

Reimbursement Policy

Fecal Analysis in the Diagnosis of Intestinal Dysbiosis and Fecal Microbiota Transplant Testing

[POLICY DESCRIPTION](#) | [INDICATIONS AND/OR LIMITATIONS OF COVERAGE](#) | [APPLICABLE STATE AND FEDERAL REGULATIONS](#) | [APPLICABLE CPT/HCPCS PROCEDURE CODES](#) | [EVIDENCE-BASED SCIENTIFIC REFERENCES](#) | [REVISION HISTORY](#)

I. Policy Description

Intestinal dysbiosis is defined as a disruption or imbalance of the intestinal microbial ecology.¹ Dysbiosis is associated with many diseases, including irritable bowel syndrome (IBS), inflammatory bowel diseases (IBD), celiac disease, multiple sclerosis, Sjogren's Syndrome, obesity, allergy, and diabetes.^{2,3}

II. Indications and/or Limitations of Coverage

Application of coverage criteria is dependent upon an individual's benefit coverage at the time of the request. Specifications pertaining to Medicare and Medicaid can be found in the "Applicable State and Federal Regulations" section of this policy document.

- 1) Prior to donation for a fecal microbiota transplant (FMT), analysis by bacterial culture of the donor fecal sample for the following microorganisms **MEETS COVERAGE CRITERIA**:
 - a) Extended spectrum beta-lactamase (ESBL)-producing *Enterobacteriaceae*
 - b) Vancomycin-resistant *Enterococci* (VRE)
 - c) Carbapenem-resistant *Enterobacteriaceae* (CRE)
 - d) Methicillin-resistant *Staphylococcus aureus* (MRSA)
 - e) *Campylobacter*
 - f) *Shigella*
 - g) *Salmonella*
- 2) Prior to donation for an FMT, analysis by nucleic acid amplification testing (NAAT) of the donor fecal sample for the following microorganisms **MEETS COVERAGE CRITERIA**:
 - a) *Clostridium difficile*
 - b) *Campylobacter*

Reimbursement Policy

- c) *Salmonella*
 - d) *Shigella*
 - e) Shiga toxin-producing *Escherichia coli*
 - f) Norovirus
 - g) Rotavirus
 - h) COVID-19 (SARS-CoV-2)
- 3) Prior to donation for an FMT, analysis by NAAT of the donor fecal sample for the following microorganisms **DOES NOT MEET COVERAGE CRITERIA:**
- a) Extended spectrum beta-lactamase (ESBL)-producing *Enterobacteriaceae*
 - b) Vancomycin-resistant *Enterococci* (VRE)
 - c) Carbapenem-resistant *Enterobacteriaceae* (CRE)
 - d) Methicillin-resistant *Staphylococcus aureus* (MRSA)
 - e) Any other microorganisms not listed above

The following does not meet coverage criteria due to a lack of available published scientific literature confirming that the test(s) is/are required and beneficial for the diagnosis and treatment of an individual's illness.

- 4) As a diagnostic test for the evaluation of intestinal dysbiosis, irritable bowel syndrome, malabsorption, **or** small intestinal overgrowth of bacteria, fecal analysis of the following components **DOES NOT MEET COVERAGE CRITERIA:**
- a) Triglycerides
 - b) Chymotrypsin
 - c) Iso-butyrate, iso-valerate, and n-valerate
 - d) Meat and vegetable fibers
 - e) Long chain fatty acids
 - f) Cholesterol
 - g) Total short chain fatty acids
 - h) Quantification of *Lactobacilli*, bifidobacteria, and *E. coli* and other "potential pathogens," including *Aeromona*, *Bacillus cereus*, *Campylobacter*, *Citrobacter*, *Klebsiella*, *Proteus*, *Pseudomonas*, *Salmonella*, *Shigella*, *S. aureus*, *Vibrio*

Reimbursement Policy

- i) For the identification and quantitation of fecal yeast (including *C. albicans*, *C. tropicalis*, *Rhodotorul* and *Geotrichum*)
- j) N-butyrate
- k) Beta-glucuronidase
- l) pH
- m) Short chain fatty acid distribution (adequate amount and proportions of the different short chain fatty acids reflect the basic status of intestinal metabolism)
- n) Fecal secretory IgA

