

**Obstetrics & Gynecology (OB\GYN) Outline**

**Anatomy and Physiology 25%**

*Normal Anatomy and Physiology*

**GYN**

Assess both adnexa (i.e., ovaries, fallopian tubes)

Assess the endometrium

Assess the uterus (i.e., position, orientation, contour)

Assess the cervix

Assess the cul-de-sacs

Assess patients of reproductive age

Assess postmenopausal patients

Assess premenarcheal patients

**OB**

Identify structures in the first trimester obstetrical exam at less than 10 weeks (i.e., decidual reaction, gestational sac, yolk sac, embryo)

Identify fetal anatomy in the first trimester obstetrical exam at 10-14 weeks (i.e., calvarium, stomach, cord insertion, extremities)

Identify multiple gestations (i.e., fetal number, chorionicity/amnionicity)

Assess the placenta (i.e., size, location)

Assess the umbilical cord (i.e., insertion into placenta, vessel number)

Assess amniotic fluid volume

Assess fetal lie and presentation

Assess the fetal heart (i.e., axis, chambers, outflow tracts)

Assess the neck

Assess intracranial structures

Assess the facial anatomy (i.e., nose, lips, nasal bones, orbits, profile)

Assess the diaphragm

Assess the thorax (i.e., thymus, lungs)

Assess the abdomen (i.e., gallbladder, stomach, liver)

Assess the skeletal system (e.g., cranial contour, long bones evaluation, ribs, vertebrae, skull, spine)

Assess the ankles and feet

Assess the hands/fingers

Assess the genitalia

**Pathology 41%**

*Abnormal Physiology and Perfusion*

**GYN**

Identify adnexal pathology other than ovarian

Identify ovarian pathology

Identify endometrial pathology (i.e., polyps, hyperplasia)

Identify uterine masses (e.g., leiomyomas, sarcomas)

Identify Müllerian duct developmental anomalies (e.g., septated, subseptate, bicornuate, unicornis uterus)

Identify adenomyosis

Identify cervical pathology (e.g., polyps)

Identify free fluid in the pelvis

Identify vaginal pathology (e.g., imperforated hymen)

**OB**

Identify maternal pelvic pathology

*Congenital Anomalies*

Assess multiple gestations (e.g., conjoined twins, acardiac twin, twin to twin transfusion syndrome, discordance)

Identify abnormal multiple gestations

Identify molar degeneration

Identify ectopic pregnancy

Identify embryonic/fetal demise

Identify anembryonic pregnancy

Identify abnormal trisomy (e.g., 13, 18, 21)

Identify abnormal congenital anomalies

Identify abnormal amniotic fluid volume

Identify abnormal fetal growth

Identify abnormal yolk sac

Identify abnormal central nervous system anomaly (e.g., anencephaly, acrania, hydranencephaly, Dandy-Walker malformation, encephalocele)

Identify abnormal intracranial structures (e.g., choroid plexus cyst)

Identify a thickened nuchal translucency

Identify abnormal face (i.e., nose/ lips, orbits, profile)

Identify abnormal neck (e.g., goiter, cystic hygroma)

Identify abnormal fetal heart (e.g., axis, chambers, outflow tracts)

Identify abnormal diaphragm

<b>Obstetrics &amp; Gynecology (OB\GYN) Outline</b>
Identify abnormal thorax
Identify abnormal abdomen (e.g., gallbladder, stomach, liver)
Identify abnormal abdominal wall defect (e.g., omphalocele, gastroschisis)
Identify abnormal umbilical cord (e.g., insertion, vessels)
Identify abnormal gastrointestinal system (e.g., echogenic bowel, duodenal atresia, bowel obstruction, esophageal atresia, cysts)
Identify abnormal genitourinary system (e.g., hydronephrosis, cystic renal dysplasia, hydroureter, renal agenesis, bladder outlet obstruction, ureterocele, abnormal genitalia, ovarian cyst)
Identify abnormal genitalia
Identify abnormal skeletal system (e.g., skull, spine)
Identify abnormal ankles and feet (e.g., club feet, polydactyly)
Identify abnormal hands/fingers
<b>Placental Abnormalities</b>
Identify previa
Identify vasa previa
Identify subchorionic hemorrhage
Identify abruption
Identify accreta, increta, percreta
Identify infarction
Identify abnormal membrane/insertion shape (i.e., circumvallate)
Identify accessory lobe
Identify masses (e.g., chorioangioma)
<b>Protocols 25%</b>
<b>Clinical Standards and Guidelines</b>
Obtain pertinent clinical history as a part of the exam
Correlate previous exams
Review lab results as a part of the exam (e.g., hCG levels, CA 125)
Perform quality assurance checks on the equipment
Perform transabdominal technique
Perform transvaginal technique
Perform translabial technique
<b>Measurement Techniques</b>
<b>GYN</b>
Measure endometrium thickness
Measure ovarian dimensions
Measure uterine dimensions
Measure cervical length
<b>OB</b>
Perform biophysical profiles
Measure amniotic fluid (i.e., amniotic fluid index, deepest pocket)
Measure crown rump length
Measure mean sac diameter
Measure the yolk sac
Measure biparietal diameter
Measure biparietal diameter corrected
Measure head circumference
Measure cisterna magnum
Measure cerebellum
Measure transverse cerebellar diameter
Measure cerebral lateral ventricle
Measure cephalic index
Measure nuchal translucency in first trimester
Measure nuchal fold between 15 and 20 weeks' gestation
Measure orbital, intraorbital and outer orbital diameters
Measure nasal bone
Measure abdomen circumference
Measure humerus length
Measure femur length
Measure other long bones (e.g., radius, ulna, tibia)
<b>Physics and Instrumentation 8%</b>
<b>Hemodynamics</b>
<b>GYN</b>
Assess ovarian vasculature with Doppler
Assess the uterine arteries with Doppler
Assess arteriovenous malformations using Doppler
<b>OB</b>

<b>Obstetrics &amp; Gynecology (OB\GYN) Outline</b>
Assess embryonic and/or fetal heart rate and rhythm with M-mode
Assess the middle cerebral artery with Doppler
Assess the ductus venosus
Assess fetal heart rate using Doppler
Assess the umbilical cord vessels with Doppler
<b>Imaging Instruments</b>
Apply M-mode
Apply color flow imaging
Apply power (angio, amplitude) Doppler
Apply pulsed spectral Doppler
Apply harmonics
Perform 3-D imaging
Apply knowledge of artifacts
<b>Treatment 1%</b>
<b>Sonographer Role in Procedures</b>
Provide guidance for sonohysterography
Provide guidance for amniocentesis after 15 weeks
Provide guidance for chorionic villus sampling

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