Journal Pre-proof

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PII: S0016-5085(21)03794-X
DOI: https://doi.org/10.1053/j.gastro.2021.11.019
Reference: YGAST 64713

To appear in: *Gastroenterology*
Accepted Date: 5 November 2021

Please cite this article as: Drossman DA, Tack J, Rome Foundation Clinical Diagnostic Criteria for Disorders of Gut-Brain Interaction (DGBI), *Gastroenterology* (2021), doi: https://doi.org/10.1053/j.gastro.2021.11.019.

Rome Foundation Clinical Diagnostic Criteria for Disorders of Gut-Brain Interaction (DGBI)

Short title: Rome Foundation Clinical Diagnostic Criteria for DGBI

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Drs. Drossman and Tack were involved in the study concept and design, drafting of the manuscript, and critical revision of the manuscript with input from Board of Directors of Rome Foundation.

Drs. Drossman and Tack report no conflict of interest related to the content of this manuscript

Keywords: Diagnosis, Rome criteria, diagnostic guidelines, diagnostic criteria

There are no funding sources for this document.

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Acknowledgment: The authors would like to thank the members of the Rome Foundation Board of Directors for their contribution to this document. Giovanna Barbara MD, Lin Chang MD, William D. Chey, Xiucai Fang MD, Laurie Keefer PhD, Brian E. Lacy MD PhD, Samuel Nurko MD, Max J. Schmulson W. MD, Magnus Simren MD PhD and Ami Sperber MD, MSPH

Abstract:

The Rome criteria, which define Disorders of Gut-Brain Interaction (DGBIs), are extensively applied in epidemiological research, pathophysiological studies, treatment trials, and clinical practice. The requirement for long periods of symptom presence and high symptom frequencies facilitated the use of the Rome criteria in epidemiology studies and treatment trials but has hampered clinical application when these requirements were not fulfilled. The Rome Foundation proposes a modification of the diagnostic criteria for clinical practice, where a DGBI diagnosis can still be made if 1) the nature of symptoms corresponds to those in the DGBI Rome IV diagnostic criteria, and 2) symptoms are bothersome (interfering with daily activities or requiring attention, causing worry or interference with quality of life). If this is the case, a lower frequency and a shorter duration (8 weeks or more) than those required for the Rome DGBI diagnostic threshold are allowed, provided that there is clinical confidence that other diagnoses have been sufficiently ruled out based on presentation and additional investigations as needed. Applying these criteria for clinical practice will allow the clinician to make a diagnosis, reduce unnecessary diagnostic studies and enhance the patient-provider relationship. Further research is needed to validate these recommendations.

Historical Development of Symptom–Based Criteria

The Disorders of Gut-Brain Interaction (DGBI), formerly known as functional GI disorders, are characterized by clusters of symptoms. Their pathophysiology relates to any combination of altered motility, visceral sensitivity, epithelial barrier, mucosal immune function, microbiota, or gut-central nervous system (CNS) neural processing. As such, routine investigations identify no underlying structural abnormality that readily explains the symptoms [1].

The development of symptom-based criteria arose over three decades ago because of the need to identify patients who had gastrointestinal symptoms for which there was no mechanistic explanation for diagnosis in clinical practice and for selection in clinical trials for the DGBIs since there was no "gold standard" or biomarker. Using irritable bowel syndrome (IBS) as the prime example, in the 1980's pharmaceutical companies became interested in targeting this disorder for treatment. Yet, there was no diagnostic standard, and clinically diagnosis was made by exclusion. A 1988 review of clinical trials for IBS found that entry criteria varied to the degree that patients would enter with and without abdominal pain, or some would have diarrhea and others constipation. The author concluded: "Not a single IBS treatment trial reported to date has used an adequate operational definition of IBS" [2].

During this period, investigators were doing epidemiological and factor analytic studies to characterize normal and abnormal bowel habit [3-5] and performing clinical studies to distinguish patients with IBS from those with other diseases [6]. Using these data, a group of experts formed a "Working Team" to create diagnostic criteria by consensus using a Delphi approach [7,8], and the first consensus-based diagnostic criteria for IBS were published [9].

Subsequently, additional Working Teams were formed to develop a classification system for all the DGBIs based on regional anatomy (esophageal, gastroduodenal, bowel, biliary, anorectal) [10]. This work resulted in the creation of the Rome Foundation, which in 1994 published the first book characterizing and classifying patients with these disorders (now called Rome I) [11]. This process continued with Rome II (2000), Rome III (2006), and Rome IV (2016). Currently, with Rome IV there are 33 adult and 17 pediatric DGBI, and validation studies support their use [12-18]. By using these criteria in clinical research, more scientific data emerged about these patients. This led to better characterization of these disorders and more evidence-based methods for modifying the diagnostic criteria when needed. The US Food and Drug Administration, the European Medicines Agency, the Japanese Pharmaceutical and Medical Devices Agency, and other international regulatory agencies accepted the Rome criteria as the standard method for including patients in clinical trials. Eventually, the criteria were used in almost all clinical studies of DGBI.

Since their acceptance by research and regulatory agencies, the concept of symptom-based criteria has stood the test of time over three decades. They remain clinically useful and are promoted in clinical and educational programs and curricula by allowing for a "positive" diagnosis rather than exclusion, the method that pre-existed these criteria.

Challenges Relating to the Rome symptom-based criteria for clinical use

As the Rome criteria became more established over time for research, clinicians began to debate their use for clinical practice [19-23]. One example is related to the change in criteria for IBS from Rome III to Rome IV. The new criteria increased the specificity of the diagnosis at the expense of its sensitivity, and it identified a more severe patient group, and the prevalence of IBS in the global study dropped by 50% [24]. Thus patients with milder IBS symptoms would not meet the criteria for Rome IV as they did in Rome III. Another major concern was the need for clinicians to make a "subthreshold" diagnosis for DGBI diagnoses in general when the patient does not meet the full Rome criteria used in research, but other clinical evidence supports the diagnosis.

An example is if the patient meets the qualitative symptom criteria, but the symptoms existed for less time than the Rome criteria require. For research purposes, the Rome IV criteria require the symptom onset six months before diagnosis and symptoms meeting Rome IV criteria to have been present during the previous three months to exclude the possibility of other diagnoses. This approach increases the reliability of patient selection for epidemiological studies. It also ensures adequate time to exclude other diagnoses and provide sufficient symptom duration for treatment trials that require symptoms to be present for several months. However, in the clinical setting, patients may be adequately evaluated within a shorter time. This would occur with a patient presenting with chest pain repeatedly over several weeks and the cardiological and gastroenterological investigations determine a likely esophageal cause. However, a strict application of the Rome IV diagnostic criteria for functional chest pain requires a symptom history of 6 months [25].

Furthermore, in Asia, prompt endoscopy is a rule for subjects with dyspeptic symptoms. The majority of patients may consult a physician as early as one month after the appearance of dyspeptic symptoms. This highlights the need to diagnose at the time of a negative endoscopy, as demonstrated in Asian publications. However, the more extended time requirement of the Rome criteria has been implicated in the observation that most patients with epigastric symptoms and negative endoscopy are diagnosed with "chronic gastritis [26,27].

