

Gastrointestinal Disorders in the Long-Term Care Setting

CLINICAL PRACTICE GUIDELINE

 **PALTmed**
POST-ACUTE AND LONG-TERM CARE
MEDICAL ASSOCIATION

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Preface

This clinical practice guideline (CPG) has been developed under a project conducted by the Post-Acute and Long-Term Care Medical Association (PALTmed), the national professional organization representing attending physicians and medical directors who care for patients in the long-term care setting. This is one of a number of guidelines undertaken as part of the association's mission to improve the quality of care delivered to patients in these settings.

Original guidelines are developed by interdisciplinary workgroups, using a process that combines evidence and consensus-based approaches. Workgroups include practitioners and others involved in patient care in long-term care facilities. Beginning with a general guideline developed by an agency, association, or organization such as the Agency for Healthcare Research and Quality (AHRQ), pertinent articles and information, and a draft outline, each group works to make a concise, usable guideline that is tailored to the long-term care setting. Because scientific research in the long-term care population is limited, many recommendations are based on the expert opinion of practitioners in the field. A bibliography is provided for individuals who desire more detailed information.

Guideline revisions are completed under the direction of the Clinical Practice Guideline Steering Committee. The committee incorporates information published in peer-reviewed journals after the original guidelines appeared as well as comments and recommendations not only from experts in the field addressed by the guideline but also from "hands-on" long-term care practitioners and staff.

Purpose

PALTmed seeks to develop and revise guidelines that focus on specific concerns and common problems in the long-term care setting. Although AHRQ and other agencies, organizations, and associations have developed a number of guidelines for conditions that occur in elderly and chronically ill individuals, many of these guidelines limit or omit considerations that are unique to the long-term care population.

PALTmed guidelines emphasize key care processes and are organized for ready incorporation into facility-specific policies and procedures to guide staff and practitioner practices and performance. They are meant to be used in a manner appropriate to the population and practice of a particular facility. Guideline implementation will be affected by resources available in the facility, including staffing, and will require the involvement of all those in the facility who have a role in patient care.



Audience

This guideline is intended for the members of the interdisciplinary team in long-term care facilities, including the medical director, director of nursing, physicians, nursing staff, consultant pharmacist, and other professionals such as therapists, social workers, dietitians, and nursing assistants who care for residents of long-term care facilities.

PALTmed CPGs include many functions and tasks related to recognizing, clarifying, managing, and monitoring various conditions and situations. But the guidelines only sometimes specify who should do these tasks. For example, many disciplines including nursing assistants, licensed nurses, dietitians, and social workers may make and document observations (e.g., that someone does not sleep at night, is more withdrawn, or has a change in usual eating patterns). But only some of them may be qualified to determine the significance of those observations (for example, what is causing the sleeplessness or change in eating patterns). In contrast, physicians and nurse practitioners may not be present to make observations, but are trained to analyze the significance and causes of symptoms. Thus, each facility should ensure that tasks are done correctly and by appropriate interdisciplinary team members. It is important for observers to make and document findings effectively, but they should get appropriate support for interpreting the findings when this is not within the scope of their training or practice.

Assumptions

Guidelines in the long-term care setting should be consistent with fundamental goals of desirable long-term care practice. Operationally, this requirement means that the nursing facility care team systematically addresses (1) each individual's risk factors for a number of diseases and conditions and (2) the adverse consequences of the diseases and conditions on the patient's functioning and quality of life.

However, when nursing facility patients are at or near the end of life, care goals will shift from functional improvement or physical stability to palliation or comfort care. PALTmed guidelines address this transition and provide suggestions for appropriate modification of the patient's care plan.

Long-term care facilities care for a variety of individuals, including younger patients with chronic diseases and disabilities, short-stay patients needing postacute care, and very old and frail individuals suffering from multiple comorbidities. When a workup or treatment is suggested, it is crucial to consider if such a step is appropriate for a specific individual. A workup may not be indicated if the patient has a terminal or end-stage condition, if it would not change the management course, if the burden of the workup is greater than the potential benefit, or if the patient or his or her proxy would refuse treatment. It is important to carefully document in the patient's medical record the reasons for decisions not to treat or perform a workup or for choosing one treatment approach over another.

How to Use These Guidelines

Each guideline includes a narrative portion that covers definition, recognition, assessment, treatment, and monitoring of the condition being addressed. "Recognition"

means identifying the presence of a risk or condition. “Assessment” means clarifying the nature and causes of a condition or situation and identifying its impact on the individual. “Treatment” means selecting and providing appropriate interventions for that individual. “Monitoring” means reviewing the course of a condition or situation as the basis for deciding to continue, change, or stop interventions.

Each guideline also includes an algorithm that summarizes the steps involved in addressing the condition. In the algorithm, rectangles signify points where action is to be taken; diamonds indicate points where a decision must be made.

Terminology

We recognize that people who reside in long-term care facilities are “residents”. However, we have used the term “patient(s)” throughout these guidelines because we are addressing individuals within the context of treating a medical condition. In addition, these guidelines apply substantially to individuals who come to long-term care facilities for short-term care. When referring to pharmaceutical products, we have avoided the use of brand names and refer to classes of drugs whenever possible.



Gastrointestinal Disorders

in the Long-Term Care Setting

DEFINITION

This guideline focuses on the gastrointestinal (GI) disorders most commonly seen in the long-term care population. Specific discussion of hepatobiliary and pancreatic diseases is beyond the scope of this guideline.

Abdominal pain is a subjective report or objective assessment of discomfort in the abdomen.

Gastroesophageal reflux disease (GERD) is reflux of gastric juices, food, or liquid into the esophagus from the stomach, resulting in heartburn, regurgitation, and esophageal mucosal damage.

Constipation is a change in the normal bowel elimination pattern that may be characterized by stool frequency of less than one bowel movement every 3 days and one or more of the following: straining, hard stools, a feeling of incomplete evacuation, rectal pain or pressure, and bloating or abdominal pain. **Fecal impaction** is typically described as a stool that fails to move effectively through the colon, forming a hard mass in the rectum or higher up in the colon .

Diarrhea is either an increase in stool frequency (more than three bowel movements per day) or a change in stool consistency (e.g., more liquid) that results in a loss of more than 200 grams of stool per day. Infectious diarrhea is diarrhea caused by enteric pathogens.

GI bleeding is loss of blood through the GI tract in emesis or stool. GI bleeding may be identified by direct observation, laboratory values, or both.

