

Postpartum Endometritis and Sepsis

Infection of the uterus lining after childbirth. Give clindamycin plus gentamicin by vein until fever has been gone for 48 hours. Hunt for hidden pockets of pus with imaging if fever won't quit.

THE ONE-LINE TRUTH

Infection in the uterus lining after delivery, usually from bacteria that climbed up during birth.

The chain — how it unfolds

1. Bacteria enter the uterus during or right after delivery. — why: The cervix opens wide during labor, membranes rupture and let vaginal bacteria float up, and the placenta leaves a raw, bloody wound inside the uterus. C-section adds a surgical cut that carries germs straight through the muscle. Manual removal of the placenta or repeated cervical exams push more bacteria in. The uterus, normally sterile, is suddenly full of germs.
2. Bacteria colonize the endometrium and myometrium and start multiplying. — why: The warm, blood-rich environment is perfect for bacterial growth. Common culprits include *E. coli*, group B strep, *Bacteroides* and other anaerobes, enterococcus, and sometimes staph. Because it's usually a mix of germs (polymicrobial), no single antibiotic can kill them all alone — that's why treatment uses combination therapy.
3. The immune system launches an inflammatory attack: fever, pain, swelling, and pus. — why: White blood cells flood the uterus, release cytokines (chemical alarm signals), and crank up body temperature. Blood vessels dilate and leak fluid into tissue, causing swelling and tenderness. Dead bacteria, dead immune cells, and tissue debris mix into thick, foul-smelling discharge. This is the body fighting hard — but the fight itself causes the symptoms you see.
4. Systemic signs appear: a fast heart rate (tachycardia), fast breathing (tachypnea), high white count, and a run-down, unwell feeling (malaise). — why: Inflammatory signals spill into the bloodstream. The heart races to deliver more oxygen and immune cells. Breathing speeds up to balance acid-base chemistry. The liver and bone marrow ramp up production of clotting factors and white cells. The patient feels exhausted, achy, and weak because her whole body is on high alert.

5. If untreated or if antibiotics don't penetrate well, infection spreads or walls off into abscesses. — why: Bacteria can burrow deeper into the uterine muscle, travel through lymphatic channels to the pelvis, seed pelvic veins (causing septic pelvic thrombophlebitis — infected blood clots), or form pockets of pus that antibiotics can't reach. Abscesses act like hidden bunkers where bacteria survive and keep the fever going even on treatment.
6. Sepsis develops if bacteria or their toxins enter the bloodstream in large amounts. — why: The immune system goes into overdrive body-wide. Blood vessels leak, blood pressure drops (septic shock), and organs (kidneys, lungs, liver, brain) don't get enough oxygen. The patient becomes confused, urine output falls, oxygen levels drop, and she may need ICU support with IV fluids, vasopressors (medicines like norepinephrine that tighten vessels), and sometimes breathing support.
7. Treatment with IV clindamycin plus gentamicin (and sometimes ampicillin if very sick) kills bacteria and halts the cascade. — why: Clindamycin covers anaerobes and many gram-positive cocci. Gentamicin hits gram-negative rods like *E. coli*. Ampicillin is added for enterococcus coverage in severe cases. Antibiotics are continued IV until the patient has been fever-free for 48 hours — that proves the infection is truly beaten, not just suppressed. If imaging shows an abscess, it must be drained surgically or with a needle, because pus pockets won't clear on antibiotics alone.
8. With effective treatment, fever resolves, pain improves, discharge clears, and the uterus heals. — why: Once bacteria are dead and pus is drained, the immune system can stand down. Inflammation fades, blood vessels seal back up, and the uterine lining regrows clean tissue. The patient's energy returns, vital signs normalize, and she can safely go home to recover and care for her baby.

Spot it — what you see, and why

- Fever (usually 100.4°F or higher) starting 1–3 days after delivery: Bacteria (often from the vagina or skin) climb into the uterus during labor or C-section, and the body's immune system sends white blood cells to fight the invaders, which raises your temperature—fever is the alarm bell that infection is happening.
- Lower belly pain or tenderness over the uterus: The lining of the uterus (the endometrium) is swollen and irritated by infection, so touching or pressing on the belly hurts—like pressing on a bruise.
- Foul-smelling vaginal discharge (lochia): Normal postpartum bleeding (lochia) contains tissue and blood, but when bacteria break down that tissue inside the uterus, they release gases and waste products that smell bad—like rotting garbage.
- Heavy vaginal bleeding (more than a normal period): Infection weakens the uterine lining and blood vessels, so they bleed more easily; the uterus also may not contract well when it's inflamed, letting blood pool and spill out.