Also, the frequency of the symptoms occurring in clinical settings may be less than the stated criteria. For example, with Rome IV, the frequency thresholds were based on a strict application of epidemiological data (90th percentile) [16]. However, frequencies out of this threshold may still impact the patient's quality of life or functioning, making it highly desirable for a diagnosis and targeted treatment to be made. Examples include cyclic vomiting syndrome, biliary pain, or abdominal migraine (in children). As the Rome criteria's impact grew with time, they were also applied in some settings for billing purposes, which restricted reimbursement for services if patients had symptoms not (yet) meeting duration requirements [28].

The discrepancy between the Rome research criteria and clinical diagnoses became even more prominent with the publication of the Rome IV criteria, where changes in specific parameters compared to Rome III made the diagnosis less prevalent and defined a more severe population [20-24,29]. In addition, the extent to which doctors are familiar with and apply the Rome diagnostic criteria is not clear. This is particularly important because DGBI patients are treated at multiple levels of care, including gastroenterologists, family physicians, internists, surgeons, and others. A study conducted by the Rome Foundation Working Team on Multinational, Cross-cultural research showed very different degrees of familiarity with and application of the Rome III diagnostic criteria in India, Mexico, Italy, and South Korea [30]. It is reasonable to assume that with the development of standalone clinical criteria, their relevance to clinicians will increase, as will the degree of their application in clinical practice.

Rationale and Recommendations for Rome Foundation Clinical Criteria

Based on the emerging discrepancy between Rome criteria and its clinical application, by consensus of the Rome Foundation Board of Directors we developed a modification for the Rome IV diagnostic criteria in clinical practice. We propose four factors to consider when offering recommendations for clinical criteria.

1. **Nature of symptoms**. The qualitative clusters of symptoms used in the Rome criteria represent the DGBI diagnostic syndromes. In effect, these symptom clusters are consistent across populations and have been supported and validated by epidemiological, factor analytic, and clinical cohort studies in many cases [31]. We recommend that the clinical criteria be based on the Rome IV symptom descriptors and clusters.

2. **Bothersomeness**. Symptoms are bothersome when they interfere with daily activities, require attention, or worry, and are perceived to cause impairment in Quality of Life. It is the bothersomeness of symptoms that leads patients to seek health care and for doctors to treat. Also, bothersomeness is a concurrent validation measure in health-related quality of life research, such as the IBS-QOL [32]. Furthermore, the Rome IV criteria use bothersomeness for some diagnoses like functional dyspepsia [33]. We believe that the degree of bothersomeness patients report influences clinical judgments to identify and treat the DGBIs. Therefore, we recommend the addition of bothersomeness as a clinical criterion for diagnosis.

3. **Frequency of symptoms**. In epidemiological studies, symptom abnormality is based on frequencies outside 90% confidence limits or outside of two standard deviations from the mean [16]. A statistical symptom frequency abnormality may be considered a clinical relevance criterion. However, some symptoms in clinical practice may be within normal epidemiological ranges and still be clinically relevant based on bothersomeness or impairment of daily function or quality of life. This occurs when clinicians make judgments to diagnose and treat not by frequency but by an immediacy that patients bring to the clinic visit: if the symptoms are bothersome enough to seek medical care, require treatment, or are sufficient to justify a diagnosis. When this happens, we recommend that the frequency of symptoms not be an obligatory criterion for diagnosis.

4. **Duration**. The Rome IV criteria require at least six months of symptom onset and three months meeting diagnostic criteria [1,16,24,31]. The time frame primarily excludes short-lived conditions such as an acute infection or minor events where the symptoms are likely to disappear or be evaluated sufficiently to exclude other diagnoses. This long time frame allows their application in epidemiological studies. However, the duration criteria can be shortened, mainly when a clinician has evaluated the symptoms sufficiently and is satisfied that other diagnoses are confidently excluded.

Using these guidelines provides the opportunity for clinicians to rule out other diagnoses sufficiently. Clinicians will evaluate symptom patterns, risk factors, and other patient characteristics to select additional investigations if needed. If all elements are in keeping with a DGBI diagnosis, the diagnosis can be made with confidence despite a lower frequency and duration.

Proposal for clinical criteria:

We recommend that the following be fulfilled to meet Rome Foundation Clinical Criteria:

1. **Qualitative Symptom Criteria.** The qualitative features of the Rome IV criteria must be met. See the Appendix for listing of modified Rome IV clinical criteria.

2. **Bothersomeness.** Patients should have sufficiently bothersome symptoms to seek care or affect daily activity (personal and professional). Within this context

the symptoms are severe enough to impact their quality of life. For this criterion, the clinician would endorse: "Patients report the symptoms as bothersome"

3. **Frequency Criteria.** A lower than Rome IV threshold frequency is permitted, providing the symptoms are bothersome enough to interfere with daily activity or require treatment.

4. **Duration Criteria.** The Rome IV requirement of 6 months duration of symptoms is not required. To provide some assurance that other diagnoses have been excluded, we suggest that symptoms be present for the previous eight weeks. Exceptions to the duration requirement are, a) when the clinician needs to make an earlier diagnosis and is satisfied that the medical evaluation excludes other disease, or b) for diagnoses where the symptoms occur infrequently and intermittently (e.g., cyclic vomiting syndrome, abdominal migraine, biliary pain, and proctalgia fugax).

The use of these criteria assumes that other diagnoses have been sufficiently ruled out based on the clinical presentation and additional investigations when needed. These criteria do not replace the standard Rome IV criteria for clinical trials, epidemiological or pathophysiological studies.

Implementation and Validation

The Rome Foundation believes that applying these criteria for clinical practice and communicating the diagnosis with confidence will improve patient acceptance, reduce unnecessary diagnostic studies, and enhance the patient-provider relationship [34]. The Foundation also plans to validate these criteria in future clinical studies and determine their impact on patient and provider satisfaction, health outcomes, and costs.

Future research will need to address whether any minimal thresholds in terms of bothersomeness, frequency and duration of symptoms can be identified for clinical practice criteria for specific DGBIs. The type and number of additional investigations that are useful for the evaluation of symptoms with a shorter history of onset also will need to be evaluated and may lead to recommendations for specific DGBIs.

The clinical criteria proposed can serve as a basis for studies to validate their application in clinical practice. The data from future studies will then be applied and implemented in the upcoming Rome V consensus. The existing duration and frequency criteria continue to be required for epidemiological research, pathophysiological studies, and therapeutic trials in DGBIs.

