Adult Fecal Microbiota Transplant Procedure

1. **PURPOSE:** To establish a procedure for the performance of fecal microbiota transplantation (FMT) at University Health System.

2. **POLICY:** All employees specifically assigned to participate in the FMT program are required to be familiar with this document and Open Biome procedures (www.openbiome.org). This document and Open Biome procedures will be followed when providing care for all patients undergoing FMT.

3. **PROCESS:**
   a. Fecal microbiota transplantation (FMT) requests will be restricted to infectious diseases (ID) and gastroenterology (GI) services.
   b. FMT may be performed by various delivery methods. The provider will choose the most appropriate method of delivery based on various patient and clinical factors.
   c. Prior to FMT Procedure:
      (1) Assess eligibility for FMT (Table 1)

Table 1: Eligibility Criteria for FMT

Inclusion Criteria	*Exclusion Criteria*

• Recurrent or relapsing CDI:
  ○ At least 3 episodes of mild to moderate CDI and failure of a 6-8 week taper with vancomycin taper/pulse therapy with or without alternative antibiotics (rifaximin, nitazoxanide)
  ○ At least 2 episodes of severe CDI resulting in hospitalization and associated with significant morbidity
	• Fulminant/severe CDI
	• Significantly compromised immunity
	• Patients that cannot tolerate sedation (for colonoscopy) or cannot swallow capsules (for capsules)
	• Chronic diarrhea not related to CDI
	• Anatomic contraindication to colonoscopy (for colonoscopy)
	• Patient unable to provide informed consent
	• Patient not suitable to undergo the procedure as per treating physician

      (2) Check recipient patient for HIV, Hepatitis A, B and C (HAV, HBV, HCV), syphilis, and GI PCR (community associated diarrhea panel) within last 30 days.
      (3) Obtain GI and/or ID consult for FMT.
      (4) Consent the patients carefully based on the FDA recommendations using the informed consent document attached (Attachment 1).
      (5) Any *C. difficile* infection (CDI) treatment (oral vancomycin or fidaxomicin) should be discontinued >2 days prior to procedure. If possible, avoid non CDI treatment antibiotics for >7 days before procedure as these may decrease efficacy.
      (6) Alternative indications may be utilized at the discretion of GI and/or ID per recent literature and Open Biome procedures (to include utilization in cases of fulminant CDI as adjunctive therapy).

Origination date: 3/2017
Revisions: 10/2018, 2/2019
Antibiotic Subcommittee Approval: 2/2019
P&T Committee Approval: 2/2019

4. RESPONSIBILITIES AND PROCEDURE

a. **FMT By Endoscopy:**

(1) GI/Endoscopy are responsible for ensuring that staff participating in the FMT program are properly trained, competent, and in compliance with this document and Open Biome and that procedures are followed as directed in this document. They will maintain training for all staff involved in FMT.

(2) GI/Endoscopy responsibilities:

- Obtain required informed consent for FMT
- Colonoscopy/endoscopy informed consent
- Responsible for ordering and storing FMT material in dedicated -20C freezer
- Secure FMT material from freezer prior to procedure (see infection control considerations below), bring to GI suite and place in designated area
- Prepare FMT material according to Open Biome procedure
- Ensure appropriate patient preparation prior to procedure (found at www.openbiome.org)
- Will maintain Material Tracking Logs (MTL) for each patient undergoing FMT; Additionally will be responsible for reporting clinical and safety outcomes to Open Biome using the FMT Non-Response Form and FDA MedWatch Form3500 (found at www.openbiome.org)

b. **FMT By Oral Capsules:**

(1) The GI/ID department is responsible for ensuring staff participating in the FMT program are properly trained, competent, and in compliance with this document and Open Biome and that procedures are followed as directed in this document. They will maintain training for all staff involved in FMT. The pharmacy research department is responsible for ordering and storage of FMT oral capsules.

