OBJECTIVES FOR PGY2 ULTRASOUND ROTATION

REI Ultrasound Rotation

	Objectives to be covered (guideline only, dependent on department schedule and patient availability)	**Sonographer initial when completed**
Day 1	Patient verification – two patient identifiers	
	Acquiring patient consent	
	Probe cleaning and disinfection	
	The ultrasound machine ▪ Probe selection + preparing for use ▪ Image optimization ▪ Use of measuring systems	
	Basic sonographic terminology	
	Introduction to the appearance of normal anatomy on abdominal and transvaginal ultrasound – uterus and ovaries	
	Opportunity to scan abdominal and vaginal – orientation of probe, maneuvering probe during vaginal exam, find normal ovaries	
Day 2	Baseline gyne and Follicle tracking – finding and distinguishing normal anatomy – uterus (cervix, endometrium), ovaries, follicles, etc.	
	Obstetrical u/s – both abdominal and vaginal – find gestational sac, yolk sac, CRL, M-mode of heart rate measurement	
Day 3	Able to insert vaginal probe on own, if not already done	
	Scan follicle tracking exams - Measure follicles and endometrium. Scan baseline gyne and OB exams - Show uterus and ovaries, show where measurements would be taken.	
	Watch saline infusion scans (HyCoSy and SIS)	

Day 4	Scan – Continue follicle tracking, measure follicles and endometrium.		
	Scan – Take representative images abdominally and vaginally for baseline and OB. OB – M-mode, CRL measurements		
Day 5	Scan and learning to recognize gynecologic pathology (fibroids, cysts, etc.) and how it should be documented.		
	Scan and learn to recognize abnormal OB findings (subchorionic hematoma, ectopic, etc.) and how they should be documented.		
	Documentation – explain how you would report your findings using sonographic terminology		

Civic Site Ultrasound Scanning Rotation

Simulation	**Reviewed Basics of ultrasound physics**		
	Discussed Care and use of equipment		
	Reviewed knobology/Image optimization		
	Discussed scanning planes and image orientation		
	Reviewed ALARA principle and safe use of ultrasound		
	Reviewed basic descriptive terminology		
	Hands on scanning with Simulator		
	Image Acquisition 1st Trimester		
	- Midline uterus		
	- Identify YS		
	- Identify GS		
	- Identify and measure fetal Pole(CRL)		

	-Identify cardiac activity ,document and measure FHR		
	Image acquisition 2nd Trimester - Fetal number lie and presentation - Identify cardiac activity and measure FHR - Document fetal situs - Identify and document placenta location - Subjective assessment of AFV - Document Biometry landmarks		

Scanning Objectives	Interrogates in both saggital and transverse planes		
	Documents Presentation		
	Performs accurate assessment and measurement of FHR		
	Accurately assess and measures Amniotic fluid		
Applied Knowledge	Locates placenta and documents position from edge to edge		
	Recognizes appropriate landmarks for biometric measurements		
	Makes appropriate Biometric measurements		
	Fetal Assessment (BPP)		
Patient Care			
	Demonstrates basic understanding of operation of ultrasound machine including data entry and altering of technical factors to improve image quality(depth, focus, gain)		
	Demonstrates a basic understanding of image quality and acceptability		

	Uses Clinical information available(req ,previous reports etc) to guide and modify exam		
	Demonstrates a basic understanding of practical aspects of ultrasound physics		
	Demonstrates courtesy and kindness towards patients		
	Introduces themselves and explains procedure		

Collaborator Participates in Non- scanning work of the department (room preparation, tidying etc)		
Interacts with other members of the department In a collegial manner		
Organization Skills Tries to work efficiently and aims to complete tasks		
Within a reasonable timeframe		
Seeks help when encounters difficulty		
Takes constructive use of uninstructed time		
Health Advocate Identifies and responds to individual patient needs		
Acts upon information given by patient that suggests Additional investigation is necessary ie recent contractions		

Scholar Displays an interest and willingness to learn		
Demonstrates ongoing self-directed learning		
Professional behaviors Attends as scheduled (consistently punctual, is not		
Unexpectedly absent)		
Accepts instruction and constructive criticism,		
Uses feedback to improve performance		
Demonstrates non-discriminatory attitudes		

