

What is FMT?

Faecal Microbiota Transplantation, or FMT, is the process of changing the micro organisms in a humans intestinal tract (microbiota) by introducing microbes from another person, with the aim of improving or curing symptoms or an illness. It has been practised in different parts of the world since the 12 th century and in the west, as early as the 1950's in the USA and in the 1980's in Sydney , Australia. It has gained popularity in recent years because of demonstrated clinical benefits and the significant promise that it has shown in various medical conditions.

What does the human microbiome do?

The microbiome is the name given to the organisms in the human body which include : bacteria, viruses , Parasites and other organisms, which are important for metabolism and maintaining health. A disordered microbiome can result in disease due to impairment of the intestinal barrier function and changes in local defence mechanisms in the intestinal lining.

What influences the microbiome?

Currently we know that the microbiome can vary according to many factors such as : 1) how one was born 2) age 3) life events 4) diet and 5) medication use. Many more factors will no doubt be discovered in time to come.

Who could benefit from FMT

Several gastrointestinal disorders can benefit from FMT. These include :

Clostridium difficile infection

Inflammatory Bowel Disease

Irritable Bowel Syndrome

Other functional Gut disorders such as bloating and constipation may also improve with FMT

Some evidence exists for the microbiome being important in obesity, bone disease like Rheumatoid arthritis and even psychological conditions like depression. Investigation of the microbiome in these conditions is actively underway.

How is FMT done?

FMT involves the instillation a slurry of donor human faeces into a person's (recipient) large intestine, by colonoscopy and in some cases by additional, regular enemas. This means a colonoscopy - under sedation in a licensed medical facility is needed .

The recipient must undergo a medical screening process to make sure that FMT is appropriate which includes ensuring other potential conditions have not been overlooked. The recipient must be also be able to undergo colonoscopy, including the bowel preparation and sedation required for the procedure .

Donors are screened for medical conditions and medication use to make sure that their stool is safe to use.

Donor stools are prepared by trained staff according to accepted international standard and stored in special freezers to ensure adequate supplies when required . It is preferable that at least 2 donors are used to prepare each stool for use. Infection control audits are undertaken to ensure the safety of use of this technique in our health care facility.

How are donors found and screened?

Potential Donors can be found by those needing transplantation and by the medical facility.

Donor screening involves a questionnaire as well as blood and stool tests to exclude disease that theoretically could be transmitted by stool transplantation. This is done at the beginning of the donor assessment and prior to each stool donation, to make sure that nothing has changed since initial screening.

The questionnaire is both postal and face to face and may require nursing/ medical consultation.

What are the results of FMT in clinical trials?

Clostridium difficile infection - this is a condition in which an abnormal microbiome occurs , usually after exposure to antibiotics . It is an illness that causes diarrhoea which can be serious and recurrent or resistant to treatment. FMT is indicated for recurrent or resistant infection because many good quality clinical trials have shown an 85-95% success rate in treating this condition.

Inflammatory Bowel Disease

In these conditions an abnormal microbiome results in chronic inflammation of the large intestine (Ulcerative Colitis) and of the large and or small intestine (Crohn's disease). FMT in several good quality trials has shown clinical benefit in up to 50% of those with Ulcerative colitis and drug free remission and healing in around 22 %. In Ulcerative colitis the best results are achieved by a course or enema FMT for 4-8 weeks after initial colonoscopy FMT. The long term benefit is not known as it is an evolving field. FMT in Ulcerative colitis shows: great promise but has not yet reached clinical guideline status yet . FMT can be done on a case by case basis.

Crohn's disease

This is another inflammatory condition caused by an altered microbiome, which can benefit from FMT. There is less known about this but what published data suggest similar results to Ulcerative Colitis. Again case by case discussion is required.

What are the risk of FMT?

These include risk associated with Colonoscopy and the stool to be transplanted . The detailed process leading up to FMT is designed to reduce any risks associated with FMT.

In clinical studies there is no excess risk associated with the use of donor stool. This however should be discussed with the treating doctor.

The actual process of instillation of liquid material at colonoscopy can result in bowel accidents immediately after the procedure but this is very rare .

Colonoscopy and associated sedation carries its own risk and this should be discussed with your referring doctor and doctor doing the colonoscopy.