INTRODUCTION

Although aging has relatively minimal effects on GI function, age-related changes can cause or contribute to several GI disorders (Table 1).¹ For example, oral changes (e.g., decreased taste sensation, decreased saliva production) can cause poor appetite, with associated weight loss. Age-related changes also occur in the esophagus, including a decrease in upper esophageal sphincter pressure and amplitude of secondary peristalsis; however, these changes are not normally associated with significant GI problems. When clinically significant, this problem is termed presbyesophagus.

Aging can result in impaired function of the gastric mucosal barrier and increased risk of peptic ulcer disease. Bacterial overgrowth in the small intestine is more common with age and may be associated with undernutrition. Age-related reductions in rectal wall sensitivity or bowel motility may contribute to constipation.

Older adults in institutional settings are often taking numerous medications and other substances that may cause or contribute to GI disorders (Table 2). GI disorders may also be caused or exacerbated by a variety of medical conditions that are more prevalent with age (Table 3). Fecal impaction and dehydration may indicate a patient has or is at high risk for a GI disorder.

GI disorders may lead to anemia, malabsorption, and other potentially serious problems. They can also cause significant discomfort for the patient. Hence, clinically significant abnormalities in GI function should be addressed promptly.

Patients residing in long-term care facilities typically have numerous concurrent conditions and use numerous medications that may complicate the assessment and treatment of GI disorders. In addition, the presentation of many GI disorders in older people is atypical. For example, GERD may present as dysphagia, asthma, recurrent aspiration pneumonia, or even cough. Coughing may occur because of a cold, allergy, or adverse drug event (e.g., an adverse reaction to an ACE inhibitor).

It is important for members of the interdisciplinary team in the long-term care setting to realize the impact that GI disorders can have on patients' quality of life (QOL). These conditions can prevent patients from participating in activities, hinder their mobility, disrupt their sleep, and cause them to become socially isolated. For example, Crawley³ found that patients with GERD have significantly poorer QOL (assessed by the SF-36 instrument) than the general population. This study suggested that GERD affects QOL more severely than untreated diabetes, angina, mild heart failure, or hypertension.

TABLE 1
Aging and the Gastrointestinal Tract

Region	Aging Causes Increase In...	Aging Causes Decrease In...
Oral	Likelihood of presence of artificial teeth	Number of teeth, gum size Taste sensation Saliva production
Esophagus	Sensitivity to foods, spices	Upper esophageal pressure
Stomach		Basal and stimulated gastric acid secretion Gastric emptying
Large intestine	Diverticula Cancer	Perception of anorectal distention Rectal wall sensitivity
Pancreas		Insulin secretion
Liver		Reserve capacity of liver
Gallbladder	Gallstones	

Adapted from Beers and Berkow;¹ Blechman, Gelb²

TABLE 2

Medications and Other Substances That May Be Associated With Gastrointestinal Disorders

Abdominal pain

Any medication that may be associated with GERD, constipation, GI bleeding, cramping, or diarrhea can cause abdominal pain.

GERD

- ◆ Alcohol
- ◆ Aspirin
- ◆ Bisphosphonates (e.g., alendronate, risedronate)
- ◆ Caffeine
- ◆ Calcium channel blockers
- ◆ Chocolate
- ◆ Frequent intake of peppermint, spearmint, or cinnamon
- ◆ High-fat diet
- ◆ High-fiber diet
- ◆ Magnesium supplements
- ◆ Milk
- ◆ NSAIDs
- ◆ Nicotine patch
- ◆ Potassium
- ◆ Theophylline
- ◆ Tobacco

Constipation

- ◆ Anticholinergic medications
- ◆ Calcium channel blockers
- ◆ Diuretics
- ◆ Iron preparations
- ◆ Opioids

Diarrhea

- ◆ Antibiotics
- ◆ Colchicine
- ◆ Laxatives
- ◆ Lithium
- ◆ Magnesium supplements
- ◆ Metformin
- ◆ Misoprostol
- ◆ Niacin
- ◆ PPIs
- ◆ Selective serotonin reuptake inhibitors
- ◆ Sorbitol and lactulose

Gastrointestinal bleeding

- ◆ Alcohol
- ◆ Anticoagulants
- ◆ Aspirin
- ◆ COX-2 inhibitors
- ◆ NSAIDs
- ◆ Steroids

COX-2: Cyclooxygenase-2

GERD: Gastroesophageal reflux disease

GI: Gastrointestinal

NSAIDs: Nonsteroidal anti-inflammatory drugs

PPIs: Proton pump inhibitors

TABLE 3

Medical Conditions and Other Factors That May Cause or Exacerbate Gastrointestinal Symptoms

Medical conditions

Abdominal aneurysm	Liver disease
Anticoagulation, any condition requiring	Malabsorptive syndromes
Appendicitis	Mesenteric ischemia
Atherosclerosis	Musculoskeletal problems (decreased mobility, pain)
Cancer of GI tract (primary or metastatic)	Myocardial infarction
Chronic pain requiring opioid therapy	Narcotics withdrawal
Congestive heart failure	Ovarian cyst
Chronic obstructive pulmonary disease	Pancreatitis
Crohn's disease	Peptic ulcer disease
Diabetes	Pyelonephritis
Duodenal ulcer	Spinal injury
Esophagitis	Surgery, abdominal, previous
Gallbladder disease	Ulcerative colitis
Ileus	Urinary retention
Irritable bowel syndrome	Urinary tract infections/bladder spasms
Ischemic colitis	

Other factors

Consumption of alcohol or caffeine
Consumption of foods or drinks containing sorbitol or olestra
Gastrostomy tube feeding
Lactose intolerance
Tobacco use

Barriers to the Recognition, Assessment, and Optimal Management of GI Disorders in the Long-Term Care Setting

Barriers to the recognition, assessment, and management of GI disorders in long-term care may include:

- ◆ Communication issues.
 - Patients' inability to communicate because of cognitive or speech impairments or language barriers.
 - Cultural issues that affect communication (e.g., the patient is too embarrassed to talk about diarrhea or thinks that constipation is a normal part of aging).
- ◆ Medical history and documentation issues.
 - Inaccurate or missing information in the patient's medical history (e.g., pertinent diagnoses; results of previous consultations, laboratory tests, or imaging studies; inaccurate or incomplete bowel records).

- Inadequate investigation or confirmation of a diagnosis (e.g., presence of a GI disorder is not adequately confirmed, patient is erroneously diagnosed with a GI disorder solely on the basis of historical medication use).
 - Incorrect terms and descriptions in nursing notes and other documentation.
 - The patient lacks a documented diagnosis of a GI disorder and exhibits no symptoms, although an active GI disorder is present.
- ◆ Staffing skill issues.
- Inadequate or inaccurate interdisciplinary assessment on admission.
 - Lack of knowledge about the diverse presentations of GI disorders in long-term care patients.
 - Lack of understanding of the significance of diverse symptoms and changes in routines (e.g., missed meals, vomiting).