FIRST TRIMESTER	Completed	Not Completed
Recognizes The intrauterine Gestational Sac		
Able to measure Crown Rump Length (CRL)		
Able to document and measure FHR on m mode		
Interrogates in bot sagittal and transverse planes		

SECOND TRIMESTER	Completed	Not Completed
Able to identify landmarks for fetal biometry		
Able to measure Biparietal Diameter and head circumference		
Able to measure Abdominal circumference		
Able to measure femur length		
Able to locate and document Placenta		

THIRD TRIMESTER	Completed	Not Completed

Interrogates in both sagittal and transverse planes		
Documents fetal lie and presentation		
Documents and measures FHR by m- mode		
Amniotic fluid assessment and measurement		
Locates and documents placenta		
Preforms Biometry		
Scores BPP		

MULTIPLE PREGNANCIES

Recognizes ultrasound landmarks for differentiating chorionicity		

Medical Expert

Knowledge

1) Demonstrate basic knowledge of ultrasound physics and technology required to provide an obstetrical and gynaecological assessment.
    - Definition of ultrasound
    - Principles of ultrasound physics
    - Bioeffects/safety: Thermal index, mechanical index, ALARA principle

2) Demonstrate knowledge regarding the ultrasound machine/probes including:
    - Patient positioning
    - Probe selection
    - Image optimization
    - Performing ultrasound measurements
    - Image recording
    - Selective use of M mode, color and pulsed Doppler
    - Probe cleaning and disinfection

3) Demonstrate a basic knowledge of gynecologic sonographic anatomy.
4) Gain an understanding regarding timing and indications for ultrasounds in obstetrical care.
5) Understand the technique for an obstetrical dating scan, and how it can be used to adjust pregnancy dating.
6) Demonstrate knowledge of ultrasound findings for determination of viable vs non-viable pregnancies.
7) Understand the components and ultrasound views required for a fetal growth scan and a biophysical profile.
8) Demonstrate knowledge regarding the components of a fetal anatomy scan.
9) Demonstrate knowledge regarding determination of chorionicity on ultrasound in a twin pregnancy.

Procedure

1) Demonstrate competency (ability to perform independently) in performing ultrasound for:
    a) Biophysical profile
    b) Fetal presentation
    c) Placental location

2) Demonstrate the appropriate landmarks for fetal biometry including:
    a) Head circumference
    b) Biparietal diameter
    c) Abdominal circumference

    d) Femur length

3) Demonstrate the appropriate ultrasound findings for first trimester ultrasounds including:
    a) Pregnancy location (intrauterine vs extrauterine)
    b) Confirm pregnancy viability (presence of a heart beat/ M mode)
    c) Confirm singleton vs multiple gestation
    d) Measurement of the gestational sac, yolk sac, crown rump length
    e) Determination of incomplete abortion

4) Demonstrate appropriate landmarks to assess:
    a. The uterine shape
    b. The endometrial thickness
    c. Ovaries
    d. Intraperitoneal fluid

Communicator

1) Communicate ultrasound findings in a clear and sensitive manner to the patient/family.
2) Develop strategies in conveying bad news to patients.
3) Knowledge regarding required components of an ultrasound report.

Collaborator

1) Participate and engage as a team member within the ultrasound units.
2) Understand the inter-professional team member roles (ultrasound technologists, nurse sonographers, radiologist and obstetrician/gynaecologists) within an ultrasound unit.

Health Advocate

1) Understand the ALARA principle as it applies to obstetrical and gynaecological imagine.
2) Understand appropriate indications of ultrasounds in obstetrics and gynecology; demonstrate how choosing wisely applies to ultrasound indications.
3) Demonstrate knowledge that ultrasound is a medical test, and not to be used for recreational use especially in pregnancy.

Leader

1) Demonstrate time effectiveness in performing ultrasound exam.
2) Gain an understanding of appropriate use of ultrasound as a health resource.

Scholar

1) Self-directed learning to gain knowledge of the physics and mechanism of ultrasound technology.
2) Use of the ultrasound simulator to enhance/develop the ultrasound skills outline in the Medical Expert objectives.

Professional

1) Maintain patient confidentiality as it pertains to ultrasound findings.
2) Demonstrate professional attitude towards both patients and other health care provides within the ultrasound unit.
3) Report absences in a timely manner.

NOTE: CBD Curriculum Map and EPAs - https://med.uottawa.ca/obs-gyne/postgraduate-education/residency-training-program/competency-based-medical-education

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