



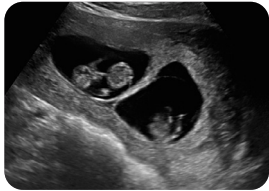
The SonoSim Ultrasound Training Solution in Accordance with Sonography Canada's Generalist Sonographer National Competency Profile

In an effort to "set standards for education and certification" for diagnostic medical sonographers, Sonography Canada released [the National Competency Profile](#).¹ Within this profile, there are three certification categories which list the competencies that sonographers are expected to perform with "entry-level proficiency": Generalist Sonographers, Cardiac Sonographers, and Vascular Sonographers.

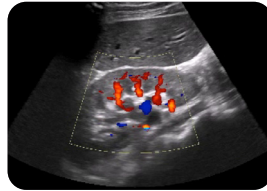
Within this profile, there are also designated **Assessment Environments (AE)** which specify the highest level of evaluation for a student's proficiency: **Academic (A) = academic education, Simulation (S) = simulation education, and Clinical (C) = clinical education**. Simulation requires prior academic education, and Clinical requires prior academic education and simulation education. A more detailed breakdown of each Assessment Environment (AE) is available within the National Competency Profile document.

The patented SonoSim Ultrasound Training Solution matches these DMS competency standards through an ecosystem of cloud-based courses, knowledge assessments, interactive SonoSimulator® scanning cases, performance tracking, and access to real-patient pathology.

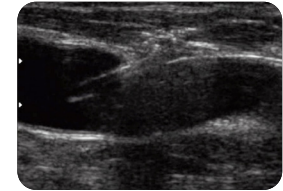
Table of Contents



Topic	Page
Appendix 1 (Obstetrics)	2
Appendix 2 (Gynecology)	10



Topic	Page
Appendix 3 (Abdomen)	12
Appendix 4 (Superficial Structures)	15
Appendix 5 (Musculoskeletal)	16



Topic	Page
Appendix 6 (Extracranial Arteries and Peripheral Veins)	16
Core Competencies Areas 1-7: <i>Communication, Professional Responsibilities, Patient Assessment and Care, Operation of Equipment, Critical Thinking and Problem Solving, Workplace Health and Safety, & Imaging</i>	20

¹5.1 National Competency Profiles. Sonography Canada, 15 Jan. 2018.

Appendix 1: Obstetric Imaging Techniques

Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment (transvesical) – Note: SonoSim recognizes the use of the urinary bladder (transvesical) as a sonographic window when performing both OB and GYN exams. For the purpose of this mapping, the terms transabdominal approach will be referenced in lieu of transvesical.			
Maternal Pelvis			
Cervix	OB/GYN: Anatomy, Sonography Anatomy & Technique	All OB Cases	C
Fallopian tubes	1st Trimester Pregnancy: Anatomy & Physiology		
Gestational sac	OB/GYN: Embryology 1st Trimester Pregnancy: First-Trimester Pregnancy Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases	
Ligaments	OB/GYN: Anatomy	All OB Cases	
Membranes	1st Trimester Pregnancy: Anatomy & Physiology		
Ovaries	OB/GYN: Anatomy, Sonography Anatomy & Technique 1st Trimester Pregnancy: Anatomy & Physiology		
Relational anatomy			
Uterine vessels			
Uterus	OB/GYN: Anatomy, Sonography Anatomy & Technique, Pathologic Conditions, Case Studies 1st Trimester Pregnancy: 1st Trimester Pregnancy: Anatomy & Physiology, First-Trimester Pregnancy Ultrasound		
Vagina	OB/GYN: Anatomy, Sonography Anatomy & Technique 1st Trimester Pregnancy: Anatomy & Physiology		
Yolk sac	OB/GYN: Embryology 1st Trimester Pregnancy: First-Trimester Pregnancy Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases	
Determination of fetal age			
Abdominal circumference (AC)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating 2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	C
Biparietal diameter (BP)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating 2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia		
Embryo: crown rump length	1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases	
Estimated fetal weight (EFW)	2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	2nd & 3rd Trimester Pregnancy Part I & II Cases	
Femur length (FL)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Six-Step Obstetric Examination Cases	

Gestational sac size	OB/GYN: Embryology 1st Trimester Pregnancy: First-Trimester Pregnancy Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases	C
Head circumference (HC)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Dating Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Humerus length (HL)	--	SonoSim LiveScan® Late Stage Pregnancy Cases	
Fetal head			
Anterior ventricles (AV)	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Cavum septum pellucidum	Six-Step Obstetric Examination: Sonographic Anatomy & Technique 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Cerebellum	Six-Step Obstetric Examination: Sonographic Anatomy & Technique 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases	
Cerebral vessels	2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	--	A
Choroid plexus	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Cisterna magna (CM)			
Falx cerebri	Six-Step Obstetric Examination: Sonographic Anatomy & Technique 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Posterior ventricles (PV)	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Skull	Six-Step Obstetric Examination: Sonographic Anatomy & Technique 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Thalamus			
Third ventricle	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Spine			
Cervical spine	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	C
Lumbo-sacral spine			
Thoracic spine			

Fetal face			
Facial profile	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Mouth / lips			
Nasal bones			
Orbits			
Fetal chest/thorax			
Diaphragm	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	C
Lungs			
Thoracic shape			
Fetal heart			
4 Chamber fetal heart	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	C
Aortic arch	--	2nd & 3rd Trimester Pregnancy Part I & II Cases	
Heart rate	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part II: Biophysical Profile	Six-Step Obstetric Examination Cases OB/GYN Core Cases 1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Cases Part II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Long axis	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	OB/GYN Core Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Outflow tracts	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Short axis	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	OB/GYN Core Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Fetal abdomen			
Adrenals	--		C
Aorta			
Bowel	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Gallbladder			
Kidneys			
Liver			
Renal pelvis			
Spleen			

Stomach	<i>Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study</i> <i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i>	<i>Six-Step Obstetric Examination Cases</i> <i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>OB Challenge Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases</i>	C
Umbilical cord	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i> <i>2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy, Twin Gestation, Placental Evaluation, Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia</i>		
Fetal pelvis			
Bladder	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i>	<i>2nd & 3rd Trimester Pregnancy Part I Cases</i> <i>OB Challenge Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy Cases</i>	C
Genitalia		<i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>OB Challenge Cases</i>	
Fetal musculoskeleton			
Feet	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i>	<i>Six-Step Obstetric Examination Cases</i> <i>1st Trimester Pregnancy Cases</i> <i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>SonoSim LiveScan® Early Stage Pregnancy, Late Stage Pregnancy, & Six Step Obstetric Examination Cases</i>	C
Femurs	<i>Six-Step Obstetric Examination: Sonographic Anatomy & Technique</i> <i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating</i> <i>2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia</i>	<i>Six-Step Obstetric Examination Cases</i> <i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases</i>	
Fibula	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i>	<i>2nd & 3rd Trimester Pregnancy Part II Cases</i>	
Hands		<i>1st Trimester Pregnancy Cases</i> <i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>SonoSim LiveScan® Early & Late Stage Pregnancy Cases</i>	
Humerus		<i>SonoSim LiveScan® Late Stage Pregnancy Cases</i>	
Radius		<i>2nd & 3rd Trimester Pregnancy Part II Cases</i>	
Ribs	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy, Fetal Biometry & Pregnancy Dating</i>	<i>Six-Step Obstetric Examination Cases</i> <i>1st Trimester Pregnancy Cases</i> <i>2nd & 3rd Trimester Pregnancy Part I & II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases</i>	
Tibia	<i>2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy</i>	<i>2nd & 3rd Trimester Pregnancy Part II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy Cases</i>	
Ulna		<i>2nd & 3rd Trimester Pregnancy Part II Cases</i>	
Determination of:			
Amniotic fluid pocket depth	<i>2nd & 3rd Trimester Pregnancy Part II: Amniotic Fluid Assessment, Biophysical Profile</i>	<i>2nd & 3rd Trimester Pregnancy Part II Cases</i> <i>SonoSim LiveScan® Late Stage Pregnancy Cases</i>	C
Amniotic fluid index (AFI)	<i>2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy, Amniotic Fluid Assessment</i>		

