Clostridioides difficile

CDI · Test only if it fits, fidaxomicin first, soap and water always

FIDAXOMICIN PREFERRED
IDSA/SHEA 2021

TEST THE RIGHT PATIENT *over-testing creates over-treatment*

ONLY TEST IF

≥ 3 unformed stools in 24 hours with no other explanation. **Do not test formed stool**, do not test asymptomatic patients, and **do not screen for colonization** — a positive result in a patient without diarrhea is colonization, and treating it causes harm without benefit.

WHICH ASSAY

A **two-step algorithm** is preferred: a sensitive screen (**NAAT or GDH**) followed by a **toxin** immunoassay. NAAT alone detects the **gene**, not toxin production, so it cannot separate infection from carriage.

DO NOT REPEAT

No test of cure and no repeat testing within the same episode — the assay stays positive for weeks after clinical resolution. Repeat testing generates false alarms and unnecessary courses.

TREAT BY SEVERITY *2021 IDSA/SHEA focused update*

Episode	Regimen	Notes
Initial non-severe or severe	**Fidaxomicin 200 mg PO BID × 10 days** alternative: vancomycin 125 mg PO QID × 10 days	**Fidaxomicin is now preferred over vancomycin.** Cure rates and mortality are similar, but fidaxomicin gives a better **sustained response at 4 weeks** through **fewer recurrences** — it spares the gut microbiome.
First recurrence	**Fidaxomicin**, or a **vancomycin tapered and pulsed** regimen	If vancomycin was used first line, fidaxomicin or a taper/pulse is preferred to a second identical course.
Recurrence within 6 months	Add **bezlotoxumab** as a **co-intervention** alongside standard-of-care antibiotics	Reduces recurrence and 30-day readmission, though not mortality. **Caveat:** under 5% of trial patients received it with fidaxomicin, so the benefit alongside fidaxomicin is unproven. Use caution in heart failure.
Multiply recurrent	**Faecal microbiota transplantation** after an appropriate antibiotic course	Highly effective for restoring colonization resistance once two or more recurrences have occurred.
Fulminant shock, ileus, megacolon	**Vancomycin 500 mg PO/NG QID + IV metronidazole 500 mg q8h**; add **rectal vancomycin** if ileus	**Surgical consultation immediately.** Rising lactate and WCC signal the need for colectomy or diverting loop ileostomy. Oral drug cannot reach the colon in ileus, hence the IV and rectal routes.

EVERYTHING ELSE THAT MATTERS *the parts that are not the antibiotic*

1. **Stop the inciting antibiotic** wherever possible, or narrow it. Continuing broad-spectrum therapy alongside CDI treatment is the commonest reason for failure and recurrence.
2. **Stop proton pump inhibitors** unless there is a clear indication, and **avoid antimotility agents** such as loperamide in severe or fulminant disease, where they risk ileus and toxic megacolon.
3. **Contact precautions** in a single room, and **wash hands with soap and water** — **alcohol gel does not kill spores**. Use a **sporicidal (chlorine-based) agent** for environmental cleaning and dedicated equipment.
4. **Assess severity objectively**: WCC > 15,000 or creatinine > 1.5 mg/dL marks severe disease. Add **lactate, albumin, and imaging** if you suspect fulminant disease or megacolon.
5. **Flag it for future admissions.** Document the episode clearly, since prior CDI changes both antibiotic stewardship decisions and the treatment choice if it recurs.

RISK FACTORS *who is vulnerable, and what you can modify*

MODIFIABLE

Antibiotic exposure is the dominant risk, especially clindamycin, fluoroquinolones, cephalosporins, and carbapenems. Also **proton pump inhibitors**, prolonged hospitalization, and enteral feeding. **Antibiotic stewardship is the single most effective prevention.**

NON-MODIFIABLE

Age ≥ 65, previous CDI, immunosuppression and chemotherapy, inflammatory bowel disease, chronic kidney disease, and recent abdominal surgery. In IBD, distinguishing a flare from CDI is difficult — **test for both**.

SEVERITY DEFINITIONS & SPECIAL POPULATIONS *classify before you prescribe*

Category	Definition or consideration
Non-severe	**WCC ≤ 15,000** cells/μL **and** serum creatinine **< 1.5 mg/dL**.
Severe	**WCC > 15,000** cells/μL **or** serum creatinine **≥ 1.5 mg/dL**. Same oral agents as non-severe under the current guidance — severity no longer changes the first-line drug, only your vigilance.
Fulminant	**Hypotension or shock, ileus, or megacolon.** This is the category that changes the regimen and needs surgery on the phone.
Inflammatory bowel disease	**Test for CDI in every IBD flare** — the presentations are indistinguishable and CDI worsens outcomes. Treat the infection before escalating immunosuppression.
Pregnancy & lactation	**Oral vancomycin** is generally preferred, given minimal systemic absorption and more experience in pregnancy.

WHEN TO WORRY ABOUT THE COLON *the surgical conversation*

WARNING SIGNS

Rising lactate, **WCC above ~25,000**, **falling albumin**, worsening pain with peritonism, abdominal distension, or **diarrhea that suddenly stops** (ominous — suggests ileus, not recovery). **Get a CT abdomen** to look for colonic dilatation and wall thickening.

WHAT SURGERY OFFERS

Subtotal colectomy or a **diverting loop ileostomy with colonic lavage**. Outcomes are far better when surgery is considered **before** multi-organ failure sets in, so involve them at the point of fulminant classification rather than after a failed medical trial.

PEARLS & PITFALLS

- **A positive NAAT in a patient without diarrhea is colonization.** Treating it does not help and drives resistance and unnecessary courses.
- **Alcohol hand gel does not kill C. difficile spores.** Soap and water, every time.
- **No test of cure.** The assay remains positive long after the patient is well.
- **In ileus, oral vancomycin cannot reach the colon** — add IV metronidazole and consider the rectal route.
- **Metronidazole alone is no longer recommended** for initial treatment; it is an IV adjunct in fulminant disease only.

References: IDSA/SHEA 2021 Focused Update Guidelines on Management of *Clostridioides difficile* Infection in Adults (Clin Infect Dis, 2021) · ACG clinical guideline on CDI.

Educational aid; verify doses against local protocol, renal function, and patient factors.