References

1. Drossman DA. Functional Gastrointestinal Disorders: History, Pathophysiology, Clinical Features and Rome IV. Gastroenterology 2016;150:1262-1279.
2. Klein KB. Controlled treatment trials in the irritable bowel syndrome: a critique. Gastroenterol 1988;95:232-241.
3. Drossman DA, Sandler RS, McKee DC, et al. Bowel patterns among subjects not seeking health care: Use of a questionnaire to identify a population with bowel dysfunction. Gastroenterol 1982;83:529-534.
4. Thompson WG, Heaton KW. Functional bowel disorders in apparently health people. Gastroenterol 1980;79:283-288.
5. Whitehead WE, Crowell MD, Bosmajian L, et al. Existence of irritable bowel syndrome supported by factor analysis of symptoms in two community samples. Gastroenterol 1990;98:336-340.
6. Manning AP, Thompson WG, Heaton KW, et al. Towards positive diagnosis of the irritable bowel. Br Med J 1978;2:653-654.
7. Milholland AV, Wheeler SG, Heieck JJ. Medical assessment by a delphi group opinion technic. New Engl J Med 1973;298:1272-1275.
8. Torsoli A, Corazziari E. The WTR's, the Delphic Oracle and the Roman Conclaves. Gastroenterology International 1991;4:44-45.
9. Thompson WG, Dotevall G, Drossman DA, et al. Irritable bowel syndrome: Guidelines for the diagnosis. Gastroenterology International 1989;2:92-95.
10. Drossman DA, Thompson WG, Talley NJ, et al. Identification of subgroups of functional bowel disorders. Gastroenterology International 1990;3:159-172.
11. Drossman DA, Richter JE, Talley NJ, et al. The Functional Gastrointestinal Disorders: Diagnosis, Pathophysiology and Treatment. McLean, VA: Degnon Associates, 1994.
12. Ford AC, Bercik P, Morgan DG, et al. Validation of the Rome III Criteria for the Diagnosis of Irritable Bowel Syndrome in Secondary Care. Gastroenterology 2013;145:1262-1270.
13. Vanner SJ, Depew WT, Paterson W, et al. Predictive value of the Rome Criteria for diagnosing the irritable bowel syndrome. Amer J Gastroenterol 1999;94:2912-2917.
14. Palsson OS, Taub E, Cook E, III, et al. Validation of Rome Criteria for functional gastrointestinal disorders by factor analysis. Am J Gastroenterol 1996;91:2000.
15. Whitehead WE, Palsson O, Thiwan SM, et al. Development and Validation of the Rome III Diagnostic Questionnaire. In: Drossman DA, Corazziari E, Delvaux M, Spiller RC, Talley NJ, Thompson WG, Whitehead WE, eds. Rome III: The Functional Gastrointestinal Disorders. 3rd Edition ed. McLean, VA: Degnon Associates, Inc., 2006:835-853.
16. Palsson OS, Whitehead WE, van Tilburg MA, Chang L, Chey W, Crowell MD, Keefer L, Lembo AJ, Parkman HP, Rao SS, Sperber A, Spiegel B, Tack J, Vanner S, Walker LS, Whorwell P, Yang Y. Rome IV Diagnostic Questionnaires and Tables for Investigators and Clinicians. Gastroenterology. 2016; 150:1481-1491.
17. Caplan A, Walker L, Rasquin A. Validation of the pediatric Rome II Criteria for functional gastrointestinal disorders using the questionnaire on pediatric gastrointestinal symptoms. J Pediatr. Gastroenterol Nutr 2005;41:305-316.
18. Clevers E, Whitehead WE, Palsson OS, Sperber AD, Törnblom H, Van Oudenhove L, Tack J, Simrén M. Factor Analysis Defines Distinct Upper and Lower Gastrointestinal Symptom Groups Compatible With Rome IV Criteria in a Population-based Study. Clin Gastroenterol Hepatol. 2018 Aug;16(8):1252-1259.e5.

19. Corsetti M, Tack J. Are symptom-based diagnostic criteria for irritable bowel syndrome useful in clinical practice? Digestion. 2004;70(4):207-9.
20. Ford AC, Bercik P, Morgan DG, Bolino C, Pintos-Sanchez MI, Moayyedi P. The Rome III criteria for the diagnosis of functional dyspepsia in secondary care are not superior to previous definitions. Gastroenterology. 2014 Apr;146(4):932-40.
21. Wei Z, Yang Q, Yang Q, Yang J, Tantai X, Xing X, Xiao C, Pan Y, Liu N, Wang J. Rome III, Rome IV, and Potential Asia Symptom Criteria for Functional Dyspepsia Do Not Reliably Distinguish Functional From Organic Disease. Clin Transl Gastroenterol. 2020 Dec;11(12):e00278.
22. Van den Houte K, Carbone F, Pannemans J, Corsetti M, Fischler B, Piessevaux H, Tack J. Prevalence and impact of self-reported irritable bowel symptoms in the general population. United European Gastroenterol J. 2019 Mar;7(2):307-315.
23. Black CJ, Craig O, Gracie DJ, Ford AC. Comparison of the Rome IV criteria with the Rome III criteria for the diagnosis of irritable bowel syndrome in secondary care. Gut. 2021 Jun;70(6):1110-1116.
24. Sperber AD, Bangdiwala SI, Drossman DA, Ghoshal UC, Simren M, Tack J, Whitehead WE, Dumitrascu DL, Fang X, Fukudo S, Kellow J, Okeke E, Quigley EMM, Schmulson M, Whorwell P, Archampong T, Adibi P, Andresen V, Benninga MA, Bonaz B, Bor S, Fernandez LB, Choi SC, Corazziari ES, Francisconi C, Hani A, Lazebnik L, Lee YY, Mulak A, Rahman MM, Santos J, Setshedi M, Syam AF, Vanner S, Wong RK, Lopez-Colombo A, Costa V, Dickman R, Kanazawa M, Keshteli AH, Khatun R, Maleki I, Poitras P, Pratap N, Stefanyuk O, Thomson S, Zeevenhooven J, Palsson OS. Worldwide Prevalence and Burden of Functional Gastrointestinal Disorders, Results of Rome Foundation Global Study. Gastroenterology. 2021 Jan;160(1):99-114.e3.
25. Aziz Q, Fass R, Gyawali CP, Miwa H, Pandolfino JE, Zerbib F. Functional Esophageal Disorders. Gastroenterology. 2016 Feb 15:S0016-5085(16)00178-5.
26. Suzuki H. . The Application of the Rome IV Criteria to Functional Esophagogastroduodenal Disorders in Asia. J Neurogastroenterol Motil 2017 Jul 30;23(3):325-333.
27. Chen SL, Gwee KA, Lee JS, Miwa H, Suzuki H, Guo P, Hao YT, Chen MG. Systematic review with meta-analysis: prompt endoscopy as the initial management strategy for uninvestigated dyspepsia in Asia. Aliment Pharmacol Ther 2015 Feb;41(3):239-52.
28. https://www.farmacotherapeutischkompas.nl/binaries/content/assets/fk-gegenereerd/2015_linaclotide_constella__prikkelbaredarmsyndroom_met_constipatie.pdf accessed on 10/14/2021.
29. Shin A, Chang L. The Transition From Rome III to Rome IV Irritable Bowel Syndrome: What We Gain and Lose. Clin Gastroenterol Hepatol. 2021 Jun 29:S1542-3565(21)00696-0.
30. Schmulson M, Corazziari E, Ghoshal UC, Myung SJ, Gerson CD, Quigley EM, et al. A four-country comparison of healthcare systems, implementation of diagnostic criteria, and treatment availability for functional gastrointestinal disorders: A report of the Rome Foundation Working Team on cross-cultural, multinational research. Neurogastroenterology and motility. 2014;26:1368-1385.
31. Drossman DA. History of Functional Gastrointestinal Symptoms and Disorders and Chronicle of the Rome Foundation. In: Drossman DA, Chang L, Chey WD, Kellow J, Tack J, Whitehead WE, eds. Rome IV Functional Gastrointestinal Disorders - Disorders of gut-Brain Interaction. 4th ed. Raleigh, NC: Rome Foundation, 2016:549-577.
32. Patrick DL, Drossman DA, Frederick IO, et al. Quality of life in persons with irritable bowel syndrome: Development of a new measure. Dig Dis Sci 1998;43:400-411.
33. Stanghellini V, Chan FK, Hasler WL, et al. Gastroduodenal disorders. Gastroenterology 2016;. 6:1380-1392.