(2) Treating physician responsibilities:

- Assess patients with CDI and place consult to infectious diseases or gastroenterology for evaluation

(3) Infectious diseases responsibilities:

- Screen patients to ensure they fulfill eligibility criteria
- Refer appropriate cases to gastroenterology for FMT by endoscopy
- May recommend FMT by oral capsules
- Obtain required informed consent for FMT
- Contact research pharmacist (210-743-4033) or page ID pharmacist (210-203-0297) to order medication from Open Biome . Pharmacy will store FMT capsules until ready for use.
- Assure patient is appropriately prepped for FMT by oral route (see Attachment 2: Preparation of Patient for FMT Capsules) prior to administration
- Educate primary team about administration of FMT oral capsules. Administration details may be found at www.openbiome.org or on Attachment 2.
- Research pharmacist will maintain Material Tracking Logs (MTL) for each patient undergoing FMT. Additionally, will be responsible for reporting clinical and safety outcomes to Open Biome using the FMT Non-Response Form and FDA MedWatch Form3500 (found at www.openbiome.org)

(4) Gastroenterology responsibilities:

- Screen patients to ensure they fulfill eligibility criteria
- FMT capsules administration: please see above (4.b.3) for details

5. INFECTION CONTROL CONSIDERATIONS FOR ENDOSCOPY

a. FMT material is fecal material so it should be handled with adherence to infection control precautions for handling biohazardous material

i. While wearing clean gloves, material should be placed inside a clean rigid plastic container with a biohazard sign for transportation. Remove contaminated gloves and perform hand hygiene if

necessary. Replace with clean gloves and then cover the biohazard container.

ii. Once FMT material is placed in the biohazard container, be careful not to contaminate the exterior of the container, and use clean gloves to transport the container to the clinic.

iii. Perform hand hygiene with antimicrobial soap before and after handling the FMT material.

iv. Use gloves, gown and a surgical mask with goggles or face shield to reconstitute the material. Surgical mask and googles/face shield are required by standard precautions.

v. Material should be handled with sterile technique to prevent contamination.

b. During colonoscopy, standard and special contact precautions should be followed including use of gown, gloves, surgical mask and googles

c. After the colonoscopy, perform high level disinfection.

ATTACHMENT 1. Consent for Fecal Microbiota Transplantation (FMT)

ATTACHMENT 2. Preparation of Patient for FMT Capsules

University Health System

DISCLOSURE AND CONSENT
GENERAL MEDICAL AND SURGICAL PROCEDURES
(Non List "A")

TO THE PATIENT: ***You have the right, as a patient, to be informed about your condition and the recommended surgical, medical, or diagnostic procedure to be used so that you may make the decision whether or not to undergo the procedure after knowing the risks and hazards involved. This disclosure is not meant to scare or alarm you; it is simply an effort to make you better informed so you may give or withhold your consent to the procedure.***

I (we) voluntarily request Dr. _____ as my physician, and such associates, including resident physicians, technical assistants and other health care providers as they may deem necessary, to treat my condition which has been explained to me as:

Clostridium difficile infection (CDI)

I (we) understand that the following surgical, medical and/or diagnostic procedures are planned for me and I (we) voluntarily consent and authorize these procedures: Fecal Microbiota Transplantation (FMT)

Use of FMT products to treat CDI is considered investigational by the FDA. I have been provided information regarding this procedure.

I (we) understand that my physician may discover other or different conditions which require additional or different procedures than those planned,

I (we) authorize my physician, and such associates, technical assistants and other health care providers to perform such other procedures which are advisable in their professional judgment.

☐ Patient's initials -- I (we) (DO) (DO NOT) * consent to the use of blood and blood products as deemed necessary

I (we) understand the risks and hazards associated with the use of blood and blood products are; fever, transfusion reaction which may include kidney failure or anemia, heart failure, hepatitis, AIDS (Acquired Immune Deficiency Syndrome) and other infections. *(* Must initial & circle "Do"* OR *"Do Not"- if pt declines blood, go to BCHD form 417 NS- Blood Refusal & Alternatives)**

I (we) understand that no warranty or guarantee has been made to me as to the result or cure. Just as there may be risks and hazards in continuing my present condition without treatment, there are also risks and hazards related to the performance of the surgical, medical and/or diagnostic procedures planned for me. I (we) realize that common to surgical, medical and/or diagnostic procedures is the potential for infection, blood clots in veins and lungs, hemorrhage, allergic reactions, and even death. I (we) also realize that the following risks and hazards may occur in connection with this particular procedure: **Infection; long term risks are still unknown**

See colonoscopy consent for additional potential risks if colonoscopy to be performed

