccentric, Elliptical, Decidual reaction, Size of gestational sac) criteria or other documentable criteria to assess for presence of IUP	First-Trimester Pregnancy Ultrasound	
Viability of IUP	First-Trimester Pregnancy Ultrasound, Detecting Pregnancy Failure	<i>First-Trimester Pregnancy Cases</i> <i>OB/GYN Challenge Cases</i>
Detection of fetal heart rate in all stages of pregnancy: Using M-mode	First-Trimester Pregnancy Ultrasound <i>Second- & Third-Trimester Pregnancy - Part I: Basic Fetal Anatomy</i>	<i>Second- & Third-Trimester Pregnancy - Part II Cases</i> <i>OB/GYN Challenge Cases</i>
First trimester pregnancy gestational age assessment: By crown rump length	Pregnancy Dating Using Ultrasound	<i>First-Trimester Pregnancy Cases</i>
Detection of free fluid in the pelvis	Pathologic Conditions	<i>First-Trimester Pregnancy Cases</i> <i>OB/GYN Challenge Cases</i>
Limited Second/Third Trimester Evaluation: Essential Ultrasonography Components	OB Courses	SonoSimulator Cases to Scan
Determine placenta position (fundal, anterior, posterior, low-lying, previa) and know when transvaginal follow-up imaging is indicated	<i>Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study</i> <i>Second- & Third-Trimester Pregnancy - Part II: Placental Evaluation</i>	<i>Six-Step Obstetric Examination Cases</i> <i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>SonoSim LiveScan® Early Stage Pregnancy, Late Stage Pregnancy, & Six-Step Obstetric Examination Cases</i>
Fetal presentation: Vertex, breech, or transverse	<i>Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study</i> <i>Second- & Third-Trimester Pregnancy - Part II: Fetal Lie & Presentation</i>	Cephalic/Vertex <i>Six-Step Obstetric Examination Cases</i> <i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases</i> Breech <i>Six-Step Obstetric Examination Cases</i> <i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases</i>
Amniotic fluid volume: Identify the single deepest pocket of fluid on third trimester ultrasound and appropriately calculate an amniotic fluid index	Amniotic Fluid Assessment	<i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>SonoSim LiveScan® Early Stage Pregnancy Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy Cases</i>
Placenta abruption: Identification of chorionic hemorrhage	Placental Evaluation	--

