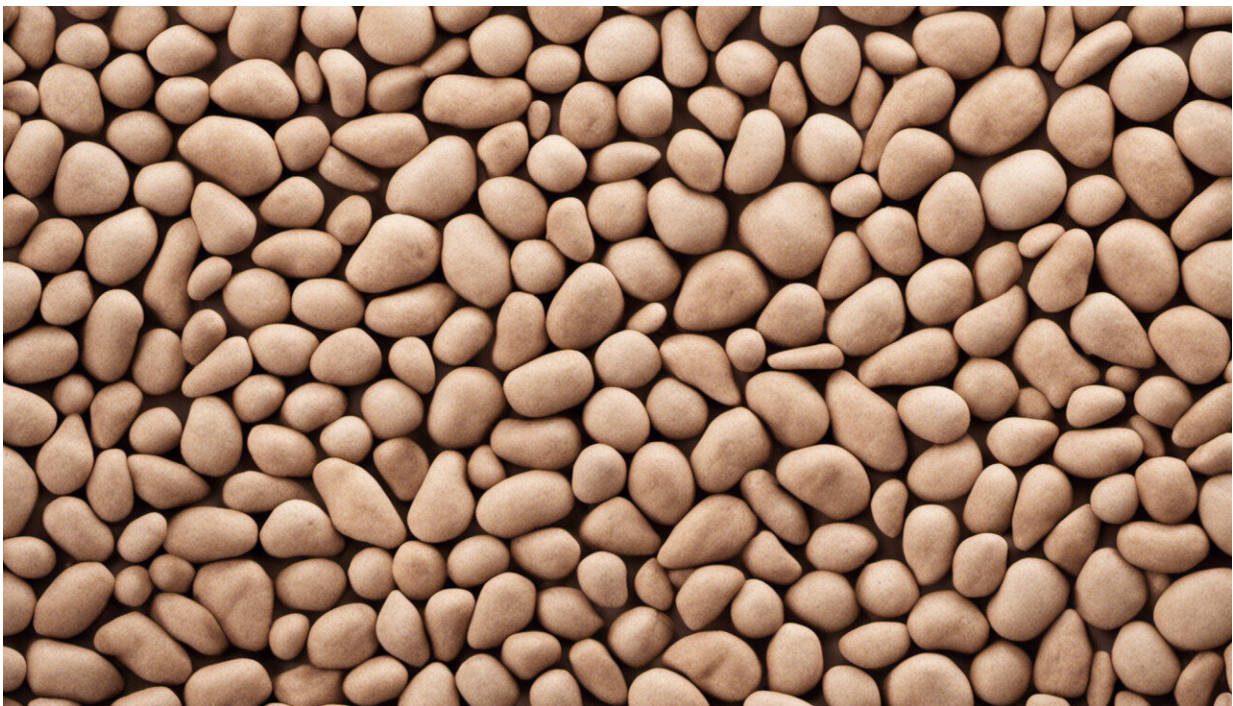


# Poo transplants beyond the yuck factor—what works, what doesn't and what we still don't know

August 14 2017, by Nadeem O. Kaakoush

---



Credit: AI-generated image ([disclaimer](#))

The intriguing, yet somewhat malodorous, topic of poo transplants is in the news. A [study published today](#) found poo transplants are better at treating a particular type of diarrhoea than an antibiotic or placebo (a fake or dummy treatment).

The study collated and analysed the results from earlier studies in how effective poo transplants were in treating diarrhoea caused by the bacterium *Clostridium difficile*.

Researchers have been interested in alternative treatments for this condition due to the rise in resistance to standard treatments (including antibiotics). So this type of diarrhoea has quickly developed into a more life-threatening disease.

The study findings are in line with [recent European advice](#) strongly encouraging setting up centres specialising in poo transplants to treat *C. difficile* diarrhoea.

Despite the apparent success of poo transplants for this particular condition, there is still much we don't know about this therapy. It's important to figure out how long the effects last, and which bugs in the poo transplant help us cure disease and which don't.

## **How do poo transplants work?**

Poo transplants (or "faecal microbiota transplantation") involve transferring poo from a healthy donor to a sick recipient. The collective community of bugs and compounds (the [gut microbiota](#)) in the donor's poo is then believed to establish itself in the recipient's gut.

The [scientific consensus](#) is poo transplants work if the recipient's gut microbiota is "restored". The most consistent measure of this has been [an increase in the diversity](#) of the community of organisms in the recipient's gut. By encouraging a more diverse and beneficial community of organisms in the gut, the idea is that this allows the recipient to resist being overwhelmed by the "bad" bugs.

Before donating their poo, donors' poo and their blood is screened for

many infectious agents such as *C. difficile*, HIV and viral hepatitis (A, B and C). This is to make sure a donation doesn't transfer pathogens (disease causing microorganisms) by accident.

The screened donor poo is then delivered to the recipient in a number of ways.

Delivery methods from above involve recipients swallowing a poo capsule (or "[crapsule](#)") containing frozen poo. Alternatively, a diluted sample can be delivered through a plastic tube inserted into the nose down to the stomach or small bowel (nasogastric intubation).

Samples can also be delivered from below via colonoscopy, where a tube is inserted into the rectum and goes deep into the gut to the caecum (just above the appendix). Or recipients can have an enema, where fluid is infused through the rectum.

## What works?

Poo transplants made their way into [the medical literature a long time ago](#) with the first successful result in [1958](#). Interest in poo transplants was ignited in 1989, in Australia, when various conditions including [irritable bowel syndrome responded](#) to therapy.

However, it was not until 2013 that the first controlled trial for *C. difficile* diarrhoea was carried out, which showed [the treatment was better than antibiotics and placebo](#).

