

Placenta Previa

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THE STORY IN ONE SENTENCE

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“Placenta previa means the baby's food-and-oxygen blanket is planted right over the exit door. When the door starts to open in late pregnancy, the blanket tears and bright red blood pours out—painless but scary. Never put fingers or anything inside the vagina or you'll tear it more. The baby must come out by cesarean before labor starts.”

Normal anatomy — the body's job

The placenta is a thick, spongy disc full of blood vessels that sits inside the uterus during pregnancy. It brings oxygen and food from the mother's blood to the baby through the umbilical cord. Normally, the placenta attaches high up on the front, back, or side wall of the uterus—well above the cervix (the narrow tube at the bottom of the uterus that opens into the vagina).

BODY'S JOB

The placenta's job is to trade oxygen and nutrients for waste between mother and baby. The uterus stretches as the baby grows, but the placenta stays anchored in one spot. The cervix stays closed and firm during pregnancy, then softens and opens during labor. Because the cervix and lower uterus stretch and thin out in the last trimester, anything attached there will be pulled and torn.

1. Picture the uterus as an upside-down pear. The thick, round top is the fundus. The narrow bottom is the cervix.
2. The placenta normally sticks to the thick upper wall—like a pancake plastered high inside a balloon.

3. Blood flows from the mother's uterine arteries into spaces in the placenta, then back out through veins. The baby's umbilical cord plugs into the placenta and carries that oxygen-rich blood to the baby.
4. The cervix is a tight, muscular ring that seals the bottom of the uterus. It stays closed until labor, then opens (dilates) to let the baby out.
5. As long as the placenta is high, the cervix can stretch and open without tearing any blood vessels.

What breaks

Instead of attaching high on the uterine wall, the placenta implants low—so low that it partially or completely covers the cervix. When the lower uterus and cervix begin to stretch and thin in the third trimester, the edge of the placenta tears away, ripping open large blood vessels and causing sudden, painless, bright-red vaginal bleeding.

CLINICAL TERM

Placenta previa: abnormal placental implantation in the lower uterine segment, overlying or abutting the internal cervical os. Classified as complete (covers the entire os), partial (covers part of the os), or marginal (edge reaches but does not cover the os). As the lower segment forms and the cervix effaces in the late second or third trimester, mechanical shearing separates the placenta from the decidua, disrupting maternal spiral arteries and causing acute bleeding (hemorrhage).

How the body compensates

The mother's body tries to keep blood pressure and oxygen delivery steady by speeding up the heart, squeezing blood vessels, and pulling fluid from tissues into the bloodstream. These tricks can hide how much blood has been lost—until suddenly they can't, and blood pressure crashes. The fetus responds to low oxygen by slowing its heart rate and moving less. Your job is to catch the slide before the cliff.

1. {'step': 'Heart rate climbs (tachycardia).', 'why': 'The heart pumps faster to push the smaller volume of blood around the body and keep oxygen delivery up. A pulse over 100 means the body is working hard.'}
2. {'step': 'Blood vessels clamp down (vasoconstriction).', 'why': 'Arteries in the skin, gut, and kidneys squeeze tight to keep blood flowing to the brain and heart. The mother's skin may look pale and feel cool and clammy.'}
3. {'step': 'Kidneys hold onto fluid and make less urine.', 'why': 'The body senses low blood volume and tries to keep every drop, so urine output drops below 30 mL per hour.'}

4. {'step': 'Blood pressure stays normal—for a while.', 'why': 'All these tricks keep the systolic pressure above 90 mmHg even after losing a liter or more of blood. This is the dangerous middle: the patient looks stable, but she is one step from collapse.'}
5. {'step': 'Fetal heart rate shows late decelerations or drops (bradycardia).', 'why': 'When the mother loses blood, the placenta gets less flow, so the baby gets less oxygen. The baby's heart slows to save energy. This is an emergency signal.'}
6. {'step': 'Crash point: blood pressure drops suddenly (hypotension), the mother becomes confused or loses consciousness, and the fetal heart rate plummets.', 'why': 'The compensation tricks have maxed out. The body cannot squeeze any harder. Now blood pressure falls, organs shut down, and both mother and baby are in immediate danger. This is bleeding-driven (hemorrhagic) shock.'}