OB/GYN		
AAFP Guideline	SonoSim Curriculum	
Advanced OB Ultrasonography Skills (Optional)	Advanced OB Courses	SonoSimulator Cases to Scan
Recognition of molar pregnancy	<i>First-Trimester Pregnancy: Pathologic Conditions</i>	--
Gestational age assessment using abdominal circumference, biparietal diameter, and femoral length	<i>Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study</i> <i>Second- & Third-Trimester Pregnancy - Part I: Fetal Biometry & Pregnancy Dating</i>	<i>Six-Step Obstetric Examination Cases</i> <i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy Cases</i> <i>SonoSim LiveScan® Six-Step Obstetric Examination Cases</i>
Evaluation of cervical insufficiency: Preterm labor assessment; measure of cervical length transabdominal/transcervical	<i>Second- & Third-Trimester Pregnancy - Part I: Cervical Length</i>	<i>OB/GYN Cases</i>
Estimation of fetal weight	<i>Second- & Third-Trimester Pregnancy - Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia</i>	--
Assessment of maternal anatomy	<i>OB/GYN Core Clinical: Pelvic Anatomy</i> <i>First-Trimester Pregnancy: Anatomy</i>	<i>First-Trimester Pregnancy Cases</i>
Fetal anatomy	<i>Second- & Third-Trimester Pregnancy - Part I: Basic Fetal Anatomy</i>	<i>Six-Step Obstetric Examination Cases</i> <i>Second- & Third-Trimester Pregnancy - Part I & Part II Cases</i> <i>OB/GYN Challenge Cases</i> <i>SonoSim LiveScan® Six-Step Obstetric Examination Cases</i>
Gender of fetus: Identify penis or labia during 18- to 20-week ultrasound		<i>OB/GYN Challenge Cases</i>
Specialized Examinations/Special Situations	Advanced OB Courses	SonoSimulator Cases to Scan
Fetal well-being during third trimester, biophysical profile: Ultrasound assessment of amniotic fluid index (AFI), fetal breathing movements, gross body movements, and tone	<i>Second- & Third-Trimester Pregnancy - Part II: Biophysical Profile</i>	--
Confirmation of fetal death: Absent fetal heart tones, fetal movement, skull deformity, maceration, and echogenic amniotic fluid	<i>First-Trimester Pregnancy: Detecting Pregnancy Failure</i>	
Gynecology Ultrasound Skills	Advanced GYN Courses	SonoSimulator Cases to Scan
Intrauterine device (IUD) position: Presence or absence of IUD in uterus	<i>GYN Ultrasound of Nonpregnant Abnormal Uterus - Part I: Localization of Intrauterine Devices</i>	<i>GYN Normal Uterus Cases</i> <i>GYN Abnormal Uterus - Part I Cases</i> <i>GYN Normal Adnexa Cases</i> <i>GYN Nonmalignant Adnexal Conditions Cases</i> <i>GYN Malignant Adnexal Conditions Cases</i>
Dysfunctional uterine bleeding	<i>GYN Ultrasound of Nonpregnant Abnormal Uterus - Part II: Introduction</i>	<i>GYN Abnormal Uterus - Part II Cases</i>
Adnexal mass: simple, complex, hemorrhagic cysts	<i>GYN Ultrasound Nonmalignant Adnexal Conditions: Ovarian Cysts</i>	<i>GYN Nonmalignant Adnexal Conditions Cases</i> <i>GYN Malignant Adnexal Conditions Cases</i> <i>GYN Challenge Cases</i>

*Gynecology Ultrasound Skills not covered: Breast mass

Cardiac		
AAFP Guideline	SonoSim Curriculum	
Echocardiograph (Cardiac Ultrasound) Basic Skills	Cardiology Course	SonoSimulator Cases to Scan
Detection of pericardial effusion	Parasternal Short-Axis View: Mid-Ventricle, Subcostal Four-Chamber View, Case Studies	Cardiology Cases FoCUS Part I Cases eFAST Cases RUSH Cases Resuscitative TEE Cases SonoSim LiveScan® Cardiac Resuscitation Cases SonoSim LiveScan® Critical Care Cases SonoSim LiveScan® Early Stage Pregnancy Cases SonoSim LiveScan® Late Stage Pregnancy Cases SonoSim LiveScan® Trauma Care Cases
Assessment of global left ventricle (LV) contractility to assess systolic function (e.g., hyperdynamic/increased, normal, or reduced)	Parasternal Long-Axis View, Parasternal Short-Axis View: Mid-Ventricle, Apical Four-Chamber View, Subcostal Four-Chamber View, Case Studies	Cardiology Cases FoCUS Part I Cases
Assessment of right ventricle (RV) size to assess for right heart strain and possibility of pulmonary embolism (PE) in appropriate clinical setting	Parasternal Short-Axis View: Mid-Ventricle, Apical Four-Chamber View, Subcostal Four-Chamber View, Case Studies	
Measurement of inferior vena cava (IVC) to approximate volume status	IVC Window RUSH: The Tank - Intravascular Volume	Cardiology Cases FoCUS Part I Cases RUSH Cases
Echocardiograph (Cardiac Ultrasound) Advanced Skills (Optional)	Echocardiograph Courses	SonoSimulator Cases to Scan
Calculation of ejection fraction	Cardiology: Case Studies	Cardiology Cases FoCUS Part I Cases
Regional wall motion abnormalities	FoCUS III [Coming Soon]	
Diastolic dysfunction		
Left ventricular mass for left ventricular hypertrophy (LVH) diagnosis		
Valvular abnormalities: Mitral/aortic regurgitation and stenosis	FoCUS II: Valvular Regurgitation, Valvular Stenosis	