III. Applicable State and Federal Regulations

DISCLAIMER: If there is a conflict between this Policy and any relevant, applicable government policy for a particular member [e.g., Local Coverage Determinations (LCDs) or National Coverage Determinations (NCDs) for Medicare and/or state coverage for Medicaid], then the government policy will be used to make the determination. For the most up-to-date Medicare policies and coverage, please visit the Medicare search website: <https://www.cms.gov/medicare-coverage-database/search.aspx>. For the most up-to-date Medicaid policies and coverage, visit the applicable state Medicaid website.

Food and Drug Administration (FDA)

Many labs have developed specific tests that they must validate and perform in house. These laboratory-developed tests (LDTs) are regulated by the Centers for Medicare and Medicaid (CMS) as high-complexity tests under the Clinical Laboratory Improvement Amendment of 1988 (CLIA '88). LDTs are not approved or cleared by the U. S. Food and Drug Administration; however, FDA clearance or approval is not currently required for clinical use.

IV. Applicable CPT/HCPCS Procedure Codes

CPT	Code Description
82542	Column chromatography, includes mass spectrometry, if performed (e.g., HPLC, LC, LC/MS, LC/MS-MS, GC, GC/MS-MS, GC/MS, HPLC/MS), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen
82705	Fat or lipids, feces; qualitative
83986	pH; body fluid, not otherwise specified
84311	Spectrophotometry, analyte not elsewhere specified
87045	Culture, bacterial; stool, aerobic, with isolation and preliminary examination (e.g., KIA, LIA), Salmonella and Shigella species

Reimbursement Policy

87046	Culture, bacterial; stool, aerobic, additional pathogens, isolation and presumptive identification of isolates, each plate
87075	Culture, bacterial; any source, except blood, anaerobic with isolation and presumptive identification of isolates
87076	Culture, bacterial; anaerobic isolate, additional methods required for definitive identification, each isolate
87077	Culture, bacterial; aerobic isolate, additional methods required for definitive identification, each isolate
87081	Culture, presumptive, pathogenic organisms, screening only
87102	Culture, fungi (mold or yeast) isolation, with presumptive identification of isolates; other source (except blood)
87106	Culture, fungi, definitive identification, each organism; yeast
87493	Infectious agent detection by nucleic acid (DNA or RNA); Clostridium difficile, toxin gene(s), amplified probe technique
87500	Infectious agent detection by nucleic acid (DNA or RNA); vancomycin resistance (eg, enterococcus species van A, van B), amplified probe technique
87641	Infectious agent detection by nucleic acid (DNA or RNA); Staphylococcus aureus, methicillin resistant, amplified probe technique
87798	Infectious agent detection by nucleic acid (DNA or RNA), not otherwise specified; amplified probe technique, each organism
89160	Meat fibers, feces
S3708	Gastrointestinal fat absorption study

Current Procedural Terminology© American Medical Association. All Rights reserved.

Procedure codes appearing in Medical Policy documents are included only as a general reference tool for each policy. They may not be all-inclusive.

V. Evidence-based Scientific References

1. Guinane CM, Cotter PD. Role of the gut microbiota in health and chronic gastrointestinal disease: understanding a hidden metabolic organ. *Therap Adv Gastroenterol*. 2013;6(4):295-308. doi:10.1177/1756283x13482996
2. Carding S, Verbeke K, Vipond DT, Corfe BM, Owen LJ. Dysbiosis of the gut microbiota in disease. *Microb Ecol Health Dis*. 2015;26doi:10.3402/mehd.v26.26191
3. Marietta E, Mangalam AK, Taneja V, Murray JA. Intestinal Dysbiosis in, and Enteral Bacterial Therapies for, Systemic Autoimmune Diseases. Review. *Frontiers in Immunology*. 2020-October-28 2020;11(2760)doi:10.3389/fimmu.2020.573079
4. Ley RE, Peterson DA, Gordon JI. Ecological and evolutionary forces shaping microbial diversity in the human intestine. *Cell*. Feb 24 2006;124(4):837-48. doi:10.1016/j.cell.2006.02.017

