From Symptoms to Solutions:

The Art and Science of Nutrition in Functional Dyspepsia

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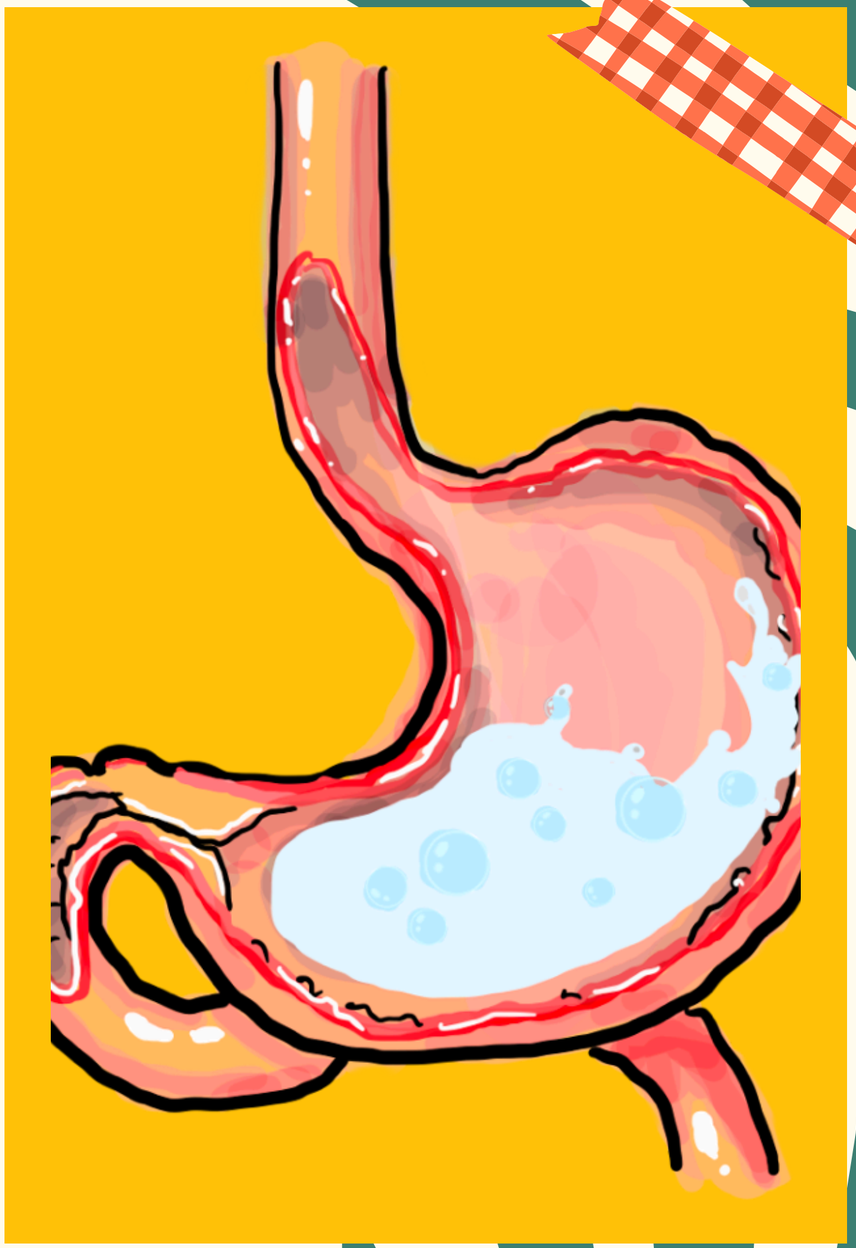
TODAYS

Objectives

- Define FD and it’s subtypes using Rome IV criteria
- Identify dietary patterns + specific triggers with evidence for/against them
- Outline a practical, evidence-based nutrition care plan for FD
- Integrate behavioral and lifestyle strategies to complement dietary intervention



Functional Dyspepsia

<u>Bothersome</u> postprandial fullness, early satiety, epigastric pain or epigastric burning in the absence of structural abnormalities

- **Postprandial Distress (PDS)= meal related symptoms**
- **Epigastric Pain Syndrome (EPS) = pain/burning that may or may not be related to meals**

Nausea or vomiting can be present

Symptoms present > 6 months

eGastroenterology

Functional dyspepsia and gastroparesis: are they distinct disorders, a spectrum of diseases or one disease?

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ABSTRACT

Functional dyspepsia (FD) and gastroparesis (GP) are clinically managed as distinct upper gastrointestinal conditions but present with symptoms that are often indistinguishable. FD is a common disorder of gut–brain interaction that negatively impacts quality of life, while GP is considered a rare disease exclusively defined by delayed gastric emptying and symptoms. The degree of overlap between these disorders makes them hard to differentiate in clinical practice, thereby impacting treatment decisions. This review is focused on exploring the similarities and differences between FD and GP to guide clinician management and improve treatment outcomes. A comprehensive literature search was performed and the full texts of eligible articles were retrieved for the extraction of information reported in this review. This summary of evidence supports the hypothesis that GP and FD represent two ends of the same disease spectrum in a major subgroup. Improved understanding of the similarities, differences and overlap is likely to help guide the development of objective biomarkers and better-targeted therapies.

INTRODUCTION

Overlapping symptoms between gastrointestinal (GI) conditions complicate diagnosis, treatment and management. This is particularly challenging for clinicians when the management of conditions differs substantially.

Functional dyspepsia (FD) is one of the most common disorders of gut–brain interaction (DGBI) and is defined by symptoms referable to the gastroduodenal region.[1] These include bothersome epigastric pain or burning (the epigastric pain syndrome subtype), or bothersome postprandial fullness or early satiety (the postprandial distress syndrome (PDS) variant), with no evidence of established structural disease.[2] In contrast, gastroparesis (GP) is considered a rare heterogeneous neuromuscular disorder characterised by delayed gastric emptying (GE), described as gastric retention of more than 60% at 2 hours, and/or >10% at 4 hours on the GE scintigraphy without evidence of mechanical obstruction.[3] However, there is a considerable clinical overlap between the two disorders[4–6] (table 1). Various criteria and validated symptom-based questionnaires have been applied to differentiate GP from FD, but lack of specificity limits their application.[7] The hallmark of GP is delayed GE measured by gastric scintigraphy (GS), but 25%–37% of patients with FD also have some delay in GE, supporting the assertion that these disorders represent a spectrum of gastroduodenal pathophysiology.[8 9] The complex interplay of altered central processing, visceral hypersensitivity, impaired accommodation, altered GI peptide release, low-grade mucosal immune activation and alterations in the gut microbiota may play a role in symptom generation in both GP and FD.[8 9] Although the duodenum has been extensively studied in FD, researchers have mainly focused on the stomach in GP (figure 1). This review aims to evaluate the overlap and subtle differences between FD and GP that could promote potential targets for future therapies.

METHODS

A comprehensive search was performed on PubMed, Cochrane Central Register of Controlled Trials (CENTRAL) and Google Scholar from inception of database until February 2024 using the search terms: functional dyspepsia, gastroparesis, pathogenesis of gastroparesis and functional dyspepsia, microbiota, gut dysbiosis, small intestinal bacterial overgrowth (SIBO), bile acids, duodenal eosinophilia, enteric nervous system, visceral hypersensitivity, gastric accommodation, interstitial cells of Cajal (ICC), GI peptides, scintigraphy, electrogastrography (EGG), gastric

Egboh SM, et al. eGastroenterology. 2025 Jan 23;3(1):e100119. PMID: 39944931

Review

Functional dyspepsia or gastroparesis? A guide to assessment, investigation and management

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ABSTRACT

Patients presenting with upper gastrointestinal symptoms such as postprandial fullness, early satiation, epigastric pain or burning, upper abdominal bloating, nausea and vomiting often receive the diagnoses of functional dyspepsia (FD), a disorder of the gut–brain interaction, or gastroparesis, a gastric motility disorder. The diagnosis of FD is largely symptom-based, using the Rome IV criteria, while for gastroparesis, establishing delayed gastric emptying (GE) in the absence of gastric outlet obstruction is necessary. However, symptoms of FD and gastroparesis can be indistinguishable, as well as certain pathophysiological mechanisms (ie, delayed GE, impaired gastric accommodation, visceral hypersensitivity) and treatments (ie, antiemetics, prokinetics, neuromodulators). Thus, the presentation and diagnosis of both FD and gastroparesis in clinical practice can be challenging for providers. Moreover, numerous studies have demonstrated that the severity of symptoms does not necessarily correlate with the degree of delay in GE. It has also recently been shown that patients often transition between diagnoses based on the volatile nature of GE test results. This calls for a reconceptualisation of these diagnostic entities. The aim of this review is therefore to perform a critical appraisal of similarities and differences between FD and gastroparesis and to provide a practical guide for the practising clinician.