Trauma		
AAFP Guideline	SonoSim Curriculum	
Trauma Basic Ultrasound Skills	Trauma Courses	SonoSimulator Cases to Scan
Assessment of free fluid in the abdominal cavity	<i>eFAST & FAST</i> : RUQ Views, LUQ Views, Performing the FAST Exam, Case Studies	<i>eFAST Cases & FAST Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>
Assessment of free fluid around the heart	<i>eFAST & FAST</i> : Cardiac Views, Performing the FAST Exam, Case Studies	<i>eFAST Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>
Assessment of a pneumothorax	<i>eFAST</i> : The eFAST Exam <i>Pulmonary</i> : Pneumothorax Rule-Out, Pneumothorax Rule-In	<i>eFAST Cases</i> <i>Pulmonary Cases</i> <i>RUSH Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>
Assessment for a hemothorax	<i>eFAST & FAST</i> : Imaging Artifacts & Pitfalls <i>Pulmonary</i> : Pleural Effusion	<i>eFAST Cases & FAST Cases</i> <i>RUSH Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>

Aorta		
AAFP Guideline	SonoSim Curriculum	
Aorta Basic Ultrasound Skills	Aorta/IVC Courses	SonoSimulator Cases to Scan
Abdominal aortic aneurysm screening	<i>Aorta/IVC Core Clinical</i> : Clinical Considerations, Aortic Case Studies	<i>Aorta/IVC Core Clinical Cases</i> <i>RUSH Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i>
Identification of vertebral shadow, aorta, IVC, and iliac bifurcation with proximal, mid, and distal imaging views	<i>Aorta/IVC Anatomy & Physiology</i> : Aortic Sonographic Anatomy, IVC Sonographic Anatomy	<i>Aorta/IVC Core Clinical Cases</i>
Scan from xiphoid to umbilicus in transverse and longitudinal views to assess for fusiform vs. saccular aneurysm and proximal iliac artery aneurysm; evaluate for intramural thrombus detection	<i>Aorta/IVC Anatomy & Physiology</i> : Sonographic Technique <i>Aorta/IVC Core Clinical</i> : Aortic Anatomy, Aortic Case Studies	<i>Aorta/IVC Core Clinical Cases</i> <i>RUSH Cases</i>
Use of Doppler waveform imaging/color Doppler	<i>Aorta/IVC Anatomy & Physiology</i> : Sonographic Technique	--
Aorta Advanced Ultrasound Skills (Optional)	Aorta/IVC Courses	SonoSimulator Cases to Scan
Proximal aortic root aneurysm or dissection	<i>FoCUS Part I</i> : Imaging Windows	<i>Cardiology Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation Cases</i>
Abdominal aortic dissection	<i>Aorta/IVC Core Clinical</i> : Aortic Case Studies	<i>RUSH Cases</i>

Biliary/Abdominal		
AAFP Guideline	SonoSim Curriculum	
Biliary/Abdominal Basic Ultrasound Skills	Intestinal/Biliary Course	SonoSimulator Cases to Scan
Assess for symptomatic cholelithiasis: Identify presence of gallstone versus polyp or artifact	Gallbladder Evaluation	Intestinal/Biliary Cases Abdomen Challenge Cases SonoSim LiveScan® Hepatobiliary Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases
Assess for acute cholecystitis: Presence of stones, sonographic Murphy sign, anterior gallbladder wall thickening, and pericholecystic fluid		Intestinal/Biliary Cases RUSH Cases Abdomen Challenge Cases SonoSim LiveScan® Hepatobiliary Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases
Assess for common bile obstruction	Common Bile Duct Evaluation	Abdomen Challenge Cases
Biliary/Abdominal Advanced Ultrasound Skills	Biliary/Abdominal Courses	SonoSimulator Cases to Scan
Appendicitis	Intestinal/Biliary: Appendicitis	Intestinal/Biliary Cases
Hepato-splenomegaly	Liver: Anatomy, Sonographic Anatomy, Sonographic Technique Spleen: Anatomy, Sonographic Anatomy, Sonographic Technique	eFAST Cases & FAST Cases RUSH Cases Abdomen Challenge Cases SonoSim LiveScan® Critical Care Cases SonoSim LiveScan® Trauma Care Cases SonoSim LiveScan® Hepatobiliary Cases
Small bowel obstruction	Intestinal/Biliary: Small Bowel Obstruction	Intestinal/Biliary Cases