Chorio-amnionicity	2nd & 3rd Trimester Pregnancy - Part II: Twin Gestation	OB/GYN Core Clinical Cases 2nd & 3rd Trimester Pregnancy - Part II Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases	C
Cord insertion	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy 2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy, Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases	
Fetal lie	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part II: Fetal Lie & Presentation	Six Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Early Stage Pregnancy, Late Stage Pregnancy, & Six-Step Obstetric Examination Cases	
Fetal presentation			
Number of fetuses	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study 1st Trimester Pregnancy: Special Scenarios 2nd & 3rd Trimester Pregnancy Part II: Twin Gestation	All OB Cases	
Placenta grading	2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy	2nd & 3rd Trimester Pregnancy Part II Cases	
Placental location	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study 2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation	Six-Step Obstetric Examination Cases 1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Early Stage Pregnancy, Late Stage Pregnancy, & Six-Step Obstetric Examination Cases	
Placental thickness	2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation	1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases	
Biophysical profile			
Amniotic fluid	2nd & 3rd Trimester Pregnancy Part II: Biophysical Profile	2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Breathing		SonoSim LiveScan® Late Stage Pregnancy Cases	
Fetal movement	2nd & 3rd Trimester Pregnancy Part II: Biophysical Profile	OB/GYN Core Cases 1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Part I Cases SonoSim LiveScan® Early & Late Stage Pregnancy Cases	
Fetal tone		--	
Measure (2D)			
Maternal Pelvis			
Cervix	2nd & 3rd Trimester Pregnancy Part I: Cervical Length	All OB Cases	C
Gestational sac	1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	
Ovaries	OB/GYN: Sonographic Anatomy & Technique	All OB Cases	
Uterus	--		

Yolk sac	1st Trimester Pregnancy: 1st Trimester Pregnancy Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	C
Determination of fetal age			
Abdominal circumference (AC)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Imaging Tips & Pitfalls, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating 2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Early Stage Pregnancy, Late Stage Pregnancy, & Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol – Biometry Cases	C
Biparietal diameter (BP)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol – Biometry Cases	
Embryo: crown rump length	1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases DMS Detailed 1st Trimester Protocol – Crown-Rump Length Cases	
Estimated fetal weight (EFW)	2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Femur length (FL)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol –Biometry Cases	
Gestational sac size	1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound	OB/GYN Core Cases 1st Trimester Pregnancy Cases SonoSim LiveScan® Early Stage Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	
Head circumference (HC)	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol –Biometry Cases	A
Humerus length (HL)	--	SonoSim LiveScan® Late Stage Pregnancy Cases	
Fetal head			
Anterior ventricles (AV)	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	A
Cerebellum	--		C
Cisterna magna (CM)			
Posterior ventricles (PV)	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy		

Fetal face			
Nasal bones	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	A
Orbits			
Fetal neck			
Nuchal fold	1st Trimester Pregnancy: Special Scenarios	DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	C
Nuchal translucency			A
Fetal abdomen			
Kidneys	2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy	2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Late Stage Pregnancy Cases DMS Detailed 1st Trimester Protocol – Fetal Abdomen Cases [Coming Soon]	C
Renal pelvis			
Fetal musculoskeleton			
Femurs	Six-Step Obstetric Examination: Sonographic Anatomy & Technique, Case Study 2nd & 3rd Trimester Pregnancy Part I: Fetal Biometry & Pregnancy Dating	Six-Step Obstetric Examination Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Late Stage Pregnancy & Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	C
Fibula	--	2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	A
Humerus		SonoSim LiveScan® Late Stage Pregnancy Cases	
Radius		2nd & 3rd Trimester Pregnancy Part II Cases	
Tibia		2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	
Ulna		2nd & 3rd Trimester Pregnancy Part II Cases	
Determination of:			
Amniotic fluid pocket depth	2nd & 3rd Trimester Pregnancy Part II: Amniotic Fluid Assessment, Biophysical Profile	2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Amniotic fluid index (AFI)			A
Placental thickness	2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation		
Biophysical profile			
Amniotic fluid	2nd & 3rd Trimester Pregnancy Part II: Biophysical Profile	2nd & 3rd Trimester Pregnancy Part II Cases SonoSim LiveScan® Late Stage Pregnancy Cases	C
Endovaginal			
Maternal Pelvis			
Cervix	OB/GYN: Sonographic Anatomy & Technique 2nd & 3rd Trimester Pregnancy Part I: Cervical Length 2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy	OB/GYN Core Cases 1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	C

Fallopian tubes		OB/GYN: Sonographic Anatomy & Technique, Case Studies 1st Trimester Pregnancy: Pathologic Conditions	OB/GYN Core Cases 1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases	
Gestational sac		OB/GYN: Embryology, Pathologic Conditions 1st Trimester Pregnancy: 1st Trimester Pregnancy Ultrasound, Pregnancy Dating Using Ultrasound 2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation	1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	C
Ligaments		--	OB/GYN Core Cases 1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon]	
Membranes				
Ovaries		OB/GYN: Sonographic Anatomy & Technique, Case Studies 1st Trimester Pregnancy: Pathologic Conditions		
Relational anatomy		OB/GYN: Case Studies		
Uterine vessels		--		
Uterus		All OB Courses		
Yolk sac		OB/GYN: Embryology, Pathologic Conditions 1st Trimester Pregnancy: 1st Trimester Pregnancy Ultrasound, Special Scenarios		
Determination of fetal age				
Embryo: crown rump length		1st Trimester Pregnancy: Pregnancy Dating Using Ultrasound	1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol - CRL Protocol Cases	C
Gestational sac size		OB/GYN: Embryology, Pathologic Conditions 1st Trimester Pregnancy: 1st Trimester Pregnancy Ultrasound, Pregnancy Dating Using Ultrasound		
Fetal heart				
Heart rate		OB/GYN: Embryology 1st Trimester Pregnancy: General Considerations, 1st Trimester Pregnancy Ultrasound	1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases	C
Determination of:				
Chorio-amnionicity		1st Trimester Pregnancy: Special Scenarios	OB/GYN Core Cases	A
Number of fetuses		1st Trimester Pregnancy: Special Scenarios 2nd & 3rd Trimester Pregnancy Part II: Twin Gestation	OB/GYN Core Cases 1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases	
Placental location		2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation	1st Trimester Pregnancy Cases DMS Standard 1st Trimester Protocol Cases	
Transperineal – Note: SonoSim references transperineal in the following courses in limited detail.				
Maternal Pelvis	Cervix	2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy	--	A
Determination of:	Placental location	2nd & 3rd Trimester Pregnancy Part II: Placental Evaluation		
Doppler assessment				
Fetal head	Cerebral vessels	2nd & 3rd Trimester Pregnancy Part II: Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	--	A

Fetal abdomen	Umbilical cord	2nd & 3rd Trimester Pregnancy Part II: Twin Gestation, Placental Evaluation, Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	Six-Step Obstetric Examination Cases 1st Trimester Pregnancy Cases DMS Detailed First-Trimester Protocol - Fetal Abdomen Cases SonoSim LiveScan® Six-Step Obstetric Examination Cases	
Measure (Doppler)				
Fetal abdomen	Umbilical cord	2nd & 3rd Trimester Pregnancy Part II: Twin Gestation, Placental Evaluation, Fetal Weight, Intrauterine Growth Restriction, & Fetal Macrosomia	--	A
M-mode				
Fetal heart	Heart rate	Six-Step Obstetric Examination: Sonographic Anatomy & Technique OB/GYN: Embryology 1st Trimester Pregnancy: General Considerations	Six-Step Obstetric Examination Cases DMS Detailed 1st Trimester Protocol Cases [Coming Soon] SonoSim LiveScan® Six-Step Obstetric Examination Cases	C

Not Covered for Appendix 1:

Real time assessment (transvesical), Fetal neck: Nuchal fold (C), Nuchal translucency (C); Real time assessment (transvesical), Fetal skin: Contour (C), Thickness (C); Measure (2D), Fetal skin: Thickness (A); Endovaginal, Determination of fetal age: Biparietal diameter (BP) (A); Doppler Assessment, Maternal pelvis: Uterine vessels (A)