Addressing these and other issues can help to ensure that facilities identify GI disorders promptly and accurately and treat them appropriately to minimize potentially serious complications. All caregiving staff should be trained in how to recognize the common signs and symptoms of GI disorders and report them in a timely manner to the practitioner. In response to a report by caregiving staff of signs and symptoms that may indicate a GI disorder, the practitioner should conduct a timely assessment of the patient.

Outcomes That May Be Expected From Implementation of This Clinical Practice Guideline

The following outcomes may be expected from implementation of this clinical practice guideline:

- ◆ Reduced incidence of some acute GI disorders and greater stability of chronic GI disorders.
- ◆ Appropriate use of medications to treat GI disorders.
- ◆ Appropriate use of acute care facilities to assess and treat GI disorders if indicated.
- ◆ Appropriate use of specialist referrals and invasive testing in the management of GI disorders.
- ◆ Reduced morbidity, mortality, and incidence of complications (e.g., fecal impaction, dehydration) of GI conditions.
- ◆ Improved palliative care outcomes in residents with a poor prognosis.

RECOGNITION

STEP 1

Identify the presence of GI disorders. Identification of a GI disorder often starts with recognition by a nursing assistant or other direct caregiver that a patient is not eating, is complaining of discomfort, has altered bowel habits, or has other signs or symptoms that appear to involve the GI tract (Table 4). Nursing assistants should be

TABLE 4

General Signs and Symptoms of Gastrointestinal Disorders

- ◆ Abdominal gurgling (borborygmi)
- ◆ Abdominal pain
- ◆ Atypical or subjective complaints of unease or discomfort related to meals
- ◆ Blood in emesis or stool
- ◆ Change in oral intake
- ◆ Chest pain
- ◆ Constipation
- ◆ Continuous or recurrent sensation of desire to defecate (tenesmus)
- ◆ Diarrhea
- ◆ Heartburn
- ◆ Pain on defecation
- ◆ Nausea or vomiting
- ◆ New fecal incontinence
- ◆ Stool urgency
- ◆ Weight loss

trained to recognize the signs and symptoms of GI disorders and to report them to nursing staff.

When symptoms are observed, nursing staff should monitor them and report them to the practitioner in accordance with the guidelines developed in PALTmed's 2003 clinical practice guideline on acute change of condition.^a The length of time for which symptoms should be tracked will depend on the duration and severity of the symptoms, seriousness of the possible cause(s), and the patient's functional status. With leadership from the attending practitioner, the interdisciplinary team should try to pinpoint the specific cause(s) of the problem. Specific signs and symptoms of the common GI disorders considered in this guideline are outlined in Table 5.

Seek information from patients and caregivers. Ask appropriate questions about patients' bowel movements, bloating, pain, changes in eating habits, and food preferences. Be alert for objective indicators such as weight change or changes in food intake. (See PALTmed's 2001 clinical practice guideline on altered nutritional status.^b) Because many patients in long-term care facilities have partial cognitive impairment, it is important to train staff to look for nonverbal cues (e.g., clutching or rubbing the stomach, grimacing, reluctance to move). Caregiving staff should be trained to be sensitive to patients' possible embarrassment and reluctance to talk about diarrhea, flatulence, belching, or other problems that may suggest GI symptoms and conditions. Tactful questioning and continued observation of patients is important.

STEP 2

Assess the patient for risk factors for GI disorders. A patient with one or more risk factors (Tables 6 and 7) should be assessed periodically to ensure that any developing GI problem is detected and addressed promptly.

^a Post-Acute and Long-Term Care Medical Association. Acute Change of Condition in the Long Term Care Setting. Clinical Practice Guideline. 2003. Columbia, MD

^b Post-Acute and Long-Term Care Medical Association. Altered Nutritional Status. Clinical Practice Guideline. 2001. Columbia, MD.

TABLE 5

Specific Signs and Symptoms of Common Gastrointestinal Disorders

Abdominal pain

- ◆ Any sign or symptom that may be associated with GERD, constipation, GI bleeding, or other GI conditions can contribute to abdominal pain. Keep in mind that abdominal pain may be a symptom of cardiac ischemia, especially in patients who are at risk for cardiac disease.

Diarrhea

- ◆ Abdominal pain or cramping
- ◆ Loose, frequent stools
- ◆ New onset of fecal incontinence
- ◆ Nocturnal episode of diarrhea

Constipation

- ◆ Anorexia
- ◆ Bloating
- ◆ Changes in bowel sounds
- ◆ Changes in pattern of bowel movements
- ◆ Decrease in oral intake
- ◆ Firm, tense abdomen (may also indicate peritonitis or perforation of bowel or other intraabdominal organ)
- ◆ Large amount of hard stool on rectal examination
- ◆ Reduced frequency of bowel movements

Bowel Obstruction

- ◆ Bowel distension
- ◆ Nausea and vomiting
- ◆ Hypoactive, absent, or “metallic” bowel sounds

GERD

- ◆ Change in oral intake
- ◆ Chest pain
- ◆ Cough, sore throat
- ◆ Dysphagia
- ◆ Palpitations
- ◆ Persistent belching
- ◆ Persistent or frequently recurring heartburn
- ◆ Sleep disturbances
- ◆ Wheezing

Gastrointestinal bleeding

- ◆ Abdominal pain
- ◆ Anemia (usually microcytic, hypochromic, reticulocytosis)
- ◆ Elevated BUN (blood urea nitrogen)
- ◆ Bright red or maroon stool (hematochezia)
- ◆ Change in oral intake
- ◆ Chest pain
- ◆ Dizziness
- ◆ Hypotension
- ◆ Nausea and vomiting
- ◆ Syncope
- ◆ Tachycardia
- ◆ Tarry black stool (melena)
- ◆ Vomiting of blood (hematemesis; either fresh blood, which is bright red, or digested blood, which resembles coffee grounds)