*Biliary/Abdominal Advanced Ultrasound Skills not covered: Inguinal hernia

Genitourinary Tract		
AAFP Guideline	SonoSim Curriculum	
Genitourinary Basic Ultrasound Skills	Genitourinary Courses	SonoSimulator Cases to Scan
Evidence of ureteral stone or obstructive process: Identify mild, moderate, and severe hydronephrosis	Bladder Core Clinical: Case Pathologies Renal Core Clinical: Obstructive Uropathy, Case Studies	Renal Core Clinical Cases Intestinal/Biliary Core Clinical Cases SonoSim LiveScan® Genitourinary Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases
Urinary retention and post-void residual volume: Calculate bladder volume and post-void residual	Bladder Core Clinical: Bladder Volume Measurement	Bladder Core Clinical Cases Renal Core Clinical Cases
Genitourinary Advanced Ultrasound Skills (Optional)	Genitourinary Courses	SonoSimulator Cases to Scan
Stone identification	Bladder Core Clinical: Case Pathologies Renal Core Clinical: Obstructive Uropathy, Case Studies	Renal Core Clinical Cases eFAST Cases SonoSim LiveScan® Genitourinary Cases
Use of Doppler waveform imaging/color Doppler	Bladder Core Clinical: Case Pathologies	Genitourinary Challenge Cases SonoSim LiveScan® Genitourinary Cases
Testicular torsion	Scrotum: Sonographic Technique	--
Ovarian torsion	GYN Ultrasound Nonmalignant Adnexal Conditions: Adnexal Torsion	SonoSim LiveScan® Early Stage Pregnancy Cases
Prostate volume	Prostate: Anatomy, Sonographic Anatomy	Prostate Cases

*Genitourinary Advanced Ultrasound Skills not covered: Acute versus chronic obstruction, Hydrocele, Varicocele, Epididymitis, & Orchitis

Deep Venous Thrombosis (DVT)		
AAFP Guideline	SonoSim Curriculum	
DVT Basic Ultrasound Skills (Lower Extremities)	Vascular Courses	SonoSimulator Cases to Scan
Use of Doppler waveform imaging/color Doppler	<i>DVT: Sonographic Technique, Case Studies</i> <i>Leg-Venous: Sonographic Technique</i>	<i>DVT Cases</i> <i>RUSH Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i>
Know difference between vein, artery, nerve, and lymph node	<i>Leg-Arterial: Anatomy, Sonographic Technique</i> <i>Leg-Venous: Anatomy, Sonographic Technique</i>	<i>Leg-Arterial Cases</i> <i>Leg-Venous Cases</i>
Low-risk patient: Utilize 2-zone discrimination technique-compression at proximal femoral vein zone and popliteal vein zone. High-risk patient: Complete compression of lower extremity from common femoral vein to popliteal vein	<i>DVT: POCUS DVT Examination</i>	<i>DVT Cases</i>
Differentiate DVT from cellulitis of lower extremity, superficial thrombophlebitis, and Baker cyst	<i>DVT: Case Studies</i>	
DVT Advanced Ultrasound Skills (Upper Extremities) (Optional)	Vascular Courses	SonoSimulator Cases to Scan
Anatomy of internal jugular, subclavian, axillary, brachial, basilic, and cephalic veins	<i>Arm-Venous: Anatomy, Sonographic Technique</i> <i>Cerebrovascular: Anatomy, Sonographic Anatomy, Sonographic Technique</i>	<i>Arm-Venous Cases</i> <i>Cerebrovascular Cases</i>