Reimbursement Policy

5. Qin J, Li R, Raes J, et al. A human gut microbial gene catalogue established by metagenomic sequencing. *Nature*. Mar 04 2010;464(7285):59-65. doi:10.1038/nature08821
6. Snapper SB, Abraham C. Immune and microbial mechanisms in the pathogenesis of inflammatory bowel disease. Updated February 14, 2025.
<https://www.uptodate.com/contents/immune-and-microbial-mechanisms-in-the-pathogenesis-of-inflammatory-bowel-disease>
7. Lozupone CA, Stombaugh JI, Gordon JI, Jansson JK, Knight R. Diversity, stability and resilience of the human gut microbiota. *Nature*. Sep 13 2012;489(7415):220-30. doi:10.1038/nature11550
8. Johnston Jr RB. An overview of the innate immune system. Updated June 17, 2025.
<https://www.uptodate.com/contents/an-overview-of-the-innate-immune-system>
9. Ley RE, Turnbaugh PJ, Klein S, Gordon JI. Microbial ecology: human gut microbes associated with obesity. *Nature*. Dec 21 2006;444(7122):1022-3. doi:10.1038/4441022a
10. Zhang H, DiBaise JK, Zuccolo A, et al. Human gut microbiota in obesity and after gastric bypass. *Proceedings of the National Academy of Sciences of the United States of America*. Feb 17 2009;106(7):2365-70. doi:10.1073/pnas.0812600106
11. Kau AL, Ahern PP, Griffin NW, Goodman AL, Gordon JI. Human nutrition, the gut microbiome and the immune system. *Nature*. Jun 15 2011;474(7351):327-36. doi:10.1038/nature10213
12. Qin J, Li Y, Cai Z, et al. A metagenome-wide association study of gut microbiota in type 2 diabetes. *Nature*. Oct 04 2012;490(7418):55-60. doi:10.1038/nature11450
13. Frank DN, St Amand AL, Feldman RA, Boedeker EC, Harpaz N, Pace NR. Molecular-phylogenetic characterization of microbial community imbalances in human inflammatory bowel diseases. *Proceedings of the National Academy of Sciences of the United States of America*. Aug 21 2007;104(34):13780-5. doi:10.1073/pnas.0706625104
14. Parada Venegas D, De la Fuente MK, Landskron G, et al. Short Chain Fatty Acids (SCFAs)-Mediated Gut Epithelial and Immune Regulation and Its Relevance for Inflammatory Bowel Diseases. *Front Immunol*. 2019;10:277. doi:10.3389/fimmu.2019.00277
15. Raby B. Polymerase chain reaction. Updated July 21, 2025.
<https://www.uptodate.com/contents/polymerase-chain-reaction-pcr>
16. Viome. What is the Gut Microbiome? <https://www.viomelifesciences.com/our-science>
17. Viome. Viome: Demo Two's Recommendations.
https://assets.ctfassets.net/qk4l4jfatr3e/5LmbY0DgNjXgFQ9kq8LWxa/f60f6d2d955b6a89be2453fecccf1103/ViomeRecommendations_Demo.pdf
18. BioHM. <https://biohmhealth.com/>
19. DNATestingChoice. Microbiome Testing. <https://dnatestingchoice.com/en-us/microbiome-testing>
20. Genova. GI Effects. <https://www.gdx.net/uk/products/gi-effects>
21. Zoetendal EG, Akkermans AD, De Vos WM. Temperature gradient gel electrophoresis analysis of 16S rRNA from human fecal samples reveals stable and host-specific

