ARDMS®
American Registry for Diagnostic Medical Sonography

Obstetrics and Gynecology Examination Content Outline

(Outline Summary)

#	Domain	Subdomain	Percentage
1	**Gynecology - Pelvic Anatomy and Physiology**	• Normal Anatomy and Physiology • Abnormal Physiology and Perfusion	**19%**
2	**Obstetrics - First Trimester**	• Normal Anatomy and Physiology First Trimester • First Trimester Abnormalities and Complications	**12%**
3	**Obstetrics Second/Third Trimester**	• Normal Anatomy and Physiology - Second/Third Trimester • Fetal Abnormalities - Second/Third Trimester • Placental and Umbilical Cord Abnormalities • Cervix and Maternal Pathology	**37%**
4	**Protocols and Procedures**	• Clinical Standards and Guidelines • Measurement Techniques - Gynecology • Measurement Techniques - Obstetric • Sonographer Role in Procedures	**24%**
5	**Physics and Instrumentation**	• Hemodynamics - Gynecology • Hemodynamics - Obstetric • Imaging Instruments	**8%**

(Detailed Outline)

1	Gynecology - Pelvic Anatomy and Physiology 19%
1.A	**Normal Anatomy and Physiology**
1.A.1	Assess the uterus (i.e., size, position, orientation, contour, echogenicity)
1.A.2	Assess the myometrium
1.A.3	Assess the endometrium (i.e., cyclic changes)
1.A.4	Assess the vagina and cervix
1.A.5	Assess both adnexa (i.e., ovaries, fallopian tubes, pelvic musculature)
1.A.6	Assess the anterior and posterior cul-de-sacs
1.A.7	Assess premenarcheal, reproductive, and postmenopausal patients
1.B	**Abnormal Physiology and Perfusion**
1.B.1	Evaluate for Müllerian duct developmental anomalies (e.g., septated, subseptate, arcuate, bicornuate, unicornis uterus)
1.B.2	Evaluate for abnormal fluid collections (e.g., hydrometra, pyometra, hydrometrocolpos, hematometrocolpos, free fluid)

1.B.3	Evaluate for uterine leiomyomas (e.g., intramural, submucosal, subserosal, pedunculated)
1.B.4	Evaluate for adenomyosis and endometriosis (e.g., endometrioma)
1.B.5	Evaluate for endometrial pathology (e.g., endometrial fluid, polyps, endometrial hyperplasia, endometrial carcinoma)
1.B.6	Evaluate for cervical pathology (e.g., polyps, nabothian cysts, cervical stenosis, cervical carcinoma)
1.B.7	Evaluate other uterine findings (e.g., caesarean-section scar, leiomyosarcoma)
1.B.8	Evaluate for functional ovarian cysts (e.g., follicular, corpus luteum, theca-lutein)
1.B.9	Evaluate for benign ovarian neoplasms (e.g., paraovarian, cystadenoma [serous, mucinous, papillary], cystic teratoma, fibroma, thecoma, arrhenoblastoma)
1.B.10	Evaluate for malignant ovarian neoplasms (e.g., serous carcinoma, mucinous cystadenocarcinoma, papillary cystadenocarcinoma, metastatic, Krukenberg)
1.B.11	Evaluate other ovarian findings (e.g., ovarian torsion, ovarian hyperstimulation syndrome, polycystic ovarian disease)
1.B.12	Assess for pelvic inflammatory disease (e.g., endometritis, pyosalpinx, tubo-ovarian abscess)
1.B.13	Assess for intrauterine contraceptive device (IUCD) location
2	**Obstetrics - First Trimester 12%**
2.A	**Normal Anatomy and Physiology First Trimester**
2.A.1	Identify structures in the first-trimester obstetric examination at less than 10 weeks' gestation (i.e., decidual reaction, gestational sac, yolk sac, embryo, amnion)
2.A.2	Identify fetal anatomy in the first trimester obstetrical examination between 10-14 weeks' gestation (i.e., calvarium, brain, stomach, cord insertion, limbs)
2.A.3	Identify multiple gestations (i.e., fetal number, chorionicity/amnionicity)
2.B	**First Trimester Abnormalities and Complications**
2.B.1	Evaluate for gestational trophoblastic disease
2.B.2	Evaluate for ectopic and heterotopic pregnancy
2.B.3	Evaluate for embryonic/fetal demise
2.B.4	Evaluate for anembryonic pregnancy
2.B.5	Evaluate for abnormal yolk sac
2.B.6	Evaluate for increased nuchal translucency
2.B.7	Evaluate for subchorionic hemorrhage
2.B.8	Evaluate for intrauterine contraceptive device (IUCD) with pregnancy
2.B.9	Evaluate for incomplete/missed abortion, and retained products of conception
2.B.10	Assess for first trimester congenital anomalies and aneuploidy markers (e.g., Trisomy 13, 18, 21, Turner syndrome, triploidy)
3	**Obstetrics Second/Third Trimester 37%**
3.A	**Normal Anatomy and Physiology - Second/Third Trimester**
3.A.1	Assess the placenta (i.e., size, location)
3.A.2	Assess the umbilical cord (e.g., placental insertion, vessel number, fetal insertion)