KEY POINTS

⇒ Symptoms of functional dyspepsia (FD) and gastroparesis are often indistinguishable.
⇒ The prevalence of FD is considerably higher compared with gastroparesis (about 500-fold).
⇒ Delayed gastric emptying (GE) is not the sole underlying mechanism for symptom generation in gastroparesis.
⇒ Delayed GE rate, the defining feature of gastroparesis, can vary largely over time and shows mediocre correlation with symptom severity. Neither does the clinical response to prokinetics relate to GE rate.
⇒ Gastroparesis is commonly incorrectly diagnosed due to improperly performed GE tests.
⇒ Given the considerable overlap in symptom presentation and underlying pathomechanisms, FD and gastroparesis ought to be considered as being the extreme ends of a spectrum of gastroduodenal neuromuscular disorders.
⇒ The term 'gastroparesis' should be reserved for the more severe cases with marked delay in GE and possibly only for non-idiopathic aetiologies.

INTRODUCTION

Upper gastrointestinal (GI) problems are one of the primary reasons for patients to present at gastroenterology clinics. Yet such symptoms often represent a difficult diagnostic and therapeutic dilemma. Clinical work-up generally results in diagnostic labels of functional dyspepsia (FD) or gastroparesis. Ideally, these separate labels ought to reflect distinct underlying pathophysiological mechanisms and, at the same time, guide specific, effective management strategies. However, the therapeutic outcome with regards to symptom improvement, whichever diagnosis of upper GI problems is made, is often disappointing. In addition, recent studies have highlighted a substantial overlap in the pathophysiology, symptoms and clinical course of gastroparesis and FD. This therefore prompts a conceptual rethinking of the way we approach the management of patients with upper GI

To cite: Keszthelyi D. *Frontline Gastroenterology* 2025;**16**:392–400.

Keszthelyi D. Frontline Gastroenterology 2025;16:392-400.

Table 1

Definitions of functional dyspepsia and gastroparesis, in addition to other diagnostic entities to be considered

Functional dyspepsia (Rome IV criteria)	Gastroparesis (international consensus criteria)	Other conditions to consider
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** Criteria fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis.	Nausea and vomiting are cardinal symptoms. Frequently coexisting symptoms are early satiation and postprandial fullness. Diagnosis requires the presence of these symptoms alongside delayed gastric emptying, measured by a 4-hour scintigraphy or gastric emptying breath test of a mixed composition meal in the absence of mechanical obstruction.	• **Rumination syndrome** • **Cannabinoid hyperemesis syndrome** • **Cyclic vomiting syndrome** • **Chronic nausea and vomiting syndrome** Comorbid conditions: • **Affective disorders (anxiety, depression)** • **Eating disorders** (including avoidant/restrictive food intake disorder)

Keszthelyi D. Frontline Gastroenterology 2025;16:392-400.

CME

ACG Clinical Guideline: Gastroparesis

Michael Camilleri, MD, DSc, MRCP (UK), MACG, AGAF[1], Braden Kuo, MD, MSc, FACG[2], Linda Nguyen, MD[3], Vida M. Vaughn, MLIS, MBA[4], Jessica Petrey, MSLS[4], Katarina Greer, MD, MS[5], Rena Yadlapati, MD, I Thomas L. Abell, MD[4]

Gastroparesis is characterized by symptoms suggesting retention of food in the stomach with gastric emptying in the absence of mechanical obstruction in the gastric outflow. This conditi in clinical practice. These guidelines summarize perspectives on the risk factors, diagnosis, gastroparesis in adults (including dietary, pharmacological, device, and interventions directe represent the official practice recommendations of the American College of Gastroenterolog these guidelines was assessed using the Grading of Recommendations, Assessment, Develop When the evidence was not appropriate for Grading of Recommendations, Assessment, Dev used expert consensus to develop key concept statements. These guidelines should be consi the only approaches to these conditions.

SUPPLEMENTARY MATERIAL accompanies this paper at http://links.lww.com/AJG/C598.

Am J Gastroenterol 2022;117:1197–1220. https://doi.org/10.14309/ajg.0000000000001874; published online June 3, 2022

2022 ACG Guideline

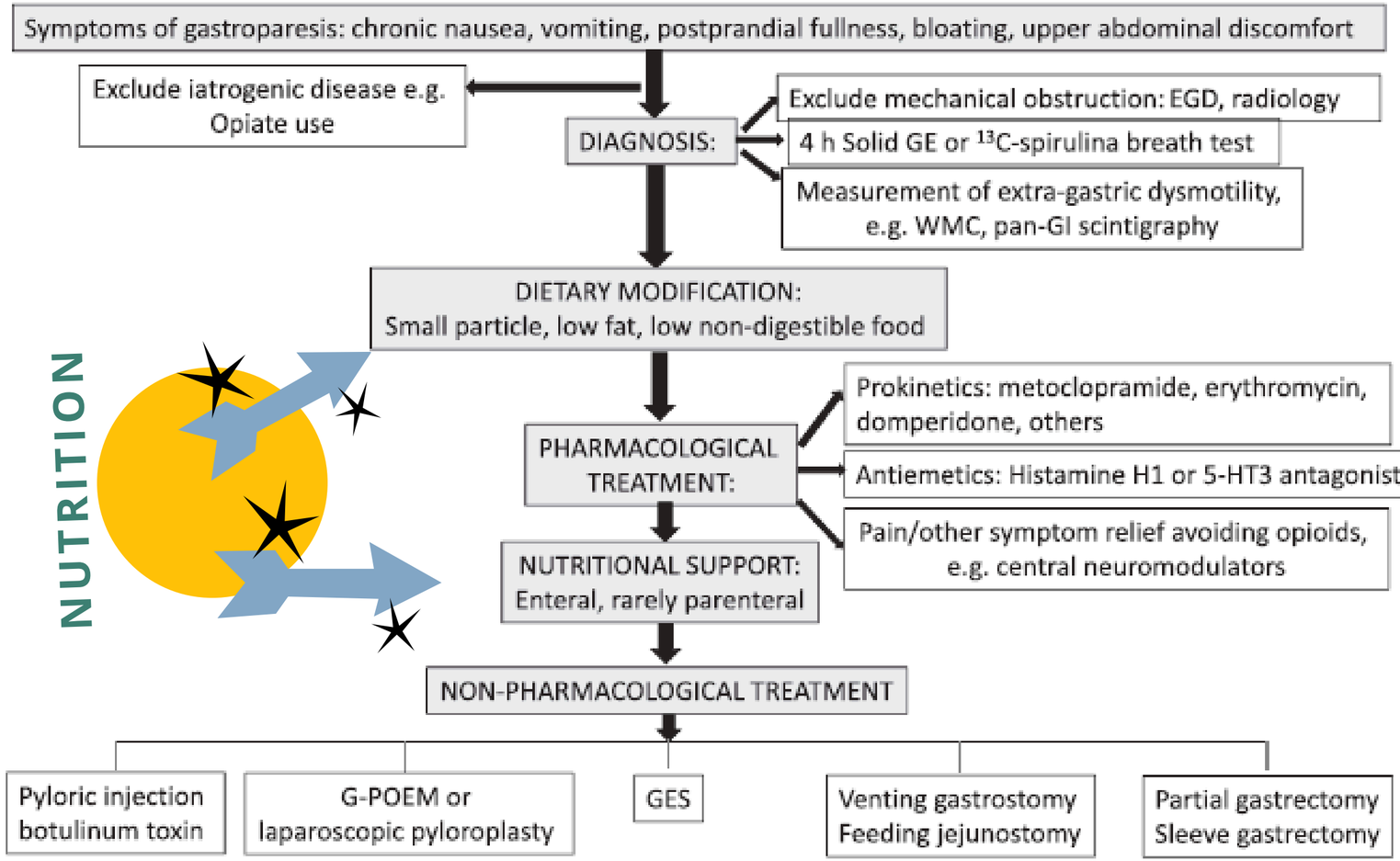


Figure 1. This algorithm updates the algorithm from the 2013 ACG guideline on gastroparesis (1). ACG, American College of Gastroenterology, EGD, esophagogastoduodenoscopy; GE, gastric emptying; GI, gastrointestinal; G-POEM, gastric per-oral endoscopic myotomy; WMC, wireless motility capsule.