Appendix 2: Gynecological Imaging Techniques			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment (transvesical) – Note: SonoSim recognizes the use of the urinary bladder (transvesical) as a sonographic window when performing both OB and GYN exams. For the purpose of this mapping, the terms transabdominal approach will be referenced in lieu of transvesical.			
Adnexa	Malignant Adnexal Conditions: Introduction, Sonographic Technique Nonmalignant Adnexal Conditions: Ovarian Cysts Normal Adnexa: Adnexal Anatomy, Sonographic Anatomy & Technique	All GYN Cases	C
Cervix	Female Pelvis A&P: Anatomy, Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Normal Uterus: Normal Anatomy, Sonographic Technique	All GYN Cases	
Cul-de-sacs	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Normal Uterus: Normal Anatomy, Sonographic Technique		
Endometrium	Female Pelvis A&P: Anatomy Normal Uterus: Normal Anatomy, Sonographic Technique	Normal Uterus Cases	
Fallopian tubes	Normal Adnexa: Adnexal Anatomy, Sonographic Anatomy & Technique	DMS GYN Fallopian Tubes Protocol Cases	
Muscles & ligaments of the female pelvis	Female Pelvis A&P: Anatomy Normal Adnexa: Adnexal Anatomy Normal Uterus: Normal Anatomy	All GYN Cases	A
Ovaries	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Case Studies Nonmalignant Adnexal Conditions: Ovarian Cysts Normal Adnexa: Sonographic Anatomy & Technique	OB/GYN Core Cases Abnormal Uterus Part I & II Cases Normal Uterus Cases Malignant & Nonmalignant Adnexal Conditions Cases Normal Adnexa Cases GYN Challenge Cases All DMS GYN Protocol Cases	C
Relational anatomy	All GYN Courses	All GYN Cases	

Urinary bladder	Bladder A&P: Sonographic Anatomy, Sonographic Technique Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique, Pathologic Conditions, Case Studies	Bladder A&P Cases Female Pelvis A&P Cases OB/GYN Core Cases	C
Uterus	All GYN Courses	All GYN Cases	
Vagina	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Normal Uterus: Sonographic Technique	All GYN Cases	
Vasculature of the female pelvis	Female Pelvis A&P: Anatomy Normal Adnexa: Adnexal Anatomy Normal Uterus: Normal Anatomy		
Measure (2D)			
Endometrium	Female Pelvis A&P: Physiology Abnormal Uterus Part II: Evaluating the Endometrium, Endometrial Cancer & Endometrial Hyperplasia, Tamoxifen Effect on Endometrium Normal Uterus: Sonographic Technique	OB/GYN Core Cases Abnormal Uterus Part I & II Cases Malignant & Nonmalignant Adnexal Conditions Cases All DMS GYN Protocol Cases	C
Ovaries	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Malignant Adnexal Conditions: Adnexal Anatomy, Evaluation of Adnexal Masses, Sonographic Technique Nonmalignant Adnexal Conditions: Adnexal Anatomy, Ovarian Cysts Normal Adnexa: Adnexal Anatomy, Sonographic Anatomy & Technique	All GYN Cases GYN Challenge Cases All DMS GYN Protocol Cases	
Uterus	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Normal Uterus: Sonographic Anatomy & Technique	All GYN Cases	
Endovaginal			
Adnexa	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Pathologic Conditions, Case Studies Malignant Adnexal Conditions: All Lessons Nonmalignant Adnexal Conditions: All Lessons Normal Adnexa: All Lessons	OB/GYN Core Cases Abnormal Uterus Part I & II Cases Malignant & Nonmalignant Adnexal Conditions Cases Normal Uterus, Normal Adnexa Cases All DMS GYN Protocol Cases	C
Cervix	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Normal Uterus: Sonographic Technique		
Cul-de-sacs	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique, Pathologic Conditions	OB/GYN Core Cases Normal Uterus Cases Abnormal Uterus Part II Cases Malignant Adnexal Conditions Cases DMS GYN Uterus & Comprehensive Protocol Cases	
Endometrium	Abnormal Uterus Part II: Evaluating the Endometrium, Endometrial Cancer & Endometrial Hyperplasia, Tamoxifen Effect On Endometrium Normal Uterus: Sonographic Technique	OB/GYN Core Cases All GYN Cases All DMS GYN Protocol Cases	
Fallopian tubes	Nonmalignant Adnexal Conditions: Hydrosalpinx, Adnexal Torsion Normal Adnexa: Sonographic Anatomy & Technique	OB/GYN Core Cases Malignant & Nonmalignant Adnexal Conditions Cases Normal Adnexa Cases DMS GYN Fallopian Tubes & Ovaries Protocol Cases	

Muscles & ligaments of the female pelvis	All GYN Courses	All GYN Cases	A
Ovaries	OB/GYN: Sonographic Anatomy & Technique, Case Studies Malignant Adnexal Conditions: All Lessons Nonmalignant Adnexal Conditions: All Lessons Normal Adnexa: All Lessons	OB/GYN Core Cases All GYN Cases All DMS GYN Protocol Cases	C
Relational anatomy	All GYN Courses	All GYN Cases	
Uterus	Female Pelvis A&P: Sonographic Anatomy & Technique OB/GYN: Sonographic Anatomy & Technique Abnormal Uterus Part I & II: All Lessons Normal Uterus: All Lessons	OB/GYN Core Cases All GYN Cases	
Vasculature of the female pelvis	Normal Adnexa: Sonographic Anatomy & Technique Normal Uterus: Sonographic Technique	All GYN Cases	
Doppler assessment			
Ovaries	Malignant Adnexal Conditions: All Lessons Nonmalignant Adnexal Conditions: Ovarian Cysts, Penduculated Leiomyoma, Hydrosalipinx, Adnexal Torsion Normal Adnexa: Sonographic Anatomy & Technique	Malignant & Nonmalignant Adnexal Conditions Cases GYN Challenge Cases Normal Adnexa Cases	C
Uterus	Abnormal Uterus Part I: Adenomyosis, Leiomyomas Abnormal Uterus Part II: Endometrial Polyps & Submucosal Leiomyomas, Retained Products of Conception, Arteriovenous Malformation, Endometrial Cancer & Endometrial Hyperplasia	Normal Uterus Cases Abnormal Uterus Part I & II Cases DMS GYN Protocol Cases GYN Challenge Cases	A
Vasculature of the female pelvis	Normal Adnexa: Sonographic Anatomy & Technique	--	
Sonohysterography			
Endometrium	Abnormal Uterus Part II: Evaluating the Endometrium, Endometrial Adhesions, Retained Products of Conception	--	A
Uterus			

Not Covered for Appendix 2:

Sonohysterography: Fallopian tubes (A)

Appendix 3: Abdominal Imaging Techniques			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment			
Abdominal aorta	<i>Aorta/IVC A&P: All Lessons</i> <i>Aorta/IVC Core Clinical: All Lessons</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>RUSH Cases</i> <i>Vascular Challenge Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Mesenteric Artery Protocol Cases</i>	C
Abdominal wall	<i>Soft Tissue A&P: Sonographic Anatomy</i>	<i>Abdomen Challenge Cases</i> <i>Genitourinary Challenge Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i>	
Adrenal glands	<i>Adrenal Glands A&P: All Lessons</i>	<i>Adrenal Glands A&P Cases</i> <i>SonoSim LiveScan® Genitourinary Cases</i>	A