3.A.3	Assess amniotic fluid volume
3.A.4	Assess fetal lie, presentation, and situs
3.A.5	Assess the cranial anatomy (e.g., choroid plexus, lateral cerebral ventricles, midline falx, corpus callosum, cisterna magna, posterior fossa, cavum septi pellucidi, cerebellum, posterior fossa, and nuchal fold)
3.A.6	Assess the neck
3.A.7	Assess the face (e.g., nose, lips, chin, palate, nasal bone, orbits, frontal bone, profile view)
3.A.8	Assess the fetal heart (i.e., size, position, axis, chambers, valves, four-chamber view, left ventricular outflow tract [LVOT], right ventricular outflow tract [RVOT], aortic arch, ductal arch, three vessel view [3VV] and three-vessel trachea [3VT] view)
3.A.9	Assess the thorax (i.e., thymus, lungs)
3.A.10	Assess the diaphragm
3.A.11	Assess the abdomen and gastrointestinal system (i.e., gallbladder, stomach, bowel, adrenal glands, liver, spleen)
3.A.12	Assess the genitourinary system (e.g., kidneys, bladder)
3.A.13	Assess the skeletal system (e.g., skull, cranial contour, long bones, ribs, ossification)
3.A.14	Assess the vertebral spine (e.g., ossification centers, curvature, skin covering)
3.A.15	Assess the upper and lower extremities (i.e., number, position, digits and spacing)
3.A.16	Assess the genitalia
3.B	**Fetal Abnormalities - Second/Third Trimester**
3.B.1	Assess abnormal multiple gestations (e.g., discordant growth >20%, twin to twin transfusion syndrome, selective intrauterine growth restriction [SIUGR], twin reversed arterial perfusion sequence [TRAP], twin anemia polycythemia sequence [TAPS], conjoined twins)
3.B.2	Evaluate for 2nd and 3rd trimester congenital anomalies and aneuploidy markers (e.g., Trisomy 13, 18, 21, Turner syndrome, triploidy)
3.B.3	Evaluate for abnormal amniotic fluid volume
3.B.4	Evaluate for abnormal fetal growth (e.g., macrosomia, fetal growth restriction [FGR], small for gestation age [SGA])
3.B.5	Evaluate for abnormal central nervous system (e.g., ventriculomegaly, anencephaly, acrania, hydranencephaly, holoprosencephaly, Dandy-Walker malformation, Chiari II malformation, agenesis of corpus callosum, encephalocele, meningocele, myelomeningocele, sacrococcygeal teratoma)
3.B.6	Evaluate for abnormal neck (e.g., goiter, cystic hygroma)
3.B.7	Evaluate for abnormal face (cleft lip/palate, hyper-/hypotelorism, micrognathia, frontal bossing)
3.B.8	Evaluate for abnormal fetal heart (e.g., atrial and ventricular septal defects, atrioventricular canal defect, tetralogy of Fallot, transposition of the great vessels, pentalogy of Cantrell, pericardial effusion, rhabdomyoma)
3.B.9	Evaluate for abnormal diaphragm (e.g., congenital diaphragmatic hernia, eventration)
3.B.10	Evaluate for abnormal thorax (e.g., hydrops, pleural effusion, congenital pulmonary adenomatoid malformation, pulmonary sequestration, bronchogenic cyst)
3.B.11	Evaluate for abdominal wall defect (e.g., omphalocele, gastroschisis)

