

Infection Prevention and You



Fecal transplants: A new *Clostridium difficile* treatment option

What is *Clostridium difficile* (or *C. diff*) infection?

Clostridium difficile (*C. diff*) infection is a diarrheal illness that causes almost half a million infections among patients in the United States each year. The illness happens more commonly in people who have been taking antibiotics. This is because the antibiotics change the normal bacteria in the gut. This change allows the *C. diff* organism to multiply and create a poison that causes severe diarrhea. Other people at risk for *C. diff* disease include the elderly, immune-compromised, and those who have inflammatory bowel disorders or frequent hospital stays. Although the most common symptom of *C. diff* is watery diarrhea, other symptoms include fever, loss of appetite, nausea, and abdominal pain or tenderness. It can cause immense suffering and can be fatal. In severe cases, a person may need surgery to remove the infected part of the intestine.

How is it treated?

C. diff is most commonly treated with antibiotics. Unfortunately in many cases, the symptoms may come back despite taking antibiotics multiple times. A new treatment is now being given to patients with recurrent *C. diff*. It is called Fecal Microbiota Transplantation (FMT), or bacteriotherapy, and it involves putting stool or fecal specimen (poop) from a healthy person into the gastrointestinal tract of the patient who has *C. diff*. Donor feces contain healthy bacteria that fight off the *C. diff* bacteria in the gut and allow the normal bacteria to grow.

How is FMT performed?

Fecal transplants are most frequently done via a colonoscopy. During a colonoscopy, a mixture of the stool sample and saline (salt solution) is introduced into the gut. Fecal specimens are oftentimes donated by the patient's immediate family member, close friend or intimate partner, or from a donor bank. Donors are carefully screened to be sure they do not have another infectious disease before the transplant is performed. Fecal transplants may also be done by putting the fecal specimen into the patient's gut with an enema or nasogastric (nose and stomach) tube.

One donor bank is now processing stool specimens to be placed in capsule (pill) form for patients to swallow. Donor stool is sent to the lab and packed into triple-coated gel capsules so they won't dissolve until they reach the intestines. It takes 24 to 34 capsules to fit the bacteria needed for a treatment, and patients take all of the pills at once.

Does FMT work?

A study published in 2013 in *The New England Journal of Medicine* found that fecal transplants were nearly twice as effective as antibiotics in treating patients with recurring *C. diff*. In fact, about 90 percent of patients who have FMT are cured after one treatment.

A small percentage of patients need two treatments before their symptoms go away. This procedure has also been shown to be safe. There have been no serious side effects reported; however, some patients may experience mild abdominal cramping the day of the procedure.

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Additional resources

APIC consumer alert—What you need to know about *Clostridium difficile* <http://www.apic.org/For-Consumers/Monthly-alerts-for-consumers/Article?id=what-you-need-to-know-about-clostridium-diffi>

Centers for Disease Control—*Clostridium difficile* infection http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html

Society for Healthcare Epidemiologists—FAQ about *Clostridium difficile* http://www.shea-online.org/Assets/files/patient%20guides/NNL_C-Diff.pdf

The Fecal Transplant Foundation—What is FMT? <http://thefecaltransplantfoundation.org/what-is-fecal-transplant>

New York Times—A New Kind of Transplant Bank http://www.nytimes.com/2014/02/18/health/a-new-kind-of-transplant-bank.html?_r=0

Discover Magazine—‘Poop Pills’ Could Replace Fecal Transplants of Gut Bacteria <http://blogs.discovermagazine.com/d-brief/2013/10/07/poop-pills-could-replace-fecal-transplants-of-gut-bacteria/>

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