

PPROM · Pprom

A plain-English guide for you and your family

WHAT IS HAPPENING

During a healthy pregnancy, the bag of water (the amniotic sac) stays sealed until the very end, right when labor starts at full term. That bag is the baby's cushion and shield — it holds warm fluid that protects the baby from bumps, lets the baby move and grow, and keeps germs from the outside world away. In PPRM (preterm premature rupture of membranes), that bag breaks too early — before 37 weeks and before any contractions begin. When the bag breaks, fluid leaks out suddenly, and the protective barrier is gone. Without that cushion, the umbilical cord can slip down and get squeezed, cutting off the baby's oxygen. Bacteria from the vagina can climb up into the womb and cause a serious infection called chorioamnionitis (infection of the membranes and fluid around the baby). The baby also loses the fluid needed for lung development. The mother goes to the hospital right away. Doctors give antibiotics to stop infection and corticosteroids (medicines that speed up the baby's lung growth) so the baby can breathe better if born early. The team watches the mother's temperature, heart rate, and the baby's heart pattern every day, looking for any sign that infection is starting. If everything stays quiet and the baby keeps growing safely, doctors aim to deliver at 34 weeks, when the lungs are usually strong enough. If infection appears — fever, fast heart rate, or the baby's heart tracing looks worrisome — the baby is delivered right away, no matter the week, because staying inside an infected womb is more dangerous than being born early.

What you might feel

- A sudden gush or steady trickle of clear or pale-yellow fluid from the vagina
- Feeling wet underwear or needing to change pads often
- The fluid does not smell like urine
- Positive nitrazine test (the paper strip turns dark blue)
- Positive fern test (dried fluid looks like fern leaves under a microscope)
- Decreased feeling of the baby moving
- Fever or feeling very warm
- Belly pain or tightening that comes and goes (contractions)

Call the doctor right away if...

- Fever above 100.4°F (38°C) or feeling very warm and sweaty
- Fast heartbeat in the baby (over 160 beats per minute) or a pattern that looks worrying on the monitor
- Green, brown, or foul-smelling fluid leaking (may mean infection or the baby passed stool inside)
- Strong, regular contractions or constant belly pain (sign of early labor or placental abruption)
- Decreased or no baby movement for several hours

What the care team will do

- Place patient on continuous cardiotocography (electronic fetal monitor) and check tracing every 30 minutes
- Take temperature every 4 hours and report immediately if 100.4 degrees Fahrenheit or higher
- Count and record fetal kick counts every shift and report if fewer than 10 movements in 2 hours
- Check maternal heart rate every 4 hours and report if consistently above 100 beats per minute
- Administer betamethasone 12 milligrams intramuscular injection as ordered if patient is less than 34 weeks pregnant and repeat dose in 24 hours
- Start ampicillin 2 grams intravenous every 6 hours and azithromycin 1 gram once as ordered, then give amoxicillin 500 milligrams by mouth every 8 hours
- Do not perform vaginal exams with fingers unless patient is in active labor with regular contractions
- Assess amniotic fluid leakage amount and color every shift and report green or brown fluid immediately

Medicines you may be given — and why

Betamethasone (or Dexamethasone)

This steroid acts like a fast-forward signal for the baby's lungs. When the baby is born too early, the air sacs in the lungs aren't ready yet—they collapse like deflated balloons and can't deliver oxygen. Betamethasone tells the baby's lungs to make surfactant, a slippery coating that keeps the air sacs open so the baby can breathe on their own. It also speeds up the development of the baby's brain, gut, and blood vessels.

Ampicillin

Ampicillin kills bacteria by punching holes in their outer walls. Bacteria need sturdy walls to hold their shape and stay alive—think of a water balloon. Ampicillin blocks the enzymes that build and repair those walls, so the bacteria swell up, burst, and die. In PPROM, bacteria from the vagina can climb up into the womb and infect the baby's water bag (the membranes) or the baby itself. Ampicillin targets common germs like Group B Streptococcus (GBS) and *E. coli* before they cause serious infection.

Azithromycin

Azithromycin stops bacteria from making the proteins they need to grow and multiply. It locks onto the ribosome—the bacteria's protein factory—so the germ can't build enzymes, repair itself, or reproduce. Without new proteins, the bacteria stall out and die. In PPROM, azithromycin adds extra coverage against *Ureaplasma* and *Mycoplasma*, two tiny bacteria that live in the genital tract and are linked to membrane infection and preterm labor. It also extends the time before delivery (called latency) and lowers the risk of chorioamnionitis.

Amoxicillin

Amoxicillin works just like ampicillin—it destroys bacteria by blocking the construction of their cell walls. Once the IV ampicillin and azithromycin have knocked down the initial bacterial load, amoxicillin is given by mouth to keep killing any remaining germs and prevent new ones from taking hold. It's easier to take at home (pill form) and continues to protect the mother and baby as they wait for either labor to start naturally or delivery to be scheduled at 34 weeks.

Magnesium sulfate

Magnesium sulfate protects the baby's developing brain from injury caused by too little oxygen or inflammation during early birth. In premature babies, the white matter (the wiring that connects different brain regions) is fragile and prone to damage, which can lead to cerebral palsy (a condition that affects movement and muscle control). Magnesium acts like a cushion: it blocks overexcited brain signals (via NMDA receptors) that would otherwise flood brain cells and kill them, and it reduces inflammation around delicate blood vessels in the brain.

Penicillin G (or Ampicillin) for GBS prevention (prophylaxis) at delivery

Group B Streptococcus (GBS) is a common bacterium that lives in the vagina and rectum of many healthy women. It's usually harmless to the mother, but if the baby passes through the birth canal and swallows or breathes in GBS, it can cause life-threatening infections like sepsis, pneumonia, or meningitis in the newborn. Penicillin G (or ampicillin) is given during labor to kill GBS in the mother's birth canal before the baby is exposed. It works by breaking down the bacteria's cell walls, just like the other penicillins.

Where this information comes from

- ACOG Practice Bulletin No. 217: Prelabor Rupture of Membranes (2020)
- American Academy of Pediatrics (AAP) Guidelines on Preterm Birth
- Cochrane Database: Antibiotics for Preterm Prelabor Rupture of Membranes
- Society for Maternal-Fetal Medicine (SMFM) Consult Series

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