

- **Duration of pregnancy** is 40 weeks (280 days)
- **Post term pregnancy** - extend beyond 42 weeks
- **First trimester** (weeks 1–13)
- **Second trimester** (weeks 14–27)
- **Third trimester** (weeks 28–40)
- **Gravidity** - the number of times a woman has been pregnant, regardless of pregnancy outcome
- **Parity**: the number of pregnancies that a woman carries beyond 20 weeks of gestation and ends with the birth of an infant weighing > 500 g
- **α -subunit of hCG**: common to hCG, FSH, LH, and TSH
- **Pregnancy tests** generally detect hCG through antibodies to the **β -subunit**.
- The presence of a gestational sac containing either a yolk sac, fetus, or embryo, with or without cardiac activity, in the uterus suffices to confirm an intrauterine pregnancy
- **Human placental lactogen**: a hormone synthesized by syncytiotrophoblasts of the placenta, which promotes the production of insulin-like growth factors
- **Hypercoagulability** is due to an increase in fibrinogen, factor VII, and factor VIII and a decrease in protein S (reduces the risk of intrapartum blood loss).
- **Striae gravidarum**: scarring that manifests as erythematous, violaceous, and/or hypopigmented linear striations on the abdomen
- **Hyperpigmentation**: chloasma, linea nigra, hyperpigmentation of the nipples
- **Chloasma** - Hyperpigmentation of the face (forehead, cheeks, nose) - in first 16 weeks
- **Gestational diabetes mellitus**: can cause fetal macrosomia, which increases the risk of obstructed labor and shoulder dystocia.
- **Suboptimally dated gestational age** - a gestational age that was not confirmed or adjusted using ultrasound before 22 0/7 weeks gestation
- **Membrane sweeping** - a procedure involving manually separating the amniotic membranes from the lower uterus wall during a pelvic examination
- On ultrasound, Dichorionic twins show **lambda sign** while monochorionic twins show **T sign**
- After an initial visit (usually in the first trimester), **follow-up prenatal visits** generally occur once monthly until 28 weeks' gestation, twice monthly between 28 and 36 weeks, and weekly after 36 weeks.
- In **Rh incompatibility**, unconjugated bilirubin levels may be dangerously high, causing kernicterus.
- Ultrasound: to determine hydrops fetalis
- **Rh-negative mothers**: screening for anti-D antibodies
- Anti-D immunoglobulin (**RhoGAM**) - Only indicated in unsensitized mothers
- Anti-D prophylaxis should be administered during the 28th week of gestation and within 72 hours following the birth of an Rh-positive baby.

- There are four major types of **hypertensive pregnancy disorders**: chronic hypertension, gestational hypertension, preeclampsia, and eclampsia.
- The most common type is **gestational hypertension**, also referred to as pregnancy-induced hypertension, which is hypertension that occurs after 20 weeks' gestation. Pregnancy-induced hypertension (defined as systolic blood pressure \geq 140 mm Hg or diastolic blood pressure \geq 90 mm Hg on two separate measurements at least 4 hours apart) without proteinuria or end-organ dysfunction
- **Chronic hypertension** describes hypertension that is diagnosed prior to pregnancy or in early pregnancy.
- **Preeclampsia** is a condition in which preexisting or new-onset hypertension is complicated by proteinuria and/or other features of end-organ dysfunction after 20 weeks' gestation. Preeclampsia may also progress to the life-threatening **HELLP** syndrome, which is characterized by hemolysis, elevated liver enzymes, and low platelet count.
- The three primary features of **PRE**eclampsia are **P**roteinuria, **R**ising blood pressure (hypertension), and **E**nd-organ dysfunction.
- **Eclampsia** is a severe convulsive manifestation of hypertensive pregnancy disorders that is characterized by new-onset eclamptic seizures (tonic-clonic, focal, or multifocal).
- Occurrence of new-onset hypertension, proteinuria, or end-organ dysfunction at $<$ 20 weeks' gestation is suggestive of gestational trophoblastic disease.
- **Hyperemesis gravidarum** - severe, persistent nausea and vomiting associated with a $>$ 5% loss of prepregnancy weight and ketonuria with no other identifiable cause
- Hyperemesis gravidarum - Electrolyte disturbances, Signs of dehydration (e.g., \uparrow hematocrit), Ketonuria
- Electrolyte disturbances in Hyperemesis gravidarum: hypokalemia and hypochloremic metabolic alkalosis or metabolic acidosis
- Renal failure, hyperuricemia, and hypoglycemia are more common and severe in AFLP than in HELLP and severe preeclampsia.
- **Cervical insufficiency** - painless cervical dilation, in the absence of uterine contractions and/or labor, in the second trimester of pregnancy
- **Short cervical length**: transvaginal cervical length $<$ 25 mm on ultrasound before 24 weeks' gestation
- **Cervical cerclage** - placement of a supportive suture in the cervicovaginal junction to prevent early pregnancy loss or preterm birth
- **Antepartum hemorrhage** refers to vaginal bleeding occurring after 20 weeks of gestation
- **Bloody show** - A small amount of blood or blood-tinged mucus that is usually passed prior to labor or in early labor.
- In Initial management of antepartum hemorrhage, do not perform a digital cervical examination until placenta previa has been excluded on ultrasound.
- Definitive management of antepartum hemorrhage - Severe bleeding, hemodynamic instability, and fetal distress are indications for urgent delivery.
- **Placental abruption** - The partial or complete separation of the placenta from the uterus prior to delivery; subsequent hemorrhage occurs from both maternal and fetal vessels.