Soft Tissue & Musculoskeletal		
AAFP Guideline	SonoSim Curriculum	
Soft Tissue & Musculoskeletal Basic Ultrasound Skills	Soft Tissue Core Clinical Course	SonoSimulator Cases to Scan
Cellulitis versus abscess	<i>Cellulitis and Abscess Imaging</i>	<i>Soft Tissue Core Clinical Cases</i> <i>MSK Challenge Cases</i>
Foreign body	<i>Foreign Bodies, Foreign Body Removal Techniques</i>	--
Soft Tissue & Musculoskeletal Basic Ultrasound Skills	Musculoskeletal Core Clinical Courses	SonoSimulator Cases to Scan
Joint effusions/bursitis	<i>Effusion Evaluation</i> <i>Acromioclavicular Joint Injection & Aspiration: Sonographic Anatomy & Technique</i> <i>Glenohumoral Joint Injection & Aspiration: Sonographic Anatomy</i> <i>Metatarsophalangeal Joint Injection & Aspiration: Sonographic Anatomy & Technique</i> <i>Subacromial-Subdeltoid Bursa Injection & Aspiration: Introduction, Anatomy & Physiology, Sonographic Anatomy & Technique</i> <i>Tibiotalar Joint Injection & Aspiration: Sonographic Anatomy & Technique</i>	<i>Musculoskeletal Cases</i> <i>Acromioclavicular Joint Injection & Aspiration Cases</i> <i>Glenohumoral Joint Injection & Aspiration Cases</i> <i>Metatarsophalangeal Joint Injection & Aspiration Cases</i> <i>Subacromial-Subdeltoid Joint Injection & Aspiration Cases</i> <i>Tibiotalar Joint Injection & Aspiration Cases</i> <i>MSK Challenge Cases</i>
Fractures	<i>Bone Evaluation</i>	<i>Musculoskeletal Cases</i> <i>Soft Tissue Core Clinical Cases</i> <i>MSK Challenge Cases</i>
Tendon rupture/tear & tendonitis/tendinopathy	<i>Tendon Evaluation</i> <i>Biceps Tendon Sheath Injection: Sonographic Anatomy & Technique</i> <i>Plantar Intrafascial and Perifascial Injections: Introduction</i>	<i>Biceps Tendon Sheath Injection Cases</i> <i>Plantar Intrafascial & Perifascial Injection Cases</i> <i>MSK Challenge Cases</i>

Soft Tissue & Musculoskeletal Basic Ultrasound Skills (Cont.)	Musculoskeletal Core Clinical Courses (Cont.)	SonoSimulator Cases to Scan (Cont.)
Risks, benefits, indications, and contraindications to ultrasound-guided injection and aspiration	Effusion Evaluation <i>Acromioclavicular Joint Injection & Aspiration</i> : Introduction, Procedure Preparation, Complications <i>Biceps Tendon Sheath Injection</i> : Introduction, Procedure Preparation, Complications <i>Introduction to US-Guided Procedures</i> : Introduction <i>Glenohumoral Joint Injection & Aspiration</i> : Introduction, Technical Tips & Pitfalls <i>Metatarsophalangeal Joint Injection & Aspiration</i> : Introduction, Technical Tips & Pitfalls, Complications <i>Plantar Intrafascial & Perifascial Injections</i> : Introduction, Complications <i>Subacromial-Subdeltoid Bursa Injection & Aspiration</i> : Introduction, Complications <i>Tibiotalar Joint Injection & Aspiration</i> : Introduction, Complications	--
Soft Tissue & Musculoskeletal Advanced Ultrasound Skills	MSK Courses	SonoSimulator Cases to Scan
Shoulder: Rotator cuff integrity and scanning protocols	<i>Shoulder</i> : Anatomy & Physiology, Sonographic Anatomy & Technique	<i>Shoulder Cases</i> <i>Glenohumoral Joint Injection & Aspiration Cases</i> <i>Subacromial-Subdeltoid Joint Injection & Aspiration Cases</i> <i>MSK Challenge Cases</i>
Knee: Medial collateral ligament, lateral collateral ligament, and patellar tendon integrity	<i>Knee</i> : Anatomy, Sonographic Anatomy, Sonographic Technique	<i>Knee Cases</i>
Ankle: Anterior talofibular ligament, calcaneofibular ligament, and posterior talofibular ligament integrity	<i>Ankle</i> : Anatomy, Sonographic Anatomy, Sonographic Technique	<i>Ankle Cases</i>
Median nerve area and ultrasound features suggestive of carpal tunnel syndrome	<i>Wrist</i> : Anatomy, Sonographic Anatomy, Sonographic Technique	<i>Wrist Cases</i>