Biliary system	<i>Biliary Tree A&P: All Lessons</i> <i>Intestinal/Biliary Core Clinical: All Lessons</i>	<i>Biliary Tree A&P Cases</i> <i>Intestinal/Biliary Core Clinical Cases</i> <i>Abdomen Challenge Cases</i> <i>Genitourinary Challenge Cases</i>	C
Celiac trunk	<i>Aorta/IVC A&P: Sonographic Anatomy, Sonographic Technique</i> <i>Aorta/IVC Core Clinical: Anatomy</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>Vascular Challenge Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i>	
Chest and thorax	<i>Heart A&P, Lungs A&P: All Lessons</i> <i>Cardiology Core Clinical, Pulmonary Core Clinical: All Lessons</i>	<i>Heart, Lungs A&P Cases</i> <i>Cardiology, Pulmonary Core Cases</i> <i>Pediatric & Pulmonary Challenge Cases</i>	A
Common iliac arteries	<i>Aorta/IVC A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Aorta/IVC A&P Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Aortic Iliac Artery Protocol Cases</i>	C
Common iliac veins	<i>Aorta/IVC A&P: Sonographic Technique</i>	<i>Aorta/IVC A&P Cases</i>	A
Gastrointestinal tract	<i>GI Tract A&P: All Lessons</i>	<i>GI Tract A&P Cases</i> <i>Intestinal/Biliary Core Cases</i> <i>Abdomen Challenge Cases</i>	
Inferior vena cava	<i>Aorta/IVC A&P: All Lessons</i> <i>Aorta/IVC Core Clinical: All Lessons</i> <i>Cardiology Core Clinical: IVC Evaluation & RAP</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>Cardiology Core Cases</i> <i>eFAST & FAST Cases</i> <i>RUSH Cases</i> <i>FoCUS Part I & II Cases</i> <i>Pericardiocentesis Cases</i> <i>Abdomen & Vascular Challenge Cases</i> <i>SonoSim LiveScan® Cardiac Resuscitation, Critical Care, Early & Late Stage Pregnancy, Hepatobiliary, & Trauma Care Cases</i>	C
Kidneys, ureters	<i>Renal A&P: All Lessons</i> <i>Renal Core Clinical: All Lessons</i>	<i>Renal A&P and Core Cases</i> <i>eFAST & FAST Cases</i> <i>Abdomen & Genitourinary Challenge Cases</i> <i>SonoSim LiveScan® Early & Late Stage Pregnancy, Genitourinary, & Hepatobiliary Cases</i>	
Liver - lobes, segments	<i>Liver A&P: All Lessons</i>	<i>Liver A&P Cases</i> <i>Abdomen Challenge Cases</i> <i>DMS Liver Abdomen Protocol Cases</i>	
Liver- capsule, parenchyma			
Liver - vasculature		<i>Liver A&P Cases</i> <i>DMS Liver Abdomen Protocol Cases</i> <i>DMS Liver Vascular Protocol Cases</i>	
Pancreas	<i>Pancreas A&P: All Lessons</i>	<i>Pancreas A&P Cases</i> <i>SonoSim LiveScan® Hepatobiliary Cases</i>	
Peritoneal, retroperitoneal cavities / spaces	<i>FAST: Case Studies</i> <i>Paracentesis: All Lessons</i>	<i>FAST Cases</i>	S
Renal arteries and veins	<i>Renal A&P: All Lessons</i> <i>Renal Core Clinical: Case Studies</i>	<i>Renal A&P Cases</i> <i>Renal Core Clinical Cases</i> <i>DMS Renal Artery Protocol Cases</i>	

Spleen - capsule, parenchyma	<i>Spleen A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Spleen A&P Cases</i>	C
Spleen - vasculature	<i>Spleen A&P: All Lessons</i>	<i>SonoSim LiveScan® Hepatobiliary Cases</i> <i>Abdomen & Genitourinary Challenge Cases</i>	S
Superior mesenteric artery	<i>Aorta/IVC A&P: Sonographic Anatomy</i> <i>Aorta/IVC Core Clinical: IVC Evaluation & CVP</i>	<i>Aorta/IVC Core Clinical Cases</i> <i>Vascular Challenge Cases</i> <i>DMS Mesenteric Artery Protocol Cases</i> <i>SonoSim LiveScan® Hepatobiliary Cases</i>	C
Urinary bladder	<i>Bladder A&P: All Lessons</i> <i>Bladder Core Clinical: All Lessons</i>	<i>Bladder A&P Cases</i> <i>Bladder Core Clinical Cases</i> <i>Genitourinary Challenge Cases</i> <i>DMS Bladder Protocol Cases</i>	C
Male pelvis - prostate, seminal vesicles	<i>Prostate A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Prostate A&P Cases</i>	
Measure (2D)			
Abdominal aorta	<i>Aorta/IVC Core Clinical: Case Studies</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>Vascular Challenge Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Mesenteric Artery Protocol Cases</i>	C
Biliary system	<i>Biliary Tree A&P: Sonographic Anatomy</i> <i>Intestinal/Biliary Core Clinical: Sonographic Anatomy, Sonographic Technique</i>	<i>Biliary Tree A&P Cases</i> <i>Intestinal/Biliary Core Cases</i> <i>Abdomen Challenge Cases</i> <i>SonoSim LiveScan® Hepatobiliary Cases</i>	
Common iliac arteries	--	<i>Aorta/IVC A&P Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Aortic Iliac Artery Protocol Cases</i>	
Kidneys, ureters	<i>Renal A&P: Sonographic Technique</i> <i>Renal Core Clinical: Sonographic Technique</i>	<i>Renal A&P and Core Cases</i> <i>eFAST & FAST Cases</i> <i>Genitourinary Challenge Cases</i> <i>SonoSim LiveScan® Genitourinary & Hepatobiliary Cases</i>	
Pancreas	<i>Pancreas A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Pancreas A&P Cases</i> <i>SonoSim LiveScan® Hepatobiliary Cases</i>	A
Spleen - capsule, parenchyma	--	<i>Spleen A&P Cases</i> <i>Abdomen Challenge Cases</i>	C
Urinary bladder	<i>Bladder A&P: Bladder Volume Measurement</i> <i>Bladder Core Clinical: Bladder Volume</i>	<i>Bladder, Female Pelvis, Prostate, & Renal A&P Cases</i> <i>Bladder, OB/GYN, & Renal Core Cases</i> <i>Genitourinary Challenge Cases</i> <i>DMS Bladder Protocol Cases</i>	A
Male pelvis - prostate, seminal vesicles	<i>Prostate A&P: Sonographic Technique</i>	<i>Prostate A&P Cases</i> <i>eFAST & RUSH Cases</i> <i>SonoSim LiveScan® Genitourinary Cases</i>	C
Doppler assessment			
Abdominal aorta	<i>Aorta/IVC A&P: Sonographic, Anatomy, Sonographic Technique</i> <i>Aorta/IVC Core Clinical: Case Studies</i> <i>RUSH: Case Studies</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>Vascular Challenge Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Mesenteric Artery Protocol Cases</i>	A

Common iliac arteries	<i>Aorta/IVC A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Aorta/IVC A&P Cases</i> <i>DMS Abdominal Aorta Protocol Cases</i> <i>DMS Aortic Iliac Artery Protocol Cases</i>	A
Common iliac veins	<i>Aorta/IVC A&P: Sonographic Technique</i>	<i>Aorta/IVC A&P Cases</i>	
Inferior vena cava	<i>Aorta/IVC A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Aorta/IVC A&P and Core Cases</i> <i>Vascular Challenge Cases</i>	
Liver - vasculature	<i>Liver A&P: Sonographic Technique</i> <i>Intestinal/Biliary Core Clinical: Sonographic Technique</i>	<i>DMS Liver Abdomen Protocol Cases</i> <i>DMS Liver Vascular Protocol Cases</i>	S
Spleen - vasculature	<i>Spleen A&P: Sonographic Anatomy, Sonographic Technique</i>	<i>Abdomen & Genitourinary Challenge Cases</i>	A
Transrectal			
Male pelvis - prostate, seminal vesicles	<i>Prostate A&P: Sonographic Technique</i>	--	A

Appendix 4: Superficial Structure Imaging Techniques			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment			
Breast	Breast A&P: All Lessons	Breast A&P Cases	S
Groin	Leg-Arterial A&P: All Lessons Leg-Venous A&P: All Lessons DVT – Lower Extremity: All Lessons	Leg-Arterial A&P Cases Leg-Venous A&P Cases DVT – Lower Extremity Cases	A
Parathyroid / neck	Thyroid A&P: All Lessons Upper Airway A&P: All Lessons Airway Core Clinical: All Lessons	Thyroid, Upper Airway A&P Cases Airway, Soft Tissue Core Cases Head/Neck Challenge Cases	
Salivary glands	Upper Airway A&P: Sonographic Anatomy	Upper Airway A&P Cases	
Scrotum	Scrotum A&P: All Lessons	Scrotum A&P Cases Genitourinary Challenge Cases	C
Superficial tissues	Soft Tissue A&P: All Lessons Soft Tissue Core Clinical: All Lessons	Soft Tissue A&P Cases Soft Tissue Core Cases	A
Thyroid	Thyroid A&P: All Lessons Upper Airway A&P: All Lessons Airway Core Clinical: All Lessons	Thyroid, Upper Airway A&P Cases Airway Core Cases Head/Neck Challenge Cases	C
Measure (2D)			
Scrotum	Scrotum A&P: Sonographic Technique	Scrotum A&P Cases Genitourinary Challenge Cases	C
Thyroid	Thyroid A&P: Sonographic Technique	Thyroid A&P Cases Head/Neck Challenge Cases	
Doppler assessment			
Scrotum	Scrotum A&P: Sonographic Technique	--	C
Thyroid	Thyroid A&P: Sonographic Technique	Thyroid, Upper Airway A&P Cases Head/Neck Challenge Cases	