34. Linedale EC, Chur-Hansen A, Mikocka-Walus A, et al. Uncertain Diagnostic Language Affects Further Studies, Endoscopies, and Repeat Consultations for Patients With Functional Gastrointestinal Disorders. Clin. Gastroenterol Hepatol 2016;14:1735-1741.

Appendix – Rome IV Criteria

To make a Rome IV clinical diagnosis the criteria below must be fulfilled. However, the frequency and duration criteria (*) are mitigated compared to the research criteria

A. Esophageal Disorders

A1. FUNCTIONAL CHEST PAIN

*Diagnostic criteria** *Must include **all** of the following:*

1. Retrosternal chest pain or discomfort**
2. Absence of associated esophageal symptoms, such as heartburn and dysphagia
3. Absence of evidence that gastroesophageal reflux or eosinophilic esophagitis is the cause of the symptom
4. Absence of major esophageal motor disorders†

*Criteria fulfilled for the last 8 weeks

**Cardiac causes should be ruled out

†Achalasia/EGJ outflow obstruction, diffuse esophageal spasm, jackhammer esophagus, absent peristalsis

A2. FUNCTIONAL HEARTBURN

*Diagnostic criteria** *Must include **all** of the following:*

1. Burning retrosternal discomfort or pain
2. No symptom relief despite optimal antisecretory therapy
3. Absence of evidence that gastroesophageal reflux** or eosinophilic esophagitis is the cause of the symptom
4. Absence of major esophageal motor disorders†

*Criteria fulfilled for the last 8 weeks with a frequency of at least twice a week

**Elevated acid exposure time and/or symptom reflux association

†Achalasia/EGJ outflow obstruction, diffuse esophageal spasm, jackhammer esophagus, absent peristalsis

A3. REFLUX HYPERSENSITIVITY

*Diagnostic criteria** *Must include **all** of the following:*

1. Retrosternal symptoms including heartburn and chest pain
2. Normal endoscopy and absence of evidence that eosinophilic esophagitis is the cause of the symptoms
3. Absence of major esophageal motor disorders**
4. Evidence of triggering of symptoms by reflux events despite normal acid exposure on pH- or pH-impedance monitoring†

*Criteria fulfilled for the last 8 weeks

**Achalasia/EGJ outflow obstruction, diffuse esophageal spasm, jackhammer esophagus, absent peristalsis

†Response to antisecretory therapy does not exclude the diagnosis

A4. GLOBUS

Diagnostic criteria Must include **all** of the following:*

1. Persistent or intermittent, non-painful sensation of a lump or foreign body in the throat with no structural lesion identified on physical examination, laryngoscopy, or endoscopy
   a. Occurrence of the sensation between meals
   b. Absence of dysphagia or odynophagia
   c. Absence of a gastric inlet patch in the proximal esophagus
2. Absence of evidence that gastroesophageal reflux or eosinophilic esophagitis is the cause of the symptom
3. Absence of major esophageal motor disorders**

*Criteria fulfilled for the last 8 weeks

**Achalasia/EGJ outflow obstruction, diffuse esophageal spasm, jackhammer esophagus, absent peristalsis

A5. FUNCTIONAL DYSPHAGIA

Diagnostic criteria Must include **all** of the following:*

1. Sense of solid and/or liquid foods sticking, lodging, or passing abnormally through the esophagus
2. Absence of evidence that esophageal mucosal or structural abnormality is the cause of the symptom
3. Absence of evidence that gastroesophageal reflux or eosinophilic esophagitis is the cause of the symptom
4. Absence of major esophageal motor disorders**

*Criteria fulfilled for the last 8 weeks

**Achalasia/EGJ outflow obstruction, diffuse esophageal spasm, jackhammer esophagus, absent peristalsis

B. Gastroduodenal Disorders

B1. FUNCTIONAL DYSPEPSIA*

*Diagnostic criteria***

1. *One or more* of the following:
   a. Bothersome postprandial fullness
   b. Bothersome early satiation
   c. Bothersome epigastric pain
   d. Bothersome epigastric burning

AND

2. No evidence of structural disease (including at upper endoscopy) that is likely to explain the symptoms

*Must fulfill criteria for B1a. PDS and/or B1b. EPS

**Criteria fulfilled for the last 8 weeks

B1a. Postprandial Distress Syndrome (PDS)

*Diagnostic criteria** *Must include **one or both** of the following at least 3 days a week:*

1. Bothersome postprandial fullness (i.e., severe enough to impact on usual activities)
2. Bothersome early satiation (i.e., severe enough to prevent finishing a regular size meal)

No evidence of organic, systemic, or metabolic disease that is likely to explain the symptoms on routine investigations (including at upper endoscopy)

*Criteria fulfilled for the last 8 weeks

Supportive criteria

1. Postprandial epigastric pain or burning, epigastric bloating, excessive belching, and nausea can also be present
2. Vomiting warrants consideration of another disorder
3. Heartburn is not a dyspeptic symptom but may often co-exist
4. Symptoms that are relieved by evacuation of feces or gas should generally not be considered as part of dyspepsia
5. Other individual digestive symptoms or groups of symptoms (e.g., from GERD and IBS) may co-exist with PDS

B1b. Epigastric Pain Syndrome (EPS)

*Diagnostic criteria** *Must include **one or both** of the following symptoms at least 1 day a week:*

1. Bothersome epigastric pain (i.e., severe enough to impact on usual activities)
2. Bothersome epigastric burning (i.e., severe enough to impact on usual activities)

No evidence of organic, systemic, or metabolic disease that is likely to explain the symptoms on routine investigations (including at upper endoscopy).