Pulmonary		
AAFP Guideline	SonoSim Curriculum	
Pulmonary Basic Ultrasound Skills	Basic Lungs Course	SonoSimulator Cases to Scan
Pulmonary ultrasound anatomy: Ribs, pleura, lung tissue, diaphragm, description of lung zones for scanning	<i>Anatomy, Sonographic Anatomy, Sonographic Technique</i>	<i>Basic Lungs Cases</i>
Pulmonary Basic Ultrasound Skills	Pulmonary Courses	SonoSimulator Cases to Scan
Pulmonary ultrasound anatomy: Ribs, pleura, lung tissue, diaphragm, description of lung zones for scanning	<i>Pulmonary Core Clinical</i> : Lung Evaluation	<i>Pulmonary Cases</i> <i>Pediatric Challenge Cases</i>
Pulmonary ultrasound artifacts: A-line pattern, B-line pattern, and pleura ultrasound artifacts: evidence of lung sliding	<i>Pulmonary Core Clinical</i> : Imaging Adjuncts, Imaging Artifacts	
Assess for CHF: Presence of bilateral B lines in multiple lung zones	<i>Pulmonary Core Clinical</i> : Alveolar Interstitial Syndrome <i>Advanced Pediatric Lung Sonography</i> : Case Studies	<i>Pulmonary Cases</i> <i>Advanced Pediatric Lung Sonography Cases</i> <i>Pediatric Challenge Cases</i>
Assess for pneumonia: Focal B line pattern and other sonographic sign	<i>Pulmonary Core Clinical</i> : Alveolar Interstitial Syndrome, Lung Consolidation <i>Advanced Pediatric Lung Sonography</i> : Sonographic Anatomy, Sonographic Technique, Case Studies	

Pulmonary Basic Ultrasound Skills (Cont.)	Pulmonary Courses (Cont.)	SonoSimulator Cases to Scan (Cont.)
Assess for pneumothorax: Lack of lung sliding	<i>Pulmonary Core Clinical:</i> Pneumothorax Rule-Out, Pneumothorax Rule-In <i>Advanced Pediatric Lung Sonography:</i> Sonographic Anatomy, Case Studies	<i>eFAST Cases</i> <i>Pulmonary Cases</i> <i>RUSH Cases</i> <i>Advanced Pediatric Lung Sonography Cases</i> <i>Pediatric Challenge Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>
Assess for pleural effusion and hemothorax	<i>Pulmonary Core Clinical:</i> Pleural Effusion <i>Advanced Pediatric Lung Sonography:</i> Sonographic Anatomy, Case Studies	<i>Cardiology Cases</i> <i>FoCUS Part I Cases</i> <i>eFAST Cases</i> <i>Pulmonary Cases</i> <i>RUSH Cases</i> <i>Advanced Pediatric Lung Sonography Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation Cases</i> <i>SonoSim LiveScan® Critical Care Cases</i> <i>SonoSim LiveScan® Trauma Care Cases</i>
Pulmonary Advanced Ultrasound Skills	Pulmonary Courses	SonoSimulator Cases to Scan
Acute respiratory distress syndrome (ARDS)	<i>Pulmonary Core Clinical:</i> Alveolar Interstitial Syndrome <i>Advanced Pediatric Lung Sonography:</i> Case Studies	--
Chronic interstitial lung disease		<i>Advanced Pediatric Lung Sonography Cases</i> <i>Pediatric Challenge Cases</i>
Interstitial pneumonia		--

*Pulmonary Basic Ultrasound Skills not covered: Assess for asthma/COPD exacerbation