Appendix 5: Musculoskeletal Imaging Techniques			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment			
Elbow	Elbow A&P: All Lessons	Elbow A&P Cases Introduction to MSK Cases Musculoskeletal Core Cases	A
Foot and ankle	Ankle A&P: All Lessons Foot A&P: All Lessons	Ankle, Foot A&P Cases Musculoskeletal Core Cases Metatarsophalangeal Joint Injection & Aspiration Cases Tibiotalar Joint Injection & Aspiration Cases Musculoskeletal Challenge Cases All DMS Ankle Protocol Cases DMS Foot Protocol Cases	
Hand and wrist	Hand & Finger A&P: All Lessons Wrist A&P: All Lessons	Arm-Arterial, Arm-Venous, Hand & Finger, Soft Tissue, & Wrist A&P Cases Introduction to MSK Cases Musculoskeletal Core Cases Pediatric Challenge Cases	
Knee	Knee A&P: All Lessons	Knee A&P Cases Musculoskeletal Core Cases	
Shoulder	Shoulder A&P: All Lessons	Shoulder, Soft Tissue A&P Cases Introduction to MSK Cases Musculoskeletal Core Cases Acromioclavicular Joint Aspiration & Injection Cases Biceps Tendon Sheath Injection Cases Glenohumeral Joint Aspiration & Injection Cases Subacromial-Subdeltoid Bursa Injection & Aspiration Cases Musculoskeletal Challenge Cases	

Appendix 6: Extracranial Artery and Peripheral Vein Imaging Techniques			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Real time assessment			
Extracranial arteries			
Common carotid artery	Cerebrovascular A&P: Sonographic Anatomy, Sonographic Technique US-Guided Internal Jugular Vein Cannulation: Sonographic Anatomy, Procedure Preparation, Procedure Steps, Technical Tips & Pitfalls	Cerebrovascular A&P Cases Vascular Challenge Cases DMS Extracranial Cerebrovascular Protocol Cases	S
Internal carotid artery	Cerebrovascular A&P: Sonographic Anatomy, Sonographic Technique	Vascular Challenge Cases	
External carotid artery		DMS Extracranial Cerebrovascular Protocol Cases	
Vertebral artery	Cerebrovascular A&P: Sonographic Anatomy, Sonographic Technique	DMS Extracranial Cerebrovascular Protocol Cases	
Subclavian artery	Arm-Arterial A&P: Sonographic Technique Cerebrovascular A&P: Sonographic Technique US-Guided Subclavian Vein Cannulation: Sonographic Anatomy	Predialysis Vascular Mapping Cases US-Guided Subclavian Vein Cannulation Cases DMS Upper Extremity Arterial Protocol Cases	

Peripheral veins, upper extremity, for DVT			
Jugular vein	Cerebrovascular A&P: Sonographic Anatomy, Sonographic Technique US-Guided Internal Jugular Vein Cannulation: Sonographic Anatomy, Procedure Preparation US-Guided Subclavian Vein Cannulation: Sonographic Anatomy, Procedure Steps	Cerebrovascular A&P Cases Predialysis Vascular Mapping Cases US-Guided Internal Jugular Vein Cannulation Cases DMS Upper Extremity Venous Protocol Cases	S
Innominate vein	US-Guided Subclavian Vein Cannulation: Sonographic Anatomy, Procedure Preparation, Procedure Steps	US-Guided Subclavian Vein Cannulation Cases	
Subclavian vein	Advanced Predialysis Vascular Mapping: Sonographic Technique US-Guided Subclavian Vein Cannulation: Sonographic Anatomy, Procedure Preparation, Procedure Steps	Predialysis Vascular Mapping Cases US-Guided Subclavian Vein Cannulation Cases DMS Upper Extremity Venous Protocol Cases	
Axillary vein	Arm-Venous A&P: Sonographic Anatomy, Sonographic Technique US-Guided Subclavian Vein Cannulation: Sonographic Anatomy, Procedure Steps	Arm-Venous A&P Cases Predialysis Vascular Mapping Cases US-Guided Subclavian Vein Cannulation Cases Vascular Challenge Cases DMS Upper Extremity Venous Protocol Cases	
Brachial vein	Arm-Venous A&P: Sonographic Technique Peripheral Venous Access: Procedure Preparation, Technical Tips & Pitfalls	Arm-Venous A&P Cases Predialysis Vascular Mapping Cases Peripheral Venous Access Cases DMS Upper Extremity Venous Protocol Cases	
Basilic vein	Arm-Venous A&P: Sonographic Anatomy, Sonographic Technique Advanced Predialysis Vascular Mapping: Sonographic Anatomy, Sonographic Technique Peripheral Venous Access: Sonographic Anatomy, Procedure Preparation, Sonographic Technique	Arm-Venous A&P Cases Soft Tissue A&P Cases Predialysis Vascular Mapping Cases Peripheral Venous Access Cases Vascular Challenge Cases DMS Upper Extremity Venous Protocol Cases	
Cephalic vein	Arm-Venous A&P: Sonographic Technique Advanced Predialysis Vascular Mapping: Sonographic Anatomy, Sonographic Technique	Predialysis Vascular Mapping Cases Peripheral Venous Access Cases US-Guided Subclavian Vein Cannulation Cases DMS Upper Extremity Venous Protocol Cases	
Peripheral veins, lower extremity, for DVT			
Common femoral vein	Hip A&P: Sonographic Anatomy Leg-Venous A&P: Sonographic Anatomy, Sonographic Technique DVT - Lower Extremity: Sonographic Anatomy, Sonographic Technique, POCUS DVT Examination, Case Studies RUSH: Sonographic Anatomy, Sonographic Technique, Case Studies US-Guided Femoral Line Placement: Sonographic Anatomy, Procedure Preparation, Procedure Steps	Leg-Venous A&P Cases DVT - Lower Extremity Cases Femoral Vein Access Cases SonoSim LiveScan® Critical Care Cases DMS Lower Extremity Venous Protocol Cases	C
Femoral vein	Hip A&P: Sonographic Anatomy Leg-Venous: Sonographic Anatomy, Sonographic Technique DVT - Lower Extremity: Sonographic Anatomy, Sonographic Technique, POCUS DVT Examination, Case Studies RUSH: Sonographic Technique US-Guided Femoral Line Placement: Sonographic Anatomy, Procedure Steps	Hip, Leg-Venous A&P Cases DVT - Lower Extremity Cases RUSH Cases Femoral Vein Access Cases SonoSim LiveScan® Critical Care Cases DMS Lower Extremity Venous Protocol Cases	

Popliteal vein	<i>Knee A&P: Sonographic Anatomy, Sonographic Technique</i> <i>Leg-Venous A&P: Sonographic Anatomy, Sonographic Technique</i> <i>DVT - Lower Extremity: Sonographic Anatomy, Sonographic Technique, POCUS</i> <i>DVT - Lower Extremity: Case Studies</i> <i>RUSH: Sonographic Technique, Imaging Tips & Pitfalls</i>	<i>Knee A&P Cases</i> <i>Leg-Venous A&P Cases</i> <i>DVT - Lower Extremity Cases</i> <i>DMS Lower Extremity Venous Protocol Cases</i>	C
Pulsed wave doppler assessment			
Extracranial arteries			
Common carotid artery	<i>Cerebrovascular A&P: Sonographic Technique</i>	<i>Vascular Challenge Cases</i>	S
Internal carotid artery	<i>US-Guided Internal Jugular Vein Cannulation: Imaging Adjuncts</i>	<i>DMS Extracranial Cerebrovascular Protocol Cases</i>	
External carotid artery	-	<i>DMS Extracranial Cerebrovascular Protocol Cases</i>	
Vertebral artery	<i>Cerebrovascular A&P: Sonographic Technique</i>		
Subclavian artery	<i>Arm-Arterial A&P: Sonographic Technique</i>	<i>DMS Upper Extremity Arterial Protocol Cases</i>	
Peripheral veins, upper extremity, for DVT			
Jugular vein	<i>Cerebrovascular A&P: Sonographic Technique</i> <i>US-Guided Internal Jugular Vein Cannulation: Imaging Adjuncts</i>	<i>Predialysis Vascular Mapping Cases</i> <i>DMS Upper Extremity Venous Protocol Cases</i>	S
Subclavian vein	<i>Advanced Predialysis Vascular Mapping: Sonographic Technique</i> <i>US-Guided Subclavian Vein Cannulation: Doppler-Mode Imaging</i>		
Axillary vein	<i>Arm-Venous A&P: Sonographic Technique</i> <i>US-Guided Subclavian Vein Cannulation: Procedure Steps</i>	<i>Predialysis Vascular Mapping Cases</i> <i>DMS Upper Extremity Venous Protocol Cases</i>	A
Brachial vein	-		
Basilic vein	<i>Arm-Venous A&P: Sonographic Anatomy</i> <i>Advanced Predialysis Vascular Mapping: Sonographic Anatomy</i> <i>Peripheral Venous Access: Sonographic Anatomy</i>	<i>Predialysis Vascular Mapping Cases</i> <i>DMS Upper Extremity Venous Protocol Cases</i>	
Cephalic vein	-		
Peripheral veins, lower extremity, for DVT			
Common femoral vein	<i>DVT - Lower Extremity: Case Studies</i> <i>US-Guided Femoral Line Placement: Sonographic Anatomy, Procedure Preparation, Procedure Steps</i>	<i>DVT - Lower Extremity Cases</i> <i>DMS Lower Extremity Venous Protocol Cases</i>	C
Femoral vein	<i>Leg-Venous A&P: Sonographic Technique</i> <i>DVT - Lower Extremity: Sonographic Technique</i> <i>US-Guided Femoral Line Placement: Imaging Adjuncts</i>		
Popliteal vein	--		
Pulsed wave doppler measurement			
Extracranial arteries			
Common carotid artery	<i>Cerebrovascular A&P: Sonographic Technique</i>	<i>DMS Extracranial Cerebrovascular Protocol Cases</i>	S
Internal carotid artery	--		
External carotid artery			
Vertebral artery	<i>Cerebrovascular A&P: Sonographic Technique</i>		
Subclavian artery	--		