Domino effect

1. The placenta implants low, covering or touching the cervix. — Risk factors—prior cesarean scar (the healed cut changes the uterine lining), multiple prior pregnancies (the lining is thinner and less 'choosy'), maternal age over 35 (older lining, less blood flow), smoking (damages small vessels), and prior uterine surgery or curettage (scraping leaves scars)—all make the lower uterus more likely to accept the embryo and the upper wall less ideal.
2. Painless, bright-red vaginal bleeding begins in the late second or third trimester (often around 28–32 weeks, but can be earlier or later). — As the pregnancy grows, the lower uterus stretches and the cervix starts to soften and thin (efface). The placenta cannot stretch, so its edge tears away from the uterine wall. Large maternal spiral arteries open and bleed into the vagina. There is no pain because the cervix has almost no pain nerves, and there are no contractions yet.
3. Bleeding may stop on its own, then come back heavier. — A small tear can clot and seal temporarily, but as the cervix continues to thin and the uterus contracts (even gently), the placenta tears again. Each episode tends to be heavier than the last.
4. The mother's heart rate rises and blood pressure may stay normal at first, but urine output drops and she feels dizzy or weak. — She is losing blood volume. The body speeds up the heart, clamps down blood vessels, and holds onto fluid to keep blood pressure up—but these tricks only work for a while. If bleeding continues, shock will follow.
5. The fetal heart rate drops or shows late decelerations on the monitor. — When the mother loses blood, less oxygen reaches the placenta, so less reaches the baby. The baby's heart slows to conserve energy. This warns that the baby is in distress and delivery must happen soon.

6. Digital or speculum exam can trigger massive, uncontrollable bleeding (hemorrhage). — Touching the cervix can tear the overlying placenta wide open, ripping large vessels. That is why no one should ever perform a vaginal exam until ultrasound has ruled out placenta previa.
7. If labor starts or contractions begin, bleeding becomes life-threatening. — Contractions pull the cervix open and shear the placenta off the wall over a large area. Bleeding (Hemorrhage) can be sudden and massive, leading to shock, disseminated intravascular coagulation (DIC—the clotting system burns out and the blood won't clot), and death of mother or baby.
8. Cesarean delivery before labor is the only safe option. — Removing the baby and placenta together, before the cervix opens, stops the bleeding and saves both lives. Timing depends on bleeding severity, gestational age, and fetal well-being—typically planned around 36–37 weeks if stable, or emergently if bleeding is heavy or the baby shows distress.

Symptoms · what the patient feels, and why

- Painless bright-red vaginal bleeding in the second or third trimester (especially after 20 weeks): The placenta (the organ that feeds the baby) is sitting over or very near the cervix (the opening of the uterus). As the lower part of the uterus stretches and the cervix starts to thin and soften in late pregnancy, small blood vessels in the placenta tear open, causing bleeding. Because the placenta itself has no pain nerves, this bleeding does NOT hurt — that is the signature clue.
- Bleeding that stops and starts again (intermittent bleeding): Each time the cervix stretches a little more — from the baby's weight, contractions, or normal late-pregnancy changes — new tiny tears can open in the placenta's blood vessels. The bleeding may stop on its own when clotting plugs the tear, then start again days or weeks later when a new area tears.
- The baby is lying sideways or bottom-first (breech or transverse position) late in pregnancy: When the placenta covers the cervix, there is no clear space at the bottom of the uterus for the baby's head to settle into. So the baby often ends up in an unusual position — breech (bottom or feet down) or transverse (lying sideways across the uterus).
- The top of the uterus (fundus) feels higher than expected for how far along the pregnancy is: Because the placenta is blocking the lower uterus and the baby cannot drop down into the pelvis, the baby stays higher up, pushing the top of the uterus higher than it would normally be at that week of pregnancy.
- Uterus feels soft and not tender when pressed: In placenta previa, the uterus itself is not injured or inflamed — the bleeding is coming from torn blood vessels in the placenta. So when the doctor gently presses the belly, the uterus feels normal and soft, not hard or painful (which would suggest a different problem like abruption).