Reimbursement Policy

- communities of active bacteria. *Applied and environmental microbiology*. Oct 1998;64(10):3854-9.
22. Casen C, Vebo HC, Sekelja M, et al. Deviations in human gut microbiota: a novel diagnostic test for determining dysbiosis in patients with IBS or IBD. *Alimentary pharmacology & therapeutics*. Jul 2015;42(1):71-83. doi:10.1111/apt.13236
 23. Pang T, Leach ST, Katz T, Day AS, Ooi CY. Fecal Biomarkers of Intestinal Health and Disease in Children. *Front Pediatr*. 2014;2doi:10.3389/fped.2014.00006
 24. Bäckhed F, The Wallenberg Laboratory UoG, Sahlgrenska University Hospital, Göteborg, Sweden 41345, Institute for Genome Sciences at the University of Maryland School of Medicine B, MD 21201, USA, et al. Defining a Healthy Human Gut Microbiome: Current Concepts, Future Directions, and Clinical Applications. *Cell Host & Microbe*. 2012/11/15 2012;12(5):611-622. doi:10.1016/j.chom.2012.10.012
 25. Berry D, Reinisch W. Intestinal microbiota: a source of novel biomarkers in inflammatory bowel diseases? *Best practice & research Clinical gastroenterology*. Feb 2013;27(1):47-58. doi:10.1016/j.bpg.2013.03.005
 26. Kim KO, Gluck M. Fecal Microbiota Transplantation: An Update on Clinical Practice. *Clin Endosc*. Mar 2019;52(2):137-143. doi:10.5946/ce.2019.009
 27. Falony G, Joossens M, Vieira-Silva S, et al. Population-level analysis of gut microbiome variation. *Science (New York, NY)*. Apr 29 2016;352(6285):560-4. doi:10.1126/science.aad3503
 28. Zhernakova A, Kurilshikov A, Bonder MJ, et al. Population-based metagenomics analysis reveals markers for gut microbiome composition and diversity. *Science (New York, NY)*. Apr 29 2016;352(6285):565-9. doi:10.1126/science.aad3369
 29. Lo Presti A, Zorzi F, Del Chierico F, et al. Fecal and Mucosal Microbiota Profiling in Irritable Bowel Syndrome and Inflammatory Bowel Disease. *Frontiers in microbiology*. 2019;10:1655. doi:10.3389/fmicb.2019.01655
 30. Malham M, Lilje B, Houen G, Winther K, Andersen PS, Jakobsen C. The microbiome reflects diagnosis and predicts disease severity in paediatric onset inflammatory bowel disease. *Scandinavian journal of gastroenterology*. Jul 22 2019:1-7. doi:10.1080/00365521.2019.1644368
 31. Danilova NA, Abdulkhakov SR, Grigoryeva TV, et al. Markers of dysbiosis in patients with ulcerative colitis and Crohn's disease. *Terapevticheskii arkhiv*. May 15 2019;91(4):17-24. doi:10.26442/00403660.2019.04.000211
 32. Vaughn BP, Rank KM, Khoruts A. Fecal Microbiota Transplantation: Current Status in Treatment of GI and Liver Disease. *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*. Jul 25 2018;doi:10.1016/j.cgh.2018.07.026
 33. Holleran G, Scaldaferri F, Ianiro G, et al. Fecal microbiota transplantation for the treatment of patients with ulcerative colitis and other gastrointestinal conditions beyond *Clostridium difficile* infection: an update. *Drugs of today (Barcelona, Spain : 1998)*. Feb 2018;54(2):123-136. doi:10.1358/dot.2018.54.2.2760765