Color doppler assessment			
Extracranial arteries			
Common carotid artery	Cerebrovascular A&P: Sonographic Technique	Vascular Challenge Cases DMS Extracranial Cerebrovascular Protocol Cases	S
Internal carotid artery	Cerebrovascular A&P: Sonographic Technique US-Guided Internal Jugular Vein Cannulation: Imaging Adjuncts		
External carotid artery	--		
Vertebral artery	Cerebrovascular A&P: Sonographic Technique		
Subclavian artery	Arm-Arterial A&P: Sonographic Technique Cerebrovascular A&P: Sonographic Technique		
Peripheral veins, upper extremity, for DVT			
Jugular vein	Cerebrovascular A&P: Sonographic Technique US-Guided Internal Jugular Vein Cannulation: Imaging Adjuncts US-Guided Subclavian Vein Cannulation: Procedure Steps	DMS Upper Extremity Venous Protocol Cases	S
Subclavian vein	Advanced Predialysis Vascular Mapping: Sonographic Technique US-Guided Subclavian Vein Cannulation: Imaging Adjuncts	Predialysis Vascular Mapping Cases DMS Upper Extremity Venous Protocol Cases	
Axillary vein	Arm-Venous A&P: Sonographic Anatomy, Sonographic Technique Advanced Predialysis Vascular Mapping: Sonographic Anatomy Peripheral Venous Access: Sonographic Anatomy US-Guided Subclavian Vein Cannulation: Procedure Steps	Predialysis Vascular Mapping Cases Vascular Challenge Cases DMS Upper Extremity Venous Protocol Cases	
Brachial vein	Peripheral Venous Access: Procedure Preparation	Predialysis Vascular Mapping Cases DMS Upper Extremity Venous Protocol Cases	
Basilic vein	Arm-Venous A&P: Sonographic Technique Peripheral Venous Access: Procedure Preparation	Predialysis Vascular Mapping Cases Vascular Challenge Cases DMS Upper Extremity Venous Protocol Cases	
Cephalic vein	Advanced Predialysis Vascular Mapping: Sonographic Technique	Predialysis Vascular Mapping Cases DMS Upper Extremity Venous Protocol Cases	
Peripheral veins, lower extremity, for DVT			
Common femoral vein	Leg-Venous A&P: Sonographic Anatomy DVT - Lower Extremity: Case Studies US-Guided Femoral Line Placement: Sonographic Anatomy, Imaging Adjuncts	DVT - Lower Extremity Cases SonoSim LiveScan® Critical Care Cases DMS Lower Extremity Venous Protocol Cases	C
Femoral vein	Leg-Venous A&P: Sonographic Technique DVT - Lower Extremity: Sonographic Technique, Case Studies US-Guided Femoral Line Placement: Imaging Adjuncts Introduction to Ultrasound-Guided Procedures: Sonographic Techniques	DVT - Lower Extremity Cases DMS Lower Extremity Venous Protocol Cases	
Popliteal vein	Leg-Venous A&P: Sonographic Anatomy	DVT - Lower Extremity Cases DMS Lower Extremity Venous Protocol Cases	

Not Covered for Appendix 6:

Pulsed wave doppler assessment, Peripheral veins, upper extremity, for DVT: Innominate vein (S); Color doppler assessment, Peripheral veins, upper extremity, for DVT: Innominate vein (S)

Core Competency: Communication (Covered in limited detail)			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Oral Communication			
Use medical terminology and standard abbreviations in oral communication	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	C
Written Communication			
Record accurate and relevant medical history	<i>Fundamentals of Ultrasound: Imaging Conventions</i>	--	C
Write medical terminology and standard abbreviations	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	

Not Covered for Communication:

Oral Communication: Identify self to patient (C), Adapt communication in response to patient and situation (C), Adapt communication for patients with special needs (S), Communicate with patient throughout examination, in manner appropriate to patient's ability to understand (C), Explain examination procedure to patient (C), Question patient to obtain relevant information regarding history and condition (C), Communicate departmental reporting procedures to patient (C), Respond to patient questions or concerns (C), Communicate with patient's relatives and / or support persons (C), Communicate effectively with other health care professionals (C), Apply conflict resolution strategies (A); Written Communication: Verify written, authorized directions for examination (C), Record examination procedures and results (C), Ensure that documentation is timely, accurate, concise and complete (C); Non-Verbal Communication: Use appropriate body language (C), Respond appropriately to non-verbal behaviours (C)

Core Competency: Professional Responsibilities (Covered in limited detail)			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Professional Judgement			
Verify that requested procedure correlates with patient’s clinical history and presentation, and address concerns as appropriate	<i>All SonoSim Core Clinical, Advanced Clinical, & Procedures Courses</i>	<i>All SonoSim Core, Advanced, & Procedures Cases</i>	C
Evaluate patient preparation for requested examination	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	A
Practice within limits of personal knowledge and skills			
Ask for guidance where appropriate	<i>Introduction to Ultrasound-Guided Procedures: Procedure Preparation</i>	--	C
Evaluate for contraindications to procedure and address as appropriate	<i>All SonoSim Core Clinical, Advanced Clinical, & Procedures Courses</i>	<i>All SonoSim Core, Advanced, & Procedures Cases</i>	
Identify and respond to urgent sonographic findings	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	
Make decisions based on evidence, clinical information, resource implications and other contextual factors			
Professional Conduct			
Maintain awareness of current and emerging issues in health care relevant to the practice of sonography	<i>Introduction to Ultrasound-Guided Procedures: Fundamental Requirements</i>	--	A
Maintain awareness of current and emerging technological developments in the field of sonography			
Maintenance of Competence			
Demonstrate awareness of need for continuing professional development	<i>Introduction to Ultrasound-Guided Procedures: Fundamental Requirements</i>	--	A
Medico-Legal Responsibilities			
Ensure informed patient consent	<i>Fundamentals of Ultrasound: Imaging Conventions</i>	--	C

Not Covered for Professional Responsibilities:

Written Directives: Adhere to relevant legislation and regulations (A), Adhere to professional scope of practice and code of ethics (A), Adhere to organizational policies and procedures (C); Professional Judgment: Record exceptions from established protocols and procedures (C), Take responsibility for decisions and actions (C); Professional Conduct: Maintain professional appearance and manner (C), Display respect toward others irrespective of diversity (C), Recognize the roles of health care professionals commonly encountered in the workplace (A), Contribute productively to teamwork and collaborative practice (S), Share knowledge with patients, colleagues, students and other members of health care team (C), Provide and receive feedback in a professional manner (C), Manage time and workload efficiently (C), Demonstrate reliability, flexibility and adaptability (C), Participate in patient education (C), Recognize need for presence of a chaperone (A), Recognize, respond to and disclose adverse events (A), Demonstrate awareness of professional liability (A); Maintenance of Competence: Critically appraise performance and set goals for self improvement (C), Review professional literature and assess relevance to practice (A); Medico-Legal Responsibilities: Maintain patient confidentiality (C)