3.B.12	Evaluate for abnormal abdomen and gastrointestinal system (i.e., ascites, hydrops, neuroblastoma, echogenic bowel, bowel obstruction, esophageal and duodenal atresia, mesenteric cyst)
3.B.13	Evaluate for abnormal genitourinary system (e.g., hydronephrosis, cystic renal dysplasia, hydroureter, renal agenesis, bladder outlet obstruction, ureterocele, ambiguous genitalia, ovarian cyst)
3.B.14	Evaluate for abnormal skeletal system (e.g., vertebral spine, skeletal dysplasia, demineralization, limb reduction, agenesis)
3.B.15	Evaluate for abnormal extremities including hands and feet (e.g. polydactyly, talipes, syndactyly, clinodactyly)
3.C	**Placental and Umbilical Cord Abnormalities**
3.C.1	Evaluate for placenta previa (i.e., complete, low-lying)
3.C.2	Evaluate for placenta abruption and infarction (i.e., retroplacental, marginal)
3.C.3	Evaluate for abnormal placental attachment (i.e., placenta accreta, increta, percreta)
3.C.4	Evaluate for abnormal placental membrane attachment, insertion, or shape (e.g., circumvallate, succenturiate, velamentous, accessory lobe, vasa previa)
3.C.5	Evaluate for other placental and membrane abnormalities (e.g., thickened placenta, chorioangioma, amniotic bands, synechia, premature rupture of membranes)
3.C.6	Evaluate for abnormal umbilical cord (e.g., single umbilical artery, nuchal cord, allantoic cysts, length)
3.D	**Cervix and Maternal Pathology**
3.D.1	Evaluate for cervical incompetence (e.g., shortening, funneling, and cerclage)
3.D.2	Evaluate for maternal pelvic pathology (e.g., ovarian cysts, cystic teratoma, pelvic kidney)
4	**Protocols and Procedures 24%**
4.A	**Clinical Standards and Guidelines**
4.A.1	Verify accuracy of physician order and obtain pertinent clinical history from the patient and/or medical records
4.A.2	Correlate ultrasound findings with clinical presentation, previous imaging, and lab results (e.g., hCG levels, genetic testing, CA 125)
4.A.3	Utilize appropriate scanning technique and patient preparation (i.e., transabdominal, transvaginal, and translabial)
4.A.4	Recognize ultrasound findings that require immediate action (e.g., ovarian torsion, fetal demise, ectopic pregnancy)
4.B	**Measurement Techniques - Gynecology**
4.B.1	Measure endometrium thickness
4.B.2	Measure uterus and ovaries
4.C	**Measurement Techniques - Obstetric**
4.C.1	Measure first trimester structures (i.e., crown rump length, mean sac diameter, yolk sac)
4.C.2	Measure nuchal translucency
4.C.3	Measure biparietal diameter
4.C.4	Measure head circumference

4.C.5	Measure cisterna magnum
4.C.6	Measure transverse cerebellar diameter
4.C.7	Measure lateral cerebral ventricle
4.C.8	Obtain cephalic index
4.C.9	Measure nuchal fold between 15 and 20 weeks' gestation
4.C.10	Measure abdominal circumference
4.C.11	Measure long bones (i.e., femur, humerus, fibula, radius, ulna, tibia)
4.C.12	Measure renal pelves
4.C.13	Measure amniotic fluid (i.e., amniotic fluid index, maximum vertical pocket)
4.C.14	Perform biophysical profile
4.C.15	Measure maternal cervix
4.D	**Sonographer Role in Procedures**
4.D.1	Provide ultrasound assistance and documentation for sonohysterography
4.D.2	Provide ultrasound assistance for amniocentesis after 15 weeks' gestation
4.D.3	Provide ultrasound assistance for chorionic villus sampling
4.D.4	Provide ultrasound assistance for intrauterine contraceptive device placement
4.D.5	Provide ultrasound assistance and documentation for infertility examinations and procedures
5	**Physics and Instrumentation 8%**
5.A	**Hemodynamics - Gynecology**
5.A.1	Assess pelvic vasculature with Doppler (e.g., ovarian perfusion, uterine varices)
5.A.2	Assess arteriovenous malformations using Doppler
5.B	**Hemodynamics - Obstetric**
5.B.1	Assess embryonic and/or fetal heart rate and rhythm with M-mode or cine clip
5.B.2	Identify the middle cerebral artery with Doppler
5.B.3	Identify the ductus venosus with Doppler
5.B.4	Assess the umbilical cord vessels with Doppler
5.C	**Imaging Instruments**
5.C.1	Utilize M-mode
5.C.2	Utilize Doppler (i.e., color, power, pulsed-wave)
5.C.3	Utilize 3-D imaging
5.C.4	Apply ALARA principle (e.g., thermal index, mechanical index)