TABLE 6
Risk Factors for GI Disorders

- ◆ Dietary issues (e.g., food intolerances, changes in oral intake)
- ◆ Family history of colon cancer
- ◆ History of
 - ◆ Abdominal, pelvic, or GI surgery
 - ◆ Alcohol abuse
 - ◆ Antibiotic use
 - ◆ Bowel obstruction
 - ◆ Diverticular disease
 - ◆ GI bleeding
 - ◆ GI malignancy
 - ◆ *H. pylori* infection or documented peptic ulcer disease
 - ◆ Inflammatory bowel disease
 - ◆ Irritable bowel syndrome
 - ◆ Liver disease
 - ◆ Malabsorption disorders
 - ◆ Risk factors for hepatitis B or C
 - ◆ Severe generalized atherosclerosis
- ◆ Lifestyle issues (e.g., use of caffeine, tobacco, alcohol; overuse of laxatives)
- ◆ Use of
 - ◆ Anticholinergic medications (or medications with high anticholinergic properties)
 - ◆ Aspirin or NSAIDs (increases risk for GI erosion and bleeding,
 - ◆ Opioids
 - ◆ Steroids

STEP 3

Characterize the nature and severity of the GI disorder. Determining the nature and severity of a GI disorder requires careful assessment skills, communication of important information among members of the interdisciplinary team, and adequate protocols to help staff determine when to contact the practitioner about a suspected GI disorder and what information to relay. Tools such as PALTmed's *Protocols for Physician Notification*^c and the PQRST Mnemonic (Table 8) can help to facilitate assessment and communication of information. An example of a telephone assessment guide can be found in PALTmed's 2003 clinical practice guideline on acute change of condition.^d

Nurses should be prepared to provide the practitioner with all relevant details about a patient's GI symptoms, as well as details about the patient's known medical history, current condition, medications, and previous and current pertinent laboratory abnormalities.

^c Post-Acute and Long-Term Care Medical Association. *Protocols for Physician Notification: Assessing Patients and Collecting Data on Nursing Facility Patients: A Guide for Nurses on Effective Communication with Practitioners*. 2005 (revised). Columbia, MD.

^d Post-Acute and Long-Term Care Medical Association. *Acute Change of Condition in the Long-Term Care Setting*. Clinical Practice 2003. Columbia, MD.

TABLE 7

Specific Risk Factors for Common Gastrointestinal Disorders

Abdominal pain/GERD

- ◆ Abdominal obesity
- ◆ Anorexia or bulimia
- ◆ Antibiotic use or overuse
- ◆ Gastroparesis
- ◆ Lying down after eating a big meal
- ◆ Nasogastric or gastrostomy tube feeding
- ◆ Tight clothing

Constipation

- ◆ Anal fissure
- ◆ Anorexia
- ◆ Cancer of the colon or rectum
- ◆ Dementia
- ◆ Diabetes
- ◆ Fluid and electrolyte imbalance
- ◆ Hypercalcemia
- ◆ Hypokalemia
- ◆ Hypothyroidism
- ◆ Immobility
- ◆ Impairment in activities of daily living
- ◆ Inability to toilet independently
- ◆ Irritable bowel syndrome
- ◆ Low-fiber diet
- ◆ Myopathies
- ◆ Neurologic deficits (paraplegia, multiple sclerosis)

Diarrhea

- ◆ Bowel ischemia
- ◆ Cognitive impairment
- ◆ Diet (e.g., high-fiber foods)
- ◆ Impaired ability to toilet
- ◆ Infection (in patient or in a roommate)⁴
- ◆ Tube feeding

Gastrointestinal bleeding

- ◆ Advanced age
- ◆ Blood clotting disorder
- ◆ Feeding tube erosions
- ◆ History of GI bleeding
- ◆ History of *H. pylori* infection
- ◆ History of liver disease
- ◆ History of renal disease
- ◆ Ventilator use

TABLE 8
The PQRST Mnemonic

P. Palliation, Provocation

- ◆ What makes the current symptoms better or worse?
- ◆ What has helped or has aggravated similar situations in the past?

Q. Quantity, Quality

- ◆ How much is the patient bothered by the situation and what is the degree (mild to severe) of discomfort?
- ◆ What kind of discomfort does the patient have (e.g., sharp, dull, throbbing, steady, intermittent)?

R. Region, Radiation

- ◆ Where are the symptoms located? Do they move from one part of the body to another?

S. Signs, Symptoms

- ◆ What signs and symptoms coincide with the primary findings? (E.g., is pain accompanied by sweating and elevated pulse?)

T. Temporal Relationship

- ◆ What changed around the time of the onset of symptoms or condition change?
- ◆ What other active problems are on the patient's problem list?
- ◆ Have the same or similar episodes occurred in the past? What was happening at those times?
- ◆ What solutions have or have not been effective previously?
- ◆ Have the patient's medications or physical routine changed recently?

Adapted from Bates et al⁵

ASSESSMENT

STEP 4

Is urgent evaluation and management required? Determine whether further assessment of the suspected GI disorder is indicated and appropriate. Table 9 lists GI symptoms that may require immediate assessment. Keep in mind that patients with advanced illness or an end-stage or terminal condition may be unlikely to benefit from some elements of a diagnostic evaluation for GI disorders.

Many patients may have a recurrence or reactivation of a known GI problem (e.g., recurrent mild to moderate rectal bleeding in a patient with a known history of lower GI bleeding from diverticula or hemorrhoids). In this situation, diagnostic evaluation may be unnecessary and resumption or modification of prior treatments, or even watchful waiting, may be entirely appropriate. Patients may have chosen treatment goals that emphasize relief of symptoms while maintaining function and possibly forgoing extensive evaluation and curative interventions. In such cases the most appropriate course may be to conduct no further diagnostic tests but to intervene

TABLE 9

Gastrointestinal and Related Symptoms That May Require Prompt Assessment

- ◆ Abdominal mass causing obstruction or other acute symptoms
- ◆ Abrupt, persistent, or progressive change in eating habits (e.g., patient who normally eats well suddenly refuses food, skips meals, or eats less than 50% of meals for 3 days)
- ◆ Acute abdominal pain that is different from or more severe than the patient's usual symptoms
- ◆ Change in mental status
- ◆ Fever
- ◆ Gross melena or hematochezia (black, maroon, tarry, or bloody stools)
- ◆ No bowel movement for 3 days despite adequate food intake
- ◆ Severe anemia or rapid decline in hemoglobin level

empirically to manage the patient's discomfort and symptoms.

Categories of symptoms that may help to define an acute change of condition can be found in PALTmed's *Acute Change of Condition* clinical practice guideline^e (pages 12-13). An acute change of condition does not necessarily mandate a transfer to an acute care facility, but a prompt detailed assessment may be necessary if the patient has any of the following symptoms:

- ◆ Moderate to severe GI bleeding.
- ◆ Acute abdominal pain accompanied by persistent or recurrent vomiting, a dramatic change in bowel sounds, or a distended abdomen (suspicion of obstruction).
- ◆ A gastrostomy tube that has come out and cannot be replaced at the facility in a timely manner or that must be inserted by a practitioner (e.g., a tube that is less than 30 days old with an immature abdominal wall tract).