Core Competency: Patient Assessment and Care (Covered in limited detail)			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Patient Safety and Comfort			
Employ sterile technique and infection control methods	<i>Fundamentals of Ultrasound: Infection Control & Biosafety</i>	--	C
Assess and monitor patient's physical and mental status prior to and during examination, and respond	<i>eFAST & FAST: Introduction</i>		
Maintain awareness of patient's accessory equipment and take action as required	eFAST, FAST, & RUSH Courses		A
Assistance with Clinical Procedures			
Assist in interventional procedures	<i>All SonoSim Procedures Courses</i>	<i>All SonoSim Procedures Cases</i>	A
Assist in contrast-enhanced procedures	<i>Fundamentals of Ultrasound: Basic Ultrasound Physics</i>	--	

Not Covered for Patient Assessment and Care:

Patient Safety and Comfort: Verify patient identification (C), Transport and / or move patient (S), Assess patient's ability to tolerate examination (C), Create an environment that protects patient modesty (C), Determine need for additional personnel to assist in examination (C), Perform examination in a timely manner (C), Recognize and respond to emergency situations (A), Provide support in emergency situations (S), Perform cardiopulmonary resuscitation (S); Related Techniques and Procedures: Measure blood pressure (S), Perform palpation of pulses (S), Perform palpation of areas of interest (C), Perform provocative maneuvers (C)

Core Competency: Operation of Equipment			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Equipment Set-Up			
Select optimum system and transducer for examination considering patient’s age and size, structures being examined and specific indications for examination	<i>Fundamentals of Ultrasound: Basic Ultrasound Physics, Imaging Conventions</i>	<i>All SonoSim Cases</i>	C
Determine and select correct pre-set values	<i>Fundamentals of Ultrasound: Ultrasound System Operation</i>		
Use of Equipment			
Perform sonographic examinations using real-time 2-D scanning	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	C
Perform sonographic examinations using M-mode	<i>Fundamentals of Ultrasound: Imaging Modes</i>	<i>M-mode found throughout various SonoSim Cases (see Case Features)</i>	
Perform sonographic examinations using pulsed wave Doppler	<i>Fundamentals of Ultrasound: Doppler-Mode Imaging</i>	<i>Pulsed wave Doppler found throughout various SonoSim Cases (see Case Features)</i>	
Perform sonographic examinations using colour Doppler		<i>Colour Doppler found throughout various SonoSim Cases (see Case Features)</i>	
Perform sonographic examinations using power Doppler		<i>Power Doppler found throughout various SonoSim Cases (see Case Features)</i>	

Orient and manipulate transducer	<i>Fundamentals of Ultrasound: Imaging Conventions</i>	<i>All SonoSim Cases</i>	C
Select optimal acoustic window	<i>All SonoSim Courses</i>		
Use and optimize harmonic imaging	<i>Fundamentals of Ultrasound: Imaging Artifacts</i>	--	
Perform sonographic examinations using 3-D imaging	<i>GYN Abnormal Uterus Part I: Sonographic Imaging</i> <i>GYN Nonpregnant Normal Uterus: Sonographic Technique</i>	--	A
Monitor output display indices and adjust power output in accordance with "as low as reasonably achievable" (ALARA) principle	<i>Fundamentals of Ultrasound: Infection Control & Biosafety</i>	--	C
Identify artifacts and adjust instrument controls to optimize image	<i>Fundamentals of Ultrasound: Imaging Artifacts, Ultrasound System Operation</i>	<i>All SonoSim Cases</i>	
Measure structures	<i>All Advanced OB Courses</i>		
Measure M-mode tracings	<i>Airway Core Clinical: Sonographic Anatomy, Imaging Tips & Pitfalls</i> <i>Fundamentals of Ultrasound: Imaging Modes</i> <i>Pulmonary Core Clinical: Sonographic Technique</i> <i>FoCUS Part II: Valvular Regurgitation</i>	<i>M-mode found throughout various SonoSim Cases (see Case Features)</i>	
Measure Doppler waveforms	<i>Fundamentals of Ultrasound: Imaging Modes, Doppler Mode Imaging</i>	<i>Doppler waveforms found throughout various SonoSim Cases (see Case Features)</i>	C
Record patient position and plane of section on images	<i>All SonoSim Courses</i>	<i>All SonoSim Cases</i>	

Not Covered for Operation of Equipment:

Equipment Set-Up: Record pertinent patient data using keyboard or other input device (C); Use of Equipment: Perform calculations manually (A), Use software calculation packages (C), Process and record patient data (C), Archive and retrieve patient data (C); Equipment Maintenance: Perform instrument quality control using test objects / phantoms (A), Identify degraded instrument performance (A), Perform basic trouble shooting prior to calling for technical support (A)

Core Competency: Critical Thinking and Problem Solving (Covered in limited detail)			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Examination Planning			
Interpret history, signs & symptoms and other relevant information	All SonoSim Core & Advanced Clinical Courses	All SonoSim Core & Advanced Clinical Cases	C
Assess medical history and health status		All SonoSim Cases	
Modify scope of examination based on clinical history		All SonoSim Core & Advanced Clinical Cases	
Formulate sonographic scanning strategies	All SonoSim Courses	All SonoSim Cases	
Integrate knowledge of anatomy and disease processes			
Integration of relevant, available diagnostic data			
Correlate results from aspirations and biopsies	Acromioclavicular, Glenohumeral, Subacromial-Subdeltoid, & Tibiotalar Joint Injection & Aspiration: All Lessons Paracentesis: Procedure Preparation Pericardiocentesis: Introduction, Procedure Steps Thoracentesis: Sonographic Anatomy, Procedure Preparation, Procedure Steps	Acromioclavicular Joint Injection & Aspiration Cases Glenohumeral Joint Injection & Aspiration Cases Subacromial-Subdeltoid Joint Injection & Aspiration Cases Tibiotalar Joint Injection & Aspiration Cases Paracentesis, Pericardiocentesis, & Thoracentesis Cases	A

Correlate results from radiography	eFAST: Introduction, Sonographic Anatomy & Technique Intestinal/Biliary Core Clinical: Case Studies Musculoskeletal Core Clinical: Sonographic Anatomy Pulmonary Core Clinical: Case Studies Pleural Effusion, Case Studies Pneumothorax Rule-Out, Case Studies Pneumothorax Rule-In	Musculoskeletal Core Cases	
Correlate results from angiography	--	Cerebrovascular A&P Cases Thoracentesis Cases	
Correlate results from computerized tomography	Adrenal Glands, Bladder, Female Pelvis, Lungs, Pancreas, & Spine A&P Courses Airway, Aorta/IVC, eFAST, FAST, Intestinal/Biliary, Pulmonary, & Renal Core Clinical Courses Pericardiocentesis, Subclavian Vein Cannulation, & Thoracentesis Procedure Courses	Adrenal Glands, Aorta/IVC, Biliary Tree, Bladder, Breast, Female Pelvis, Heart, Liver, Pancreas, Spleen, Thyroid, & Upper Airway A&P Cases Aorta/IVC, Intestinal/Biliary, & Renal Core Cases, eFAST & RUSH Cases SonoSim LiveScan® Trauma Care Cases	A
Correlate results from magnetic resonance studies	Hip, Knee, & Prostate A&P Courses	Breast, Foot, Prostate, Soft Tissue, & Wrist A&P Cases Introduction to MSK Cases Musculoskeletal Core Cases	
Image quality			
Adjust patient positioning to advantage	All SonoSim Courses	All SonoSim Cases	C
Use breathing techniques to advantage	Leg-Venous A&P: Sonographic Anatomy DVT - Lower Extremity: Sonographic Anatomy eFAST: Sonographic Anatomy & Technique RUSH: Sonographic Technique FoCUS Part II: Valvular Regurgitation Thoracentesis: Regional Anatomy, Sonographic Anatomy	--	
Evaluate images for orientation, identification, and labeling	All SonoSim Courses	All SonoSim Cases	C
Evaluate images for quality			
Modify scope of examination based on sonographic findings			
Evaluate completeness of examination			
Recognize equipment limitations			
Recognize technical limitations	All SonoSim Courses	All SonoSim Cases	
Technical analysis			
Differentiate artifact from anatomic and pathologic findings	Fundamentals of Ultrasound: Imaging Artifacts	All SonoSim Cases	C
Differentiate normal variants from pathology	All SonoSim Courses		
Use spatial reasoning to interpret images			
Identify and prioritize differential findings	All SonoSim Core & Advanced Clinical Courses	All SonoSim Core & Advanced Clinical Cases	
Formulate impression based on findings			

