Scanning Cheat Sheet: 1st Trimester OB US

Procedure Overview: A 1st Trimester OB Ultrasound transabdominal and transvaginal can be utilized to evaluate the uterine and ovarian parenchyma for pathology and verify intrauterine pregnancy.

Required Pre-Procedure Prep

- Obtain patient verbal consent prior to exam.
- Instruct the patient to drink fluids to fill her bladder for TA. Patients should be allowed to empty their bladders before TV.
- Obtain patient history including, but not limited to symptoms, parity, gravida, LMP, hormone regimens, and previous pelvic surgery.

Proper Probe: for TA exams, a curvilinear (convex) or vector probe 2.5 – 5 MHz. High Frequency endocavity probe should be used for TV exams.

Proper precautions including a probe cover and cleaning protocol should be utilized for TV exams.

Protocol for 1st Trimester OB Ultrasound
Transabdominal (76801) Transvaginal (76817)

This protocol aligns with the Mindray I-Works protocol: Imagen 1st Trimester OB
You may "Suspend" the protocol at any time to take additional images or handle pathology, then restart I-Works.

**Document pathology with and without measurement in two planes, Sag and Trv measuring the length, height, & width. Be sure to also include images with and without color Doppler.

Cine Clips should be taken to help prove pathology and provide context for Remote Radiologists when appropriate. Please be mindful of not taking too many cine clips, just show what's most important.

****MUST OBTAIN LMP and document if the patient is able to confirm.***

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**** If IUP is not visualized, be sure to thoroughly evaluate adnexa for possible ectopic. If ectopic seen, image the Right Kidney and Liver for potential fluid in Morrison's pouch.**

1. Sag UT midline
2. Sag UT midline with measurement (length and height)
3. Sag UT midline endometrium
4. Zoom image of endometrium
5. Image of Intrauterine Gestational Sac if present
6. Measure CRL if present
7. Image of Yolk Sac if present
8. Demonstrate Fetal Heart Tones if visible (Measure using M-Mode)
9. Cine clip of zoomed in Fetus showing Heart tones presence of lack of
10. Sagittal uterus right
11. Sagittal uterus right
12. Sagittal uterus left
13. Sagittal uterus left
14. Sagittal vagina/cervix
15. Sagittal posterior cul-de-sac
16. Transverse cervix/vagina
17. Transverse uterus inferior
18. Transverse uterus mid
19. Transverse uterus mid with measurements (width)
20. Transverse uterus superior
21. Sagittal Rt adnexa showing iliac vessels
22. Sagittal Rt adnexa without vessels
23. Transverse Rt adnexa showing iliac vessels
24. Transverse Rt adnexa without vessels
25. Sagittal Rt ovary
26. Sagittal Rt ovary with measurements (length and height)
27. Sagittal Rt ovary with color flow
28. Rt Transverse ovary
29. Rt Transverse ovary
30. Rt Transverse ovary with measurements (width)
31. Sagittal Lt adnexa showing iliac vessels
32. Sagittal Lt adnexa without vessels
33. Transverse Lt adnexa showing iliac vessels
34. Transverse Lt adnexa without vessels
35. Sagittal Lt ovary
36. Sagittal Lt ovary with measurements (length and height)
37. Sagittal Lt ovary with color flow
38. Lt Transverse ovary
39. Lt Transverse ovary
40. Lt Transverse ovary with measurements (width)

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Common Pathology:

- Fetal Demise: Presents as a nonviable fetal pole with no heartbeat. Fetal heart tones should be seen by ultrasound >7 wks gestation, and transvaginally >6 wks gestation. In cases of fetal demise, the absence of a fetal heartbeat may be accompanied by distortions in the shape of the fetal pole. These distortions can manifest as irregularities or abnormalities in the appearance of the fetal pole during ultrasound examination.
- Ectopic Pregnancy: In a first-trimester OB/GYN ultrasound, a sonographer might observe several findings that suggest an ectopic pregnancy, which is a pregnancy that implants outside of the uterus. These findings may include:
    - Empty uterus: The uterus may appear empty, with no gestational sac or fetal pole visualized within the uterine cavity.
    - Adnexal mass: A mass or structure may be seen adjacent to the uterus, often in one of the fallopian tubes or in the adnexal region (the area near the ovaries). This mass may be a gestational sac, indicating an ectopic pregnancy.
    - Abnormal gestational sac location: If a gestational sac is visualized, it may be located outside the uterine cavity, such as in a fallopian tube (known as a tubal ectopic pregnancy) or in other areas of the pelvis.
    - Absence of embryo or fetal heartbeat: Even if a gestational sac is present, there may be no embryo visualized within it, or if an embryo is present, there may be no detectable fetal heartbeat.
    - Abnormal Doppler flow: Doppler ultrasound may reveal abnormal blood flow patterns around the gestational sac or adnexal mass, which can be indicative of ectopic pregnancy.
    - Presence of free fluid: There may be evidence of free fluid in the pelvic cavity, which can result from bleeding associated with an ectopic pregnancy. View morrison's pouch for free fluid as well.
- Subchorionic hemorrhage: observed on ultrasound, appears as a hypoechoic (dark) crescent-shaped or irregular fluid collection located between the chorion (outer fetal membrane) and the uterine wall. This collection typically presents adjacent to the gestational sac and may vary in size. It is often described as having a "moth-eaten" appearance due to its irregular borders. Doppler ultrasound may reveal blood flow within the hemorrhage, indicating active bleeding. Subchorionic hemorrhages are a common cause of first-trimester bleeding and are associated with an increased risk of miscarriage, although many resolve spontaneously without adverse outcomes.

- Fibroids: can exist alongside an IUP. Typically solid, vascular, mostly hypoechoic, round to oval uterine lesions. Fibroids are the most common benign lesions of the uterus and result in uterine enlargement.
    - Intramural Fibroids: The most common fibroid and are located within the myometrium of the uterus.
    - Submucosal Fibroids: Typically cause heavy, painful menses and are located within the endometrial canal.
    - Subserosal fibroids: Often pedunculated and located outside the uterine myometrium.

- Ovarian Cysts: It would be expected in early pregnancy to visualize a corpus luteum cyst on one ovary. These are expected to be up to 3 cm.

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