CME

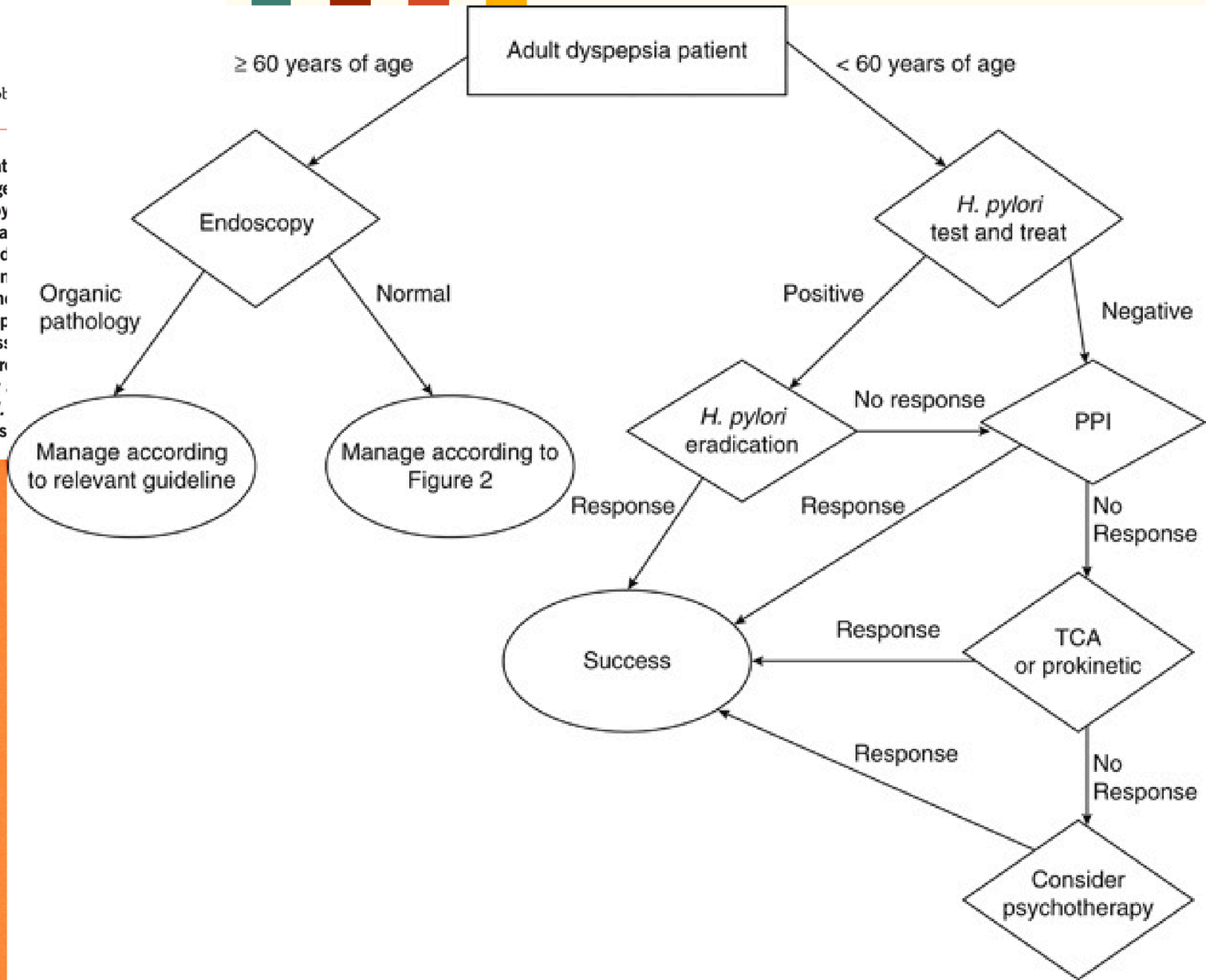
ACG and CAG Clinical Guideline: Management of Dyspepsia

Paul M. Moayyedi, MB, ChB, PhD, MPH, FACG[1], Brian E. Lacy, MD, PhD, FACG[2], Christopher N. Andrews, MD[3], Rob
Colin W. Howden, MD, FACG[5] and Nimish Vakil, MD, FACG[6]

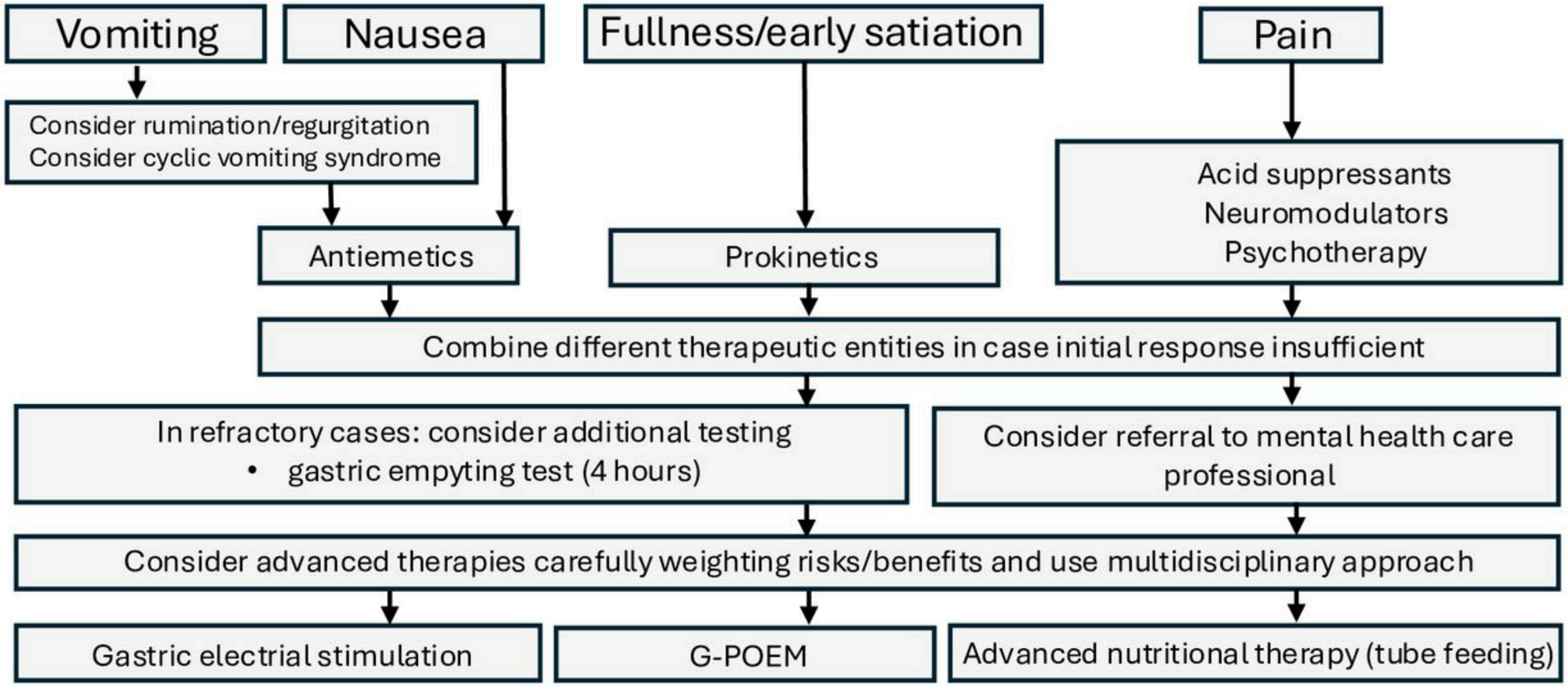
We have updated both the American College of Gastroenterology (ACG) and the Canadian Associat Gastroenterology (CAG) guidelines on dyspepsia in a joint ACG/CAG dyspepsia guideline. We sugge ≥60 years of age presenting with dyspepsia are investigated with upper gastrointestinal endoscopy pathology. This is a conditional recommendation and patients at higher risk of malignancy (such a childhood in a high risk gastric cancer country or having a positive family history) could be offered at a younger age. Alarm features should not automatically precipitate endoscopy in younger patien should be considered on a case-by-case basis. We recommend patients <60 years of age have a n *Helicobacter pylori* and treatment if positive. Those that are negative or do not respond to this app be given a trial of proton pump inhibitor (PPI) therapy. If these are ineffective tricyclic antidepress prokinetic therapies can be tried. Patients that have an endoscopy where no pathology is found ar having functional dyspepsia (FD). *H. pylori* eradication should be offered in these patients if they We recommend PPI, TCA and prokinetic therapy (in that order) in those that fail therapy or are *H.* We do not recommend routine upper gastrointestinal (GI) motility testing but it may be useful in s

2017

ACG and CAG Guideline



Assessing & Treating Most Bothersome Symptom



Keszthelyi D. Frontline Gastroenterology 2025;16:392-400.