Discussion among facility staff, the practitioner, and the patient's family is particularly important when a decision is made to pursue—or not to pursue—any course of action. If a decision is made to hospitalize a patient for a workup or treatment of a GI problem, or if a patient does not wish to be hospitalized for any reason, document the basis for these decisions.

STEP 5

Identify the cause(s) of the GI disorder. A comprehensive history and physical examination are key to identifying the cause(s) of a GI disorder. For example, if a patient has classic symptoms of heartburn and acid regurgitation, a diagnosis of GERD can be made with high specificity. Although GERD can be missed because patients perceive only 2 to 3 percent of acid reflux events,⁶ simple indigestion or nausea should not be misdiagnosed as GERD.

Laboratory and imaging tests (Table 10) are often important for the evaluation or

^e Post-Acute and Long-Term Care Medical Association. *Acute Change of Condition in the Long-Term Care Setting*. Clinical Practice Guideline. 2003. Columbia, MD.

TABLE 10
Laboratory and Imaging Tests for Diagnosing Common Gastrointestinal Disorders

Disorder	Highly Recommended	Recommended	Optional
Abdominal pain		Abdominal x-rays Comprehensive medical panel	CBC Abdominal CT scan with contrast <i>H. pylori</i> serology Ultrasound
<i>Clostridium difficile</i> diarrhea	BUN/creatinine <i>C. difficile</i> stool assay toxin CBC and differential Electrolytes	Magnesium Stool cultures Stool for occult blood	Flexible sigmoidoscopy
Constipation, chronic or recurrent		Calcium Electrolytes Glucose Stool for occult blood Thyroid-stimulating hormone	Abdominal x-ray Colonoscopy
GERD	CBC		24-hr pH monitoring Endoscopy
GI bleeding	Nasogastric lavage Stool for occult blood	CBC, platelets Orthostatic blood pressure PT/INR	<i>H. pylori</i> serology

CBC: complete blood count
 PT/INR: Prothrombin time/international normalized ratio

diagnosis of a GI disorder. Testing should supplement—not substitute for—an adequate and timely review of symptoms and physical assessment. Consider the patient’s wishes and advance directives when determining what laboratory tests or other diagnostic assessments might be useful. All or part of the diagnostic workup may not be indicated if the patient has a terminal or end-stage condition, if it would not change the patient’s management, if the patient or surrogate decision-maker has refused treatment, or if the burden of the work-up is greater than the expected benefit of treatment.

STEP 6

Determine the appropriateness of a referral for a specialty consultation. In some clinical situations a specialty consultation will be necessary to further assess or treat a GI disorder (Table 11). Depending on the purpose of the consultation and specialist availability, appropriate specialists may include a gastroenterologist, liver disease specialist, interventional radiologist, surgeon, or oncologist. The attending practitioner is responsible for choosing a consultant who, to the practitioner’s knowledge, has an acceptable reputation and credentials.

Document in the patient’s medical record the reason for the referral and the result of the specialist’s intervention. If a referral is not made because the patient’s overall condition or treatment goals are inconsistent with aggressive workup and therapy, document this rationale in the patient’s chart.

TABLE 11

Clinical Situations in Which Specialty Consultation May Be Necessary

- ◆ Chronic diarrhea unresponsive to therapy
- ◆ Dysphagia
- ◆ GI symptoms not responding to initial treatment
- ◆ Grossly abnormal laboratory results (e.g., very low or declining hemoglobin, disproportionately elevated BUN relative to creatinine)
- ◆ Laboratory findings indicative of hepatic dysfunction
- ◆ Occult GI bleeding
- ◆ Persistent blood loss
- ◆ Persistent GERD symptoms despite treatment
- ◆ Suspected acute surgical abdomen (e.g., acute cholecystitis, appendicitis, bowel obstruction, ischemic necrosis of bowel)
- ◆ Suspected gallstones
- ◆ Unexplained anemia

TREATMENT

STEP 7

Manage the GI disorder and its underlying causes. It is important to devote adequate time and effort to determining the specific nature of the disorder and its causes so that an appropriate treatment plan may be developed. It is insufficient simply to write “GERD,” “diarrhea,” and so on in the patient’s record or other documentation without additional clarification. Securing and documenting as much detail as possible about the nature of the problem is more likely to result in the selection of a treatment that will produce the best possible outcome.

That said, GI symptoms are often nonspecific or sporadic. Short-term empiric treatment of mild GI symptoms may be warranted. If empiric treatment (e.g., antacids) is started for GI symptoms such as heartburn or chest pain, the practitioner should re-evaluate the situation within an appropriate time period (e.g., 2 to 6 weeks) to determine whether continued therapy is warranted. Such empiric treatment may also be viewed as diagnostic or as a therapeutic trial.

If symptoms persist or recur frequently, the clinical outcome is unexpected, or worrisome signs and symptoms develop (e.g., persistent dysphagia, bleeding, progressive weight loss), the practitioner should request additional detailed information about the patient’s symptoms from both the patient and nursing staff. The practitioner may lead interdisciplinary team efforts to further assess the patient, the potential causes of symptoms, and the potential for serious complications.

Focused management of the most common GI disorders in older people is discussed further in this guideline. Table 12 offers guidance on appropriate and inappropriate use of medications and treatments to prevent and manage common GI disorders.

TABLE 12

Appropriate and Inappropriate Use of Medications and Treatments to Prevent and Treat Common Gastrointestinal Disorders

