

Functional Gastrointestinal Protocol

Introduction

Functional gastrointestinal disorder (FGID) affects over 65% of adults in the U.S.¹ It is one of the main complaints seen in medical practice. Often, this disorder lacks a distinct organic explanation. In FGID, the gastrointestinal (GI) tract looks normal on examination, but non-specific symptoms are present, making a definitive diagnosis challenging. These may include:

- Abdominal pain
- Heartburn and indigestion
- Nausea
- Vomiting
- Diarrhea
- Constipation

Due to the very low quality of life (QOL) of patients with FGID, and the fact that they incur a lot of healthcare costs, it is vital to recognize and manage these disorders promptly.²

Epidemiology

FGIDs affect up to 40% of adults worldwide. They are more common in women than men and account for 12% of primary care visits and 30% of gastroenterology outpatient visits.²

FGIDs are associated with more serious GI diseases such as inflammatory bowel disease, and cholecystitis.³ These conditions share the common underlying risk factor of dysbiosis, which creates additional impacts related to quality of life and healthcare.⁴ In the U.S., \$135.9 billion is spent on GI diseases annually. Non-malignant GI diseases account for 97,700 deaths every year.⁵



Estimated Number of Annual Visits				
Rank	Symptoms	Office Visits	Emergency Dept.	Total
1	Abdominal Pain	10,705,448	11,135,099	21,840,547
2	Vomiting	1,725,616	2,936,210	4,661,826
3	Diarrhea	2,423,825	994,454	3,418,279
4	Nausea	1,063,883	2,004,732	3,068,615
5	Bleeding	2,147,949	606,970	2,754,919
6	Constipation	1,086,452	511,317	1,597,769
7	Anorectal Symptoms	928,119	220,585	1,148,704
8	Heartburn & Indigestion	878,808	63,485	942,293
9	Decreased Appetite	564,112	94,685	658,797
10	Dysphagia	537,975	88,731	626,706
Total				40,718,455⁵

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6453579/>

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7850201/>

³ <https://pubmed.ncbi.nlm.nih.gov/21214889/>

⁴ <https://www.ncbi.nlm.nih.gov/books/NBK470312/>

⁵ <https://pubmed.ncbi.nlm.nih.gov/30315778/>



Physiology/Diagnosis/Clinical Relevance

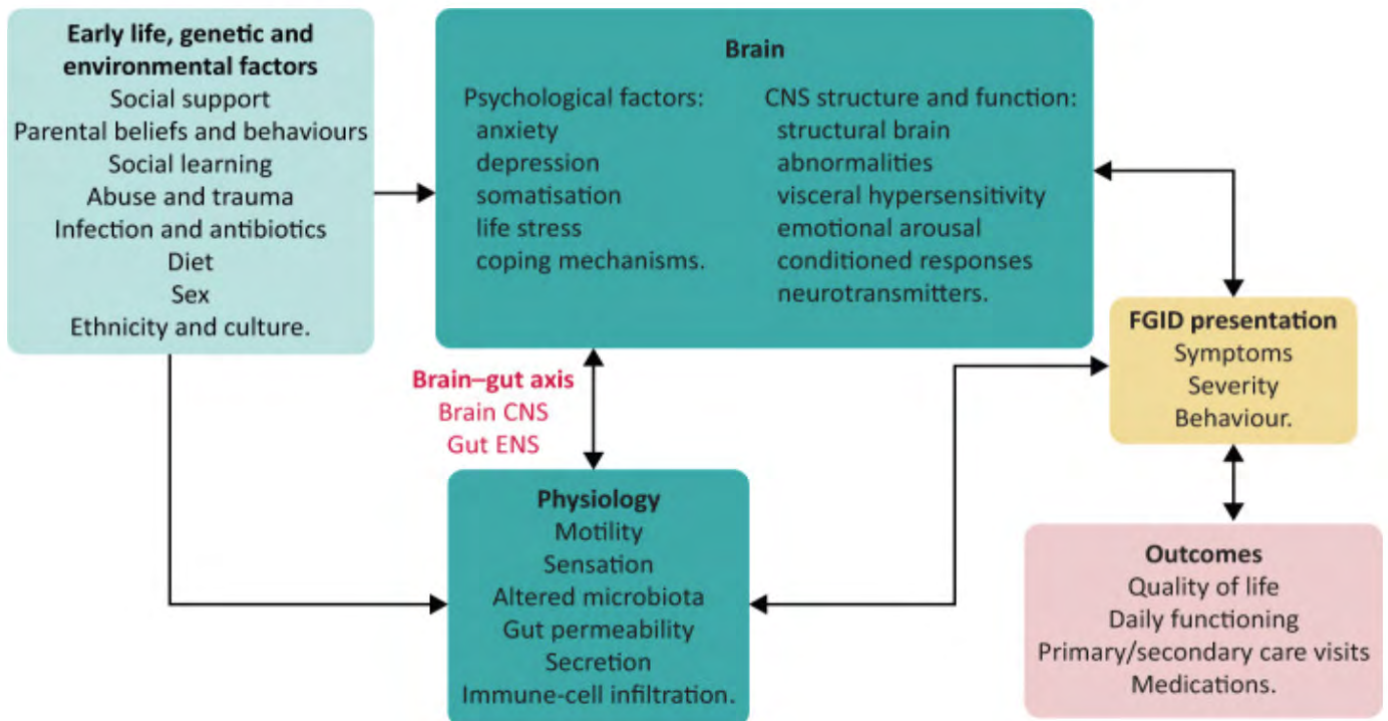
Symptom-based criteria are used to make a diagnosis of FGID, with judicious use of limited testing in some patients.⁶ These conditions, which include **irritable bowel syndrome or functional dyspepsia**, frequently involve some combination of the following:

