Healthcare Professional Information: Faecal Microbiota Transplant (FMT) for the treatment of *C. difficile* infection

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WHAT IS *CLOSTRIDIOIDES DIFFICILE* INFECTION (CDI)

Clostridioides difficile (*C. difficile*), commonly known as C. diff, is a, usually harmless, bacteria found in the bowel of a small proportion of healthy adults. It can multiply and cause *C. difficile* infection (CDI) when other 'good' gut bacteria are disrupted by medical treatments, such as antibiotics and chemotherapy. The use of antibiotics is the single largest risk factor for the development of CDI.

WHAT ARE THE SYMPTOMS OF CDI?

C. difficile bacteria may produce toxins, which can damage the lining of the gut wall, and cause symptoms ranging in severity from loss of appetite, nausea, abdominal pain, diarrhoea and fever to colitis and more serious complications requiring hospitalisation. There remains a considerable amount of morbidity and, occasionally, mortality associated with CDI, in addition to substantial healthcare cost impact.

TREATMENT OF CDI USING ANTIBIOTICS

Treatment with antibiotics, such as vancomycin and fidaxomicin, usually kills *C. difficile* bacteria and cures people of their CDI, however, in some people, diarrhoea can return. This is called a recurrence. It occurs when the normal, 'good' gut bacteria are not sufficient to protect from *C. difficile* bacteria increasing in number again and causing symptom relapse. Patients who have one recurrence are at increased risk of suffering from further recurrences of infection.

WHAT IS FAECAL MICROBIOTA TRANSPLANT?

Faecal Microbiota Transplant (FMT) is recommended by NICE and the All-Wales Medicines Strategy Group for the treatment of recurrent *C. difficile* infection in adults.

After a first *C. difficile* infection, 20-30% of patients experience recurrence. Patients who have recurrent CDI (rCDI) have a much higher chance of subsequent recurrences, with up to 50% of patients having further relapses.

FMT involves the transfer of a homogenised faecal suspension, containing gut bacteria from a healthy donor, into an adult with rCDI. This has been shown to restore a good balance of bacteria in the gut of the patient and acts as a more effective therapy for recurrent CDI than treating the infection with more antibiotics.

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FMT has been shown to be effective in treating rCDI with up to a 90% cure rate. Approximately 20% of patients will relapse after their first FMT and will need a second transplant to achieve cure.

WHEN SHOULD I CONSIDER FMT FOR A PATIENT?

NICE recommends that FMT is prescribed for adult patients who have failed the first- and second-line antibiotic treatments (usually vancomycin followed by fidaxomicin). Evidence shows that FMT is a more effective therapy for rCDI than treatment with further courses of antibiotics.

HOW IS FMT ADMINISTERED?

FMT can be given via both upper and lower gastrointestinal (GI) routes. With either route, the patient should not be able to smell or taste the FMT. It is recommended that upper GI administration should be undertaken using a nasogastric (NG) tube. Lower GI administration is accomplished via colonoscopy. Both can be undertaken in Wales. The choice of which procedure is best should be made in consultation with microbiology, gastroenterology, specialist nurses and patients.

A gastroenterologist, or other specialist healthcare professional, will administer the FMT. Please contact microbiology to discuss further.

WHERE WILL THE FMT BE UNDERTAKEN?

This will depend on the route of administration (upper or lower GI) and the health board where the transplant is undertaken. Please contact microbiology to discuss further.

ARE PATIENTS HAPPY TO HAVE FMT?

Yes. If a specialist is recommending FMT, it is because they feel that the risk from CDI is greater than the risks of FMT. Health care providers may be less keen on FMT, thinking that patients may not consent, but evidence shows that patients mostly just want their symptoms to resolve and are happy to agree to treatment.

WHAT ARE THE RISKS?

All FMT donors are screened in advance to ensure they are healthy, and their faeces is free from many known infections (including HIV, syphilis, viral hepatitis and COVID-19). People with gastrointestinal disease, autoimmune disease, or a history of cancer, are not eligible to become donors. The donors' identity is anonymous and appropriate measures are in place to reduce the risk of transmitting infection, or other conditions, to a recipient.

With the upper GI route of administration there is a risk of aspiration, where the FMT is regurgitated and goes into the patient's lungs. This is very unlikely. Healthcare professionals will monitor the transplant carefully to minimise the risk and medications are co-administered with FMT to make this

much less likely. Colonoscopy may cause, in approximately 0.1% of cases, bleeding or tearing of the lining of the gut wall. If a tear to the bowel wall does occur, patients may need a blood transfusion or surgery.

IS PATIENT CONSENT AND FOLLOW-UP NECESSARY?

It is important that patients are involved in decisions about their care and that they understand what treatment involves. Due to the risks outlined above, and a small risk of infection being transmitted through FMT, recipients are asked to consent to the procedure. FMT is a relatively new treatment, and it is important to continue to collect data on success rates and any adverse events. In addition to routine clinical follow up, data are collected on progress at 7 days, or on discharge (whichever is sooner) and 90 days after the FMT treatment. This information will be collated by the institute where the transplant material was produced. Treatment outcome data will be anonymised.

WHAT WILL HAPPEN AFTER THE FMT TREATMENT?

Patients should be able to go home soon after the procedure and be able to eat and drink within an hour of the transplant. If the FMT is effective, the gut usually takes a few days to get better and, as it does so, stools will become more formed with bowel motion frequency reduced. After a week, the patient should be passing nearly normal stools.

Patients will require follow-up with Microbiology at 7 days (or on discharge, whichever is earliest) and 90 days post treatment to document efficacy and any side effects.

PREPARATION FOR THE FMT: WHAT IS INVOLVED?

Patients should be nil by mouth for 6 hours prior to the FMT and will be given antibiotics (e.g. vancomycin or fidaxomicin) for four days before the FMT, stopping the evening prior to the procedure. If the FMT is administered by colonoscopy, an anti-diarrhoeal medication may be given to help retain the FMT. If the FMT is given by nasogastric tube, a tablet to help reduce stomach acid may be offered along with a second tablet to promote stomach emptying into the small intestine.
Patients should discuss existing medications they are taking with the doctor or nurse before the FMT.

Inform your patients that they may experience minor side effects including fever, bloating, nausea, vomiting and flatulence for a few days after the procedure, but patients usually see improvement in their diarrhoea within 24–72 hours.

All-Wales procedural guidance is available should more detailed information be required prior to the FMT.

WHO CAN I CONTACT IF I HAVE ANY QUESTIONS OR TO ARRANGE FMT FOR A PATIENT?

Please contact Microbiology should you have further questions or concerns and for Health Board/Trust-specific FMT guidance.

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