Dietary Triggers in FD: Common Concern, Uncommon Consensus

- Many patients identify meals as symptom triggers
- Evidence linking specific foods to FD symptoms is limited
- Dietary advice is often empirical, leading to exclusion diets

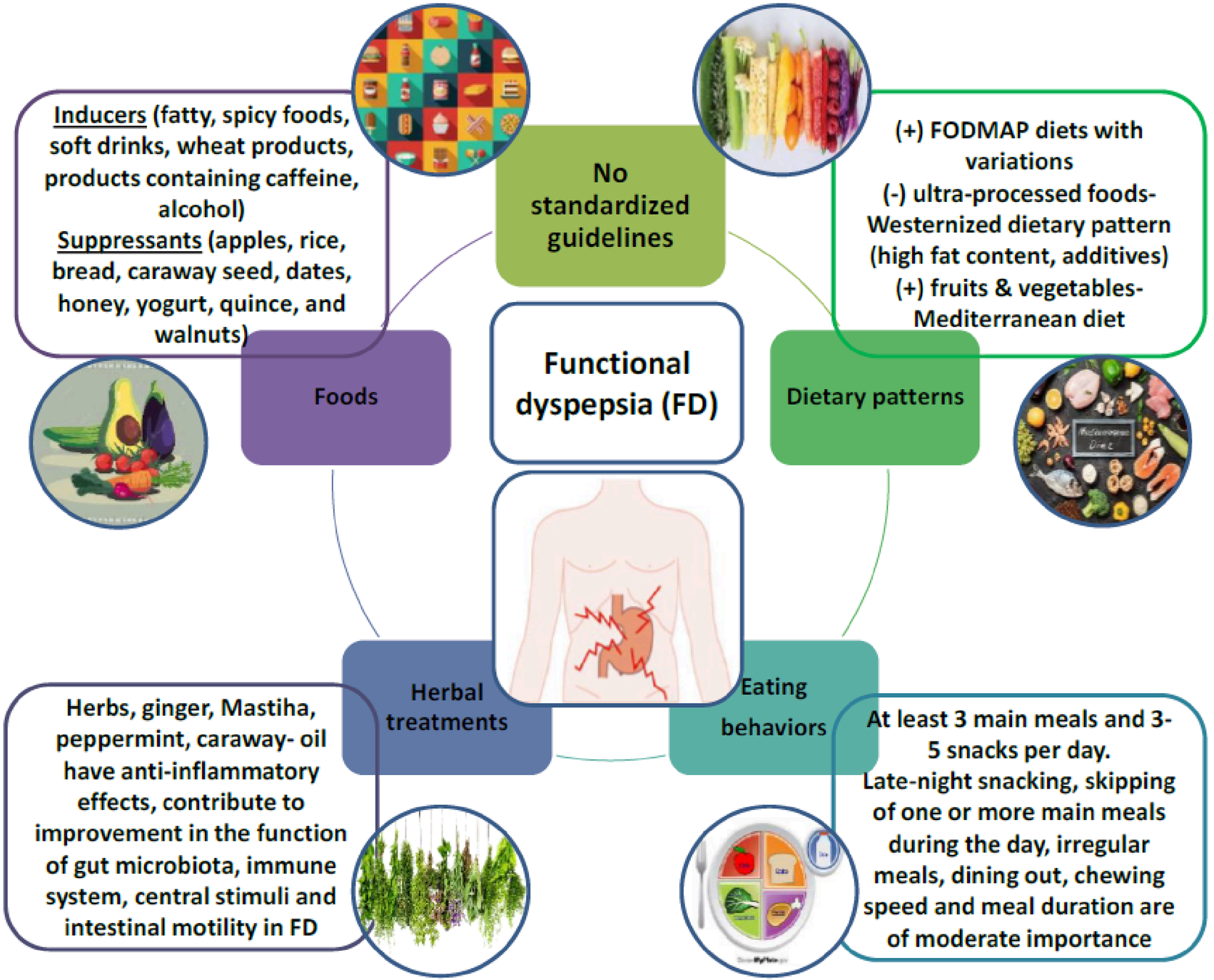
Mixed messages

2025: Googling the entries “dyspepsia AND diet” returns 1,110,00 results --- high public interest on this topic.

Exclusion diets may:

- Lead to over restriction, poor diet quality, nutrient deficiencies
- Reinforce food intolerance perceptions and dyspepsia mechanisms (e.g. hypervigilance)

My patients after Googling ‘best diet for dyspepsia’ and getting 7 different answers:

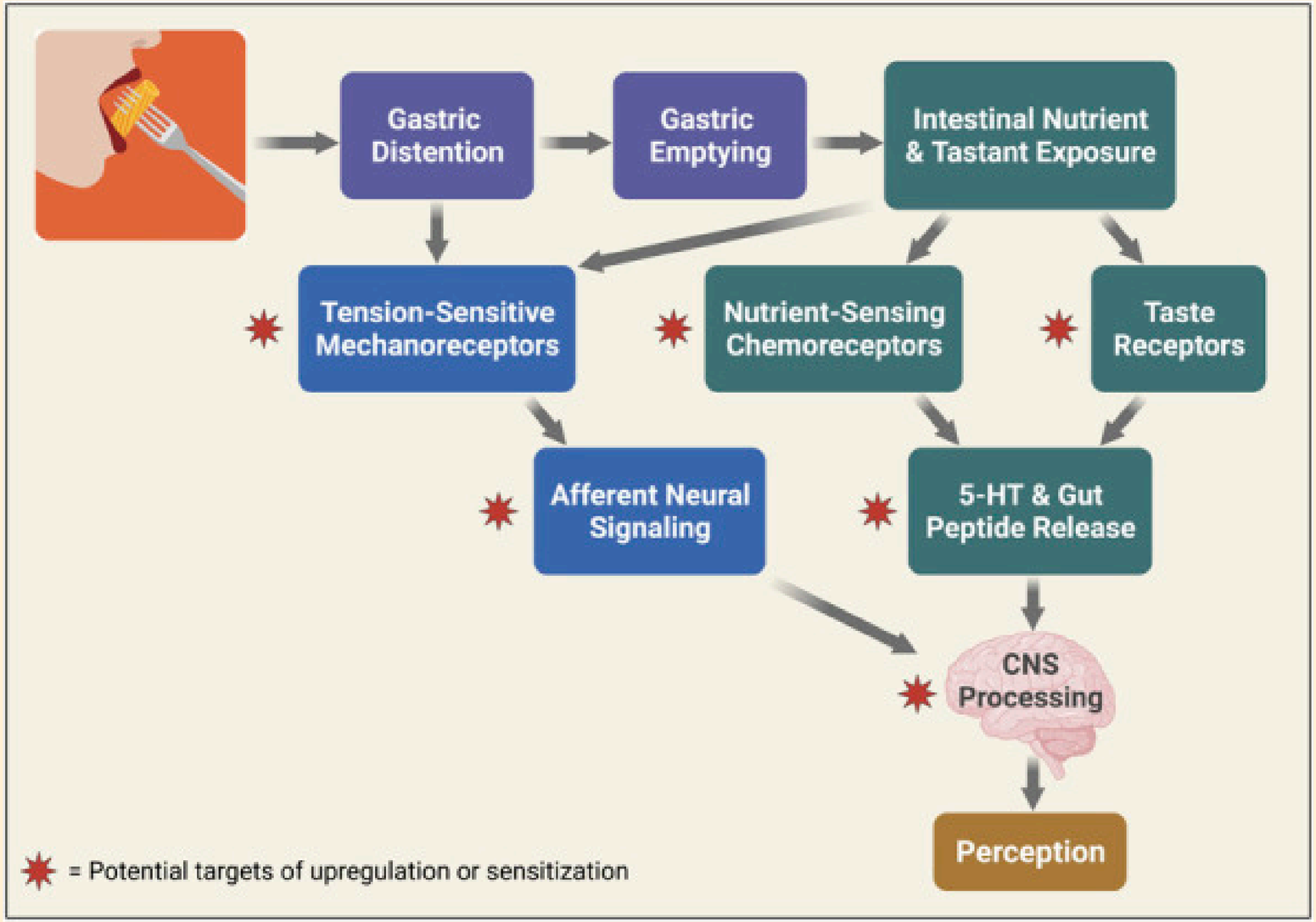


Amerikanou C, et al. *Nutrients*. 2023;15(6):1544.

