

PID · STI & Pelvic Inflammatory Disease

PID means germs from the cervix travel up into the tubes and belly. Even after treatment, the tubes stay scarred and may never work right again.

THE ONE-LINE TRUTH

Bacteria from a sexually transmitted infection in the cervix climb up into the uterus, fallopian tubes, and sometimes the belly, causing infection and scarring that never fully heals.

The chain — how it unfolds

1. Bacteria breach the cervix and enter the uterus — why: Chlamydia, gonorrhea, or mixed bacteria swim past the cervical mucus—especially during menstruation when the barrier is thinnest—and plant themselves in the endometrium (uterine lining), starting the infection.
2. Infection spreads up into the fallopian tubes — why: Bacteria multiply in the endometrium and are carried by uterine contractions or swim on their own into the fallopian tubes, where they trigger salpingitis (tube infection) and begin to damage the delicate ciliated lining.
3. Inflammation kills the cilia and scars the tubes — why: White blood cells flood the tubes and release enzymes and cytokines to kill bacteria, but this inflammatory response also destroys the sweeping cilia and leaves behind scar tissue and adhesions that block or narrow the tube permanently—even after antibiotics clear the germs.
4. You feel pelvic pain and tenderness — why: Swelling and inflammation in the uterus, tubes, and surrounding tissue stretch nerve endings, causing constant aching or cramping pain. When the doctor moves your cervix or presses near the tubes and ovaries, it hurts sharply because those tissues are inflamed and full of fluid.
5. Fever and discharge may or may not appear — why: Fever happens when bacterial toxins and inflammatory chemicals (cytokines like IL-1 and TNF- α) reach the bloodstream and reset your brain's thermostat. Vaginal discharge appears when the infected endometrium and cervix shed inflamed cells and pus. But mild or early PID may have no fever or discharge at all, which is why the diagnosis is often missed.
6. Untreated infection can form a tubo-ovarian abscess — why: If bacteria are not killed quickly, they can collect in a walled-off pocket of pus next to or inside the tube and ovary. This abscess can rupture, spilling bacteria into the belly and bloodstream, causing peritonitis and sepsis—a life-threatening emergency.

7. Scarred tubes lead to infertility or ectopic pregnancy — why: Because the cilia are destroyed and scar tissue blocks or narrows the tubes, eggs cannot travel down to the uterus normally. This can prevent pregnancy altogether (infertility) or cause a fertilized egg to get stuck in the tube (ectopic pregnancy), which is dangerous and requires urgent treatment.
8. Chronic pelvic pain can persist even after treatment — why: Adhesions (bands of scar tissue) form between the tubes, ovaries, uterus, and bowel during healing. These adhesions tug and pull on nerves and organs, causing ongoing pain that can last months or years, even when the infection is long gone.

Spot it — what you see, and why

- Lower belly pain that gets worse when the doctor pushes on the cervix or ovary area during an exam (cervical motion tenderness or adnexal tenderness): Infection has climbed from the cervix into the uterus, fallopian tubes, or ovaries, making those tissues swollen and sore. When the doctor nudges the cervix or presses near the ovaries, it moves the inflamed organs and triggers pain.
- Cervix that bleeds easily when touched (friable cervix): Bacteria such as chlamydia or gonorrhea inflame the surface of the cervix, making tiny blood vessels fragile and raw so they break open with the lightest touch.
- Abnormal vaginal discharge—often cloudy, yellowish, or foul-smelling: The infection triggers the cervix and upper genital tract to pour out white blood cells and fluid mixed with bacteria and dead tissue, which drains down as discharge.
- Bleeding after sex (post-coital bleeding): The inflamed, friable cervix has fragile blood vessels that break open from the friction of intercourse.
- Fever (often low-grade, sometimes higher): The immune system raises the body's temperature to fight the bacteria spreading through the reproductive organs.
- Pain during sex (dyspareunia): Swollen, tender pelvic organs get bumped or stretched during intercourse, triggering pain.

Red flags — act now

- Severe lower belly pain with high fever and vomiting—may signal a tubo-ovarian abscess (a pus-filled pocket near the ovary) or peritonitis (infection spreading into the belly)
- Unable to walk or stand upright because of pain—suggests very swollen, inflamed pelvic organs or an abscess
- Signs of sepsis: racing heart, very low blood pressure, confusion, or extremely high or very low body temperature—bacteria may be spilling into the bloodstream

Treat it — in this order

1. Ceftriaxone 500 mg intramuscular (IM) once (updated 2020 CDC guideline dose) → Kills *Neisseria gonorrhoeae* (gonorrhea bacteria) immediately at the cervix and in the tubes. Stops gonorrhea from multiplying and spreading deeper into the pelvis. Gonorrhea is resistant to many older antibiotics, so ceftriaxone is the only reliable first choice.
2. Doxycycline 100 mg by mouth twice daily for 14 days → Kills *Chlamydia trachomatis* (chlamydia bacteria) inside the cells lining the uterus and tubes. Chlamydia hides inside cells and damages the cilia even after the bacteria die, so 14 days of treatment is needed to clear the infection fully and reduce long-term scarring.
3. Metronidazole 500 mg by mouth twice daily for 14 days → Kills anaerobic bacteria (bacteria that grow without oxygen) such as *Bacteroides* and *Prevotella*, which seed the pelvis alongside chlamydia and gonorrhea. Anaerobes drive abscess formation and add to the inflammatory damage. Metronidazole reduces the total bacterial load and lowers the risk of tubo-ovarian abscess.
4. Test and treat all sexual partners from the past 60 days with the same antibiotic regimen (ceftriaxone plus doxycycline) → Breaks the reinfection loop. If the partner still carries chlamydia or gonorrhea, the patient will be reinfected days or weeks after finishing her antibiotics. Treating the partner stops transmission and protects the patient from repeat episodes of PID, which multiply the risk of infertility.
5. Abstain from sex until both the patient and all partners complete the full antibiotic course and symptoms resolve → Prevents reinfection during treatment. Allows the swelling in the tubes and uterus to settle and gives the cilia a chance to begin repair. Reduces mechanical irritation of inflamed tissues.

Your top priorities at the bedside

1. Give ceftriaxone 250 mg intramuscular injection in first visit and watch patient take first doses of doxycycline 100 mg and metronidazole 500 mg by mouth — why: Early antibiotics stop bacteria from spreading higher into tubes and ovaries where they cause abscesses and permanent scarring that blocks tubes and causes infertility
2. Teach patient to take doxycycline 100 mg twice daily and metronidazole 500 mg twice daily for full 14 days even when pain stops — why: Stopping antibiotics early leaves live bacteria that continue damaging tubes; complete course kills all gonorrhea and chlamydia bacteria plus anaerobes (bacteria that grow without oxygen) that cause deep infection
3. Explain that patient and all sexual partners from last 60 days must get tested and treated with same antibiotics before any sex happens again — why: Untreated partners carry gonorrhea or chlamydia bacteria and re-infect the patient immediately after her treatment ends; ping-pong infection back and forth causes repeated tube damage