- Abnormal GI motility (constipation, diarrhea, or alternating constipation and diarrhea)
- Visceral hypersensitivity
- Altered mucosal immune function
- Disrupted gut-brain axis communication
- Altered central nervous system processing
- Imbalance or dysbiosis in the microbiome

Psychological comorbidity is common; however, whether or not this predates or is driven by symptoms is not clear.⁶



Biopsychosocial Model of Functional Gastrointestinal Disorders



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7850201/figure/F0001/>

⁶ <https://pubmed.ncbi.nlm.nih.gov/33049221/>



Risk Factors for FGID

Low-fiber diet	Lack of exercise and movement
Consuming excess dairy products	Food sensitivities
Traveling or other changes to routine	Stress
Overuse of laxatives	Resisting urge for a bowel movement
Certain medications (e.g., antidepressants, iron pills, narcotics)	Calcium- or aluminum-based antacids
Pregnancy	

Clinical Pearl # 1 – Motility Matters! The Migrating Motor Complex (MMC)

Many FGID patients have deranged motility symptoms, as seen in IBS – with diarrhea, constipation, or mixed type. This can be related to mechanical function (e.g., low stomach acid, pancreatic insufficiency, cholestasis), irritation to the GI mucosa (e.g., dysbiosis, food sensitivities, celiac disease), or disruption of neurological activity in the peripheral (gut mucosa) or central nervous system.

The migrating motor complex (MMC) involves both the CNS and the enteric nervous system. It is a cyclic, recurring motility pattern that occurs in the stomach and small bowel during fasting and is interrupted by feeding. The physiological role of the MMC is not entirely understood, though it's considered an "intestinal housekeeper" – responsible for moving undigested food and microbes from the small intestine into the colon. Its absence has been associated with gastroparesis, intestinal pseudo-obstruction, and small intestinal bacterial overgrowth.⁷

Supporting healthy motility is important and may include meal spacing (at least 3-5 hours), botanicals (e.g., ginger and chamomile), glycine, 5-HTP, and some pharmaceuticals.

Clinical Pearl # 2 – Address Stress!

Gastrointestinal function is particularly influenced by stress. Human studies show that stress decreases gastric emptying and accelerates colonic transit in normal volunteers. Additionally, emotional distress is very common in IBS patients, particularly those who seek medical treatment for the condition, with anxiety and depression occurring in nearly 40%.⁸ Including stress management strategies for your FGID patients is a foundational therapy. Some practices may include yoga/stretching, deep breathing, meditation, journaling, and spending time in nature and/or with loved ones.

Clinical Pearl #3 – Assess for Biofilms (Oral or GI) as a Cause of Recurrent Symptoms

Biofilms are communities of bacteria embedded in an extracellular matrix, making them resistant to eradication. They are responsible for most chronic and recurrent infections and contribute to toxic loads and inflammatory burden. They can be found almost anywhere in the body but are most prevalent in the GI tract and oral cavity. If patients improve with treatment but worsen when treatment is discontinued, biofilms may be reseeding and must be addressed for lasting therapeutic effects.

⁷ <https://pubmed.ncbi.nlm.nih.gov/22450306>

⁸ <https://www.med.unc.edu/ibs/wp-content/uploads/sites/450/2017/10/Stress-and-the-Gut.pdf>



Lifestyle Recommendations

- Support your treatment with simple yet effective lifestyle recommendations. Check out the list contained in the [Bioclear Microbiome Detox Program Lifestyle Guide](#).
- Adopt a low inflammation diet (Modified Paleo, Mediterranean, etc.), including a high intake of non-starchy vegetables.
- Increase fiber intake.
- Increase exercise to support movement of the intestines.

Therapeutic Plan Suggestions

CORE PROTOCOL		
Biocidin® Liquid or Capsules	Titrate to 15 drops 2x/day	Titrate to 3 capsules 2x/day
G.I. Detox™+	2 capsules at bedtime. 1 hour away from food, supplements, and medications. Temporarily increase dose to 2 capsules 2-3x/day if Herxheimer reaction observed/worsens.	
Proflora™4R	1 capsule any time	
ADDITIONAL SUPPORT		
Olivirex®	Titrate to 2 capsules 2x/day	
In the case of long-standing dysbiosis, testing for presence of pathogenic strains is highly recommended.		

Additional Therapeutics

Zinc Carnosine	Glycine
Deglycyrrhizinated Licorice (DGL)	Quercetin
Ginger	Chamomile
Iberogast	Turmeric
Slippery Elm	Marshmallow

Questions?

For clinical questions, email clinical@biocidin.com or call 800-775-4140, x3.