The trial was stopped early as the ethics committee considered it unethical to withhold this therapy from the control group. The research [out today](#) backs these findings.

There is also evidence that poo transplants may be beneficial for patients

suffering from the gut conditions [colitis and Crohn's disease](#), a range of [infectious](#) or [inflammatory liver conditions](#), and in [eliminating antibiotic-resistant bacteria](#) from recipients' guts.

Preliminary studies also suggest benefit for [coeliac disease](#) (in a single person), [irritable bowel syndrome](#) (in mice), and for bowel and behavioural symptoms in children with [autism spectrum disorders](#) (this was a small study).

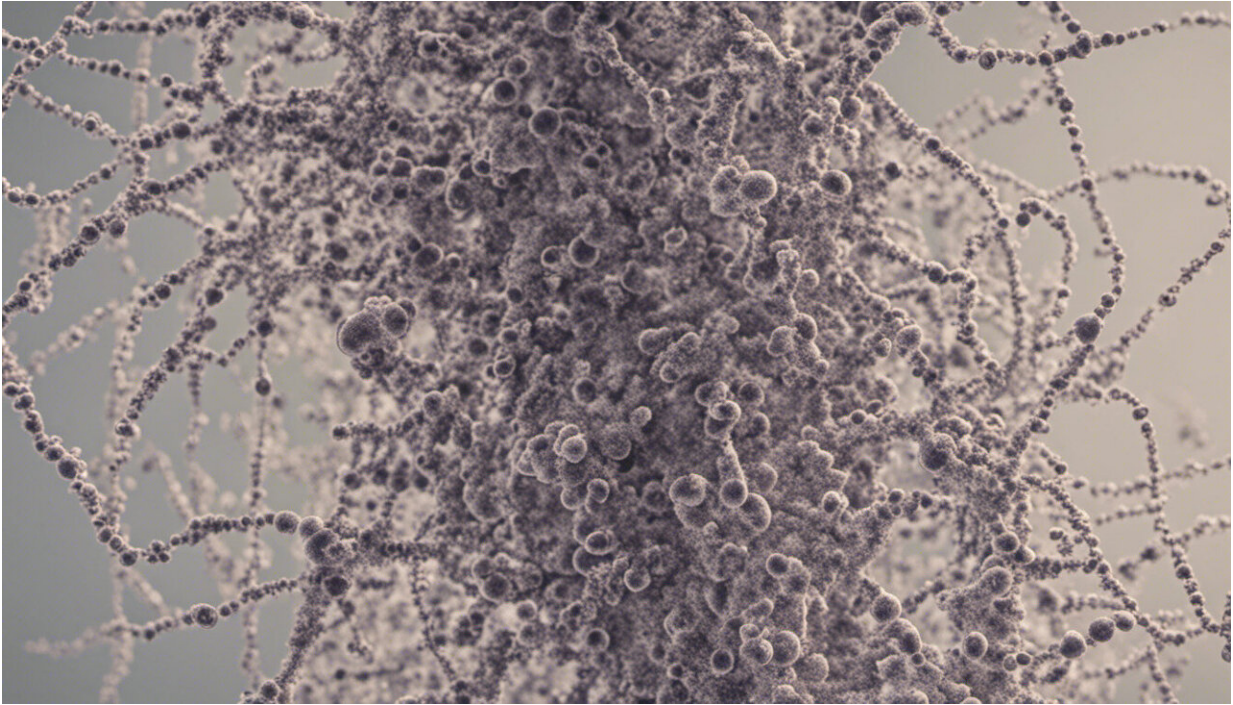
## What doesn't work?

Some studies have not shown a benefit from poo transplants for some of the above conditions. For example, a study in 2015 that looked at the effectiveness of poo transplants in patients with [ulcerative colitis](#) (a type of chronic [inflammatory bowel disease](#)) [did not find a significant benefit](#).

The likely reason poo transplants do not work for all people is because we are still some way away from a defined, consistent form of this therapy.

Future research will focus on which bugs lead to poo transplants not working. For instance, work by our group suggests [the Fusobacterium](#) group of bacteria is one to watch. And other studies suggest certain [viruses that infect bacteria](#) (bacteriophages) could play a key role in the effectiveness of poo transplants.





Credit: AI-generated image ([disclaimer](#))

We also need to keep in mind both "good" and "bad" bugs may differ according to the disease.

Poo transplants can also lead to generally mild [side-effects](#) like wind, cramps and constipation. There are also reports of patients with inflammatory bowel diseases [worsening](#) after therapy but this was found to be [marginal](#) and it's unclear if the therapy itself was the cause.

## **What we still don't know**

There are many aspects of poo transplants we need to study in more detail. We still don't know:

- how many transplants are needed per treatment
- the best delivery method
- how long the effects last
- the long-term safety
- the best mixture of bugs to [transplant](#) (and what they do).

All these factors also depend on the type of medical condition being treated.

For instance, [a recent meta-analysis](#) (analysis of a combination of earlier studies) shows [ulcerative colitis](#) symptoms improved with a greater number of transplants and when these transplants were given through a lower route.

We now need to conduct other well-designed controlled studies on the conditions mentioned above as well as other conditions, and update treatment guidelines for the medical community.

## **In a nutshell**

While there is much we don't know about poo transplants, there is growing evidence they can work for certain conditions.

If you're thinking about this type of treatment for yourself or a loved one, consult your GP and gastroenterologist, and only use practitioners experienced in this therapy.

This article was originally published on [The Conversation](#). Read the [original article](#).

Provided by The Conversation

Citation: Poo transplants beyond the yuck factor—what works, what doesn't and what we still don't know (2017, August 14) retrieved 11 May 2024 from <https://medicalxpress.com/news/2017-08-poo-transplants-yuck-factorwhat-doesnt.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.