Goals of Nutrition Therapy

1. Optimize Nutrition
2. Minimize Symptoms
3. Maintain or Build Positive Relationship with Food

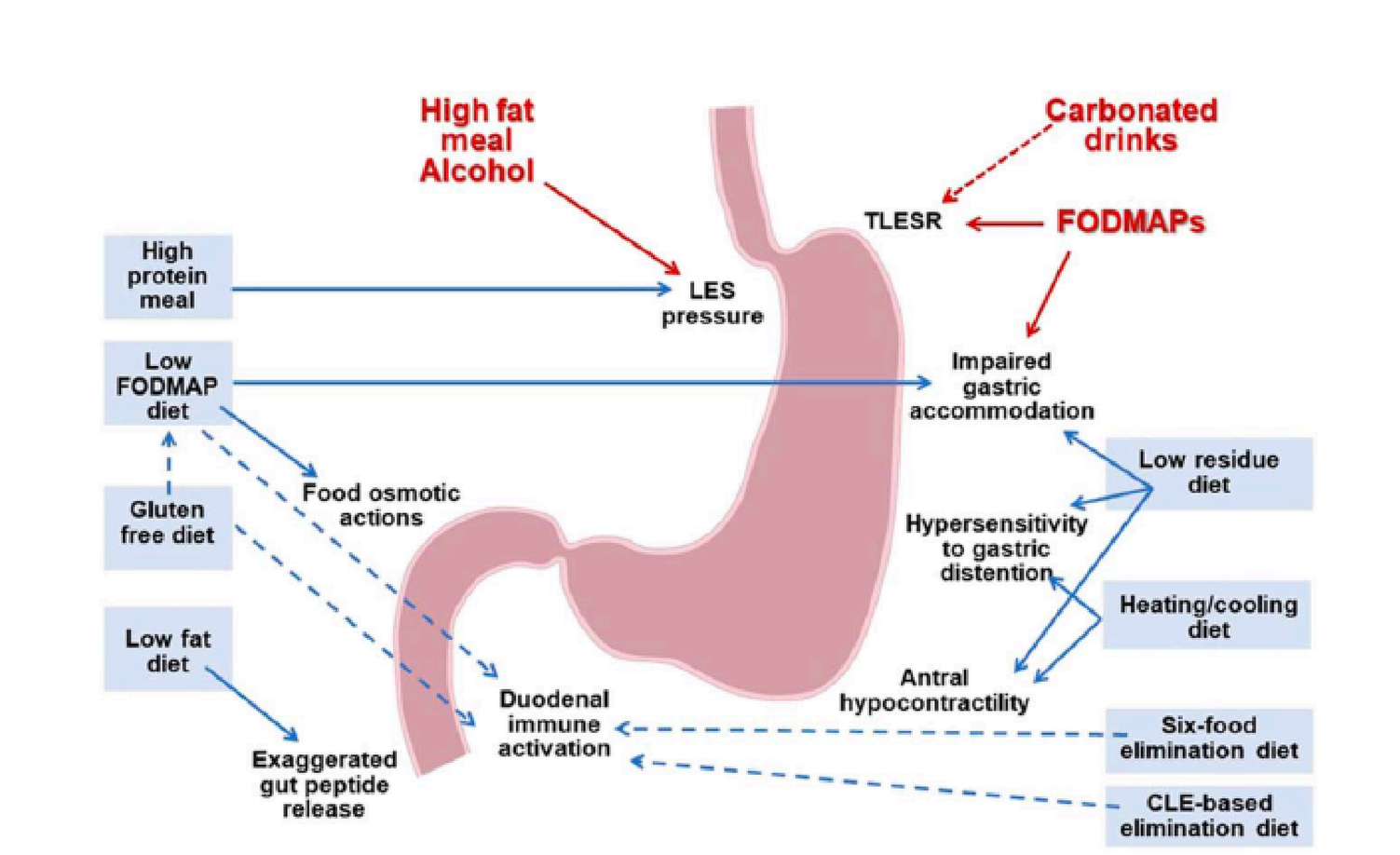
How the Gut Senses Food: Mechanosensitive, Chemosensitive, and Thermosensitive Pathways



Van den Houte K, et al. Am J Gastroenterol. 2022 May 4;117(6):937–946.

Nutrient-specific responses:

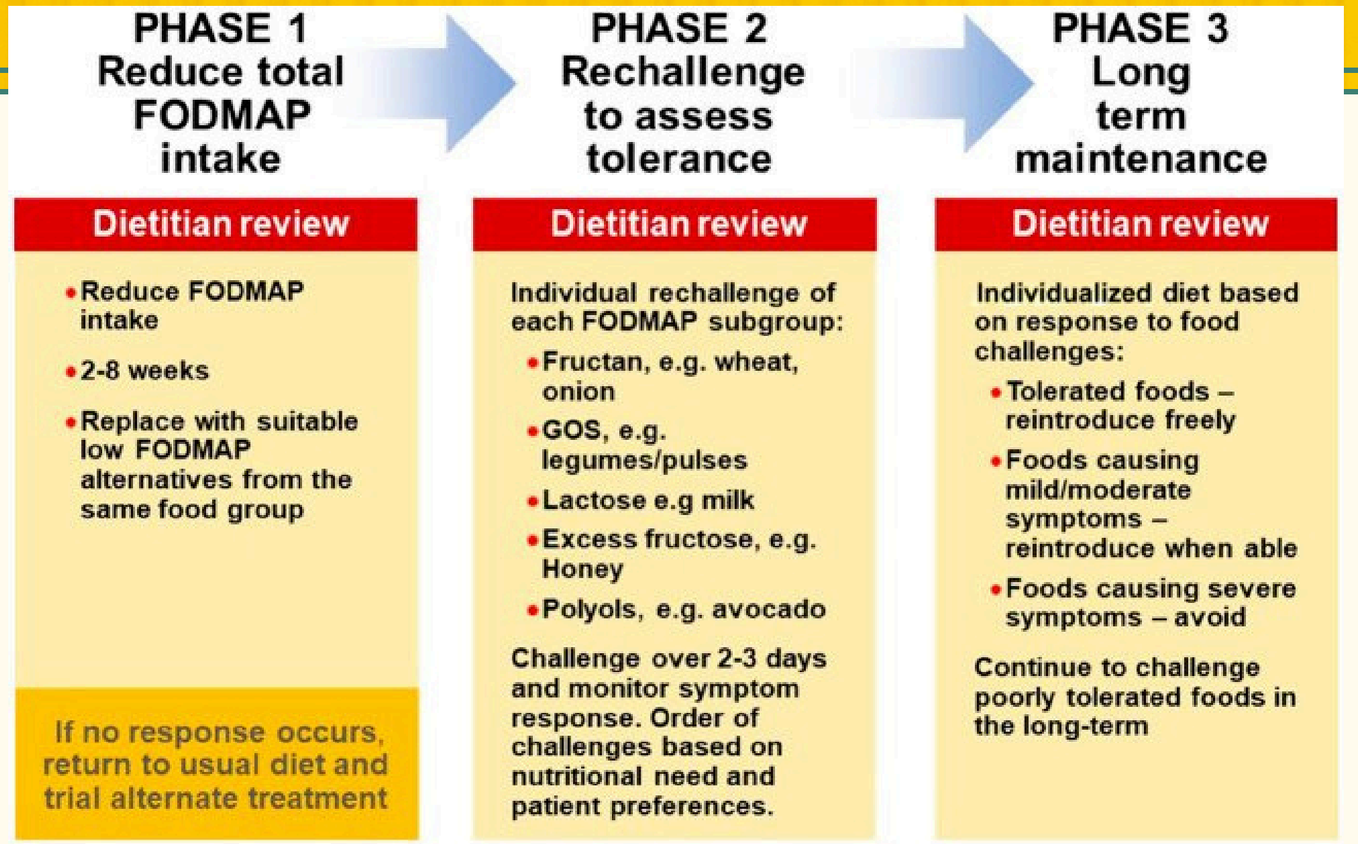
- **High-fat meals** → delayed gastric emptying, increased fundic relaxation.
- **Spicy foods** → capsaicin and TRPV1 receptor activation, may worsen symptoms in some but benefit others long term.
- **Alcohol and Caffeine** → ability to increase gastric acid secretion and impair gastric motility.
- **Food proteins** → duodenal allergic reactions may contribute to FD symptoms, based on findings from 6FED & CLE.



Tack J et al. *Am J Gastroenterol*. 2022;117(6):965-972

The Low FODMAP Diet

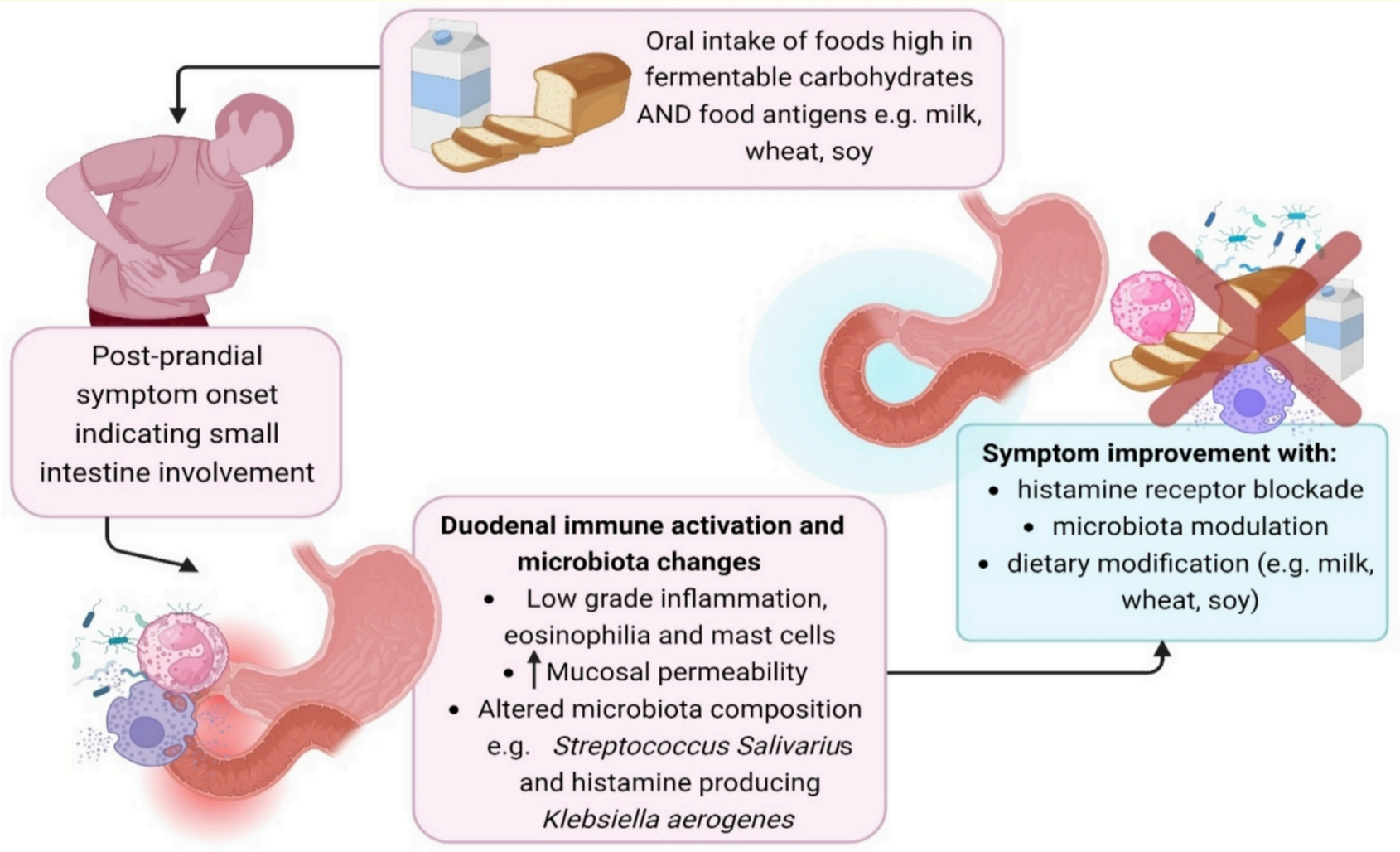
- Emerging evidence suggests a low FODMAP diet may improve FD symptoms
- Proposed mechanisms behind symptom improvement include:
  ↓ Fermentation and gas production
  ↓ Duodenal distension
  ↓ Visceral hypersensitivity
  ↑ Duodenal transepithelial electrical resistance
  → *Suggesting enhanced mucosal integrity*