I (we) understand that anesthesia involves additional risks and hazards but I (we) request the use of anesthetics for the relief and protection from pain during the planned and additional procedures. I (we) realize the anesthesia may have to be changed possibly without explanation to me (us). I (we) understand that certain complications may result from the use of any anesthetic including respiratory problems, drug reactions, paralysis, brain damage, permanent organ damage, awareness during procedure, memory dysfunction/memory loss, or even death. Other risks and hazards which may result from the use of general anesthetics range from minor discomfort to injury to vocal cords, teeth, lips or eyes. I (we) understand that other risks and hazards resulting from spinal or epidural anesthetics include headache, chronic pain, persistent back pain, nerve damage, infection, bleeding/hematoma, medical necessity to convert to general anesthesia and brain damage. I also understand that my anesthetic will be managed by one or more Anesthesiology Physicians (Anesthesiologists), who may also direct other members of my anesthesia team, including one or more Certified Nurse Anesthetists.(CRNA)

I (we) have been given an opportunity to ask questions about my condition, alternative forms of anesthesia and treatment risks of non-treatment, the procedures to be used, and the risks and hazards involved, and I (we) believe that I (we) have sufficient information to give this informed consent.

I (we) certify this form has been fully explained to me, that I (we) have read it or have had it read to me in a language I understand, that the blank spaces have been filled in, and that I (we) understand its contents.

_____/_____/_____ **AM/ PM**

Signature of Patient OR Legally Responsible Person | **Relationship if not Patient** | **Date & Time**

_____/_____ **AM/ PM**

Witness | **Date** | **Time**

Check box if Consent was obtained by telephone and listened to or confirmed by Witness

I have explained to the patient or legal representative the disclosure and consent required for the medical, surgical, and/or diagnostic procedures(s) planned as well as the patient's right to withhold consent

_____ / _____ _____ **AM / PM**

Provider Signature | **Provider ID #** | **Date** | **Time**

If Applicable, Name of Translator_____ **Language:** _____

University Health System

DIVULGACIÓN Y CONSENTIMIENTO PARA PROCEDIMIENTOS MÉDICOS Y OUIRÚRGICOS

AL PACIENTE: ***Como paciente, usted tiene el derecho a ser informado de su condición y del procedimiento quirúrgico, médico o de diagnóstico recomendado que se vaya a utilizar para que pueda decidir si quiere someterse o no a dicho procedimiento después de conocer los riesgos y peligros involucrados. Esta información no tiene el propósito de asustarle ni alarmarle; es simplemente un esfuerzo para que usted esté mejor informado y pueda dar o negar su consentimiento a que se le haga dicho procedimiento.***

Solicito (solicitamos) voluntariamente que el Dr. _____, como mi médico, y sus colegas, incluyendo los médicos residentes, asistentes técnicos y demás proveedores de cuidados para la salud, según lo consideren necesario, traten mi condición médica, la cual se me ha explicado como: **La infección por C. difficile (CDI)** _____ _____ _____

Entiendo (entendemos) que los siguientes procedimientos quirúrgicos, médicos y/o de diagnóstico han sido programados para mí y doy (damos) voluntariamente mi (nuestro) consentimiento y autorizo (autorizamos) estos procedimientos: __

Trasplante de microbiota fecal (FMT)

El uso de productos de FMT para tratar CDI se considera de investigación. Se me ha proporcionado información sobre este procedimiento.

Entiendo (entendemos) que mi médico podría descubrir otras o diferentes condiciones que podrían requerir procedimientos adicionales o distintos a los programados.

Autorizo (autorizamos) a mi médico y sus colegas, asistentes técnicos y demás proveedores de cuidados para la salud, a que lleven a cabo los procedimientos adicionales que sean aconsejables según su criterio profesional.

Iniciales del paciente -- Yo (nosotros) (SÍ) (NO)* doy (damos) mi (nuestro) consentimiento para el uso de sangre y productos sanguíneos según se considere necesario.

