

C • C Diff

C. difficile colitis happens when antibiotics kill the helpful bacteria in your gut, letting C. difficile wake up, multiply, and release poisons that damage your colon lining — you treat it with vancomycin by mouth or fidaxomicin by mouth.

THE ONE-LINE TRUTH

C. difficile (a harmful germ) took over your gut after antibiotics wiped out the good bacteria that normally keep it under control.

The chain — how it unfolds

1. Antibiotics kill the good gut bacteria. — why: Strong antibiotics — especially fluoroquinolones, clindamycin, and cephalosporins — wipe out the helpful bacteria that normally crowd out C. difficile, removing the natural defense that kept it asleep.
2. C. difficile spores wake up and multiply. — why: With the good bacteria gone, C. difficile spores germinate (wake up), turn into active bacteria, and multiply fast because there's no competition for food or space in the colon.
3. C. difficile releases toxins A and B. — why: The bacteria make two poisons: toxin A causes inflammation and fluid to leak into the colon, and toxin B kills the cells lining the colon wall, punching holes in the protective barrier.
4. Colon lining is damaged, causing watery diarrhea, belly pain, and fever. — why: Dead and dying colon cells let fluid pour into the gut (causing watery diarrhea), trigger pain receptors (causing cramps), and signal the immune system to send white blood cells and raise body temperature (causing fever and high white count).
5. Pseudomembranes form on the colon lining. — why: Dead cells, white blood cells, and mucus clump together into yellowish plaques (pseudomembranes) that stick to the colon wall — a classic sign seen on colonoscopy.
6. In severe cases, the colon stops moving (ileus) and balloons up (toxic megacolon). — why: Toxins paralyze the muscles in the colon wall so it can't squeeze and move stool forward; gas and fluid build up, stretching the colon dangerously wide (over 6 cm on X-ray), and blood flow to the wall drops, starving the tissue.

7. The colon wall may tear (perforation), spilling stool into the belly. — why: If the colon is stretched too far or the wall is too damaged, it tears open, releasing bacteria and toxins into the sterile abdominal cavity, causing peritonitis (belly infection) and septic shock.
8. Septic shock: blood pressure drops, organs shut down, lactate rises. — why: Bacteria and toxins in the bloodstream trigger a massive inflammatory response (sepsis), blood vessels leak and dilate, blood pressure crashes, organs don't get enough oxygen, and cells switch to anaerobic metabolism (making lactate build up) because they're suffocating — this is life-threatening and requires ICU care and often emergency surgery.

Spot it — what you see, and why

- Watery diarrhea (three or more loose stools in 24 hours): C. diff bacteria make toxins (poisons) that damage the lining of the colon, so water and salts leak out into the bowel instead of being absorbed back into the body.
- Cramping belly pain: The toxins inflame (irritate and swell) the wall of the colon, which makes the muscle cramp and tighten as your gut tries to push things through.
- Fever (body temperature above 100.4°F or 38°C): Your immune system detects the infection and releases chemicals that reset your body's thermostat higher to help fight the bacteria.
- Loss of appetite and feeling sick to your stomach: Inflammation in the gut sends signals to the brain that make you not want to eat, which is the body's way of resting the bowel during infection.
- Blood or pus in the stool: Severe inflammation and toxin damage can break open tiny blood vessels in the colon lining and create open sores that ooze blood and white blood cells (pus).
- Swollen, tender belly (abdominal distention): In severe cases, the colon becomes so inflamed that it swells up like a balloon and stops moving stool forward, trapping gas and fluid inside.

Red flags — act now

- White blood cell count above 15,000 per microliter or blood lactate above 2.2 mmol/L (signs the infection is severe and the body is struggling)
- Swollen colon larger than 6 centimeters on imaging (risk the colon could tear open, called toxic megacolon)
- Low blood pressure, confusion, or organ failure (signs of life-threatening septic shock)

Treat it — in this order

1. Stop the antibiotic that triggered the infection (if medically safe to do so) → Stopping the antibiotic lets the remaining good bacteria in the gut start growing back so they can compete with *C. difficile* again. This removes the fuel that let *C. difficile* take over in the first place.
2. Give oral vancomycin 125 mg four times daily for 10 days for non-severe infection → Vancomycin stays in the colon (it is not absorbed into the blood) and kills *C. difficile* bacteria directly where they live. Most patients improve in 3 to 5 days.
3. Give oral fidaxomicin 200 mg twice daily for 10 days (alternative first-line, especially if high risk for recurrence) → Fidaxomicin kills *C. difficile* but spares more of the normal gut bacteria than vancomycin does, so recurrence rates are lower (about 15% versus 25% with vancomycin). It works as well as vancomycin for curing the first episode.
4. For severe infection (white blood cell count $\geq 15,000$ or creatinine ≥ 1.5 times baseline), give oral vancomycin 125 mg four times daily; if very severe (shock, a stalled gut (ileus), megacolon, or ICU care needed), increase to 500 mg four times daily → Higher-dose vancomycin floods the colon with more antibiotic to fight the large *C. difficile* load. In severe cases, this dose gives the colon the best chance to clear the toxin-producing bacteria before complications happen.
5. For fulminant (life-threatening) infection—especially with a stalled gut (ileus), toxic megacolon, or shock—add IV metronidazole 500 mg every 8 hours AND consider vancomycin enemas (500 mg in 100–500 mL saline every 6 hours if a stalled gut present) → When the gut is paralyzed, oral vancomycin cannot reach the colon. IV metronidazole enters the inflamed colon through the bloodstream. Vancomycin enemas deliver antibiotic directly from below. Together, they attack *C. difficile* from both directions.

Your top priorities at the bedside

1. Place the patient on contact precautions with gloves, gown, and dedicated equipment, and clean all surfaces with bleach-based disinfectant after each contact — why: *C. difficile* forms spores (tough shells that survive for months) that alcohol hand sanitizer and regular cleaners cannot kill. Only soap and water handwashing physically removes spores from hands, and only bleach kills spores on surfaces. Contact precautions stop the germ from spreading to other patients through contaminated hands and equipment.

2. Monitor vital signs every four hours and watch for fever above 100.4°F, heart rate above 100, blood pressure below 90 systolic, or confusion — why: Fever, fast heart rate, low blood pressure, and confusion are signs of septic shock (the infection spreading into the bloodstream and causing organ failure). The toxins from *C. difficile* can damage the colon so badly that bacteria leak into the blood. Early detection of septic shock allows rapid escalation to intensive care and potentially life-saving treatment.
3. Track and document the number, volume, and appearance of stools every shift, and test stool for blood if the patient reports bloody diarrhea — why: The number of stools measures how well treatment is working. More than ten stools per day or visible blood in stool signals severe infection. Diarrhea causes massive fluid loss (sometimes liters per day), so tracking stool output helps calculate how much intravenous fluid the patient needs to prevent dehydration and kidney failure.