FD symptom recurrence during blinded FODMAP reintroduction phase:
Mannitol & GOS (both 29%), Fructans (21%), Sorbitol & Fructose (14%), Lactose (12%)

Rettura F,et al. 2023;62-63:101831. *Best Pract Res Clin Gastroenterol*.
Van den Houte et al. UEG J 2021;9(S8):10.
Singh P, et al. *Am J Gastroenterol*. 2022;117(6):947-957.

Emerging Mechanisms – Food, Immunity & Microbiota in DGBIs



J Gastroenterol (2025) 60:1211–1220
https://doi.org/10.1007/s00535-025-02268-2
The Japanese Society of Gastroenterology
REVIEW

Why are disorders of gut–brain interaction (DGBI) often food-related? Duodenal eosinophils and mast cells, small intestinal bacteria, food allergy and altered food intake in functional dyspepsia and the irritable bowel syndrome: a new paradigm

Nicholas J. Talley[1] · Kerith Duncanson[1] · Georgina M. Williams[1]

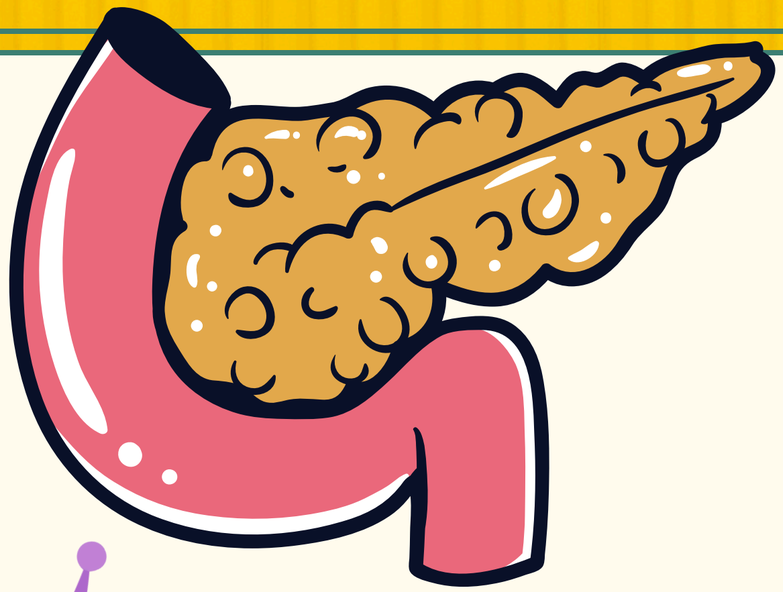
Received: 17 March 2025 / Accepted: 30 May 2025 / Published online: 30 June 2025

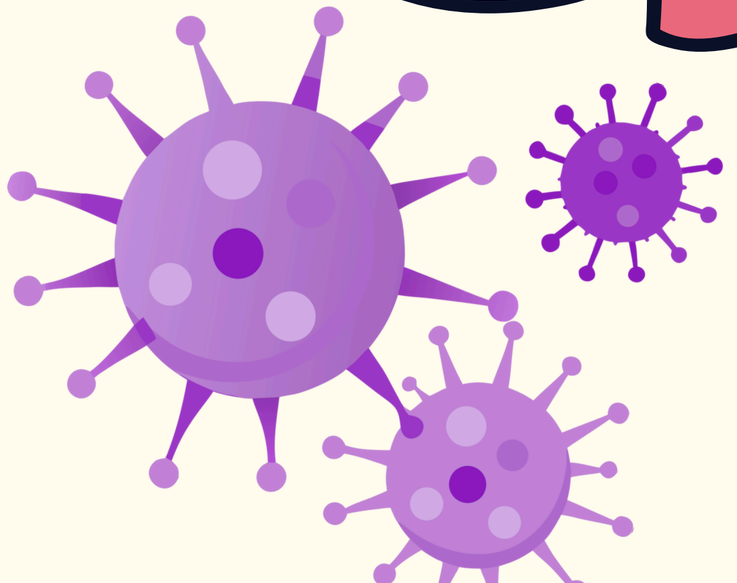
- **Possible pathway:** Food antigens (milk, wheat, soy) and fermentable carbs may trigger duodenal immune activation and microbiota changes → symptom generation

Talley NJ, Duncanson K, Williams GM. J Gastroenterol. 2025;60(10):1211-1220.

Duodenal Microbiota and Diet in FD

- FD is associated with altered duodenal microbiota compared to healthy controls.
- ↓ Fiber & ↑ refined carbs → ↓ diversity, ↑ symptoms (Saffouri et al.).
- *Streptococcus* is the dominant genus in the duodenum; higher bacterial load → ↑ symptoms, ↓ quality of life.
- *Streptococcus salivarius* identified in FD; more common in those with wheat sensitivity.
- *Streptococci* may digest wheat proteins → increased antigen exposure and immune activation.





Talley NJ, et al. J Gastroenterol. 2025;60(10):1211-1220.
Saffouri GB, et al. Nat Commun. 2019;10:2012.

Duodenal Microbiota and Diet in FD

- FD participants showed **altered oral, duodenal, and stool microbiota**
- **Duodenal Changes in FD:**
  - Inflammation ↑
  - Tight junction protein expression ↓ (impaired barrier)
- **Microbiota Alterations:**
  - Duodenal *Streptococcus* ↑ (p=0.014) → correlated with impaired tight junctions and symptom severity
  - Stool *Butyricicoccus* ↓ (p=0.047) → correlated with symptom severity

Dietary Associations:

- **Higher protein, PUFA, and valine intake →** associated with improved duodenal barrier function
- Duodenal *Streptococcus* abundance **→** linked **with lower carbohydrate intake**

Kim SH, et al. Gut Liver. 2024;18(4):621-631.

Impact of Milk Elimination on FD Symptoms

Design:

- Cross-sectional cohort study, 120 patients with FD (Rome IV)
- 1-month follow-up
- 2 groups:
  - Milk/dairy elimination (no medical treatment)
  - Unrestricted diet
- Symptoms measured by Gastrointestinal Symptom Rating Scale (GSRS)

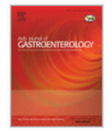
Results:

- Both groups improved over 1 month
- Milk elimination group had greater reduction in:
  - Total GSRS symptom score ($p = 0.01$)
  - 7 of 15 symptom subsets ($p < 0.05$)
- No significant differences in BMI, FD subtype, or endoscopic findings

PAAG

Arab Journal of Gastroenterology

Volume 25, Issue 4, November 2024, Pages 390-398



Original Article

The efficacy of removal of animal milk from the diet in functional dyspepsia: A cross-sectional study

Atilla Akpınar [a], Koray Kochan [b], Sercan Kiremitci [b], Gulseren Seven [b], Ali Tuzun Ince [b], Hakan Senturk [b]

Removing milk and dairy for 4 weeks led to greater symptom improvement vs. unrestricted diet — but dietary intake beyond milk was not controlled.