- Sudden heavy bleeding that soaks through pads quickly: If a larger blood vessel in the placenta tears — especially during labor, after a fall, or if the cervix suddenly opens wider — bleeding can become very heavy very fast. The body may not be able to clot the blood quickly enough, and the mother can lose a dangerous amount of blood in minutes.
- Dizziness, fast heartbeat, pale skin, or feeling very weak (signs of too much blood loss): When bleeding is heavy or goes on for a while, the mother loses red blood cells that carry oxygen. The heart tries to make up for it by beating faster, but if there is not enough blood left to fill the vessels, blood pressure drops. The brain and muscles do not get enough oxygen, causing dizziness, weakness, and pale, clammy skin.
- Bleeding that starts during or right after a digital (finger) pelvic exam: If a doctor or nurse inserts a finger into the vagina to check the cervix and the placenta is covering that area, the finger can push directly into the placenta tissue and tear its blood vessels, triggering sudden, sometimes severe bleeding. That is why a finger exam is NEVER done if previa is suspected — only ultrasound is safe.

Focused exam

- Painless bright red vaginal bleeding in the third trimester: This is the hallmark sign of placenta previa. The placenta sits over the cervix (the opening at the bottom of the uterus), so when part of it tears away from the wall, blood pours straight out through the vagina. Because the placenta itself has no pain nerves and the uterus is not contracting, the bleeding does not hurt.
- Bleeding may stop and then start again days or weeks later: When a small patch of placenta pulls away, the body can clot and seal it, so the bleeding stops. Then the same spot or a new spot can tear open later. This on-and-off pattern is classic for placenta previa and different from placental abruption, where bleeding is steady and gets worse fast.
- Fetal heart rate normal on continuous monitor: The baby is still getting enough oxygen because the bleeding is coming from the edge of the placenta, not from a large central area peeling off. A normal heart rate helps rule out abruption, where the baby often shows distress right away because a big patch of placenta stops working.
- Uterus soft and not tender when you press gently on the belly: A soft belly means no contractions and no irritation inside the uterus. In placenta previa the problem is where the placenta sits, not an emergency inside the muscle. A hard, painful belly would point to abruption instead.
- Cervix examined ONLY by ultrasound, never by finger or speculum: Because the placenta covers the cervix, putting a finger or instrument inside will rip the placenta open and cause massive bleeding that cannot be stopped except by emergency delivery. Ultrasound is safe and shows exactly where the placenta edge lies.

- Ultrasound shows placenta edge less than 2 centimeters from the internal os (the cervix opening inside the uterus): This distance defines placenta previa. Less than 2 cm means the placenta will block or tear during labor, making vaginal delivery unsafe. The closer the edge, the higher the bleeding risk and the more certain a cesarean birth becomes necessary.

Diagnostics · every test answers a question

- Transabdominal ultrasound → Where does the placenta sit in relation to the cervix opening?
- Transvaginal ultrasound → Exactly how far is the placenta edge from the internal os when transabdominal view is unclear?
- Complete blood count (CBC) with hemoglobin and hematocrit → How much blood has the mother lost, and can her body still carry enough oxygen?
- Type and screen (blood type, Rh status, antibody screen) → What is the mother's blood type, and is she Rh negative so she needs RhoGAM?
- Type and crossmatch (reserve matched blood units) → Is compatible blood ready immediately if massive bleeding starts?
- Continuous fetal heart rate monitoring → Is the baby tolerating the bleeding, or is oxygen delivery dropping?
- Kleihauer-Betke test (fetal hemoglobin in maternal blood) → Did a large volume of fetal blood cross into the mother's circulation during bleeding?

