

Chorioamnionitis

Chorioamnionitis is an infection inside the uterus during labor—bacteria invade the fluid and membranes around the baby, putting both mom and baby at risk.

THE ONE-LINE TRUTH

Bacteria have infected the amniotic sac and the membranes that protect the baby during pregnancy.

The chain — how it unfolds

1. Bacteria ascend from the vagina and invade the amniotic membranes and fluid. — why: The protective mucus plug is lost or weakened (especially after membranes rupture), and bacteria from the vagina—normally kept far away—now have a clear path to climb up through the cervix into the sterile amniotic sac.
2. Bacteria multiply rapidly inside the amniotic fluid and attach to the membranes. — why: Amniotic fluid is warm, rich in nutrients, and initially has few immune cells—it is like a perfect incubator for bacteria. Without a strong immune presence yet, bacteria reproduce every 20–30 minutes, quickly reaching high numbers.
3. Mom's immune system detects the infection and releases pyrogens and inflammatory chemicals. — why: White blood cells recognize foreign bacterial proteins and release cytokines (immune alarm signals) and pyrogens (fever-causing chemicals) that reset the body's thermostat in the brain, raising mom's core temperature to make the environment less friendly for bacteria.
4. Mom develops a fever, and both mom's and baby's heart rates increase. — why: Fever speeds up the body's metabolism, and the heart must pump faster to deliver oxygen and immune cells. The baby's heart also speeds up because fever, stress hormones, and inflammatory chemicals cross the placenta, signaling danger to the baby's system.
5. The uterus becomes tender, swollen, and painful. — why: Inflammatory cells (neutrophils and macrophages) flood into the uterine lining to fight the bacteria, causing swelling, redness, and pain—just like when you get a cut and the area around it becomes sore and puffy.

6. Vaginal discharge becomes foul-smelling and discolored. — why: Anaerobic bacteria (which thrive without oxygen) break down dead tissue and release gases like hydrogen sulfide and putrescine—these smell rotten. The discharge turns cloudy or greenish because it now contains pus (dead white blood cells and bacteria).
7. Bacteria cross the damaged uterine lining and enter mom's bloodstream. — why: The infection erodes tiny blood vessels in the uterine wall, creating holes through which bacteria leak into the circulation. Once in the blood, bacteria can travel throughout the body, triggering a system-wide inflammatory response (sepsis).
8. The baby swallows or inhales infected amniotic fluid during labor or delivery. — why: Babies naturally swallow and practice breathing in the womb. During labor, the baby gasps and moves fluid in and out of the lungs. If that fluid is full of bacteria, the baby's lungs, stomach, and bloodstream become infected—newborns have immature immune systems and cannot fight off infection well, so they can quickly develop sepsis, pneumonia, or meningitis within hours of birth.

Spot it — what you see, and why

- Fever above 100.4°F (38.0°C) in mom during labor: Bacteria in the amniotic fluid (the water around the baby) and the membranes (the sac holding the baby) trigger the immune system to fight back, which raises body temperature like turning up a thermostat to kill germs.
- Baby's heart rate stays fast (above 160 beats per minute): Fever from mom heats the baby too, and heat makes the heart pump faster to try to cool down, like running harder when you're hot.
- Mom's heart rate stays fast (above 100 beats per minute)
- Uterus (womb) feels tender or painful when the doctor presses on the belly: Infected tissue swells and becomes sore because immune cells flood in to fight bacteria, stretching nerve endings and causing pain.
- Foul-smelling or cloudy fluid leaking from the vagina: Bacteria multiply in the amniotic fluid and produce waste products that smell bad and turn the normally clear fluid murky, like milk left out too long.
- White blood cell count above 15,000 per microliter: The bone marrow pumps out extra white blood cells (infection-fighting soldiers) when bacteria invade, so the count shoots up to defend the body.

Red flags — act now

- Mom's blood pressure dropping or she feels faint (possible sepsis, meaning infection spreading through the whole bloodstream)

- Baby's heart rate showing late decelerations or staying very low (sign the baby is not getting enough oxygen)
- Mom confused, extremely sleepy, or not responding normally (infection may be affecting the brain)
- Foul-smelling, green, or pus-like fluid coming from the vagina (heavy bacterial load)
- Mom's breathing becomes fast and shallow or she struggles to breathe (infection may be reaching the lungs or causing severe inflammation)

Treat it — in this order

1. Intravenous ampicillin plus gentamicin; add clindamycin or metronidazole if cesarean delivery is done → Antibiotics kill the bacteria that climbed from the vagina into the amniotic fluid and uterine membranes. Ampicillin covers Group B Strep and some gut bacteria; gentamicin covers Gram-negative bacteria like *E. coli*; clindamycin or metronidazole added after cesarean covers anaerobic bacteria that live deep in tissue. This stops the infection at its source and brings mom's fever down.
2. Deliver the baby promptly (vaginally if labor is progressing well, or by cesarean if labor is stalled or the baby shows distress) → Removing the baby and placenta takes away the infected environment—the amniotic sac and membranes where bacteria are growing. Delivery is the only way to fully stop the infection source and prevent bacteria from continuing to reach the baby.
3. Continue intravenous antibiotics until mom has been fever-free for at least 24 hours after delivery → Keeping antibiotics running after delivery makes sure any bacteria left in mom's bloodstream or uterus are killed. This prevents the infection from coming back or spreading into her blood (sepsis).
4. Alert the neonatology team and evaluate the newborn for early-onset sepsis (blood culture, CBC, and antibiotics if indicated) → Early warning lets the baby doctors start antibiotics in the newborn if needed, catching infection before it becomes severe. Babies born to moms with chorioamnionitis are at higher risk for sepsis, pneumonia, and meningitis.
5. Acetaminophen for fever control → Lowering fever makes mom more comfortable and helps prevent complications from prolonged high temperature, such as dehydration or increased heart rate. It also may reduce stress on the baby.

Your top priorities at the bedside

1. Establish large-bore intravenous access and draw blood cultures before starting antibiotics, then administer the first dose of intravenous ampicillin and gentamicin immediately. — why: Early antibiotic therapy kills bacteria in the mother's bloodstream and uterus, preventing sepsis and protecting the baby from severe infection, and blood cultures taken before antibiotics help identify the specific bacteria causing the infection.
2. Apply continuous electronic fetal monitoring and assess the fetal heart rate pattern every 15 minutes during active labor. — why: Chorioamnionitis causes fetal a fast heart rate (tachycardia) (heart rate above 160) and can lead to late decelerations (heart rate drops after contractions) or a slow heart rate (bradycardia) (very slow heart rate), all signs the baby is stressed and may need emergency cesarean delivery.
3. Monitor maternal vital signs (temperature, heart rate, blood pressure, respiratory rate, and oxygen saturation) every 1 to 2 hours and immediately report fever above 102°F, heart rate above 120, blood pressure below 90/60, or oxygen saturation below 95%. — why: Frequent vital signs detect early sepsis when infection spreads into the bloodstream, causing dangerous drops in blood pressure (septic shock) and fast breathing that can lead to organ failure if not treated immediately.