Akpınar A, et al Arab J Gastroenterol.2024 Nov;25(4):390-398.

- Looked at the presence of FED symptoms in patients presenting with symptoms of GP
- 55% of patients with symptoms of GP had clinically significant FED symptoms,
  - ARFID (23%-40%).
  - 11.7% had restrictive eating disorders (anorexia nervosa; unspecified FED)
- The more severe the GP symptoms, the increased likelihood of having FED symptoms.
- Screening gastroparesis/dyspepsia pts for avoidant/restrictive eating habits, particularly ARFID, may facilitate behavioral treatment recommendations, which could improve GI symptoms.

Neurogastroenterol Motil. 2020;32(12):e13931. doi:10.1111/nmo.13931

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DOI: 10.1111/nmo.13931

ORIGINAL ARTICLE

Neurogastroenterology & Motility NGM WILEY

Avoidant/restrictive food intake disorder symptoms are frequent in patients presenting for symptoms of gastroparesis

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Listen to the podcast for this article.

Abstract

Introduction: Patients with symptoms of gastroparesis/dyspepsia often avoid foods or restrict eating for symptom management. There is growing interest in understanding risk for feeding/eating disorders (FEDs) like avoidant/restrictive food intake disorder (ARFID). Among patients presenting with gastroparesis/dyspepsia symptoms, we aimed to determine: (a) FED symptom frequency, and (b) relation of FED symptoms to gastrointestinal symptom severity and gastric retention abnormalities.

Methods: Adult patients (N = 288; 78% female) referred for gastroparesis/dyspepsia symptoms at two academic medical centers from January 2018—February 2019 completed self-report surveys for gastrointestinal symptom severity and FED symptoms. Gastric retention data were available for 210 patients, using 4-hour EggBeater gastric emptying scintigraphy (GES).

Results: Clinically significant FED symptoms were present in 158 patients (54.9%). Interestingly, 115 patients (39.9%) met conservative self-report cutoff for ARFID symptoms, with 67 (23.3%) patients having documented psychosocial/medical impairment. Of those with survey data for other FEDs (n = 239), only 28 patients (11.7%) had restrictive eating disorders (anorexia nervosa; unspecified FED). Likelihood of having FED symptoms was significantly associated with greater gastroparesis symptom severity (OR = 2.23, $P < .001$), but not GES. In addition, gastroparesis symptom severity was moderately and significantly associated with greater ARFID symptom severity ($b = 0.45$, $P < .001$), but neither GES nor other FED symptoms.

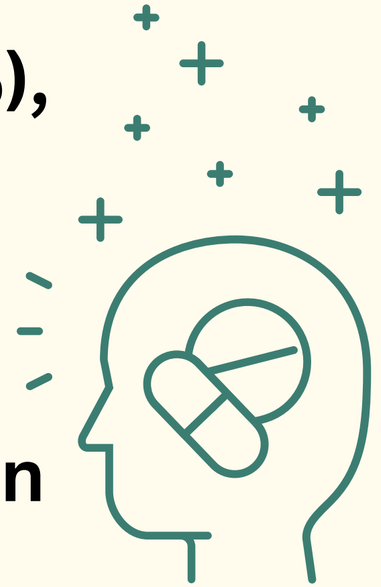
Discussion: In patients presenting with gastroparesis/dyspepsia symptoms, FED symptoms were frequent (55%), particularly ARFID, and were associated with greater gastrointestinal symptom severity, but not gastric retention. Gastroparesis/dyspepsia symptoms may mimic FEDs, particularly ARFID. Clinicians should be cautious about diagnosing ARFID in gastroparesis/dyspepsia patients, and screening for ARFID could assist behavioral treatment referral.

KEYWORDS
avoidant/restrictive food intake disorder, eating disorder, feeding disorder, functional dyspepsia, gastric retention, gastroparesis

The Power of Expectation: Placebo and Nocebo Responses in FD

- High placebo response: 29% in gastroparesis(1), 39% in FD(2)

- Nocebo response: 26% (meta-analysis of 27 RCTs)(3),
  - Common reported AEs on placebo: nasopharyngitis (9%), constipation (6%), headache (5%), diarrhea (3%)
- Expectation, perception, and context strongly influence symptom experience
- Highlights importance of communication and reassurance in care



1. Wise JL et al. Clin Gastroenterol Hepatol. 2023;21::1447–61:.
2. Bosman M et al.Neurogastroenterol Motil 2023;35:e14474.
3. Li RJ et al. J Dig Dis. 2023; 24(8-9):440-451.

Physical Activity: Promoting Health and Digestive Comfort

- Mild physical activity enhances intestinal gas clearance and reduces symptoms in patients complaining of abdominal bloating. (1)

- Engaging in moderate-intensity aerobic exercise for at least 180 min per week positively impacts IBS symptoms and Physical Capacity.(2)
  - 12-week group walking program, FITT principle
  - IBS-SSS: Total score significantly reduced by 39% compared to baseline and for Abdominal Distension.

PA & the Gut

- Enhances motility
- Improves blood flow
- Anti-inflammatory mechanisms
- Stress reduction
- Positive effects on gut microbiota diversity

1. Villoria A, et al. Am J Gastroenterol. 2006;101(11):2552-2557. doi:10.1111/j.1572-0241.2006.00873.xwalking
2. Bianco A, et al. J Clin Med. 2023;12(21):6786. Published 2023 Oct 26. doi:10.3390/jcm12216786

Effect of Moderate Aerobic Exercises on Symptoms of FD

- **Participants**: 72 patients with FD
- **Groups**:
  - **Control**: Conventional treatment only (n=36)
  - **Experimental**: Aerobic exercise (30 min/session, 5x/week for 6 weeks) + conventional treatment (n=36)
- **Assessments**:
  - Glasgow Dyspepsia Severity Score (GDSS)
  - Depression Anxiety Stress Scales-42 (DASS-42)
  - Visual Analogue Scale (VAS)
  - Measured at baseline and 6 weeks

- **Both groups improved**, but the **experimental group showed significantly greater improvement**:
  - GDSS, DASS-42, VAS: **$p < 0.0002$** within groups
  - **Between-group comparison** at 6 weeks: **$p < 0.05$** favoring exercise group

- **Aerobic exercise** as an adjunct to conventional therapy leads to **better symptom control and functional well-being** in FD.

Rane et al. *Indian J Gastroenterol*. 2021;40(2):189-197

Impact of Low FODMAP Diet & Aerobic Exercise on FD

- **Type**: Prospective randomized controlled trial
- **Duration**: 24 weeks
- **Participants**: 70 patients with FD
- **Groups**:
  - **Intervention**: Low FODMAP + Aerobic Exercise + Conventional Therapy
  - **Control**: Conventional Therapy only
- **Outcomes Measured**:
  - **SAGIS**: GI symptom severity
  - **SF-NDI**: Health-related quality of life

Prabhakar D, R K, K P. Int J Gastrointest Interv 2025;14:57-63

Impact of Low FODMAP Diet & Aerobic Exercise on FD

Results:

- **Symptom Reduction** (SAGIS):
  - Mean difference: **–3.571 ± 1.044**
  - **P = 0.001**
- **Quality of Life Improvement** (SF-NDI):
  - Mean difference: **–12.086 ± 1.394**
  - **P < 0.001**

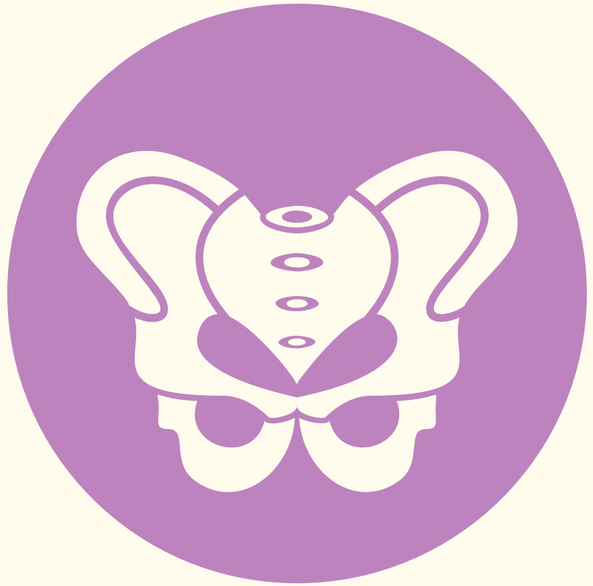
Combined lifestyle intervention significantly:

- Reduced epigastric symptoms
- Improved quality of life
- Outperformed conventional therapy alone

Prabhakar D, R K, K P. Int J Gastrointest Interv 2025;14:57-63

Correction of Dyssynergic Defecation Reduces FD Symptoms

RCT (n = 50) FD (PDS subtype) + functional constipation + dyssynergic defecation



Intervention (4 weeks):

- Biofeedback therapy (2–3 sessions + daily pelvic floor exercises)
- vs. Fiber supplementation (3.5 g plantago ovata/day)

Results:

- Biofeedback corrected dyssynergic defecation in 19/25 participants
- ↓ Postprandial fullness by 22% ($p < .001$)
- ↓ Anal evacuations by 21% ($p = .009$)
- Fiber supplementation: no improvement in fullness or evacuations

Conclusion:

- Treating pelvic floor dysfunction, not just the upper GI tract, can significantly reduce dyspeptic symptoms.
- Highlights: lower GI function can influence upper GI symptom expression.