Drug or Drug Class	Appropriate Use	Inappropriate Use	Monitoring
Enemas	<ul style="list-style-type: none"> ◆ Secondary intervention if laxatives are ineffective ◆ Abdominal pain secondary to constipation ◆ Colonic dysmotility ◆ Element of bowel program 	Signs and symptoms suggesting possible perforation	Monitor for excessive fluid and electrolyte loss
Erythromycin	Gastroparesis	GERD	Monitor for side effects (e.g., abdominal pain, cardiac arrhythmias, diarrhea, nausea, vomiting)
Fiber agents	Texture-altered diet	Fiber intolerance Fluid restriction	Monitor for bloating and for effectiveness of therapy
H ₂ blockers	Dyspepsia, gastritis, GERD, peptic ulcer disease	GI prophylaxis for patients on NSAIDs	<ul style="list-style-type: none"> ◆ For patients with GERD, consider titrating after symptoms are controlled or resolved (6 wks) ◆ Monitor renal function and adjust dose as appropriate ◆ Check platelets at least once
Laxatives	Moderate to severe constipation	Diarrhea Colitis	Monitor for effectiveness of therapy
Metoclopramide	Gastroparesis, symptoms of GERD refractory to other interventions	First-line treatment	<ul style="list-style-type: none"> ◆ Ensure use of minimal dose necessary to achieve therapeutic results. ◆ Monitor for significant CNS side effects
Proton pump inhibitors	Esophageal erosions, dyspepsia, GERD, peptic ulcer disease, prophylaxis for patients on NSAIDs	<ul style="list-style-type: none"> ◆ Inability to take GI medications orally ◆ Successful resolution of symptoms with H₂ blockers ◆ Inappropriate continuation of doses initiated during acute hospitalization ◆ Suppression of symptoms in individuals taking bisphosphonates 	Confirm continued need for therapy
Stool softeners	Prevention of constipation		Monitor for diarrhea and for effectiveness of therapy
Sucralfate	Acute or maintenance treatment for peptic ulcers	<ul style="list-style-type: none"> ◆ First-line treatment ◆ Patient successfully treated with an H₂ blocker or PPI ◆ Contraindicated if potential exists for significant drug-drug interactions (e.g., phenytoin, thyroid hormone, warfarin) 	Monitor for side effects (e.g., dizziness, pruritus, rash)

CNS: central nervous system

Abdominal Pain and Gastroesophageal Reflux Disease

Abdominal pain in older people can be caused by temporary conditions or by serious, potentially life-threatening ones. It is not always necessary to send patients with abdominal pain to an acute-care facility or emergency room. However, it is always important to assess and address causes of abdominal pain and not to ignore patients' complaints of pain or discomfort.

Table 13 lists issues that should be addressed in the assessment of a patient with abdominal pain. Because symptoms of abdominal pain often develop when a practitioner is not present at the facility, in most cases a nurse will recognize and initially assess the problem and communicate it to the practitioner. Communication with the practitioner should follow the protocol described in PALTmed's physician notification protocol manual.^f

In addition to a direct abdominal and rectal examination, patients with severe abdominal pain, abnormal vital signs, or acute change in mental status should initially undergo the following:

- ◆ Oxygen (depending on comorbid conditions, vital signs, evidence of respiratory difficulty, and pulse oximetry findings).
- ◆ Laboratory workup (e.g., complete blood count, electrolytes, liver function tests, amylase, lipase, urinalysis).
- ◆ Imaging studies relevant to the suspected diagnosis (e.g., ultrasonography if gall bladder disease is suspected).
- ◆ Surgical consultation if appropriate.

Patients with new-onset moderate to severe abdominal pain or abdominal distension may also need X-rays (two views of the abdomen and an upright chest X-ray) to rule out bowel obstruction, perforation, or Ogilvie's syndrome (acute colonic pseudo-obstruction).

When a patient with severe abdominal pain is clinically unstable, it may be necessary to transfer the patient urgently to the emergency room. The practitioner, family or surrogate decision-maker, and the patient (if feasible) should be involved in deciding whether it is appropriate to transfer the patient to a hospital. Document in the patient's record the rationale for a decision either to transfer or not to transfer a patient for emergency-room evaluation. Consider the following factors:

- ◆ The patient's most recent level of function, including the status of any chronic illnesses.
- ◆ The patient's and family's treatment goals.
- ◆ The patient's wishes, as expressed in advance directives and other care-planning documents or verbal discussions.
- ◆ Whether an appropriate basic assessment was done, or could be done, in the facility.
- ◆ The likelihood of benefit from hospital evaluation and treatment.

^f Post-Acute and Long-Term Care Medical Association. Protocols for Physician Notification: Assessing and Collecting Data on Nursing Facility Patients - A Guide for Nurses on Effective Communication with Physicians. 2005 (revised). Columbia, MD

TABLE 13

Basic Assessment of Patients With Abdominal Pain

1. Vital signs
2. Abdominal exam, including tenderness, pain, distension, diminished, abnormal or absent bowel sounds, guarding, ascites, hernia
3. Digital rectal exam, including any tenderness, mass, or hard stool
4. Test stool for occult blood
5. If patient is vomiting, describe contents, quantity, and presence of blood. Test vomit for occult blood.

Assess the patient’s clinical history, including medications used. If possible, eliminate or taper medications (e.g., those with anticholinergic properties; nonsteroidal anti-inflammatory drugs (NSAIDs), including aspirin; COX 2 inhibitors), that cause or exacerbate GI symptoms by, for example, reducing pressure in the lower esophageal sphincter, slowing gastric emptying, or causing mucosal damage in at-risk patients.

Evidence is limited to support the value in the long-term care population of conservative interventions such as elevating the head of the bed. Nonetheless, these efforts are easy and inexpensive to implement and may offer some benefit. Be aware, however, that elevating the head of the bed before increasing the incline of the bed may promote the development of pressure ulcers in susceptible individuals.

Pharmacologic therapy. Whenever possible, target medications used to treat abdominal pain to specific underlying causes. The goal of drug therapy for abdominal pain is to reduce morbidity and prevent complications. Always use the lowest effective dose and continue therapy only for as long as is necessary to control the patient’s symptoms.

Medications such as antispasmodics and opioid analgesics should generally be used only after conducting a careful assessment to rule out an acute abdomen and other specific treatable underlying cause(s). Reserve prolonged use of antispasmodic agents for situations where bowel dysmotility is identified as a likely cause of pain and other conservative measures such as dietary alteration have not been successful.

Use opioids carefully for suspected disease of specific organs. Morphine is contraindicated to treat pain caused by cystic duct obstruction or spasm. Any opioid can exacerbate ileus that is causing abdominal pain.

Proton pump inhibitors (PPIs) are considered the first-line treatment for GERD, esophagitis, and peptic ulcer disease. They are more potent suppressors of gastric acid production than histamine-2 receptor antagonists (H₂ blockers), are generally well tolerated, and have few side effects or significant drug interactions. They are considered safe for long-term treatment if this is indicated.

Therapeutic doses of H₂ blockers (e.g., ranitidine, famotidine) are effective in about 75 percent of cases of nonerosive esophagitis;⁷ they generally require a trial of

at least 2 weeks before they are deemed ineffective and replaced by a PPI. Upper GI symptoms may have significant causes other than GERD or esophagitis, including lesser degrees of dyspepsia, which may respond readily to liquid antacids or other limited interventions.

Both an increased relative risk for community-acquired pneumonia and an increased risk of community-acquired *Clostridium difficile*-associated disease have been reported in patients taking PPIs.^{8,9,10} It is uncertain whether the association with pneumonia is caused by the drug (as a result of a reduction in the bacteriostatic effect of stomach acid in patients who may aspirate gastric contents) or is coincidental to increased use of PPIs in patients with chronic pulmonary conditions who are at increased risk for pneumonia.

