

# Importance of GI Motility and Functional GI Disorders

GI motility and functional bowel disorders, such as achalasia, gastroesophageal reflux disease, gastroparesis, functional dyspepsia, irritable bowel syndrome, colonic inertia, pelvic floor dyssynergia, and fecal incontinence, affect up to 25% of the US population. These disorders comprise about 40% of GI problems for which patients seek health care. GI motility disorders affect patients by not only causing symptoms and posing a heavy burden of illness but cause decreased quality of life with decreased work productivity. Unfortunately, these disorders are often ignored or sidelined because of a lack of understanding of mechanisms and appropriate therapy. Patients with motility disorders can be complex and difficult to treat. Understanding the GI motility dysfunction underpins the appropriate management of the patients.

Gastrointestinal dysmotility also impacts on the quality of life of patients with other disorders. For example, a significant percentage of patients with diabetes have gastrointestinal dysmotility. Gastrointestinal complications of diabetes can affect one or more parts of the gut and produce nausea, vomiting, abdominal pain, constipation and/or diarrhea. Abnormal gastric emptying, or gastroparesis, may lead to poor glucose control and complications of diabetes. Likewise, esophageal and GI motor dysfunction is often present in Parkinson's disease and may lead to trouble swallowing or evacuating the bowels.

GI motility also plays an important role in issues outside of what is traditionally considered gastroenterology. Examples of this include nutrition, obesity, and drug delivery. Nutrition depends on the controlled delivery of food for optimal assimilation from the gastrointestinal tract. Signaling of satiety is dependent on proper control of GI motility and release of GI hormones; obesity can result when satiety and GI motility are altered. Bioavailability of orally administered drugs is controlled in large part by GI motility.

GI motility and its disorders are important areas for the health of the United States. We have made some progress in the understanding these GI motility disorders and improving the treatment of patients affected with these disorders. However, much more needs to be done. This remains an area with continued unmet clinical and research needs. Increasing the funding for research in GI motility and its disorders is important to improve the health care of our citizens.

**Table 1. Prevalence of GI Motility Disorders Compared to Chronic Non-GI Disorders**

Dyspepsia	20-25%
Irritable bowel syndrome	10-25%
Functional heartburn (GERD)	15.5%
Chronic constipation	12-19%
Hypertension	28%
Migraine Headache	6-18%
Asthma	8%
Diabetes	8%

IBS and chronic constipation, but not dyspepsia, are more common in females than males.

**Table 2. Prevalence of Upper GI Symptoms**

	Percent of Population	
	≥ 1 episode per month	Relevant Symptoms
Heartburn	21.6%	6.3%
Regurgitation	16.4%	2.9%
Dysphagia	7.8%	4.6%
Bloating	10.7%	4.5%
Postprandial Fullness	20.9%	3.6%
Early Satiety	23.0%	5.3%
Nausea	9.5%	2.2%
Vomiting	2.7%	0.4%
Belching/Burping	6.3%	3.0%
Abdominal Pain	0.8%	
Abd Discomfort	4.3%	

From: Camilleri, Dubois, et al. Clinical Gastroenterology Hepatology 2005;3:543-552.

**Table 3. Societal Burden of GI Symptoms**

	Days of Missed Work During the past 3 months
Asymptomatic	0.4
Heartburn	1.0
Regurgitation	1.3
Dysphagia	1.3
Postprandial Fullness	0.9
Early Satiety	1.1
Nausea	2.2
Vomiting	4.4
Belching	1.4
Bloating	1.4
Abdominal pain	1.9

From: Camilleri, Dubois, et al. Clinical Gastroenterology Hepatology 2005;3:543-552.

**Table 4. Leading Gastrointestinal Symptoms Prompting an Outpatient Doctor Visit**

1. Abdominal Pain
2. Diarrhea
3. Nausea
4. Vomiting
5. Heartburn and indigestion
6. Constipation
7. Anal/rectal bleeding
8. Blood in stool (melana)
9. Other, unspecified GI symptoms
10. Decreased Appetite
11. Difficulty Swallowing

From: Russo, Wei, Thiny, et al. Gastroenterology 2004;126:1448-1453.

**Table 5. Leading Physician Diagnoses of Outpatient Doctor Visits for GI Symptoms**

1. Abdominal Pain
2. GERD
3. Gastroenteritis
4. Gastritis
5. Hemorrhoids
6. Irritable bowel syndrome
7. Hernias
12. Dyspepsia
13. Constipation

From: Russo, Wei, Thiny, et al. Gastroenterology 2004;126:1448-1453.

**Table 6. Socioeconomic Impact of GI Motility Disorders**

Quality of life (QoL)

Patients with GI motility disorders have lower QoL scores than population norms, those with organic GI diseases, and those with other chronic illnesses

Resource utilization

Functional GI disorders - 41% of diagnoses in GI clinics  
 IBS: costs are 50% higher than for non-IBS controls  
 Direct costs approximate \$10 billion annually  
 Indirect costs are as high as \$20 billion annually  
 Dyspepsia: costs are \$2 billion annually