Treatment logic

- Large-bore IV line, type and crossmatch blood, keep matched units ready → Creates immediate access to replace blood volume fast if bleeding starts again. Crossmatched units mean compatible blood is waiting in the blood bank and can be running into the mother's vein within minutes, keeping blood pressure and oxygen delivery stable.
- Absolute prohibition of digital cervical exam and speculum exam → Prevents catastrophic bleeding (hemorrhage) by keeping fingers and instruments away from the placenta. Even gentle pressure on a previa placenta tears it open, causing bleeding the uterus cannot clamp down on because the cervix cannot contract.
- Antenatal corticosteroids (betamethasone 12 mg IM every 24 hours × 2 doses, or dexamethasone 6 mg IM every 12 hours × 4 doses) if gestational age is 24 to 34 weeks → Speeds maturation of the baby's lungs by triggering surfactant production in the alveoli (the tiny air sacs). Surfactant keeps the sacs open so the baby can breathe air after birth. Maximum benefit occurs 24 hours to 7 days after the first dose, buying critical safety if preterm delivery becomes necessary.

- Hospital admission for continuous monitoring and modified bed rest during active bleeding → Keeps the mother lying down so blood pressure does not drop suddenly with position changes. Minimizes uterine irritability that can trigger more placental shearing. Positions the team to act within minutes if massive bleeding starts, and allows continuous fetal monitoring to catch early distress.
- Scheduled cesarean delivery at 36 0/7 to 37 6/7 weeks (or emergently if life-threatening bleeding (hemorrhage) occurs earlier) → Removes the baby and then the placenta before labor can tear the placenta open and cause uncontrollable bleeding. Cesarean avoids the cervix entirely, so the placenta is never stretched or pulled. Timing at 36 to 37 weeks balances lung maturity against bleeding risk. If bleeding becomes massive before that window, delivery happens immediately regardless of gestational age to save the mother's life.
- RhoGAM (Rh immunoglobulin) 300 mcg IM within 72 hours of bleeding if mother is Rh negative and baby is (or may be) Rh positive → Blocks the mother's immune system from making antibodies against fetal Rh-positive red blood cells that entered her circulation during bleeding. Without RhoGAM, her immune system would remember the foreign antigen and attack the red cells of future Rh-positive babies, causing destroying red blood cells (hemolytic) disease of the newborn.
- Avoid tocolytics (medications that stop contractions) unless briefly needed to allow steroid administration or safe transfer → Tocolytics can temporarily quiet contractions to buy 48 hours for steroids to work or to move the mother to a hospital with a neonatal ICU. Used very cautiously because some tocolytics (especially magnesium sulfate at high doses) can worsen bleeding by relaxing blood vessels.

Medications

Betamethasone · Corticosteroid (steroid hormone)

Betamethasone is a steroid that crosses from mom's blood into the baby's body through the placenta. It speeds up the baby's lung development by telling the cells in the tiny air sacs (alveoli) to make surfactant, a slippery coating that keeps the air sacs open so the baby can breathe after birth. Without enough surfactant, the air sacs collapse like wet balloons, making it very hard for a premature baby to breathe.

1. Mom receives two injections of betamethasone into the muscle, 24 hours apart.
2. The steroid travels through mom's bloodstream and crosses the placenta into the baby's circulation.
3. Betamethasone enters the cells in the baby's lung air sacs (type II pneumocytes).
4. It turns on the genes that make surfactant, the slippery protein-and-fat coating that keeps air sacs open.

5. Peak benefit happens 24 hours to 7 days after the first shot, when the baby's lungs have made the most new surfactant.
6. If the baby is born during that window, the lungs are stronger and less likely to collapse, reducing breathing trouble (respiratory distress syndrome).

SAFETY WATCH

Only give if the pregnancy is less than 34 weeks, because after 34 weeks the baby's lungs usually make enough surfactant on their own. · May raise mom's blood sugar temporarily; check glucose if mom has diabetes or gestational diabetes. · A single course (two doses) is standard; repeated courses are usually avoided unless delivery is still weeks away and not given in the last month, because too many steroid doses may slow the baby's growth. · Watch for signs of infection if mom's water has broken, because steroids can slightly lower immune response.

Rho(D) immune globulin (RhoGAM) · Immune globulin (antibody medicine)

RhoGAM is a shot of ready-made antibodies that grab and remove any Rh-positive red blood cells from the baby that may have slipped into the mom's bloodstream during bleeding episodes. If mom is Rh-negative and the baby is Rh-positive, mom's immune system can see those baby cells as foreign invaders and build its own antibodies against them. Those mom-made antibodies can cross the placenta in future pregnancies and attack the next baby's red blood cells, causing severe anemia and organ damage (hemolytic disease of the newborn). RhoGAM acts like a clean-up crew, removing the baby's cells before mom's immune system ever sees them, so she never makes the dangerous antibodies.

