

Introduction of fecal microbiota transplantation

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The community of microbiota in the human gut is critical to health and the functions of gut microbiota is so complex that the gut ecosystem can be comparable to an organ system in human body. Alterations of this ecosystem (or dysbiosis) has been implicated in a number of disease states, the prototypical example being *Clostridium difficile* infection (CDI). Fecal microbiota transplantation (FMT) has been shown to durably alter the gut microbiota of the recipient and proved efficacy in the treatment of recurrent CDI. It seemed to be promising that FMT may be eventually beneficial for treatment of other disease associated with alterations in gut microbiota, such as inflammatory bowel disease, irritable bowel syndrome, the metabolic syndrome, or even neuropsychiatric disorders. Though relatively simple to perform, concerns regarding to both short- and long-term safety, as well as the complex regulatory issues has limited widespread utilization of FMT. Establishment of guidelines for best practices, more robust long-term safety data, and refining FMT beyond current “whole stool” transplants to selected genus of microbiota or encapsulated formulations may increase the safety and tolerability.