- **Placenta previa** - Presence of the placenta in the lower uterine segment, which can lead to partial or full obstruction of the internal os; high risk of hemorrhage (rupture of placental vessels) and birth complications
- **Vasa previa** - Condition in which the fetal vessels are located in the membranes near the internal os of the cervix, putting them at risk of injury if the membranes rupture
- **Placental insufficiency** - A disorder of the fetomaternal circulation that causes inadequate blood flow to the placenta and impaired substance exchange (e.g., oxygen) between the mother and fetus, leading to metabolic compromise of the fetus.
- Fetal orientation during childbirth is described in terms of lie, presenting part, position, attitude of the presenting part, and station.
- **Fetal lie** - relation of the fetal long axis to the long axis of the maternal uterus
- Fetal lie may be longitudinal lie, transverse lie or oblique lie.
- **Fetal presentation** - part of the fetus that overlies the maternal pelvic inlet
- Presentation may be cephalic, breech, compound or shoulder
- **Fetal position** - relationship and orientation (i.e., fetal occiput pointing towards maternal left or right) of the presenting fetal part to the maternal pelvis
- **Fetal attitude** - degree of extension/flexion of the fetal head during cephalic presentation.
- **Station** - measurement (in cm) of the presenting part above and below the maternal ischial spine
- **Engagement** - When the widest transverse diameter of the head (presenting part) passes through the pelvic inlet
- **Rupture of membranes (ROM)** - the rupture of the amniotic sac followed by the release of amniotic fluid
- **Spontaneous rupture of membranes:** ROM that usually occurs at the onset of labor and is unprovoked by health practitioners
- **Cervical effacement:** thinning of the cervix that occurs during labor; usually reported in percentages
- **Crowning:** the appearance of the fetus's head at the vaginal opening as contractions progress
- **Shoulder dystocia** - An obstetric emergency in which the anterior shoulder of the fetus becomes impacted behind the maternal pubic symphysis during vaginal delivery, or, less commonly, the posterior shoulder becomes impacted against the sacral promontory
- **Episiotomy**- Consists of an incision of the perineum (midline or mediolateral) to enlarge the vaginal opening during delivery
- **Prelabor rupture of membranes (PROM):** rupture of membranes before the onset of labor at ≥ 37 weeks' gestation
- **Preterm prelabor rupture of membranes (PPROM):** rupture of membranes before the onset of labor and before 37 weeks' gestation
- **Prolonged rupture of membranes:** rupture of membranes > 18 hours before the onset of labor
- **Overt umbilical cord prolapse:** the descent of the umbilical cord into the cervical canal or vagina before the fetal presenting part after rupture of membranes