*Criteria fulfilled for the last 8 weeks

Supportive criteria

1. Pain may be induced by ingestion of a meal, relieved by ingestion of a meal, or may occur while fasting
2. Postprandial epigastric bloating, belching, and nausea can also be present
3. Persistent vomiting likely suggests another disorder
4. Heartburn is not a dyspeptic symptom but may often co-exist
5. The pain does not fulfill biliary pain criteria
6. Symptoms that are relieved by evacuation of feces or gas generally should not be considered as part of dyspepsia
7. Other digestive symptoms (such as from GERD and IBS) may co-exist with EPS

B2. BELCHING DISORDERS

*Diagnostic criteria**

Bothersome (i.e., severe enough to impact on usual activities) belching from the esophagus or stomach more than 3 days a week

B2a. Excessive Supragastric Belching (from esophagus)

B2b. Excessive Gastric Belching (from stomach)

Supportive criteria

1. Supragastric belching is supported by observing frequent, repetitive belching
2. Gastric belching has no established clinical correlate
3. Objective intraluminal impedance measurement is required to distinguish supragastric from gastric belching

*Criteria fulfilled for the last 8 weeks

B3. NAUSEA AND VOMITING DISORDERS

B3a. Chronic Nausea Vomiting Syndrome (CNVS)

*Diagnostic criteria** *Must include **all** of the following:*

1. Bothersome (i.e., severe enough to impact on usual activities) nausea, occurring at least 1 day per week and/or one or more vomiting episodes per week
2. Self-induced vomiting, eating disorders, regurgitation, or rumination are excluded
3. No evidence of organic, systemic, or metabolic diseases likely to explain the symptoms on routine investigations (including at upper endoscopy)

*Criteria fulfilled for the last 8 weeks

B3b. Cyclic Vomiting Syndrome (CVS)

*Diagnostic criteria** *Must include **all** of the following:*

1. Stereotypical episodes of vomiting regarding onset (*acute*) and duration (*less than 1 week*)
2. At least three discrete episodes in the prior year and two episodes in the past 6 months, occurring at least 1 week apart
3. Absence of vomiting between episodes, but other milder symptoms can be present between cycles

*Criteria fulfilled for the last 8 weeks

Supportive criteria

History or family history of migraine headaches

B3c. Cannabinoid Hyperemesis Syndrome (CHS)

*Diagnostic criteria** *Must include **all** of the following:*

1. Stereotypical episodic vomiting resembling cyclic vomiting syndrome (CVS) in terms of onset, duration, and frequency

2. Presentation after prolonged use of cannabis
3. Relief of vomiting episodes by sustained cessation of cannabis use

*Criteria fulfilled for the last 8 weeks

Supportive criteria

May be associated with pathologic bathing behavior (*prolonged hot baths or showers*)

B4. RUMINATION SYNDROME

Diagnostic criteria Must include **all** of the following:*

1. Persistent or recurrent regurgitation of recently ingested food into the mouth with subsequent spitting or remastication and swallowing
2. Regurgitation is not preceded by retching

*Criteria fulfilled for the last 8 weeks

Supportive criteria

1. Effortless regurgitation events are usually not preceded by nausea
2. Regurgitant contains recognizable food which may have a pleasant taste
3. The process tends to cease when the regurgitated material becomes acidic

C. Bowel Disorders

C1. IRRITABLE BOWEL SYNDROME

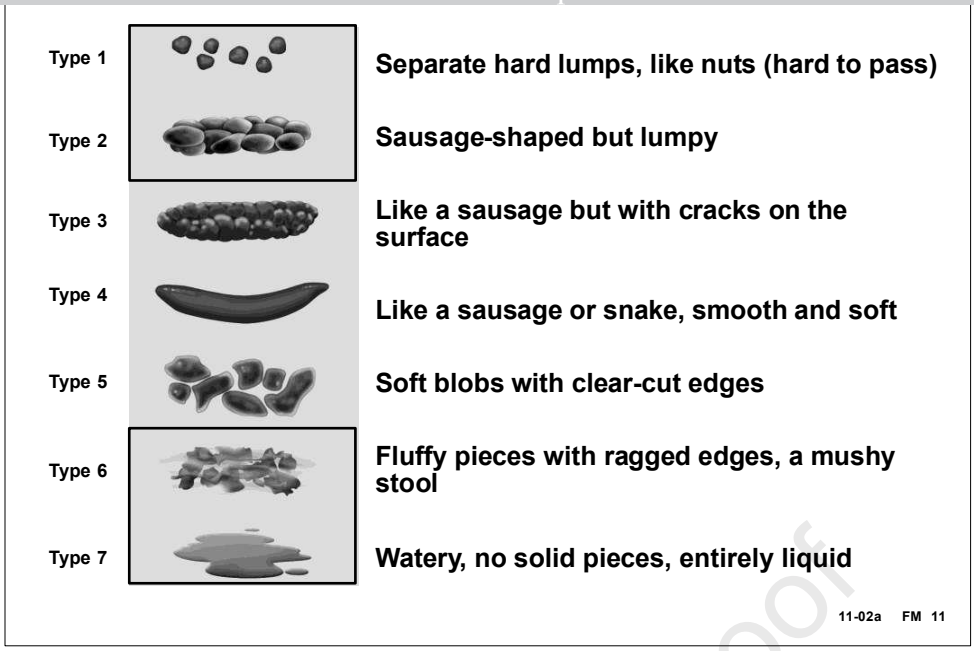
*Diagnostic criteria**

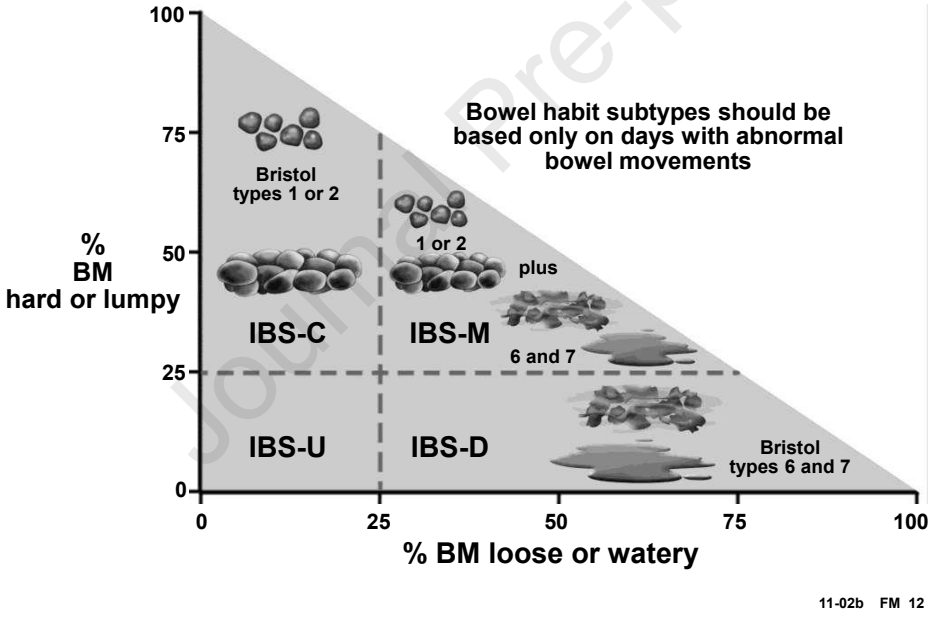
Recurrent abdominal pain on average at least 1 day/week in the last 3 months, associated with **two or more** of the following criteria:

1. Related to defecation
2. Associated with a change in frequency of stool
3. Associated with a change in form (appearance) of stool

* Criteria fulfilled for the last 8 weeks

IBS Subtypes





Diagnostic criteria for IBS subtypes (Figure 11-11, FM 12)

Predominant bowel habits are based on stool form on days with at least one abnormal bowel movement.*

IBS with predominant constipation (IBS-C): > ¼ (25%) of bowel movements with Bristol stool types 1 or 2 and < ¼ (25%) of bowel movements with Bristol stool types 6 or 7. *Alternative for epidemiology or clinical practice: Patient reports that abnormal bowel movements are usually constipation (like Type 1 or 2 in the picture of BSF, see Figure 2A).*

IBS with predominant diarrhea (IBS-D): > ¼ (25%) of bowel movements with Bristol stool types 6 or 7 and < ¼ (25%) of bowel movements with Bristol stool types 1 or 2. *Alternative for epidemiology or clinical practice: Patient reports that abnormal bowel movements are usually diarrhea (like Type 6 or 7 in the picture of BSF, see Figure 2A).*

IBS with mixed bowel habits (IBS-M): > ¼ (25%) of bowel movements with Bristol stool types 1 or 2 and > ¼ (25%) of bowel movements with Bristol stool types 6 or 7. *Alternative for epidemiology or clinical practice: Patient reports that abnormal bowel movements are usually both constipation and diarrhea (more than 1/4 of all the abnormal bowel movements were constipation and more than 1/4 were diarrhea, using picture of BSF, see Figure 2A).*

IBS Unclassified (IBS-U): Patients who meet diagnostic criteria for IBS but whose bowel habits cannot be accurately categorized into 1 of the 3 groups above should be categorized as having IBS-U. *Alternative for epidemiology or clinical practice: Patient reports that abnormal stools (both diarrhea and constipation) are rare.*

For clinical trials, subtyping based on at least 2 weeks of daily diary data is recommended, using the "25%-rule".

*IBS subtypes related to bowel habit abnormalities (IBS-C, IBS-D and IBS-M) can only be confidently established when the patient is evaluated off medications used to treat bowel habit abnormalities.

C2. FUNCTIONAL CONSTIPATION

*Diagnostic criteria**

1. Must include **two or more** of the following:**
   a. Straining during more than ¼ (25%) of defecations
   b. Lumpy or hard stools (Bristol Stool Form Scale 1-2) more than ¼ (25%) of defecations
   c. Sensation of incomplete evacuation more than ¼ (25%) of defecations
   d. Sensation of anorectal obstruction/blockage more than ¼ (25%) of defecations
   e. Manual maneuvers to facilitate more than ¼ (25%) of defecations (e.g., digital evacuation, support of the pelvic floor)
   f. Fewer than three SBM per week
2. Loose stools are rarely present without the use of laxatives
3. Insufficient criteria for irritable bowel syndrome

*Criteria fulfilled for the last 8 weeks

**For research studies, patients meeting criteria for opioid-induced constipation (OIC) should not be given a diagnosis of FC because it is difficult to distinguish between opioid side effects and other causes of constipation. However, clinicians recognize that these two conditions may overlap.

C3. FUNCTIONAL DIARRHEA

*Diagnostic criterion**

Loose or watery stools, without predominant abdominal pain or bothersome bloating, occurring in more than 25% of stools.**

*Criteria fulfilled for the last 8 weeks

**Patients meeting criteria for IBS-D (diarrhea-predominant IBS) should be excluded.

C4. FUNCTIONAL ABDOMINAL BLOATING/DISTENSION

Diagnostic criteria Must include **both** of the following:*

1. Recurrent bloating and/or distension occurring on average at least 1 day/week; abdominal bloating and/or distension predominates over other symptoms.**
2. There are insufficient criteria for a diagnosis of irritable bowel syndrome, functional constipation, functional diarrhea, or post-prandial distress syndrome.

*Criteria fulfilled for the last 8 weeks

**Mild pain related to bloating may be present as well as minor bowel movement abnormalities

C5. UNSPECIFIED FUNCTIONAL BOWEL DISORDER

*Diagnostic criterion**

Bowel symptoms not attributable to an organic etiology that do not meet criteria for IBS, or functional constipation, diarrhea or abdominal bloating/distension disorders

*Criterion fulfilled for the last 8 weeks

C6. OPIOID-INDUCED CONSTIPATION

Diagnostic criteria

1. New, or worsening, symptoms of constipation when initiating, changing, or increasing opioid therapy, that must include *two or more* of the following:
   a. Straining during more than ¼ (25%) of defecations
   b. Lumpy or hard stools (Bristol Stool Form Scale 1-2) more than ¼ (25%) of defecations
   c. Sensation of incomplete evacuation more than ¼ (25%) of defecations
   d. Sensation of anorectal obstruction/blockage more than ¼ (25%) of defecations
   e. Manual maneuvers to facilitate more than ¼ (25%) of defecations (e.g., digital evacuation, support of the pelvic floor)
   f. Fewer than three SBM per week

2. Loose stools are rarely present without the use of laxatives.

D. Centrally Mediated Disorders of GI Pain

D1. CENTRALLY MEDIATED ABDOMINAL PAIN SYNDROME*

*Diagnostic criteria*** *Must include **all** of the following:*

1. Continuous or nearly continuous abdominal pain
2. No or only occasional relationship of pain with physiological events (e.g., eating, defecation or menses)†
3. Pain limits some aspect of daily functioning††
4. The pain is not feigned
5. Pain is not explained by another structural or functional gastrointestinal disorder or other medical condition

*CAPS is typically associated with psychosocial comorbidity, but there is no specific profile that can be used for diagnosis

**Criteria fulfilled for the last 8 weeks

†Some degree of gastrointestinal dysfunction may be present

††Daily function could include impairments in work, intimacy, social/leisure, family life, and caregiving for self or others

D2. NARCOTIC BOWEL SYNDROME/OPIOID-INDUCED GI HYPERALGESIA

Diagnostic criteria *Must include **all** of the following:*

1. Chronic or frequently recurring abdominal pain* that is treated with acute high-dose or chronic narcotics
2. The nature and intensity of the pain is not explained by a current or previous GI diagnosis**
3. Two or more of the following:
   a. The pain worsens or incompletely resolves with continued or escalating dosages of narcotics
   b. There is marked worsening of pain when the narcotic dose wanes and improvement when narcotics are re-instituted (soar and crash)
   c. There is a progression of the frequency, duration, and intensity of pain episodes

*Pain must occur most days

**A patient may have a structural diagnosis (e.g., inflammatory bowel disease, chronic pancreatitis), but the character or activity of the disease process is not sufficient to explain the pain

E. Gallbladder and Sphincter of Oddi Disorders

E1. BILIARY PAIN

Diagnostic criteria

Pain located in the epigastrium and/or right upper quadrant and **all** of the following:

1. Builds up to a steady level and lasts 30 minutes or longer
2. Occurring at different intervals (not daily)
3. Severe enough to interrupt daily activities or lead to an emergency department visit
4. Not significantly (<20%) related to bowel movements
5. Not significantly (<20%) relieved by postural change **or** acid suppression

Supportive criteria

The pain may be associated with:

1. Nausea and vomiting
2. Radiation to the back and/or right infra subscapular region
3. Waking from sleep

E1a. Functional Gallbladder Disorder

Diagnostic criteria *Must include **both** of the following:*

1. Criteria for biliary pain*
2. Absence of gallstones or other structural pathology

Supportive criteria

1. Low ejection fraction on gallbladder scintigraphy
2. Normal liver enzymes, conjugated bilirubin, and amylase/lipase

*Criteria for biliary pain: Pain located in the epigastrium and/or right upper quadrant and **all** of the following: 1. Builds up to a steady level and lasts 30 minutes or longer 2. Occurring at different intervals (not daily) 3. Severe enough to interrupt daily activities or lead to an emergency department visit 4. Not significantly (<20%) related to bowel movements 5. Not significantly (<20%) relieved by postural change **or** acid suppression

E1b. Functional Biliary Sphincter of Oddi Disorder

Diagnostic criteria *Must include **all** of the following:*

1. Criteria for biliary pain*
2. Elevated liver enzymes or dilated bile duct, but not both
3. Absence of bile duct stones or other structural abnormalities

Supportive criteria

1. Normal amylase/lipase
2. Abnormal sphincter of Oddi manometry
3. Hepatobiliary scintigraphy

*Criteria for biliary pain: Pain located in the epigastrium and/or right upper quadrant and **all** of the following: 1. Builds up to a steady level and lasts 30 minutes or longer 2. Occurring at different intervals (not daily) 3. Severe enough to interrupt daily activities or lead to an emergency department visit 4. Not significantly (<20%) related to bowel movements 5. Not significantly (<20%) relieved by postural change **or** acid suppression

E2. FUNCTIONAL PANCREATIC SPHINCTER OF ODDI DISORDER

Diagnostic criteria *Must include **all** of the following:*

1. Documented recurrent episodes of pancreatitis (typical pain with amylase or lipase >3 times normal and/or imaging evidence of acute pancreatitis)
2. Other etiologies of pancreatitis excluded
3. Negative endoscopic ultrasound
4. Abnormal sphincter manometry

F. Anorectal Disorders

F1. FECAL INCONTINENCE

*Diagnostic criterion**

Recurrent uncontrolled passage of fecal material in an individual with a developmental age of at least 4 years

*Criterion fulfilled for the last 8 weeks.

F2. FUNCTIONAL ANORECTAL PAIN

F2a. Levator Ani Syndrome

*Diagnostic criteria** *Must include **all** of the following:*

1. Chronic or recurrent rectal pain or aching
2. Episodes last 30 minutes or longer
3. Tenderness during traction on the puborectalis
4. Exclusion of other causes of rectal pain such as inflammatory bowel disease, intramuscular abscess, anal fissure, thrombosed hemorrhoids, prostatitis, coccygodynia and major structural alterations of the pelvic floor

*Criteria fulfilled for the last 8 weeks

F2b. Unspecified Functional Anorectal Pain

*Diagnostic criteria**

Symptom criteria for chronic levator ani syndrome but no tenderness during posterior traction on the puborectalis muscle

*Criteria fulfilled for the last 8 weeks

F2c. Proctalgia Fugax

Diagnostic criteria Must include **all** of the following:*

1. Recurrent episodes of pain localized to the rectum and unrelated to defecation
2. Episodes last from seconds to minutes with a maximum duration of 30 minutes
3. There is no anorectal pain between episodes
4. Exclusion of other causes of rectal pain such as inflammatory bowel disease, intramuscular abscess, anal fissure, thrombosed hemorrhoids, prostatitis, coccygodynia and major structural alterations of the pelvic floor

*For research purposes, criteria must be fulfilled for 8 weeks.

F3. FUNCTIONAL DEFECATION DISORDERS

Diagnostic criteria Must include **all** of the following:*

1. The patient must satisfy diagnostic criteria for functional constipation and/or irritable bowel syndrome with constipation
2. During repeated attempts to defecate, there must be features of impaired evacuation, as demonstrated by 2 of the following 3 tests:
   a. Abnormal balloon expulsion test
   b. Abnormal anorectal evacuation pattern with manometry or anal surface EMG
   c. Impaired rectal evacuation by imaging

*Criteria fulfilled for the last 8 weeks

Subcategories F3a and F3b apply to patients who satisfy criteria for FDD

F3a. Inadequate Defecatory Propulsion

*Diagnostic criterion**

Inadequate propulsive forces as measured with manometry with or without inappropriate contraction of the anal sphincter and/or pelvic floor muscles**

*Criterion fulfilled for the last 8 weeks

**This criterion is defined by age- and gender-appropriate normal values for the technique

F3b. Dyssynergic Defecation

*Diagnostic criterion**

Inappropriate contraction of the pelvic floor as measured with anal surface EMG or manometry with adequate propulsive forces during attempted defecation**

*Criterion fulfilled for the last 8 weeks

**This criterion is defined by age- and gender-appropriate normal values for the technique

G. Childhood Functional GI Disorders: Neonate/Toddler

G1. INFANT REGURGITATION

Diagnostic criteria *Must include **both** of the following in otherwise healthy infants 3 weeks to 12 months of age:*

1. Regurgitation two or more times per day for 3 or more weeks
2. No retching, hematemesis, aspiration, apnea, failure to thrive, feeding or swallowing difficulties, or abnormal posturing

G2. RUMINATION SYNDROME

Diagnostic criteria *Must include **all** of the following for at least 2 months:*

1. Repetitive contractions of the abdominal muscles, diaphragm, and tongue
2. Effortless regurgitation of gastric contents, which are either expelled from the mouth or rechewed and reswallowed
3. Three or more of the following:
   a. Onset between 3 and 8 months
   b. Does not respond to management for GERD and regurgitation
   c. Unaccompanied by signs of distress
   d. Does not occur during sleep and when the infant is interacting with individuals in the environment

G3. CYCLIC VOMITING SYNDROME

Diagnostic criteria *Must include **all** of the following:*

1. Two or more periods of unremitting paroxysmal vomiting with or without retching, lasting hours to days within a 6-month period
2. Episodes are stereotypical in each patient
3. Episodes are separated by weeks to months with return to baseline health between episodes of vomiting

G4. INFANT COLIC

Diagnostic criteria *For clinical purposes must include **all** of the following:*

1. An infant who is less than 5 months of age when the symptoms start and stop
2. Recurrent and prolonged periods of infant crying, fussing, or irritability reported by caregivers that occur without obvious cause and cannot be prevented or resolved by caregivers
3. No evidence of infant failure to thrive, fever, or illness

"Fussing" refers to intermittent distressed vocalization and has been defined as "[behavior] that is not quite crying but not awake and content either." Infants often fluctuate between crying and fussing, so that the two symptoms are difficult to distinguish in practice.

