Chronic Nausea and Vomiting

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FAST FACTS

>25%

children with chronic abdominal pain experience nausea daily, while 50% experience nausea at least twice a week

Frequent nausea and vomiting are associated with impaired social and school functioning as well as symptom progression to adulthood

Functional dyspepsia and gastroparesis can be considered a continuous broad spectrum of upper GI symptoms

WHEN TO REFER

Refer to the Gastroenterology Clinic at Cincinnati Children's if:

- Red flags are present upon HPE, or
- Nausea and vomiting do not improve after initial treatment as outlined in the algorithm

When referring, please include:

- Growth charts
- Family stressors
- Medical, behavioral health or dietary treatment history
- Pertinent labs and radiology results if available

For more Information, contact Robin Garrett, Neurogastroenterology/ Motility Program Coordinator, at 513-517-1122 or email at Robin.Garrett@cchmc.org

Chronic nausea and vomiting are common, debilitating conditions in children and adolescents. These conditions can lead to significant functional disability and psychological comorbidities such as anxiety and depression.

Chronic nausea and vomiting can be associated with (but are not limited to):

- **Cyclic vomiting syndrome (episodic)**
- **Rumination**
- **Functional dyspepsia—postprandial distress sub-type**
- **Functional nausea and functional vomiting**
- **Gastroparesis**

ASSESSMENT

Perform a detailed history and thorough physical exam with specific questions about red flags (listed below), extra-intestinal comorbidities, family history, and situational and dietary history especially restricting intake. Certain tests may help aid in diagnosis. These include:

- Upper Gastrointestinal Series
- Four-hour solid gastric emptying scan
- Esophageal manometry
- Abdominal ultrasound
- 24 hour ph-impedance
- Lab tests: C-reactive protein, sedimentation rate, lipase, fecal calprotectin, TTG IgA, anemia, hyperglycemia, urine toxicology screen

Consider ruling out intra-cranial pathology via brain imaging (CT/MRI), especially in the absence of abdominal pain.

HISTORY AND PHYSICAL EXAM RED FLAGS

- Unintentional weight loss or slowed growth
- Accompanying focal abdominal pain
- Unremitting or early-morning headaches that improve with vomiting
- Unexplained fever
- Dysphagia or odynophagia
- Nocturnal diarrhea
- GI blood loss
- Arthritis
- Mouth sores
- Binging or purging
- Body dysmorphism
- Delayed puberty
- Inflamed perianal skin tags or fissures
- Urinary issues, concern for Dietl's crisis (related to ureteropelvic junction obstruction)
- Pain or bleeding with urination
- Menstrual irregularities
- Bradycardia, orthostatic instability
- Family history of inflammatory bowel disease, celiac disease, autoimmune disorders or peptic ulcer disease

MANAGEMENT/TREATMENT

Management/treatment should be personalized, with a goal to improve functioning. It should follow an inter-disciplinary approach with a focus on behavioral and dietary interventions. Strategies can be pharmacologic, non-pharmacologic or dietary. See algorithm on next page for a comprehensive list of management/treatment options.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

Tool developed by Cincinnati Children's physician-hospital organization (known as Tri-State Child Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. This tool is presented for the purpose of educating providers. It should not be considered inclusive of all proper methods of care or exclusive of other reasonable methods of care. The ultimate judgment regarding care of a particular patient must be made by the physician in light of the patient's individual circumstances.

Chronic Nausea and Vomiting

Inclusion Criteria

Children ages 4 years to 18 years experiencing chronic nausea or vomiting. This includes but is not limited to:

- Cyclic vomiting syndrome
- Rumination
- Functional dyspepsia—postprandial distress sub-type
- Functional nausea and vomiting
- Gastroparesis

Patient Presents

Standard Workup

- Situational History
- Family History
- Physical History
- Dietary History

HISTORY AND PHYSICAL EXAM RED FLAGS

- Unintentional weight loss or slowed growth
- Accompanying focal abdominal pain
- Unremitting or early-morning headaches that improve with vomiting
- Unexplained fever
- Dysphagia or odynophagia
- Chronic or nocturnal diarrhea
- Arthritis
- GI blood loss
- Mouth sores
- Delayed puberty
- Inflamed perianal skin tags or fissures
- Pain or bleeding with urination
- Menstrual irregularities
- Urinary issues, concern for Dietl's crisis (related to ureteropelvic junction obstruction)
- Bradycardia, orthostatic instability
- Body dysmorphism
- Binging or purging
- Family history of inflammatory bowel disease, celiac disease or autoimmune disorders
- Elevated C- reactive protein, sedimentation rate, lipase, fecal calprotectin, TTG IgA, anemia, hyperglycemia, urine toxicology screen

Any Red Flags?

- Yes → **Evaluate Further**
- No → **Make a positive diagnosis and Initiate therapy**

Pharmacologic

- 2 week proton pump inhibitor trial
- Cyproheptadine 2–4 mg BID-TID
- Mirtazapine 7.5–15 mg qHS
- Amitriptyline 10–50 mg daily, start with 10 mg, increase in 1 week to 20 mg qHS (consider EKG prior to starting)
- Ondansteron 4–8 mg prn
- Promethazine 6.25–25 mg prn
- Diphenhydramine 12.5–50 mg prn
- Scopolamine q72 hrs

Non Pharmacologic

- Behavioral medicine (CBT, gut-directed hypnotherapy, nausea coping skills, mindfulness, biofeedback)
- Refer for Neuromodulation, gastric electrical stimulation
- Integrated medicine (yoga, acupuncture, massage therapy, energy therapy, aromatherapy)
- Physical therapy
- Osteopathic manipulation

Dietary**

- Small, frequent meals, low-residue, low-fat foods
- Use of nutrient drinks to maintain weight
- Avoidance of simple sugars or artificial sweeteners
- Avoidance of specific food triggers (identify through a food diary)
- FDgard
- Ginger

** Screen for possible eating disorder prior to recommending diet restrictions

Office follow-up 1–2 months

Improved Functioning and/or Symptom Reduction?

- Yes → **Follow-up every 3–6 months**
- No → **Consider using Physician Priority Line for advice or referral to GI if treatment is not effective**

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.