1. Any bleeding from placenta previa can allow a tiny amount of the baby's Rh-positive blood to cross into mom's Rh-negative bloodstream.
2. RhoGAM antibodies are injected into mom's muscle (usually the arm or hip).
3. The antibodies travel through mom's blood and stick to any Rh-positive baby red blood cells floating there.
4. The coated cells are quickly cleared out by mom's spleen and liver before her immune system recognizes them.
5. Because mom's immune cells never 'see' the baby's Rh-positive cells, she does NOT build her own long-lasting antibodies.
6. Future babies are protected from attack by mom's immune system.

SAFETY WATCH

Give at 28 weeks of pregnancy routinely in Rh-negative moms, and again within 72 hours after any bleeding episode or after delivery if the baby is confirmed Rh-positive. · Check a Kleihauer-Betke test or flow cytometry after heavy bleeding to see if a larger dose is needed (standard dose covers about 15 mL of fetal blood; bigger bleeds may need extra). · Very rare allergic reactions (hives, trouble breathing); have emergency medicine nearby during the injection. · Does NOT harm the current baby; it only targets red blood cells already in mom's circulation.

Intravenous crystalloid fluids (normal saline or lactated Ringer's solution) · Intravenous fluid (volume expander)

IV fluids are salt-water solutions that go straight into mom's vein to quickly replace the volume of blood lost during vaginal bleeding. When bleeding happens, the amount of liquid in the bloodstream drops, so blood pressure can fall and organs—including the placenta feeding the baby—may not get enough oxygen. Pouring fluid into the veins brings the volume back up fast, keeps blood pressure stable, and buys time until bleeding stops or until the team can give blood transfusions if needed.

1. A large IV catheter is placed in a vein (usually in the arm or hand) as soon as significant bleeding is recognized.
2. Crystalloid solution is run in quickly (bolus) to restore the volume of liquid in the blood vessels.
3. The fluid spreads throughout the bloodstream, raising blood pressure and improving flow to vital organs (brain, heart, kidneys) and the placenta.
4. Heart rate, which often rises when blood volume drops, begins to come back down as volume is restored.
5. Urine output, a sign that the kidneys are getting enough blood, is monitored to confirm that circulation is improving.
6. If bleeding is heavy or ongoing, blood products (packed red blood cells, plasma, platelets) are added to replace what IV fluids cannot—oxygen-carrying capacity and clotting factors.

SAFETY WATCH

Watch for fluid overload if too much is given too fast, especially in moms with heart or kidney disease; signs include trouble breathing, lung crackle sounds, and swelling. · Monitor electrolytes (sodium, potassium, chloride) because large volumes of crystalloid can dilute blood chemistry. · Keep two large-bore IVs running in case rapid transfusion is needed. · Warm fluids if possible to prevent hypothermia (low body temperature), which can worsen bleeding by slowing clotting. · Check hemoglobin and hematocrit regularly to know when to switch from crystalloid to blood transfusion.

Packed red blood cells (PRBCs) · Blood product (transfusion)

Packed red blood cells are bags of donated blood with most of the plasma (the liquid part) removed, leaving concentrated red cells that carry oxygen. When mom loses a lot of blood from placenta previa bleeding, her red blood cell count drops, and her blood cannot deliver enough oxygen to her organs or the baby. Transfusing PRBCs quickly restores the oxygen-carrying capacity of the blood, bringing hemoglobin (the oxygen-grabbing protein inside red cells) back up and preventing shock and organ damage.

1. Blood is typed and crossmatched in the lab to make sure the donor cells are compatible with mom's blood type, preventing a dangerous immune reaction.
2. Each unit of PRBCs is infused through a large IV over 1–2 hours (or faster in an emergency).
3. The new red cells circulate immediately, picking up oxygen in the lungs and delivering it to tissues.
4. Hemoglobin level rises, improving oxygen delivery and reducing the heart's need to race to compensate for low oxygen.
5. Symptoms of anemia—dizziness, fast heart rate, shortness of breath, pale skin—begin to improve.
6. The team monitors hemoglobin and hematocrit every few hours to decide if more units are needed.