For clinical research, a diagnosis of infant colic must meet the preceding diagnostic criteria ***and also include both*** *of the following:*

1. Caregiver reports infant has cried or fussed for 3 or more hours/day during 3 or more days in 7 days in a telephone or face-to-face screening interview with a researcher or clinician;
2. Total 24-hour crying plus fussing in the selected group of infants is confirmed to be 3 hours or more when measured by at least one, prospectively kept, 24-hour behavior diary.

G5. FUNCTIONAL DIARRHEA

Diagnostic criteria *Must include* ***all*** *of the following:*

1. Daily painless, recurrent passage of four or more large, unformed stools
2. Symptoms last more than 4 weeks
3. Onset between 6 and 60 months of age
4. No failure-to-thrive if caloric intake is adequate

G6. INFANT DYSCHEZIA

Diagnostic criteria *Must include in an infant less than 9 months of age:*

1. At least 10 minutes of straining and crying before successful or unsuccessful passage of soft stools
2. No other health problems

G7. FUNCTIONAL CONSTIPATION

Diagnostic criteria *Must include* ***one month of at least two*** *of the following in infants up to 4 years of age:*

1. Two or fewer defecations per week
2. History of excessive stool retention
3. History of painful or hard bowel movements
4. History of large diameter stools
5. Presence of a large fecal mass in the rectum

In toilet trained children, the following additional criteria may be used:

6. At least one episode/week of incontinence after the acquisition of toileting skills
7. History of large diameter stools which may obstruct the toilet

H. Childhood Functional GI Disorders: Child/Adolescent

H1. FUNCTIONAL NAUSEA AND VOMITING DISORDERS

H1a. Cyclic Vomiting Syndrome

Diagnostic criteria *Must include **all** of the following:*

1. Two or more periods of intense, unremitting nausea and paroxysmal vomiting, lasting hours to days within a 6-month period
2. Episodes are stereotypical in each patient
3. Episodes are separated by weeks to months with return to baseline health between episodes
4. After appropriate evaluation, the symptoms cannot be attributed to another medical condition

H1b. Functional Nausea and Functional Vomiting

H1b1. Functional Nausea

*Diagnostic criteria** *Must include **all** of the following:*

1. Bothersome nausea as the predominant symptom, occurring at least twice per week, and generally not related to meals
2. Not consistently associated with vomiting
3. After appropriate evaluation, the nausea cannot be fully explained by another medical condition

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H1b2. Functional Vomiting

*Diagnostic criteria** *Must include **all** of the following:*

1. On average, one or more episodes of vomiting per week
2. Absence of self-induced vomiting or criteria for an eating disorder or rumination
3. After appropriate evaluation, the vomiting cannot be fully explained by another medical condition

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H1c. Rumination Syndrome

*Diagnostic criteria** *Must include **all** of the following:*

1. Repeated regurgitation and rechewing or expulsion of food that:
   a. Begins soon after ingestion of a meal
   b. Does not occur during sleep
2. Not preceded by retching

3. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition. An eating disorder must be ruled out.

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H1d. Aerophagia

*Diagnostic criteria** *Must include **all** of the following:*

1. Excessive air swallowing
2. Abdominal distention due to intraluminal air which increases during the day
3. Repetitive belching and/or increased flatus
4. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H2. FUNCTIONAL ABDOMINAL PAIN DISORDERS

H2a. Functional Dyspepsia

Diagnostic criteria *Must include **one or more** of the following bothersome symptoms at least 4 times a month for at least 2 months prior to diagnosis:*

1. Postprandial fullness
2. Early satiation
3. Epigastric pain or burning not associated with defecation
4. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

Within FD the following subtypes are now adopted:

H2a1. ***Postprandial distress syndrome*** includes bothersome postprandial fullness or early satiation which prevents finishing a regular meal. Supportive features include upper abdominal bloating, postprandial nausea, or excessive belching.

H2a2. ***Epigastric pain syndrome*** which includes all of the following: bothersome (severe enough to interfere with normal activities) pain or burning localized to the epigastrium. The pain is not generalized or localized to other abdominal or chest regions and is not relieved by defecation or passage of flatus. Supportive criteria can include (a) burning quality of the pain but without a retrosternal component, (b) commonly induced or relieved by ingestion of a meal but may occur while fasting.

H2b. Irritable Bowel Syndrome

*Diagnostic criteria** *Must include **all** of the following:*

1. Abdominal pain at least 4 days per month over at least 2 months associated with *one or more* of the following:
    a. Related to defecation

b. A change in frequency of stool

c. A change in form (appearance) of stool

2. In children with constipation, the pain does not resolve with resolution of the constipation (children in whom the pain resolves have functional constipation, not IBS)
3. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H2c. Abdominal Migraine

*Diagnostic criteria** *Must include **all** of the following occurring at least twice:*

1. Paroxysmal episodes of intense, acute periumbilical, midline or diffuse abdominal pain lasting 1 hour or more (should be the most severe and distressing symptom)
2. Episodes are separated by weeks to months
3. The pain is incapacitating and interferes with normal activities
4. Stereotypical pattern and symptoms in the individual patient
5. The pain is associated with *two or more* of the following:
   a. Anorexia
   b. Nausea
   c. Vomiting
   d. Headache
   e. Photophobia
   f. Pallor
6. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

*Criteria fulfilled for at least 6 months prior to diagnosis

H2d. Functional Abdominal Pain – Not Otherwise Specified

*Diagnostic criteria** *Must be fulfilled at least 4 times per month and include **all** of the following:*

1. Episodic or continuous abdominal pain that does not occur solely during physiologic events (e.g., eating, menses)
2. Insufficient criteria for irritable bowel syndrome, functional dyspepsia, or abdominal migraine
3. After appropriate evaluation, the abdominal pain cannot be fully explained by another medical condition

*Criteria fulfilled for at least 8 weeks prior to diagnosis

H3. FUNCTIONAL DEFECATION DISORDERS

H3a. Functional Constipation

Diagnostic criteria — *Must include **two or more** of the following occurring at least once per week for a minimum of 1 month with insufficient criteria for a diagnosis of IBS:*

1. Two or fewer defecations in the toilet per week in a child of a developmental age of at least 4 years
2. At least one episode of fecal incontinence per week
3. History of retentive posturing or excessive volitional stool retention
4. History of painful or hard bowel movements
5. Presence of a large fecal mass in the rectum
6. History of large diameter stools which can obstruct the toilet
7. After appropriate evaluation, the symptoms cannot be fully explained by another medical condition

H3b. Nonretentive Fecal Incontinence

Diagnostic criteria — *Must include at least a 1-month history in a child with a developmental age older than 4 years of **all** of the following:*

1. Defecation in places inappropriate to the sociocultural context
2. No evidence of fecal retention
3. After appropriate evaluation, the fecal incontinence cannot be explained by another medical condition