*Pulmonary Advanced Ultrasound Skills not covered: Pleural-based masses

Ocular		
AAFP Guideline	SonoSim Curriculum	
Ocular Basic Ultrasound Skills	Ocular Course	SonoSimulator Cases to Scan
Detached retina	Retinal Detachment	<i>Ocular Cases</i>
Vitreous detachment	Vitreous Detachment	
Vitreous hemorrhage	Vitreous Hemorrhage	
Ocular Advanced Ultrasound Skills (Optional)	Ocular Course	SonoSimulator Cases to Scan
Intraocular foreign body	Ocular Trauma	<i>Ocular Cases</i>
Papilledema	Optic Nerve Evaluation and ICP	
Lens dislocation	Ocular Trauma	--

*Ocular Advanced Ultrasound Skills not covered: Eccentric pupillary light reflex in ocular trauma

Procedural Guidance		
AAFP Guideline	SonoSim Curriculum	
Procedures Basic Ultrasound Skills	Procedures Courses	SonoSimulator Cases to Scan
Thoracentesis	<i>Thoracentesis</i> : All Lessons	<i>Thoracentesis Cases</i>
Paracentesis	<i>Paracentesis</i> : All Lessons	<i>Paracentesis Cases</i>
Peripheral IV placement	<i>Peripheral Venous Access</i> : All Lessons	<i>Peripheral Venous Access Cases</i>
Central line placement	<i>US-Guided Internal Juglar Vein Cannulation</i> : All Lessons <i>US-Guided Subclavian Vein Cannulation</i> : All Lessons <i>US-Guided Femoral Line Placement</i> : All Lessons	<i>US-Guided Internal Juglar Vein Cannulation Cases</i> <i>US-Guided Subclavian Vein Cannulation Cases</i> <i>US-Guided Femoral Line Placement Cases</i>
Knee aspiration and injection	<i>Musculoskeletal Core Clinical</i> : Effusion Evaluation	--
Foreign body identification and removal	<i>Soft Tissue Core Clinical</i> : Foreign Bodies, Foreign Body Removal Techniques	
Optional Advanced Procedures Ultrasound Skills	Procedures Courses	SonoSimulator Cases to Scan
Shoulder aspiration & injection	<i>Glenohumoral Joint Injection & Aspiration</i> : All Lessons <i>Subacromial-Subdeltoid Bursa Injection & Aspiration</i> : All Lessons	<i>Glenohumoral Joint Injection & Aspiration Cases</i> <i>Subacromial-Subdeltoid Bursa Injection & Aspiration Cases</i>
Ankle aspiration & injection	<i>Metatarsophalangeal Joint Injection & Aspiration</i> : All Lessons <i>Tibiotalar Joint Injection & Aspiration</i> : All Lessons	<i>Metatarsophalangeal Joint Injection & Aspiration Cases</i> <i>Tibiotalar Joint Injection & Aspiration Cases</i>

*Procedures Basic Ultrasound Skills not covered: Lumbar puncture

*Optional Advanced Procedures Ultrasound Skills not covered: Nerve blocks; Fine needle aspiration/biopsy; & Hip, wrist aspiration, and injection

Clinical Protocols		
AAFP Guideline	SonoSim Curriculum	
Clinical Protocols Ultrasound Skills	Protocol Courses	SonoSimulator Cases to Scan
FAST/E-FAST: Focused assessment with sonography for trauma	<i>eFAST</i> : All Lessons <i>FAST</i> : All Lessons	<i>eFAST Cases</i> <i>FAST Cases</i>
RUSH: Rapid ultrasound for shock and hypotension	<i>RUSH</i> : All Lessons	<i>RUSH Cases</i>
BLUE: Bedside lung ultrasound in emergency	<i>Pulmonary</i> : All Lessons	<i>Pulmonary Cases</i>
CLUE: Cardiac limited ultrasound exam	<i>Cardiology</i> : IVC Evaluation and CVP, Case Studies <i>FoCUS Part I</i> : Cardiac Output Measurements, Pulmonary Artery Pressure Measurements	<i>Heart Cases</i> <i>Cardiology Cases</i> <i>FoCUS Part I Cases</i>
FEEDS criteria (see OB/GYN section)	<i>First-Trimester Pregnancy</i> : First-Trimester Pregnancy Ultrasound, Detecting Pregnancy Failure	<i>First-Trimester Pregnancy Cases</i>