Procedure Name: OB 2nd and 3rd Trimester

Updated: 8/25/17

Indications:
May include but not limited to screening for fetal anomalies, evaluation of fetal anatomy, estimation of gestational age, evaluation of fetal growth, vaginal bleeding, pelvic pain, determination of fetal and/or placental position, discrepancy of size and dates, and follow up fetal anomaly.

General Description:
This is a survey of the female pelvis, which will include examination of a fetus(s), uterus, right and left ovaries when visible, and adnexal regions. A second trimester screening ultrasound exam is ideally performed at approximately 20 weeks gestation, and should not be scheduled before 18 weeks.

Patient Preparation:
Full urinary bladder for second trimester screening ultrasound exams on patients that are 20 weeks gestation or less. The patient's urinary bladder must be adequately distended in order to evaluate the cervical os. This typically requires drinking at least 24oz. to 32oz. of water 1 hour prior to the exam. If a vaginal ultrasound is performed the patient will need to empty her bladder.

Equipment Selection and Settings:
A 5.0 or 8.0 MHz curvilinear transducer will be used for most patients. The sonographer should use the preprogrammed OB preset set and adjust gain, depth, and focal zones to optimize images. If a vaginal sonogram is performed, a 5 to 8 MHz vaginal transducer is used with appropriate preset.

Imaging Sequence:
The following image sequence is for a normal exam. The scanning protocol on the ultrasound unit should be used in order to keep images in the same sequence when viewed in PACS. Include additional images of pathology to demonstrate dimensions in three planes, texture, size, shape and relationship to adjacent anatomy. If there are multiple uterine fibroids or ovarian cysts, label these 1, 2, 3 etc. to correspond with worksheet labels. Utilize color Doppler as needed to aid in the determination of any abnormality and demonstrate blood flow, while following ALARA principle. Pulsed Wave Doppler should never be used on a fetus.

Identify, document, and/or measure the following:

- Image patient data (demographics page)
- Presence and number of fetus(s)
- Fetal presentation

- Lower uterine segment with cervical length measurement. Transvaginal may be considered if the cervix appears shortened or cannot be adequately visualized during the transabdominal sonogram
- Long placenta
- Lower edge of the placenta and its relationship to the internal cervical os. Transvaginal views may be helpful in visualizing the internal cervical os and its relationship to the placenta
- Trans placenta
- Placental cord insertion site
- Subjective estimate of amniotic fluid or AFI measurements at 24 weeks and greater gestational age.
- Assess gestational age by measuring the following at least twice:
    - Biparietal diameter (BPD)
        - Measured at the level of the thalami and cavum septum pellucidum from the outer edge of the proximal skull to the inner edge of the distal skull.
    - Head circumference (HC)
        - Measured at the same level as the BPD, around the outer perimeter of the calvarium.
    - Femoral diaphysis length (FL)
        - With the beam of insonation being perpendicular to the shaft, excluding the distal femoral epiphysis.
    - Abdominal circumference (AC)
        - Measured at the skin line on a true transverse view at the level of the junction of the umbilical vein, portal sinus, and fetal stomach
- Fetal anatomic survey to include the following:
    - Dual screen image of transverse fetal heart and fetal stomach to show fetal situs
    - Head, face, and neck
        - Lateral cerebral ventricles with measurement
        - Choroid plexus
        - Cavum septum pellucidum
        - Cerebellum with measurement
        - Cisterna magna with measurement
        - Upper lip
    - Chest
        - Fetal heart rate using M-mode, NOT pulsed Doppler, measured twice
        - 5 Essential views taken in consequetive images
            - Stomach
            - Four chamber heart
            - Left Ventricular Outflow Track (LVOT)
            - Right Ventricular Outflow Track (RVOT)
            - 3 Vessel View and Trachea (3VVT)
        - Diaphragm

- Abdomen
  - Stomach
  - Kidneys
  - Umbilical cord insertion site
  - Urinary bladder
  - Number of umbilical vessels via color Doppler of umbilical arteries adjacent to bladder
- Spine
  - Long images of cervical, thoracic, lumbar and sacrum
  - Trans images of cervical thoracic, lumbar and sacrum
- Extremities
  - Bilateral upper and lower legs. Confirm the presence of 3 long bones and equal size of the tibia and fibula bilaterally
  - Bilateral feet
  - Bilateral upper and lower arms. Confirm the presence of 3 long bones and equal size of the radius and ulna bilaterally
  - Bilateral hands

- Multiple gestations require the documentation of additional information:
  - Chorionicity and amnionicity.
    - If the fetuses are located in different gestational sacs and the membrane dividing the fetuses is thick and has a broad base, the pregnancy is more likely dichorionic.
    - If the membrane dividing the twins is thin without a broad base (called a “twin peak”) or absent, it suggests a monochorionic pregnancy.
    - If the fetuses are different sexes, dichorionic pregnancy is diagnosed.
    - Estimation of amniotic fluid volume (increased, decreased, or normal) in each gestational sac
    - Fetal genitalia (when visualized).
    - The fetus closest to the cervix should be annotated as Baby A.

- Take additional images and measurements of any and all pathology.

- Image obstetrical report pages

- Complete any required worksheets and submit study per radiologist and site guidelines.