Not Covered for Critical Thinking and Problem Solving:

Integration of relevant, available diagnostic data: Correlate results from laboratory tests (A), Correlate results from nuclear medicine studies (A), Correlate results from amniocentesis (A), Correlate results from chorionic villus sampling (A), Correlate results from chromosome analysis (A), Correlate results from dilatation and curettage (A), Correlate results from non-stress testing (A); Technical analysis: Provide oral summary of impression to reporting physician (C), Provide written summary of impression to reporting physician (C)

Core Competency: Workplace Health and Safety (Covered in limited detail)			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Safety of the work environment			
Employ universal precautions for infection control	<i>Fundamentals of Ultrasound: Infection Control & Biosafety</i>	--	C

Not Covered for Workplace Health and Safety:

Safety of the work environment: Maintain clean and orderly work area (C), Recognize hazardous conditions in the work area, and respond (C), Maintain awareness of fire and disaster plans (A), Locate emergency equipment (C); Self protection: Employ proper body mechanics when transferring, lifting, turning or transporting patient (C), Practice musculoskeletal injury prevention techniques (C), Follow Workplace Hazardous Materials Information System (WHMIS) protocols (A)

Core Competency: Imaging			
Competency	SonoSim Course & Lesson	SonoSim Cases	AE
Obstetrical			
Perform sonographic examination of structures of interest using techniques listed in Appendix 1	See Appendix 1		
Recognize sonographic appearance of normal structures	OB/GYN: Anatomy, Sonographic Anatomy & Technique, Embryology Six-Step Obstetric Examination: Sonographic Anatomy & Technique 1st Trimester Pregnancy: Anatomy, 1st Trimester Pregnancy Ultrasound 2nd & 3rd Trimester Pregnancy Part I: Basic Fetal Anatomy 2nd & 3rd Trimester Pregnancy Part II: Assessment of Extrafetal Anatomy	Six-Step Obstetric Examination Cases OB/GYN Core Cases 1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases SonoSim LiveScan® Six-Step Obstetric Examination Cases DMS Standard 1st Trimester Protocol Cases DMS Detailed 1st Trimester Protocol Cases	C
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	OB/GYN: Pathologic Conditions, Case Studies Six-Step Obstetric Examination: Sonographic Anatomy & Technique 1st Trimester Pregnancy: Detecting Pregnancy Failure, Pathologic Conditions, Special Scenarios 2nd & 3rd Trimester Pregnancy - Part I: Basic Fetal Anatomy 2nd & 3rd Trimester Pregnancy Part II: Twin Gestation, Placental Evaluation, Amniotic Fluid Assessment	OB/GYN Core Cases 1st Trimester Pregnancy Cases 2nd & 3rd Trimester Pregnancy Part I & II Cases OB Challenge Cases SonoSim LiveScan® Early Stage Pregnancy & Late Stage Pregnancy Cases	
Produce diagnostic data documenting sonographic findings	All OB Courses	All OB Cases	
Gynecological			
Perform sonographic examination of structures of interest using techniques listed in Appendix 2	See Appendix 2		
Recognize sonographic appearance of normal structures	Female Pelvis A&P: All Lessons OB/GYN: Anatomy, Sonographic Anatomy & Technique Normal Uterus: All Lessons Normal Adnexa: All Lessons	Bladder, Female Pelvis A&P Cases OB/GYN Core Cases Normal Uterus, Normal Adnexa Cases All DMS GYN Protocol Cases	C
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	OB/GYN: Case Studies Malignant Adnexal Conditions: All Lessons Nonmalignant Adnexal Conditions: All Lessons Abnormal Uterus Part I & II: All Lessons	OB/GYN Core Cases Malignant & Nonmalignant Adnexal Conditions Cases Abnormal Uterus Part I & II Cases GYN Challenge Cases	

Produce diagnostic data documenting sonographic findings	All GYN Courses	All GYN Cases	
Abdominal			
Perform sonographic examination of structures of interest using techniques listed in Appendix 3	See Appendix 3		
Recognize sonographic appearance of normal structures	Adrenal Glands, Aorta/IVC, Biliary Tree, Bladder, GI Tract, Liver, Pancreas, Prostate, Renal, Spleen A&P: All Lessons	Adrenal Glands, Aorta/IVC, Biliary Tree, Bladder, GI Tract, Liver, Pancreas, Prostate, Renal, Spleen A&P Cases Aorta/IVC Core Cases eFAST & FAST Cases DMS Abdominal Aorta Protocol Cases DMS Aortic Iliac Artery Protocol Cases DMS Liver Abdomen Protocol Cases DMS Liver Vascular Protocol Cases DMS Mesenteric Artery Protocol Cases DMS Renal Artery Protocol Cases	C
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	Aorta/IVC, Bladder, Intestinal/Biliary, & Renal Core Clinical: All Lessons eFAST & FAST: All Lessons RUSH: All Lessons	Aorta/IVC, Intestinal/Biliary, & Renal Core Cases eFAST & FAST Cases RUSH Cases Abdomen & Genitourinary Challenge Cases SonoSim LiveScan® Critical Care, Hepatobiliary, & Trauma Care Cases	C
Produce diagnostic data documenting sonographic findings	All Abdominal Courses	All Abdominal Cases	
Superficial structures			
Perform sonographic examination of structures of interest using techniques listed in Appendix 4	See Appendix 4		
Recognize sonographic appearance of normal structures	Ankle, Breast, Elbow, Foot, Hand & Finger, Hip, Introduction to MSK, Knee, Scrotum, Shoulder, Soft Tissue, Thyroid, Wrist, & Upper Airway A&P: All Lessons	Ankle, Breast, Elbow, Foot, Hand & Finger, Hip, Introduction to MSK, Knee, Scrotum, Shoulder, Soft Tissue, Thyroid, Wrist, & Upper Airway A&P Cases Airway Core Cases	C
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	Airway Core Clinical: All Lessons Musculoskeletal Core Clinical: All Lessons Soft Tissue Core Clinical: All Lessons	Airway, Soft Tissue, & Musculoskeletal Core Cases Genitourinary Challenge Cases Head/Neck Challenge Cases	
Produce diagnostic data documenting sonographic findings	All Superficial Structures Courses	All Superficial Structures Cases	
Musculoskeletal			
Demonstrate knowledge of sonographic examination of structures of interest using techniques listed in Appendix 5	See Appendix 5		
Recognize sonographic appearance of normal structures	Introduction to MSK: All Lessons Ankle, Elbow, Foot, Hand & Finger, Hip, Knee, Shoulder, Spine, & Wrist A&P: All Lessons	Introduction to MSK Cases Ankle, Elbow, Foot, Hand & Finger, Hip, Knee, Shoulder, Spine, & Wrist A&P Cases All DMS Ankle Protocol Cases DMS Foot Protocol Cases	A
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	Musculoskeletal Core Clinical: All Lessons	Musculoskeletal Core Cases Musculoskeletal Challenge Cases	

Extracranial arteries and peripheral veins			
Perform sonographic examination of structures of interest using techniques listed in Appendix 6	See Appendix 6		
Recognize sonographic appearance of normal structures	<i>Cerebrovascular, Arm-Venous, & Leg-Venous A&P: All Lessons</i> <i>Peripheral Venous Access Procedures: Sonographic Anatomy</i>	<i>Cerebrovascular, Arm-Venous, Leg-Venous A&P Cases</i> <i>Peripheral Venous Access Procedures Cases</i> <i>All DMS Vascular Protocol Cases</i>	C
Differentiate sonographic appearance of normal structures from anomolous and pathologic conditions	<i>DVT - Lower Extremity: All Lessons</i> <i>Advanced Predialysis Vascular Mapping: All Lessons</i>	<i>DVT - Lower Extremity Cases</i> <i>Predialysis Vascular Mapping Cases</i> <i>Vascular Challenge Cases</i>	
Produce diagnostic data documenting sonographic findings	<i>All Extracranial Arteries & Peripheral Veins Courses</i>	<i>All Extracranial Arteries & Peripheral Veins Cases</i>	