- Fast heart rate (tachycardia, over 100 beats per minute): Infection triggers the release of cytokines (immune alarm signals) that tell the heart to pump faster to deliver more white blood cells and oxygen to fight the germs; fever also speeds the heart.
- Chills or shaking: When bacteria spill toxins into the bloodstream, the hypothalamus (the brain's thermostat) resets your target temperature higher, and shivering is the body's way of making heat to reach that new set point.

Red flags — act now

- Confusion, extreme sleepiness, or trouble staying awake (sign that the brain is not getting enough oxygen)
- Blood pressure under 90/60 or very fast breathing (over 24 breaths per minute)—signs of septic shock
- Skin that looks mottled, cold, or bluish, or urine output that stops or drops way down (kidneys and circulation failing)
- Severe belly pain that spreads, or belly becomes hard and rigid (infection may be spreading beyond the uterus into the abdomen)

Treat it — in this order

1. IV clindamycin 900 mg every 8 hours PLUS IV gentamicin 5 mg/kg (based on actual body weight) once daily, OR single-agent IV ampicillin-sulbactam 3 g every 6 hours or piperacillin-tazobactam 3.375 g every 6 hours → Kills the mix of bacteria that climbed into the uterus from the vagina and lower gut. Clindamycin targets anaerobes like *Bacteroides fragilis* (bacteria that live without oxygen deep in infected tissue). Gentamicin kills aerobic gram-negative rods like *E. coli* (bacteria that need oxygen and come from the bowel). Together they cover the broad spectrum of bacteria that cause postpartum endometritis. The single-agent beta-lactam/beta-lactamase inhibitor combinations (ampicillin-sulbactam or piperacillin-tazobactam) work the same way by covering both types of bacteria in one drug.
2. Continue IV antibiotics until the mom has been fever-free for at least 24–48 hours and clinical signs (uterine tenderness, a fast heart rate (tachycardia)) are improving; do NOT switch to oral antibiotics in the hospital → Keeps drug levels high in the infected uterine tissue long enough to kill all the bacteria and prevent them from bouncing back (relapse) or forming an abscess. Stopping too early or switching to pills too soon lets surviving bacteria multiply again.

3. Add IV ampicillin 2 g every 4–6 hours if no improvement after 48–72 hours of clindamycin plus gentamicin, to cover Enterococcus species → Enterococcus bacteria (a type of gut bacteria) are naturally resistant to clindamycin and gentamicin. If fever persists despite those drugs, Enterococcus may be the culprit. Ampicillin kills Enterococcus and plugs that gap in coverage.
4. Pelvic ultrasound (or CT if ultrasound is not clear) within 48–72 hours if fever persists despite appropriate IV antibiotics → Finds hidden problems that antibiotics cannot fix: a pocket of pus (abscess) in the pelvis or uterus, leftover placental tissue acting like a foreign body and feeding bacteria, or infected blood clots in the uterine or ovarian veins (septic pelvic thrombophlebitis). Seeing the problem lets you drain it, remove it, or thin the blood to dissolve clots.
5. Percutaneous (through the skin) or transvaginal ultrasound-guided drainage of pelvic or uterine abscess if imaging shows a drainable fluid collection → Removes the pocket of pus so antibiotics can reach the remaining bacteria. Pus is full of dead white blood cells, debris, and bacterial toxins that block antibiotics from penetrating. Draining it clears the barrier and lets the immune system and drugs finish the job.

Your top priorities at the bedside

1. Obtain two sets of blood cultures from different sites before starting antibiotics, then give first IV antibiotic dose within 1 hour — why: Blood cultures identify which bacteria are causing infection so doctors can narrow antibiotics later; drawing before antibiotics prevents false-negative results; early antibiotic administration reduces progression to septic shock which drops blood pressure dangerousl
2. Start continuous monitoring of heart rate, blood pressure every 15 to 30 minutes, oxygen saturation, and temperature until patient is stable for 2 hours — why: Sepsis causes a fast heart rate (tachycardia) (fast heart rate over 100), low blood pressure (hypotension) (systolic blood pressure below 90), and sometimes low oxygen (hypoxia) (low oxygen); frequent monitoring detects septic shock early when vasopressors (medications that raise blood pressure) and ICU transfer are needed
3. Give IV fluid bolus of 30 milliliters per kilogram lactated Ringer solution or normal saline over 2 to 3 hours while monitoring lung sounds and urine output — why: Sepsis causes vasodilation (blood vessels widen) and capillary leak (fluid escapes blood vessels), dropping circulating blood volume; rapid fluid replacement restores tissue blood flow (perfusion) (blood flow to organs) and prevents acute kidney injury; lung listening with a stethoscope (auscultation) detects pulmonary edema (fluid flooding the lungs) (fluid in lungs) from overload