This section presents common occurrences during labor and delivery (L&D). It covers definitions, everyday terminology, and common actions with which you should become totally familiar. The section presents a review of medications you may come in contact with on a daily basis, including their indications and common dosages. Remember, in the L&D unit, you have two patients and your actions must take both patients into account.
Medications to Know—generic (trade)

- Betamethasone (Celestone)
- Butorphanol (Stadol)
- Calcium gluconate
- Carboprost (Hemabate)
- Citric acid/sodium citrate (Bicitra)
- Dexamethasone
- Dinoprostone (Cervidil)
- Ephedrine
- Erythromycin ophthalmic ointment
- Hydralazine
- Indomethacin (Indocin)
- Insulin
- Labetalol (Trandate)
- Lidocaine (Xylocaine)
- Magnesium sulfate
- Meperidine (Demerol)
- Methylergonovine (Methergine)
- Misoprostol (Cytotec)
- Morphine
- Nalbuphine (Nubain)
- Naloxone
- Nifedipine (Procardia)
- Oxytocin (Pitocin)
- Promethazine (Phenergan)
- Rho(D) immunoglobulin, human (IGIM) (RhoGAM)
- Terbutaline
- Vitamin K (phytonadione)

Abbreviations to Learn

- AFI—amniotic fluid index
- AFP—alpha fetoprotein
- AROM—artificial rupture of membranes
- CVS—chorionic villa sampling
- DKA—diabetic ketoacidosis
- EDC—estimated date of confinement
- EFW—estimated fetal weight
- FHR—fetal heart rate
- GBS—group B Streptococcus
- GC/CT—gonorrhea/Chlamydia trachomatis
- GDM—gestational diabetes mellitus
HBsAg—hepatitis B surface antigen
ISE—internal scalp electrode
IUPC—intrauterine pressure catheter
IUFD—intrauterine fetal demise
LGA/SGA—large for gestational age/small for gestational age
LMP—last menstrual period
MVU—Montevideo units
NSVD—normal spontaneous vaginal delivery
PPROM—preterm premature rupture of membranes
ROM—rupture of membranes
SROM—spontaneous rupture of membranes
Toco—tocodynamometer
UCX—uterine contractions
U/S—ultrasound
VBAC—vaginal birth after cesarean section

Equipment to Locate and Become Familiar With
• Allis clamps
• Blades
• Bovie tip
• Compression boots
• Curved Kellys
• Electrosurgery hookup
• Forceps
• Infant pulse oximeter
• Infant warmer
• Infusion pump
• Kochers
• Lap sponges
• Needle holders
• Nitrazine paper
• Pulse oximeter
• Ring forceps
• Scalpels
• Scissors
• Self-retaining retractors
• Speculum
• Straight Halsteds
• Suction hookup
• Suction tips
• Surgical instruments
- T-clamps
- Tenaculum
- Towel clips
- Tube occluding forceps
- Umbilical cord clamp
AMNIOTIC FLUID

Composed mostly of fetal urine; the volume differs depending on gestational age. It protects and cushions the fetus and contributes to GI tract and lung maturity and development.

Amniotic Fluid Index (AFI)
- U/S is used to measure AFI.
- Abdomen is divided into four quadrants, and the largest pocket of fluid in each quadrant is measured.
- At least one pocket of fluid needs to be $2 \times 2$ cm or greater or have an AFI total greater than 5.
- No cord or fetal parts should be present in the pocket.
- A normal index is greater than 5 cm and less than 24 cm at term.

Oligohydramnios—AFI Less Than 5 cm at Term

Causes
- Rupture of membranes (ROM)
- Genitourinary malformation
- Postdates
- Placental insufficiency

Risks
- Prolonged ROM may lead to infection
- Continued oligohydramnios may cause malformation
- Cord compression leading to fetal hypoxia (nonreassuring tracing), you will often see variables and amnioinfusion may be ordered
- Fetal demise

Interventions
- IV fluids for mother
- Antibiotics if preterm
- Induction of labor if term

If patient is in labor, continuous fetal monitoring is possible by amnioinfusion.