- **Occult umbilical cord prolapse:** the descent of the umbilical cord into the cervical canal or vagina alongside the fetal presenting part after rupture of membranes
- **Nuchal cord** - the wrapping of the umbilical cord 360 degrees around the fetal neck
- **Bishop score** - a scoring system used to assess the cervix and the likelihood of successful induction of labor
- Bishop score ≥ 8 : favorable cervix (ready for vaginal delivery)
- Bishop score ≤ 6 : unfavorable cervix (not ready for vaginal delivery)
- Multiple cesarean births increase the risk of uterine rupture.
- **Preterm labor is** defined as regular uterine contractions and cervical changes before 37 weeks' gestation.
- **Cervicovaginal fetal fibronectin (fFN) test** - Used to help differentiate between true preterm labor and false labor. Elevated levels in cervical secretions are associated with an increased risk of preterm delivery.
- **Transvaginal ultrasound:** Cervical length > 3 cm indicates a low likelihood of delivery within 14 days.
- **Tocolysis** is the use of medications called tocolytics to stop or slow premature uterine contractions and prolong pregnancy.
- **Induction of fetal lung maturity** - administration of antenatal steroids (betamethasone or dexamethasone) to promote the production of surfactant and thereby improve neonatal survival and fetal lung maturity
- **Nonthrombotic embolism** - blockage of blood vessels by fat, air, or amniotic fluid
- **Postpartum hemorrhage (PPH)** is an obstetric emergency and is defined as a blood loss ≥ 1000 mL or blood loss presenting with signs or symptoms of hypovolemia within 24 hours of delivery.
- **Primary PPH:** blood loss ≤ 24 hours postpartum (more common)
- **Secondary PPH:** blood loss from 24 hours to 12 weeks postpartum
- Medications lowering contractions (e.g., anesthetics, MgSO₄)
- **Uterotonic drugs** are medications that cause uterine contractions, used to induce or strengthen labor or to control postpartum bleeding (PPH). Common examples include oxytocin, misoprostol, ergometrine, and carboprost.
- Uterotonic agents - prostaglandin E1 analogs
- **Uterine atony** - Failure of the uterus to effectively contract after complete or incomplete delivery of the placenta, which can lead to severe postpartum bleeding from the myometrial vessels
- **Uterine inversion** - An obstetric emergency in which the uterine fundus collapses into the endometrial cavity, resulting in a complete or partial inversion of the uterus, usually following vaginal delivery
- **Abnormal placentation** - Defective decidual layer of the placenta leading to abnormal attachment and separation during postpartum period
- **Placenta accreta:** chorionic villi attach to the myometrium (but do not invade or penetrate the myometrium) rather than the decidua basalis (up to 75% of cases)
- **Placenta increta:** chorionic villi invade or penetrate into the myometrium (approx. 20% of cases)

- **Placenta percreta:** chorionic villi penetrate the myometrium, penetrate the serosa, and in some cases, adjacent organs/structures (approx. 5% of cases)
- The types of abnormal placental attachment: Placenta Accreta “Attaches” to the myometrium, placenta Increta “Invades” the myometrium, and placenta Percreta “Perforates” the myometrium.
- **Puerperal hematoma** is an accumulation of blood in the vulva, vagina, or retroperitoneum, most commonly caused by iatrogenic injury during childbirth.
- **Velamentous cord insertion** - Abnormal cord insertion into chorioamniotic membranes, resulting in exposed vessels only surrounded by thin fetal membranes, in the absence of protective Wharton jelly
- The **postpartum period** refers to the six-to-eight-week period after the birth of a baby in which the body recovers from the changes caused by pregnancy and birth.
- Most women pass **lochia** for about 4 weeks after delivery; in some cases, this lasts for 6–8 weeks.
- **Lochia rubra:** blood red; approx. the first 4 days after birth
- **Lochia serosa:** brown red; watery consistency, lasts approx. 2–3 weeks
- **Lochia alba:** yellow white; lasts approx. 1–2 weeks
- **Breast milk** contains all the required nutrients (except vitamin D and vitamin K) for infants up to 6 months of age.
- **Pubic symphysis diastasis** - a rare complication of the peripartum period characterized by a widening of the pubic symphysis beyond the physiological width (≤ 10 mm).