Given the absence of convincing evidence that one PPI is superior to another in the treatment of GERD, it is probably reasonable for cost or formulary availability to be the determining factor in the choice of agent. However, some patients—especially those with gastric tubes or aphagia—may experience greater symptom relief with one PPI than with another. These patients may require specialized dosage forms (e.g., liquid or sprinkle formulations).

Evidence supporting the use of prokinetic agents such as metoclopramide is limited. Although these agents may be useful in documented cases of gastroparesis, numerous studies indicate that they are no better than H₂ blockers in the treatment of GERD and may cause serious side effects such as excessive sedation, depression, and tardive dyskinesia.

Constipation

The management of constipation focuses on achieving and maintaining appropriate stool consistency and some degree of regularity of bowel movements. Useful non-pharmacologic approaches to managing constipation and preventing recurrence include adequate fluid intake, regular physical activity or exercise, and a diet that contains both soluble and insoluble fiber. Soluble fibers include pectin, flax, and gums (e.g., guar gum, gum arabic, carob bean gum). Insoluble fibers include psyllium and bran from grains such as wheat and oats. Both patients and dispensing staff are at some risk of allergy to psyllium.

Fresh fruits and vegetables contain both soluble and insoluble fibers. Because constipation is aggravated by deficiencies of folate, calcium, and magnesium, dietary sources of these nutrients (e.g., asparagus, spinach, parsley, other dark green leafy vegetables) should be part of the daily diet.

Fiber can soften stool, increase its bulk, and stimulate defecation. However, because fiber may also increase flatulence and fecal incontinence, dosing should be individualized. It may be useful to arrange a dietary consultation for patients with constipation to address some of these issues.

Fruit juices can also help to maintain normal bowel function. Sorbitol, the natural sugar found in apple juice (which is also available in its pure form as a medication), has known laxative properties.

Osmotic laxatives such as lactulose (15-60 ml daily) and 70-percent sorbitol solu-

tion (15-60 ml daily) are effective alternatives to fiber. These agents should be given after checking that no hard stool is blocking the rectum and/or colon.

Stimulant laxatives (e.g., senna, bisacodyl), which act on the myenteric plexus, are most effective when administered at night (when the gut is least active). Excessive long-term use of these products may be associated with the development of “cathartic colon,”—that is, a poorly functioning colon caused by the chronic abuse of stimulant laxatives. However, no conclusive evidence exists that stimulant laxatives lead to myenteric plexus degeneration or alterations in smooth-muscle function in the colon. If long-term use of these agents is required, they may be used alone or in combination with bulk or osmotic laxatives.¹¹

Patients with impaired colonic motility and anorectal dysfunction are at high risk of fecal impaction. They generally benefit from suppositories (glycerin or stimulant) and may require a schedule of routine enemas—usually a gentle rectal flush with tap water.

Medications that can cause or contribute to constipation include aluminum-salt—containing antacids; antihypertensive agents; aspirin; beta blockers; calcium channel blockers; codeine and other opioids; diuretics; iron and calcium supplements; narcotics; and medications with significant anticholinergic or antihistaminic properties, such as antihistamines, antipsychotics, medications for overactive bladder, and tricyclic antidepressants.

Although occasional constipation is rarely serious, it should be addressed if the individual has had, or is at risk for progression to bowel obstruction, chronic constipation, colonic spasm, hemorrhoids, hernia, and laxative dependency. Chronic constipation warrants additional attention because it may be a symptom of another illness, such as colorectal cancer, diabetes, diverticulosis, or Parkinson’s disease.

Diarrhea

Diarrhea is associated with significantly higher mortality in the elderly than in younger people. In one review, 51 percent of deaths due to diarrhea over a 9-year period occurred in patients aged over 74. Diarrhea that persists for more than 2 to 3 days may become life-threatening and should be systematically evaluated, especially if it is associated with fever, dehydration, or comorbid illness.¹²

The mainstay of treatment for all types of diarrhea is to address the underlying cause (Table 14) and to provide rehydration and replacement of important electrolytes and calories, which is usually accomplished with oral fluids. Reduced-osmolality rehydration solutions may be more effective than isotonic solutions at reducing fluid loss via stool output. Reassess the patient’s bowel pattern regularly and discontinue therapy when it returns to normal.

Additional treatment depends on whether infectious or noninfectious causes are suspected. For noninfectious diarrhea, address underlying causes (e.g., malabsorption, foods or eating habits that may be causing or contributing to the problem) Review the patient’s drug regimen to identify problematic medications or dosages that may be contributing to diarrhea. Check for fecal impaction and manage if present.

If infectious diarrhea is suspected, intervention should be based on a careful

assessment of likely causes, not just on speculation that the diarrhea is caused by *C. difficile*. Other less common causes such as salmonella, shigella, or viral gastroenteritis may be present instead of or in addition to more common ones.

Noroviruses (also known as NLV, SRSV, or “winter vomiting disease”) are highly infectious agents that can spread from person to person by food and water and through the air. Because these viruses are highly resilient, surviving for long periods in the environment and on surfaces such as door handles and countertops, they can cause widespread, intractable outbreaks in settings such as long-term care facilities.

Although it is not possible to prevent all Norovirus outbreaks, simple interventions such as careful handwashing can reduce the risk and minimize their adverse effects. Prompt implementation of an outbreak control team and introduction of early control measures are the most effective ways to control the extent of an outbreak¹³ (Table 15).

C. difficile diarrhea established by a positive stool toxin assay should be treated by eliminating the suspected causal antibiotics and by prescribing oral metronidazole, 500 mg 3 times daily, or vancomycin, 125 mg 4 times daily. The metronidazole regimen is preferred because it is effective, inexpensive, and less likely than vancomycin to lead to resistant enterococcal infection. Vancomycin can be used if metronidazole is ineffective or not tolerated or if the infection is severe. Both regimens should be used for at least 10 to 14 days and may be used for up to 30 days if symptoms persist.¹⁴

Metronidazole itself can cause unpleasant GI side effects. The most common side effects of metronidazole are headache, dizziness, GI discomfort, nausea and vomiting, metallic taste, diarrhea, vaginitis, and pelvic discomfort. These side effects may be problematic in the patient whose appetite has already been depressed by the underlying illness and who is at risk for fluid and electrolyte imbalance because of diarrhea. An elevated white blood cell count has also been reported.

