

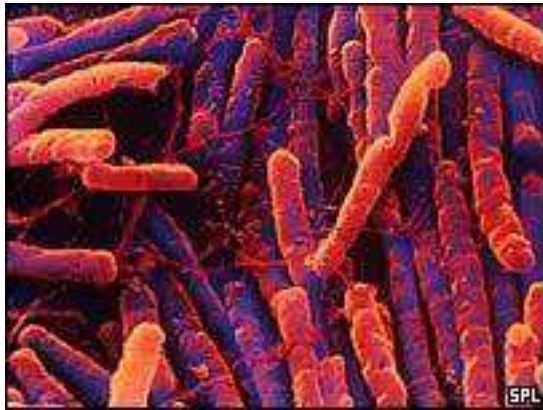
Care And Cost

Fecal Transplantation for Refractory C. Difficile Infections – Care And Cost

6-7 minutes

Patricia Salber

Posted 10/12/11 on [The Doctor Weighs In](#)



Clostridium difficile



Whether you call it by its scientific name, fecal microbiota transplantation, or by the tongue in cheek equivalent, “transpoosion,” there is no getting around it – this treatment for [Clostridium difficile infection](#) (CDI) involves introducing a blenderized sample of a healthy person’s stool into the gut of the infected individual. Yuk, you might be thinking, but evidence is accumulating that, in some cases, fecal transplantation can be life saving.

CDI most commonly occurs after a person, often an older and/or hospitalized patient, has taken a course of antibiotics for another type of infection. It is thought that the antibiotics kill off good bacteria in the gut and allow the overgrowth of pathogens, such as C. difficile. The most common symptoms of infection are watery diarrhea two to three times a day and mild abdominal tenderness and cramping. In more severe cases, the colon becomes inflamed, a condition known as [pseudomembranous colitis](#); this is characterized by blood and pus in the stool, and may be associated with more frequent diarrhea and abdominal cramping and pain, as well as fever, nausea, dehydration, loss of appetite and weight loss.



Pseudomembranous Colitis

Over the last 15 years, CDI diagnoses have doubled. In 2010, the annual incidence in the US was ~ 500,000 with about 15-20,000 of those patients dying of the disease. Contributing to the increased incidence is the emergence of more virulent strains and strains that are resistant to antibiotics. Traditional first line treatment, [metronidazole](#), has become less efficacious and some experts now recommend treating first with [vancomycin](#), the agent that used to be considered the “big gun” for hard to treat cases.

Recurrence of the infection after treatment with antibiotics occurs in as many as 15-30% of patients. If an individual has already had one recurrence, the chance that they will have another after the antibiotic is stopped is a whopping 65%. People with recurrent, refractory *C. difficile* not only have recurrent symptoms, they lose weight, lose their appetite, and have repeated hospitalizations. If they are uninsured or underinsured, they may also spend a small fortune on antibiotics.

So it is little wonder that a new treatment, particularly one that has had case reports of dramatic recovery and cure, would be highly attractive to clinicians and to patients – even if it involves putting someone else’s poop in their body.

According to a review in Clinical Gastroenterology and Hepatology, [“Treating Clostridium difficile Infection with Fecal Microbiota Transplantation,”](#) published by Johan Bakken and colleagues, in August 2011, fecal transplantation corrects the abnormal microbial milieu (deficient in members of the [Bacteroidetes phylum](#)) and restores a [healthy gut flora](#) with a composition resembling that of the fecal donor. To date, the review states, there have been ~ 200 case reports of fecal transplantation with a “mean success rate of 96%.” There are no published [randomized clinical trials](#) of the therapy – often felt to be the Gold Standard of therapeutic efficacy, but several such studies are funded and are currently in progress.

So who should be considered for this type of treatment? Bakken et al lists the following indications:

1. Recurrent or relapsing CDI
2. Moderate CDI not responding to standard treatment (vancomycin) for at least a week
3. Severe (and perhaps even fulminant *C. difficile* colitis) with no response to standard therapy after 48 hours.

Preferred donors are healthy individuals that have intimate contact with the patient. The rationale is that someone close to the patient likely shares infectious risk factors which “minimizes the risk of transmitting an infectious agent.” That being said, it is still recommended that the donor should be screened for serious infectious agents (such as HIV, hepatitis A, B, or C, syphilis) and risk factors for serious diseases, such as [Creutzfeldt-Jakob](#). Donor stool should be tested for infectious agents including *C. difficile* toxin, Giardia, Cryptosporidium and Helicobacter pylori antigen, and enteric bacterial pathogens and ova and parasites.

After the stool has been screened, it is diluted in preservative-free saline and then buzzed in a blender to produce liquid slurry. After filtering through gauze pads or a strainer to remove large particles, it is ready to be “transplanted” – either via an enema or, in some cases, via a nasogastric tube or nasoduodenal tube directly into the upper GI tract. There is even a [DIY version](#) of the procedure that has been described by Dr. Mike Silverman at the University of Toronto. Symptoms usually resolve within hours or days after the infusion. Absence of relapse after 8 weeks is suggestive of cure.

Just in case you are still skeptical, I thought I would include a video testimonial:

It is very interesting that novel treatments of common diseases are often “pooh-pooed” [pun intended] when first described – think [eradication of Helicobacter pylori to treat gastric ulcers](#). It is possible that fecal microbiota transplantation for recurrent, refractory *C. difficile* infection will be one of them. At least one researcher is banking on it. [Thomas Borody](#), an Australian gastroenterologist and early proponent of the treatment, has multiple patents in the field of fecal transplantation.

Pat Salber MD, MBA has been Medical Director and Chief Medical Officer for several large national health plans. She writes at **the Doctor Weighs In**.