Entiendo (entendemos) que los riesgos y peligros relacionados con el uso de sangre y productos sanguíneos son: fiebre, reacción a la transfusión que podría incluir insuficiencia renal o anemia, insuficiencia cardiaca, hepatitis, SIDA (Síndrome de inmunodeficiencia adquirida) y otras infecciones.
(**Deberá poner sus iniciales y encerrar en un círculo "SÍ" o "NO"- Si el paciente rechaza la sangre, use el formulario BCHD 417 NS – Rechazo de sangre y alternativas.)**

Entiendo (entendemos) que no se me ha dado ninguna garantía ni seguridad con respecto al resultado o curación. Así como pudieran existir riesgos y peligros en caso de seguir con mi condición actual sin tratamiento, también hay riesgos y peligros si se llevan a cabo los procedimientos quirúrgicos, médicos y/o de diagnóstico programados para mí. Me doy (nos damos) cuenta de que cuando se realizan procedimientos quirúrgicos, médicos y/o de diagnóstico es común que exista el la posibilidad de infección, coágulos en las venas y en los pulmones, hemorragia, reacciones alérgicas e incluso la muerte. Además, me doy (nos damos) cuenta de que los siguientes riesgos y peligros podrían ocurrir en relación con este procedimiento en particular: **_Infección; aún se desconocen los riesgos a largo plazo. Consulte el consentimiento de la colonoscopia para obtener posibles riesgos adicionales si se realiza una colonoscopia.**

Entiendo (entendemos) que la anestesia presenta riesgos y peligros adicionales; sin embargo, solicito (solicitamos) el uso de anestesia para el alivio y la protección contra el dolor durante los procedimientos programados y los adicionales. Me doy (Nos damos) cuenta de que podría ser necesario cambiar la anestesia sin que me (nos) den una explicación. Entiendo (entendemos) que podrían surgir ciertas complicaciones por el uso de anestésicos, incluyendo problemas respiratorios, reacción a medicinas, parálisis, daño cerebral, lesión permanente a órganos, estar consciente durante el procedimiento, disfunción de la memoria/pérdida de la memoria o incluso la muerte. Otros riesgos y peligros que podrían resultar del uso de anestésicos generales abarcan desde molestias leves hasta lesiones a las cuerdas vocales, dientes, labios o los ojos. Entiendo (entendemos) que otros riesgos y peligros que resultan del uso de anestesia raquídea (raquianestesia) o epidural incluyen: dolor de cabeza, dolor crónico, dolor de espalda persistente, daño a nervios, infección, sangrado/hematoma, necesidad médica de cambiar a la anestesia general y daño cerebral. Entiendo, además, que mi anestesia será administrada por uno o más Médicos especializados en Anestesiología (Anestesiólogos), quienes podrían también dirigir a otros miembros de mi equipo de anestesia, incluyendo a uno o más Enfermeros Anestesistas Certificados (CRNA, por sus siglas en inglés).

Me han (nos han) dado la oportunidad de hacer preguntas sobre mi condición, modos alternativos de anestesia y tratamiento, riesgos de no recibir tratamiento, los procedimientos que se van a utilizar y los riesgos y peligros involucrados, y creo (creemos) que he (hemos) recibido suficiente información para dar este consentimiento informado.

Certifico (certificamos) que este formulario me (nos) fue explicado en su totalidad, que lo he (hemos) leído o me (nos) lo han leído en un idioma que entiendo, que los espacios en blanco se han llenado y que entiendo (entendemos) su contenido.

_____/_____/_____ **AM/ PM**

Firma del Paciente o Persona legalmente responsable | **Relación si no es el Paciente** | **Fecha y Hora**

_____/_____ **AM/ PM**

Testigos | **Fecha** | **Hora**

El consentimiento se obtuvo por teléfono y fue escuchado o confirmado por un testigo.

Le he explicado al paciente o representante legal, la divulgación y el consentimiento requeridos para el(los) procedimiento(s) médico(s), quirúrgico(s) y/o de diagnóstico programado(s), así como también el derecho que tiene el paciente de negarse a dar su consentimiento.

_____ /_____ _____ **AM / PM**

Firma del proveedor | **Núm. de identificación del proveedor** | **Fecha** | **Hora**

Nombre del traductor (si es aplicable) _____ **Idioma**_____

Fecal Microbiota Transplantation (FMT) Capsule Patient Preparation and Administration