Week wise testing

- Prophylactic Anti D administration in Rh Negative women
 - A single large dose 500 IU at 28 weeks gestation, OR
 - Two doses 250 IU at 28 and 34 weeks gestation
- Patients with risk factors for diabetes should have 2 hour OGTT at 24 - 28 weeks gestation
- Patients with previous history of GDM should have 2 hour OGTT at 16 - 18 weeks gestation, then repeated at 24 - 28 weeks gestation
- NT scan for down syndrome at 11 - 13 weeks
- Serum screening for Down syndrome at 15 - 19 weeks
- Maternal serum AFP for NTDs at 15 - 19 weeks
- Anomaly ultrasound scan for structural congenital abnormalities at 20 - 22 weeks
- From 36 weeks onwards, fetal presentation, fetal lie, and engagement as well as fetal growth is assessed
- Fetal movement (quickening) can be first perceived by mother about 18 weeks in primipara and several weeks earlier in multipara
- Early pregnancy scan at 11-14 weeks gestation
- Crown lump length used to calculate gestational age up to 13 weeks and 6 days
- Head circumference is used to calculate gestation age between 14 - 20 weeks gestation
- The optimal gestation at which to determine chorionicity in multiple pregnancy is 9 - 10 weeks

- Chorion villus sampling - from 11 weeks onwards
- Amniocentesis - from 15 weeks onwards
- Cordocentesis - from 20 weeks onwards
- For diabetes, pre eclampsia, intra hepatic cholestasis of pregnancy - IOL at 38 weeks

Causes of abnormal liver chemistries unique to pregnancy include:

- Hyperemesis gravidarum
- Intrahepatic cholestasis of pregnancy
- Acute fatty liver of pregnancy (AFLP)
- HELLP syndrome

Fetal Heart rate

- In CTG, the FHR is designated as the baseline or basal heart rate and is normally 110–160 bpm.
- Mild tachycardia: FHR of 160–180 bpm for > 10 minutes
- Severe tachycardia: FHR of ≥ 180 bpm for > 10 minutes
- Mild bradycardia: FHR of < 110 bpm for > 3 minutes
- Severe bradycardia: FHR of < 100 bpm for > 3 minutes

OTHER POINTS FROM MCQs

- Postpartum eclampsia can occur up to 4 weeks (28 days) after delivery — though most cases happen within the first 48 hours postpartum.
- If an episiotomy is indicated, it is best performed when the fetal head is crowning and the perineum is maximally stretched.
- The Glucose Challenge Test (GCT), typically a 50g oral glucose load followed by a 1-hour plasma glucose measurement, is a common initial screening test for gestational diabetes. If the GCT is abnormal, a diagnostic Oral Glucose Tolerance Test (OGTT) is performed.
- In the case of intrauterine fetal demise (IUFD) where vaginal delivery is obstructed or difficult (e.g., malpresentation, cephalopelvic disproportion), destructive operations (like craniotomy to reduce head size) may be performed to facilitate vaginal delivery and avoid the risks of a Cesarean section for a deceased fetus. The goal is maternal safety.
- Both Android and Anthropoid pelvic shapes can predispose to occipitoposterior (OP) positions.
- Doppler ultrasound assessment of the peak systolic velocity (PSV) in the fetal Middle Cerebral Artery (MCA) is a non-invasive method used to detect and monitor fetal anemia (e.g., due to Rh isoimmunization or parvovirus B19 infection).
- A high assimilated pelvis (or sacralized L5) is a type of pelvic anomaly where the fifth lumbar vertebra (L5) is partially or completely fused to the sacrum. This effectively incorporates L5 into the sacrum, making the sacrum appear to have six segments and resulting in a 'higher' or longer bony pelvis. This can potentially affect the pelvic diameters and the course of labor. Lumbarization of S1 is the opposite phenomenon.