Reimbursement Policy

34. Costello SP, Hughes PA, Waters O, et al. Effect of Fecal Microbiota Transplantation on 8-Week Remission in Patients With Ulcerative Colitis: A Randomized Clinical Trial. *Jama*. Jan 15 2019;321(2):156-164. doi:10.1001/jama.2018.20046
35. Myneedu K, Deoker A, Schmulson MJ, Bashashati M. Fecal microbiota transplantation in irritable bowel syndrome: A systematic review and meta-analysis. *United European Gastroenterol J*. Oct 2019;7(8):1033-1041. doi:10.1177/2050640619866990
36. Saha S, Mara K, Pardi DS, Khanna S. Long-term Safety of Fecal Microbiota Transplantation for Recurrent *Clostridioides difficile* Infection. *Gastroenterology*. May 2021;160(6):1961-1969.e3. doi:10.1053/j.gastro.2021.01.010
37. Yu EW, Gao L, Stastka P, et al. Fecal microbiota transplantation for the improvement of metabolism in obesity: The FMT-TRIM double-blind placebo-controlled pilot trial. *PLoS Med*. Mar 2020;17(3):e1003051. doi:10.1371/journal.pmed.1003051
38. Macareño-Castro J, Solano-Salazar A, Dong LT, Mohiuddin M, Espinoza JL. Fecal microbiota transplantation for Carbapenem-Resistant Enterobacteriaceae: A systematic review. *J Infect*. Jun 2022;84(6):749-759. doi:10.1016/j.jinf.2022.04.028
39. Oneto C, Khanna S. Prescription Microbiome Therapeutic for Recurrent *Clostridioides difficile* Infection: Fecal Microbiota Live-jslm. *Official journal of the American College of Gastroenterology | ACG*. 2024;119(1S)
40. Hunt R, Quigley E, Abbas Z, et al. Coping With Common Gastrointestinal Symptoms in the Community: A Global Perspective on Heartburn, Constipation, Bloating, and Abdominal Pain/Discomfort May 2013. *Journal of Clinical Gastroenterology*. 2014;48(7)doi:10.1097/MCG.0000000000000141
41. Bernstein CN, Eliakim A, Fedail S, et al. World Gastroenterology Organisation Global Guidelines Inflammatory Bowel Disease: Update August 2015. *J Clin Gastroenterol*. Nov/Dec 2016;50(10):803-818. doi:10.1097/mcg.0000000000000660
42. Colombel JF, Shin A, Gibson PR. AGA Clinical Practice Update on Functional Gastrointestinal Symptoms in Patients With Inflammatory Bowel Disease: Expert Review. *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*. Feb 2019;17(3):380-390.e1. doi:10.1016/j.cgh.2018.08.001
43. Kelly CR, Kahn S, Kashyap P, et al. Update on Fecal Microbiota Transplantation 2015: Indications, Methodologies, Mechanisms, and Outlook. *Gastroenterology*. 2015;149(1):223-237. doi:10.1053/j.gastro.2015.05.008
44. Peery AF, Kelly CR, Kao D, et al. AGA Clinical Practice Guideline on Fecal Microbiota-Based Therapies for Select Gastrointestinal Diseases. *Gastroenterology*. 2024;166(3):409-434. doi:10.1053/j.gastro.2024.01.008
45. Lichtenstein GR, Loftus EV, Isaacs KL, Regueiro MD, Gerson LB, Sands BE. ACG Clinical Guideline: Management of Crohn's Disease in Adults. *Official journal of the American College of Gastroenterology | ACG*. 2018;113(4)doi:10.1038/ajg.2018.27

