PROCEDURE

Fecal microbiota transplant

Fecal microbiota transplant places screened donor gut microbes into your intestine to help prevent repeated C. difficile infection.

PURPOSE
Prevent recurrent C. difficile infection after antibiotic treatment

PROCEDURE TYPE
Therapeutic; minimally invasive or endoscopic

WHERE IT IS DONE
Endoscopy suite, outpatient clinic, or hospital bedside

ANAESTHESIA
None or sedation, based on delivery route

HOW LONG IT TAKES
15-60 minutes; capsule courses may span several days

PREPARATION
Antibiotic timing, possible fasting and bowel preparation

RECOVERY
Same day; no driving until sedation restrictions end

MAIN RISKS
Infection transmission, aspiration, bleeding, or bowel perforation

RESULTS
Symptom response often apparent within several days

Overview

Fecal microbiota transplant, or FMT, transfers microorganisms from carefully screened donor stool into your digestive tract.

It is mainly used to prevent further episodes of Clostridioides difficile infection, also called C. difficile or C. diff. This infection can occur when antibiotics like amoxicillin or doxycycline disrupt the usual balance of gut microorganisms.

FMT may be delivered during a colonoscopy, through a rectal tube or enema, through an upper digestive tract tube, or as specially prepared capsules.

FMT is not the same as using stool from a friend or relative at home. Donors and donated material require screening for infections and other risks. Screening lowers risk but cannot

remove it completely.

Why the procedure is performed

FMT is generally considered when C. difficile infection has returned after appropriate antibiotic treatment. It aims to restore a more balanced community of gut microorganisms and reduce the chance of another recurrence.

Specialists may consider FMT for severe C. difficile infection that is not responding to antibiotics, but this is not routine treatment and requires close monitoring.

FMT is also being studied for conditions including ulcerative colitis, Crohn's disease and irritable bowel syndrome. It is not established routine treatment for these conditions and is generally limited to clinical trials.

Who should and should not have it

You may be offered FMT if you have repeated C. difficile infections despite standard treatment. Your team should confirm the diagnosis and review your previous antibiotics.

FMT may be avoided or delayed if:

The safest delivery method depends on your health. Pregnancy, major digestive disease and immune-suppressing treatment require an individual risk assessment.

- Your symptoms have not been confirmed as active or recurrent C. difficile infection
- You have a serious uncontrolled infection or are medically unstable
- Your immune system is severely weakened
- Colonoscopy would be unsafe because of bowel perforation, severe inflammation or another medical problem
- You cannot safely swallow capsules or have a high risk of vomiting or inhaling material into your lungs
- The donor material has not passed required screening

How to prepare

Follow your facility's instructions because preparation differs by delivery method and product.

Your team will tell you when to finish your C. difficile antibiotics. Do not stop them on your own.

Report all medicines and supplements, especially blood thinners like warfarin or apixaban , and follow instructions about pausing any medicine.

A colonoscopy-based FMT usually requires a clear-liquid diet, bowel-cleansing medicine and fasting before sedation. Enema or capsule treatment may require less preparation, although fasting may still be necessary.

Arrange for an adult to take you home if you will receive sedation. Tell the facility if you develop fever, vomiting, worsening abdominal swelling or another new illness before the appointment.

Do not obtain or prepare donor stool yourself. Clinical programs use donor questionnaires, laboratory testing and controlled processing to reduce infection risk.

What happens during the procedure

Before treatment, the team will confirm your identity, delivery method and consent. They should explain that screened donor material can still carry an unknown or newly recognized infection.

During a colonoscopy, sedation makes you sleepy. A flexible camera is passed through the anus into the large bowel, where the prepared material is released.

For rectal delivery, material is placed through a short tube or enema, usually without sedation. You may need to hold it in your bowel for a specified time.

Upper digestive tract delivery uses a tube or endoscope passed through the nose or mouth. It is used less often because material could enter the lungs if brought back up.

Capsule treatments carry microorganisms through the stomach. You swallow them according to the product's instructions without an endoscopic procedure.

Recovery and what to expect afterward

Mild cramping, bloating or gas can occur and usually settles without treatment. Severe or increasing pain is not expected.

Follow instructions about eating. Most people gradually return to their usual diet. Report persistent vomiting or an inability to drink.

Keep activity light for the rest of the day. After sedation, do not drive, operate machinery, drink alcohol or make important decisions for the period stated in your instructions. You will need a ride home.

Many people return to desk work the next day. You may need longer if diarrhea continues, your

work is physically demanding or you were seriously ill.

Risks and possible complications

Short-term effects include gas, bloating, cramping, constipation, diarrhea or nausea.

The main concern is transmission of bacteria, viruses, parasites or other harmful organisms from donor material. Screening is extensive but cannot identify every risk. Infections caused by antibiotic-resistant organisms have been reported.

Colonoscopy can cause bleeding or, rarely, a tear in the bowel wall. Upper digestive tract delivery can cause aspiration, meaning material enters the lungs. Sedation can affect breathing, blood pressure or heart rate.

C. difficile infection can return despite FMT. The long-term effects of changing the gut microbiome are still being studied.

Results and follow up

There is no immediate scan or laboratory result showing whether FMT worked. Response is judged mainly by whether watery diarrhea and other C. difficile symptoms improve and stay away.

Improvement may begin within several days, although bowel habits can take longer to settle. Your team may follow up by phone, clinic visit or both.

Routine repeat C. difficile testing is usually unhelpful after symptoms resolve because results may remain positive without active illness. If diarrhea returns, contact your healthcare team rather than taking leftover antibiotics. You may need testing and further treatment.

Alternatives

Another course of C. difficile-directed antibiotics may be appropriate, although infection can return after treatment ends.

FDA-approved microbiota-based products may be available after antibiotics. Some are given rectally and others as oral capsules. Eligibility, availability and insurance coverage may limit access.

Fluids and electrolyte replacement help manage dehydration but do not replace infection treatment.

Severe or life-threatening infection may require hospital care, intensive antibiotics and surgical assessment. Removing badly damaged bowel can be lifesaving but is a major operation.

A clinical trial may provide access to an investigational treatment, with uncertainty about its benefits and risks.

When to call your healthcare team

Contact your healthcare team promptly for recurrent watery diarrhea, fever, worsening cramps, ongoing vomiting or difficulty drinking.

Seek emergency care for:

Questions about diet, mild temporary gas or routine follow-up can usually wait for normal clinic hours.

- Severe or rapidly worsening abdominal pain or swelling
- A hard or very tender abdomen
- Heavy rectal bleeding or black stools
- Trouble breathing, chest pain, fainting or new confusion
- Signs of severe dehydration, such as very little urine or inability to stay awake

Common questions

Will I be asleep?

You are usually sleepy during colonoscopy-based FMT because sedation is used. Enemas and capsules generally do not require sedation. General anaesthesia is uncommon.

Can I drive home?

Not after sedation. Arrange for someone to take you home and follow the facility's driving restriction. Without sedation, ask whether your illness or medicines make driving unsafe.

How painful is it?

FMT should not cause severe pain. You may feel pressure during rectal delivery or have mild cramps, gas and bloating afterward.

When will I know if it worked?

Diarrhea may improve within several days. Success is judged over time by whether C. difficile symptoms remain controlled.

Do I need to find a donor?

Usually not. Treatment programs generally obtain screened material from an approved source or use a manufactured microbiota product.

Can I need FMT again?

Yes. C. difficile can return. After reassessment, your team may recommend antibiotics, repeat microbiota treatment or another approach.

Sources

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