Patient Preparation

- ☐ **Confirm that the indication to be treated by Fecal Microbiota Transplantation (FMT) is *C. difficile* infection (CDI) that is not responsive to standard therapy, and rule out alternative diagnosis (e.g. post-infectious IBS, inflammatory bowel disease, celiac disease)**
  - For severe or severe-complicated CDI: Current evidence suggests that the treatment of severe or severe-complicated CDI by FMT may require different protocols than those outlined in this document. We suggest that clinicians treating severe or severe-complicated CDI by FMT review protocols in Fischer et al, "Faecal microbiota transplantation plus selected use of vancomycin for severe-complicated Clostridium difficile infection: Description of a protocol with high success rate," Aliment Pharmacol Ther. 2015;42(4):470-476.
- ☐ **Review contraindications for FMT Capsule, including but not limited to:**
  - Dysphagia: oropharyngeal, esophageal, functional, neuromuscular (e.g. stroke, multiple sclerosis, ALS), or patient shows evidence of dysphagia when the 'safety test' capsule is administered
  - Risk of aspiration
  - History of gastroparesis
  - History of intestinal obstruction
  - Severe food allergy (e.g. anaphylaxis or anaphylactoid reaction)
  - Adverse event attributable to a previous FMT
  - Patients with allergies to sodium chloride, glycerol, theobroma oil, hide bovine gelatin, sodium lauryl sulfate, colorants FD&C, or titanium dioxide, all ingredients Generally Recognized As Safe (GRAS)
  - History of ongoing antibiotic use (e.g. nitrofurantoin for UTI prophylaxis)
  - Any condition for which the treating physician thinks the treatment may pose a health risk (e.g. severely immunocompromised)
- ☐ **Obtain informed consent**
  - Inform patients of the risks, benefits, and treatment alternatives for FMT in general
  - Inform patients of the risks, benefits, and treatment alternatives for FMT Capsule DE
  - Inform the patient that the use of FMT to treat recurrent Clostridium difficile infection (rCDI) is investigational
- ☐ **Administer safety test capsule**
  - Patients should ingest 1 placebo 'safety test' capsule (included with each treatment) under direct observation of a physician. **Any clinical concerns suggesting an aspiration risk is an absolute contraindication to capsule administration.**

- ☐ **Review medications**
  - Discontinue anti-rCDI antibiotics (e.g. vancomycin, fidaxomicin) 48 hours prior to FMT Capsule DE administration. Concomitant use of other antibiotics could reduce the procedure's efficacy.
  - Administer oral proton pump inhibitor once daily for 48 hours prior to FMT Capsule DE administration
  - Antiemetic medications are not recommended for routine administration
- ☐ **Day of FMT Capsule DE administration**
  - Patients should maintain a clear liquid diet the day of FMT Capsule DE administration
  - Patients should fast (NPO) for 2 hours prior to the FMT Capsule DE administration

Warnings:** OpenBiome cannot guarantee the inclusion or exclusion of any food allergens (e.g. tree nuts, seafood) from a donor's diet. This material has not been screened for CMV and EBV and should not be used for patients at risk for CMV- or EBV-associated diseases (e.g., severely immunocompromised patients such as seronegative transplant recipients). FMT carries the risk of known and unknown infectious disease transmission and potentially microbiome-mediated diseases. The risk of aspiration (via naso-enteric administration), bacteremia, and death have been reported in the literature.

Administration

- ☐ Capsules must be administered under direct observation by a physician
- ☐ Capsules must be kept frozen at a minimum of -20 degrees Celsius until ready
- ☐ for administration
- ☐ When ready for administration, remove capsules from freezer, confirm that the capsules are not expired, and note the time that they are removed
- ☐ Open bottle and remove cotton immediately
- ☐ Empty capsules from bottle into a sterile container. A clean K-basin or equivalent container should be used.
- ☐ Provide the patient with plenty of clear liquid to drink during administration
- ☐ All 30 FMT Capsule DE pills should be ingested within 90 minutes after extraction from the freezer

Post Administration

- ☐ Patients should fast (NPO) for 1 hour after the administration of FMT Capsule DE
- ☐ Patients may return to a full diet following post-administration fasting

Mandatory Clinical Follow-Up

- ☐ Assess patients 8 weeks after FMT Capsule DE administration (phone/clinic visit) for clinical cure (e.g. absence of 3 or more liquid bowel movements a day)
- ☐ Complete mandatory Material Tracking Log and FMT Follow-Up form included with your shipment
- ☐ Send Material Tracking Log and FMT Follow-Up Form by email to info@openbiome.org or by fax to (617) 575-2201, reporting de-identified patient outcomes