

## Faecal transplantation for the treatment of *Clostridium difficile*

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*Clostridium difficile* is a bacterium that is named so due to its characteristic of being difficult to isolate and remove from its colonisation site. It is responsible for causing diarrhoea as well as potentially fatal inflammation of the colon as it persistently remains in the gut. *Clostridium difficile* usually affects the elderly in hospital settings or patients residing in healthcare facilities for a long time due to prolonged and exploitative use of antibiotics. An interesting fact is that *Clostridium difficile* spores are already present in our gut; however, the probiotic bacteria available in our gut create a protective covering and avert diseases. Despite this, the haphazard use of antibiotics reduces the helpful bacteria, causing exposure of the spores to glycine and certain bile acids, leading to their activation. This allows *Clostridium difficile* to displace the helpful bacteria and dominate the gut, thereby releasing toxins that attack the covering of our gut. These toxins destroy cells and cause inflammation. However, it was observed that it was possible to treat *Clostridium difficile* infection with faecal transplantation. This refers to the transfer of faeces from a healthy person into the gastrointestinal tract of the patient to treat the recurring infection. This is done as the faeces of the healthy person contains helpful bacteria that can reinstate a good microbial colony in the patient's gut. Initially, a healthy donor is chosen and is screened for any other infectious microbes. This is followed by the insertion of a colonoscope into the colon of the patient, retained for around 20 minutes, and as the colonoscope is withdrawn, the donor faeces is delivered through the colonoscope into the colon. The patients having *Clostridium difficile* infection recurrently for at least 3 times are eligible for this transplantation and for all those who had been unsuccessful after the usage of the conventional therapies. Moreover, newer developments of this therapy involving the stool specimens in capsule form for the patients to swallow have been made available. However, even after the promising results, there has been some reluctance from the public. Nevertheless, with further research and optimisation of this therapy, there is hope that this might become a prominent treatment option for *Clostridium difficile* infection in the future.

*Keywords: Clostridium difficile, Faecal transplantation, Antibiotics, Gut microbes*

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