Huaman JW, et al. CClin Gastroenterol Hepatol. 2020;18(11):2463-2470.e1.

Sleep and Quality of Life in FD

- 81% of patients with FD had altered sleep quality
- 61% met criteria for insomnia
- Poor sleep associated with:
  - ↓ Quality of life (GIQLI: 75 vs. 92)
  - ↑ Symptom severity
  - ↑ Anxiety and depression
- Predictors of poor sleep: older age, higher depression scores, greater FD symptom severity

frontiers in Neuroscience

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Check for updates

Sleep Quality and Insomnia Are Associated With Quality of Life in Functional Dyspepsia

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Wuestenberghs et al., Neurogastroenterology & Motility, 2022

Cognitive Behavioral Therapy for Insomnia (CBT-I)

Gold standard behavioral treatment

Delivered by: therapist - 1:1, in groups, phone, or workshops or by an app.

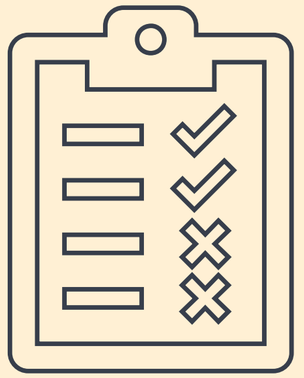
Psychology Today: "Find a Sleep or Insomnia Therapist"

Apps: Sleepio, Shuti, CBT-I coach, Sleeprate, Nightowl

Sleep Hygiene	Stimulus Control	Sleep Restriction	Relaxation	Cognitive	Wrap-Up
 appropriate bedroom environment	 using bedroom only to sleep	 restricting sleep times	 taking short and long relaxations during the day	 restructuring undesired thinking patterns	going over each component to prevent the relapse of insomnia
 avoiding screen-based devices before bedtime	 leaving bedroom- when cannot fall asleep	 increasing in-bed sleep times			
 avoiding coffee or alcohol consumption					

Erten Uyumaz B, et al Int J Environ Res Public Health. 2021 Mar 12;18(6):2929.

Nutrition Assessment



Key Considerations

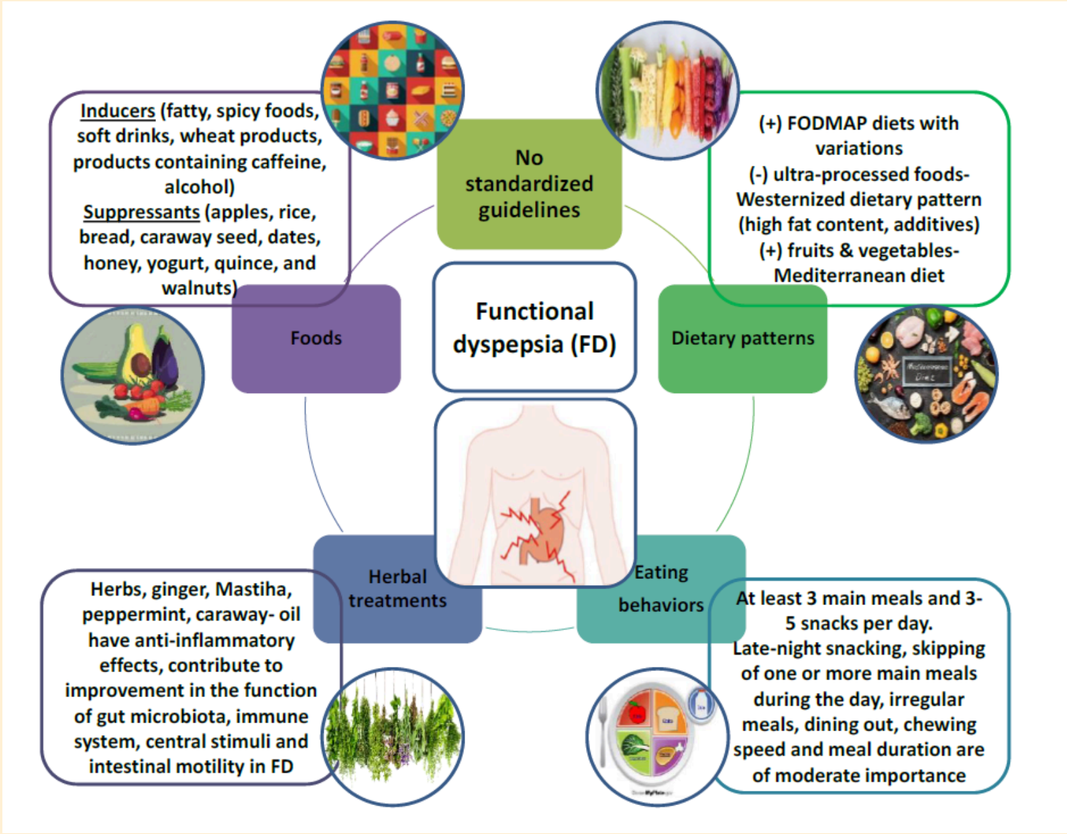
- **GI symptoms**: Type, severity, timing, and frequency
- **Food exclusions**: Any current restrictions or avoided foods
- **Perceived triggers or helpful patterns**: Foods or eating habits that improve or worsen symptoms
- **Previous interventions**: Diets already trialed (e.g., low FODMAP, gluten-free, elimination diets)
- **Cooking habits**: Frequency of dining out, cooking skills, and confidence
- **Diet quality & eating patterns**:
  - General fiber intake (low, moderate, high)
  - Food security
  - Meal size and frequency
  - Intake of common triggers: high-fat, alcohol, spicy foods, coffee, carbonation, etc.
- **Supplements:** Type, dose, frequency, reason for use

Herbal Treatments

Supplement	Mechanism of Action	Evidence & Clinical Utility	Notes
Ginger	Anti-inflammatory, prokinetic, antiemetic	Enhances gastric emptying and motility; reduces nausea, vomiting, and inflammation. Polyphenols support GI function.	Typical dose: 1,000–1,500 mg/day. Caution with anticoagulants.
Peppermint & Caraway Oil	Spasmolytic, prokinetic effect, anti-inflammatory, gastroprotective	More effective than placebo in reducing epigastric pain and improving dyspeptic symptoms	Use enteric-coated formulas.
STW-5	Enhances antral motility and gastric accommodation	Nine-herb formula shown to reduce overall FD symptoms including early satiety and bloating.	Contains alcohol; caution in pregnancy and liver disease.

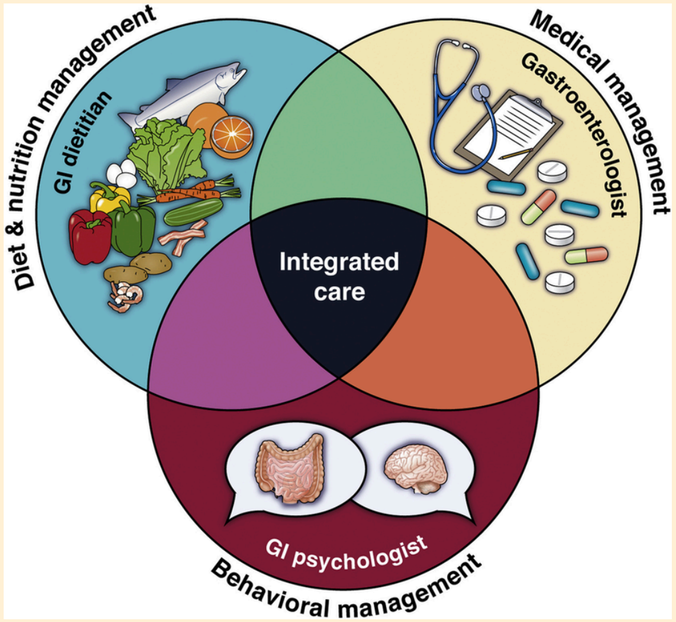
Putting it all Together: Nutrition

- **Inducers vs Suppressants:**
  - Potential for diet expansion?
- **Dietary Pattern:**
  - Assess FODMAP intake
    - Wheat: gluten vs fructan;
    - Dairy vs lactose intolerance?
  - Constipated? Kiwifruit: supports regularly + sleep
- **Eating Behaviors:**
  - Assess for & encourage consistent meal routines
  - Emphasize small, frequent meals and mindful eating
  - Late-snack snacking? Can impact sleep.
- **Herbal Treatments:**
  - Consider ginger or peppermint-carraway oil



Putting it all Together: Lifestyle

- Encourage **physical activity**
- Review **sleep hygiene and stress modulation** (CBT-I, mindfulness)
- Collaborate with HCP & psych for **integrated care**



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Thank you!