- Significant maternal coagulopathy is a major contraindication to neuraxial anesthesia (epidural or spinal) due to the risk of epidural hematoma formation, which can cause permanent neurological damage. Other contraindications include maternal infection at the insertion site, severe hypovolemia, and patient refusal.
- Umbilical cord prolapse with a viable fetus is an obstetric emergency requiring immediate delivery to prevent fetal hypoxia and death from cord compression. If vaginal delivery is not imminent and achievable safely without delay (e.g., fully dilated with head on perineum and ready for operative delivery), an emergency Cesarean section is the indicated mode of delivery. While awaiting C-section, measures are taken to relieve cord compression (e.g., Trendelenburg or knee-chest position, manual elevation of presenting part).
- Precipitate labor, characterized by very rapid and strong uterine contractions, can lead to several maternal complications. These include increased risk of soft tissue trauma to the birth canal (lacerations), postpartum hemorrhage (from atony or trauma), uterine inversion (rarely), and potentially amniotic fluid embolism. Fetal complications can also occur (e.g., hypoxia, trauma).
- When CTG shows non-reassuring patterns, fetal scalp blood sampling for pH or lactate measurement provides a more direct assessment of fetal acid-base status. A low pH (e.g., <7.20) or high lactate indicates fetal acidosis/hypoxia and can guide decisions about urgent delivery. This is considered more specific than CTG alone for diagnosing significant fetal compromise.
- Early ambulation is a key component of DVT prevention for all postoperative patients, including those after cesarean delivery. Pharmacological prophylaxis (e.g., LMWH) or mechanical methods (e.g., pneumatic compression devices) are added based on individual risk assessment, but early ambulation is universally encouraged.
- For eclampsia, Magnesium sulfate is the treatment of choice. A loading dose of 4-6g IV over 15-20 minutes is standard.
- Placental abruption is strongly associated with DIC (consumptive coagulopathy).
- Oxytocin (Syntocinon) is the primary pharmacological agent used to augment (hasten) labor if uterine contractions are inadequate and cervical dilatation is slow during the active phase of the first stage. It increases the frequency, strength, and duration of uterine contractions. Prostaglandins (e.g., PGE₂) are used for cervical ripening before induction, not typically for augmentation of active labor.
- Certain maternal cardiac conditions carry an extremely high risk of mortality during pregnancy (e.g., WHO Class IV cardiac conditions). These include Eisenmenger syndrome, severe primary pulmonary hypertension, severe symptomatic aortic stenosis, Marfan syndrome with significant aortic root dilatation, and peripartum cardiomyopathy with persistent ventricular dysfunction. In such cases, pregnancy is often contraindicated, and medical termination in the first trimester is strongly advised to save maternal life. Milder conditions (like Class II or well-managed AF) can often be managed through pregnancy with careful multidisciplinary care.
- In a face presentation, if the chin (mentum) is posterior (Mentum Posterior - MP), vaginal delivery is generally not possible because the fetal head cannot extend further to negotiate the birth canal. Therefore, persistent MP position is an indication for Cesarean

section. If the mentum rotates to an anterior position (Mentum Anterior - MA), vaginal delivery is often possible. The presenting diameter in face presentation is submentobregmatic (9.5 cm).

- The average length of the umbilical cord at term is approximately 50 to 60 cm (around 20-24 inches).
- The peak number of germ cells (oogonia and primary oocytes) in the fetal ovaries is reached around 16-20 weeks of gestation, estimated to be about 6-7 million. After this peak, a process of programmed cell death (atresia) begins, and the number of oocytes progressively declines throughout fetal life and continues after birth, so that by puberty only a few hundred thousand remain.
- Uterine atony, the failure of the uterus to contract adequately after childbirth, is the most common cause of primary postpartum hemorrhage, accounting for approximately 70-80% of cases. The '4 Ts' mnemonic for PPH causes is: Tone (atony), Trauma (lacerations, rupture), Tissue (retained placenta), and Thrombin (coagulopathy).
- The average blood loss during a normal spontaneous vaginal delivery is estimated to be around 500 mL. Postpartum hemorrhage (PPH) is traditionally defined as blood loss of >500 mL after vaginal delivery or >1000 mL after Cesarean delivery, or any blood loss causing hemodynamic instability.
- The obstetric conjugate is the shortest anteroposterior diameter of the pelvic inlet. It extends from the sacral promontory to the posterior-superior aspect (closest point) of the symphysis pubis. It is approximately 1.5-2 cm shorter than the diagonal conjugate.
- Breech presentation is associated with increased perinatal risks due to multiple factors: prematurity and congenital anomalies are more common in breech fetuses. During delivery, risks include intracranial injury from difficult head delivery, fetal asphyxia from cord compression or delay in delivering the aftercoming head, and an increased incidence of cord prolapse.