Reimbursement Policy

46. Rubin DT, Ananthakrishnan AN, Siegel CA, Sauer BG, Long MD. ACG Clinical Guideline: Ulcerative Colitis in Adults. *Official journal of the American College of Gastroenterology* | *ACG*. 2019;114(3)doi:10.14309/ajg.0000000000000152
47. Lacy BE, Pimentel M, Brenner DM, et al. ACG Clinical Guideline: Management of Irritable Bowel Syndrome. *Am J Gastroenterol*. Jan 1 2021;116(1):17-44. doi:10.14309/ajg.0000000000001036
48. Kelly CR, Fischer M, Allegretti JR, et al. ACG Clinical Guidelines: Prevention, Diagnosis, and Treatment of Clostridioides difficile Infections. *Official journal of the American College of Gastroenterology* | *ACG*. 2021;116(6):1124-1147. doi:10.14309/ajg.0000000000001278
49. Maaser C, Sturm A, Vavricka SR, et al. ECCO-ESGAR Guideline for Diagnostic Assessment in IBD Part 1: Initial diagnosis, monitoring of known IBD, detection of complications. *Journal of Crohn's and Colitis*. 2019;13(2):144-164K. doi:10.1093/ecco-jcc/jjy113
50. Guarino A, Ashkenazi S, Gendrel D, Lo Vecchio A, Shamir R, Szajewska H. European Society for Pediatric Gastroenterology, Hepatology, and Nutrition/European Society for Pediatric Infectious Diseases Evidence-Based Guidelines for the Management of Acute Gastroenteritis in Children in Europe: Update 2014. 2014;59(1):132-152. doi:10.1097/mpg.0000000000000375
51. NICE. Irritable bowel syndrome in adults: diagnosis and management. Updated April 4, 2017. <https://www.nice.org.uk/guidance/cg61/chapter/1-Recommendations#diagnosis-of-ibs>
52. Arasaradnam RP, Brown S, Forbes A, et al. Guidelines for the investigation of chronic diarrhoea in adults: British Society of Gastroenterology, 3rd edition. *Gut*. 2018;67(8):1380. doi:10.1136/gutjnl-2017-315909
53. Lamb CA, Kennedy NA, Raine T, et al. Correction: British Society of Gastroenterology consensus guidelines on the management of inflammatory bowel disease in adults. *Gut*. 2021;68(Suppl 3):s1. doi:10.1136/gutjnl-2019-318484corr1
54. Mullish BH, Quraishi MN, Segal JP, et al. The use of faecal microbiota transplant as treatment for recurrent or refractory Clostridium difficile infection and other potential indications: joint British Society of Gastroenterology (BSG) and Healthcare Infection Society (HIS) guidelines. *Gut*. 2018;67(11):1920. doi:10.1136/gutjnl-2018-316818
55. IDSA/ACG/ASGE/AGA/NASPGHAN. Current Consensus Guidance on Donor Screening and Stool Testing for FMT. Updated July, 15, 2013. [https://www.naspghan.org/files/documents/Joint_Scty_Sign-on_FDA%20FMT_final%207.15.13%20\(1\).pdf](https://www.naspghan.org/files/documents/Joint_Scty_Sign-on_FDA%20FMT_final%207.15.13%20(1).pdf)
56. Davidovics ZH, Michail S, Nicholson MR, et al. Fecal Microbiota Transplantation for Recurrent Clostridium difficile Infection and Other Conditions in Children: A Joint Position Paper From the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition. *Journal of pediatric gastroenterology and nutrition*. Jan 2019;68(1):130-143. doi:10.1097/mpg.0000000000002205

Reimbursement Policy

57. Michail S, Nicholson M, Kahn S, Kellermayer R. Addendum for: Fecal Microbiota Transplantation for Recurrent *Clostridium difficile* Infection and Other Conditions in Children: A Joint Position Paper From the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition. *Journal of pediatric gastroenterology and nutrition*. 2020;70(3)doi:10.1097/MPG.0000000000002205.
58. FDA. Fecal Microbiota for Transplantation: Safety Communication- Risk of Serious Adverse Reactions Due to Transmission of Multi-Drug Resistant Organisms. <https://www.fda.gov/safety/medwatch-safety-alerts-human-medical-products/fecal-microbiota-transplantation-safety-communication-risk-serious-adverse-reactions-due>
59. FDA. Fecal Microbiota for Transplantation: New Safety Information - Regarding Additional Protections for Screening Donors for COVID-19 and Exposure to SARS-CoV-2 and Testing for SARS-CoV-2. <https://www.fda.gov/safety/medical-product-safety-information/fecal-microbiota-transplantation-new-safety-information-regarding-additional-protections-screening>
60. FDA. Fecal Microbiota for Transplantation: Safety Alert - Risk of Serious Adverse Events Likely Due to Transmission of Pathogenic Organisms. Updated April 7, 2020. <https://www.fda.gov/safety/medical-product-safety-information/fecal-microbiota-transplantation-safety-alert-risk-serious-adverse-events-likely-due-transmission>
61. Bakken JS, Borody T, Brandt LJ, et al. Treating *Clostridium Difficile* Infection With Fecal Microbiota Transplantation. *Clinical Gastroenterology and Hepatology*. 2011;9(12):1044-1049. doi:10.1016/j.cgh.2011.08.014

VI. Revision History

Revision Date	Summary of Changes
09/04/2025	Reviewed and Updated: Updated the background, guidelines and recommendations, and evidence-based scientific references. Literature review did not necessitate any modifications to coverage criteria.