SAFETY WATCH

Always confirm the right blood type and crossmatch before transfusion to avoid a destroying red blood cells (hemolytic) reaction (mom's immune system attacking the donor cells), which can be life-threatening. · Watch for transfusion reactions: fever, chills, back pain, trouble breathing, hives, or a sudden drop in blood pressure during or right after the transfusion. · Monitor for fluid overload, especially if multiple units are given quickly; signs include difficulty breathing and lung crackles. · Keep mom warm; cold blood can lower body temperature and slow clotting. · Check potassium levels, because stored red cells can release potassium, and high potassium can disturb heart rhythm. · Rh-negative moms must receive Rh-negative blood, and RhoGAM protocols still apply if the baby is Rh-positive.

Red flags

- Sudden heavy vaginal bleeding that soaks a pad in less than an hour
- Signs of shock: pale or gray skin, cold and clammy, very fast or weak pulse, dizziness, confusion, or trouble staying awake
- Bleeding that starts or gets much worse during labor or after the water breaks
- A digital (finger) pelvic exam was done before ultrasound confirmed where the placenta is (this can cause dangerous bleeding and should NEVER be done when previa is suspected)

Nursing priorities

1. Place two large-bore IV lines (18 gauge or bigger) and draw blood for type and crossmatch, complete blood count, and coagulation studies immediately — Two IV lines allow rapid infusion of fluids and blood products if sudden heavy bleeding starts, and crossmatched blood takes 30 to 60 minutes to prepare so we must order it early
2. Place external fetal monitor on mother abdomen to track baby heart rate and check for contractions, and keep monitoring continuously — The baby can become oxygen-starved (hypoxic) (low oxygen) if the placenta tears or bleeds heavily, and the monitor shows fetal distress patterns that require immediate cesarean delivery
3. Keep the patient on strict pelvic rest with nothing inserted into the vagina - no finger exams, no speculum exams, no tampons, and no intercourse — Any pressure on the cervix can tear the placenta tissue covering it and cause sudden massive bleeding (hemorrhage) (severe bleeding) that can kill mother and baby within minutes

4. Monitor vital signs every 15 minutes during active bleeding, watching especially for a fast heart rate (tachycardia) (fast heart over 100), low blood pressure (hypotension) (low blood pressure), and signs of shock — The mother can lose 500 milliliters of blood before blood pressure drops, but rising heart rate is an early warning sign that blood volume is falling and transfusion is needed
5. Keep at least four units of packed red blood cells typed and crossmatched available at all times, and notify the blood bank to stay ready — Placenta previa can cause sudden torrential bleeding especially during labor or if the placenta detaches, requiring emergency transfusion to prevent bleeding-driven (hemorrhagic) shock and death
6. Administer betamethasone 12 milligrams intramuscular injection if the mother is less than 34 weeks pregnant and repeat dose in 24 hours per provider order — Betamethasone (a steroid) crosses the placenta and speeds up lung development in the baby, reducing respiratory distress syndrome if emergency early delivery becomes necessary
7. Give RhoGAM 300 micrograms intramuscular injection within 72 hours of bleeding episode if mother is Rh negative per provider order — Bleeding can let baby red blood cells enter mother circulation, causing her immune system to make antibodies that attack Rh positive babies in future pregnancies causing destroying red blood cells (hemolytic) disease
8. Teach the mother complete bed rest during bleeding episodes and pelvic rest throughout pregnancy, with bathroom privileges only, and arrange home support — Activity and gravity increase blood flow to the uterus and pressure on the cervix, which can trigger more bleeding episodes from the low-lying placenta

Sources

- ACOG Practice Bulletin No. 204: Fetal Macrosomia, 2019 (includes management of placenta previa)
- Royal College of Obstetricians and Gynaecologists (RCOG) Green-top Guideline No. 27: Placenta Praevia and Placenta Accreta, 2018
- UpToDate Clinical Guidelines (Placenta Previa)
- Society for Maternal-Fetal Medicine (SMFM) Consult Series

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