Polyhydramnios—AFI Greater Than 24 cm at Term

Causes
- Diabetes mellitus
- Maternal substance abuse
- Tracheoesophageal malformation
- Neural tube defects
- Chromosomal abnormalities
- Twin-to-twin transfusion syndrome
**Risks**
- Unstable lie of fetus
- Cord prolapse with SROM or AROM

**Interventions**
- In labor
  - Controlled AROM (needle point) to prevent SROM
  - U/S for fetal lie if patient is in labor
- If preterm
  - Amnioreduction
  - Indomethacin (Indocin) 25 mg PO q 6 hr × 48 hr to reduce fetal urine production

**Assessment of Rupture of Membranes (ROM)**

**Visual**
- Sterile speculum inserted into vagina
  - Pooling of fluid noted at fornix of cervix or in vaginal vault
  - If unsure, patient should cough to visualize escape of fluid from cervix

**Ferning**
- Sterile speculum inserted into vagina
  - Use cotton swab to obtain fluid
  - Smear on slide
  - If positive ROM, ferning pattern will be seen under microscope

**pH Balance Assessment**
- Sterile speculum inserted into vagina
  - Touch nitrazine paper to noted fluid
  - Normal vaginal pH when pregnant is less than 4.5
  - Amniotic fluid pH is less than 7.0
  - Nitrazine paper/swab changes color to blue at pH less than 7.0

  Note: Some vaginal infections can cause vaginal pH to reach levels of 7.0 or greater.

**Amniotic Fluid Protein**
- Obtain before vaginal exam
  - No speculum necessary
  - Insert swab into vagina
  - If placental alpha microglobulin-1 is present, test will be positive for ROM
- Follow directions for specific product used by individual institution
Sources
ANTEPARTUM TESTS

Initial Visit 8 to 12 Weeks
- U/S for dating
- Pap
- Blood type/Rh factor
- Antibody screen
- GC/CT
- Complete blood count (CBC)
- Syphilis
- HIV
- Hepatitis B
- Rubella titer
- UA
- Hemoglobin electrophoresis
- Cystic fibrosis
- Varicella titers
- Toxoplasmosis
- Cytomegalovirus (CMV)
- Blood glucose (if overweight or history of GDM)

U/S, ultrasound; UA, urinanalysis, GC/CT, gonorrhea/Chlamydia trachomatis; GDM, gestational diabetes mellitus

11 to 13 Weeks NIPT
- First-trimester screening (blood work and U/S) for early detection of Down syndrome
- CVS if needed

15 to 18 Weeks
- AFP for early detection of neural tube defects
- QUAD if no first trimester screening done or if increased risk for Down syndrome
- Amniocentesis if needed (most commonly done between 16 and 22 weeks)
- Glucose screening if patient has high-risk factors, including obesity, Hx of GDM, family hx

20 Weeks
- U/S for fetal anatomy

28 Weeks
- If patient is Rh negative, RhoGAM should be administered. (Repeat blood type and Rh factor before administration.)
■ CBC
■ HIV in some states or in high-risk women
■ Glucose test

34 to 36 Weeks
■ GBS (test accurate only for 5 weeks if done at 34 weeks and delivering at 41 weeks; consult with the provider if they want to repeat test)
■ GC/CT
■ Syphilis
■ NST/BPP for advanced maternal age, obesity, GDMA, HTN, and other maternal factors such as drug abuse

Sources
**APGAR SCORE**

- A score between 0 and 2 measuring heart rate, muscle tone, respiration rate, color, and reflex of the neonate at 1, 5, and 10 minutes of life

### Scoring the Apgar

**1 minute**
- Apgar scores are not indicative of future fetal well-being

**5 minutes**
- 0 to 3 may indicate future neurological problems
- 4 to 6 intermediate scores
- 7 to 10 considered normal scoring range

**10 minutes**
- Should continue to be assessed every 5 minutes if Apgar remains less than 7

Pediatrician should be called in for delivery for
- Operative delivery
- Maternal infection or fever
- Nonreassuring fetal tracing

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**Fast Fact**

Notify the pediatrician immediately if Apgar score is less than 7 at any time.
Sources