In all cases of infectious diarrhea, it is essential that caregivers should use appropriate contact precautions and wash their hands frequently or institute GI isolation when necessary to prevent or minimize outbreaks and risks to others. This is also a critical preventive measure at all times. (See PALTmed’s 2004 clinical practice guideline on common infections in the long-term care setting.⁸)

Diarrhea can also result in indirect complications such as falls (as patients make frequent hurried trips to the bathroom) and contamination of pressure ulcers. Caregivers should address these related risk factors by, for example, providing prompt assistance with toileting and protecting the patient’s skin to the extent possible from moisture and fecal contamination.

Gastrointestinal Bleeding

After assessing the patient with GI bleeding to identify the degree and probable source of bleeding and the effects of bleeding on vital signs, decide whether hospital transfer is indicated. Immediate restoration of circulating volume is the first step toward a favorable outcome in older patients with acute GI bleeding. Depending on the severity of bleeding and its likely source, patients with significant GI bleeding

⁸ Post-Acute and Long-Term Care Medical Association. Common Infections in the Long-Term Care Setting. Clinical Practice Guideline. 2004. Columbia, MD.

TABLE 14

Possible Causes of Diarrhea in Elderly Patients

Inflammatory Causes

Infectious causes

- ◆ *Viruses*
- ◆ *Calicivirus*
- ◆ *Norwalk virus*
- ◆ *Rotavirus*

Bacteria

- ◆ *C. difficile*
- ◆ *C. perfringens*
- ◆ *Campylobacter sp.*
- ◆ *Escherichia coli*
- ◆ *Salmonella sp.*
- ◆ *Shigella sp.*
- ◆ *Staphylococcus sp.*
- ◆ *Vibrio sp.*

Parasites

- ◆ *Giardia lamblia*
- ◆ *Entamoeba histolytica*
- ◆ *Cryptosporidium*
- ◆ *Cyclospora*

Other inflammatory causes

Chronic inflammatory bowel diseases
Gastrointestinal malignancies
Radiation injury

Secretory Causes

Bowel resection or fistula
Chronic alcohol ingestion
Hormone-producing tumors of the GI tract
Partial bowel obstruction or fecal impaction
Stimulant laxatives

Osmotic Causes

Dietary excess of sorbitol and lactose
Hyperosmolar tube-feeding formula
Lactose intolerance
Osmotic laxatives

Steatorrheal Causes

Bacterial overgrowth
Chronic pancreatic insufficiency
Liver disease
Mucosal malabsorption (e.g., celiac sprue)

Other Conditions

Diabetes mellitus
Hyperthyroidism
Mesenteric or colonic ischemia

Medications

See Table 2

Adapted from Akhtar, 2003¹²

TABLE 15

Measures That Should Be Implemented Promptly to Control an Outbreak of Infectious Diarrhea

- ◆ Immediate cleansing and environmental decontamination
- ◆ Scrupulous handwashing
- ◆ Segregation of affected from unaffected individuals
- ◆ Limitation of movements of staff and patients
- ◆ Exclusion of any ill staff from work for 48 hours after an episode of vomiting or diarrhea
- ◆ Sensible management of visitors (e.g., excluding ill visitors, limiting visits by young children and infants)

Adapted from National Guidelines on the Management of Outbreaks of Norovirus Infection in Healthcare Settings¹³

may need to be transferred to an acute care setting or emergency room, unless they have a “Do Not Hospitalize” order on file or the patient or family declines hospitalization. Hospitalization may be helpful if additional diagnostic evaluation is needed to identify the source of bleeding or if more aggressive management is needed to stop bleeding or replenish circulating volume.

If the patient is hypotensive, position the head downward to maintain cerebral perfusion and turn the patient on his or her side. Leaving the patient supine favors reflux and aspiration of gastric contents. This is especially true for patients with dementia.¹⁵

Indications for blood transfusion in elderly patients with acute GI hemorrhage include:¹⁵

- ◆ Continued heavy bleeding despite treatment.
- ◆ Shock.
- ◆ Very low hematocrit values (i.e., less than 20 to 25 percent).
- ◆ Symptoms related to poor tissue oxygenation (e.g., angina, congestive heart failure).

In patients without these findings, the need for transfusions will be guided by the rate of blood loss, the potential for rebleeding, and the patient’s ability to withstand rebleeding (i.e., the presence of heart or lung comorbidities).

Pharmacologic therapy. Drugs used to treat peptic ulcer disease have excellent safety records in the elderly. The principal side effects are diarrhea (caused by misoprostol and antacids) and constipation (caused by sucralfate). No evidence suggests that aging alone increases the risk of these adverse effects.¹⁵

H₂ blockers are no longer considered first-line therapy for peptic ulcer disease because of the risks they pose of significant adverse events and drug interactions. In

particular, cimetidine is now regarded as potentially inappropriate for use in elderly patients.¹⁶

PPIs given as an intravenous bolus followed by infusion are an effective treatment for acute GI bleeding. They appear to decrease the risk of rebleeding in patients who have undergone therapeutic endoscopy and may also be used as empiric treatment in patients awaiting endoscopy.¹⁷

Therapeutic endoscopy decreases the incidence of recurrent upper GI bleeding and reduces mortality in patients who have peptic ulcer and active bleeding, visible vessels, and (possibly) adherent clots.¹⁸ Endoscopic procedures that may be suitable for selected patients who have GI bleeding include injection of a vasoconstrictor (e.g., epinephrine); use of a heater probe or bipolar electrocautery; laser photocoagulation; and placement of a hemoclip device. These procedures are performed in an acute care setting. Surgery may be indicated when repeated endoscopy fails to establish hemostasis and the patient remains hypotensive.

STEP 8

Identify and implement measures to prevent or minimize the risk of GI disorders.

Management of GI disorders involves not only treating patients with these disorders and tracking their progress but also identifying at-risk patients and, to the extent possible, preventing problems before they develop. For example, infection control is an important means of controlling the advent and spread of infectious diarrhea. Infection-control measures include frequent handwashing, enteric isolation precautions, use of gloves for intimate patient contact, appropriate disinfection of contaminated objects, and education of staff about the nature of the disease. Avoiding unnecessary or prolonged antibiotic use and minimizing unnecessary PPI therapy may also reduce the incidence of *C. difficile* diarrhea.

Patients at high risk for bleeding are those aged 60 and over who have a past history of GI ulcers or bleeding and who are concurrently taking NSAIDs, glucocorticoids, or anticoagulants. Use caution when prescribing aspirin (including low-dose [81 mg daily] aspirin prophylaxis) to a patient with a healed ulcer. Patients with a history of significant GI bleeding should avoid using both aspirin and NSAIDs.

The risk of GI bleeding increases with increased NSAID dosage.¹⁹ The use of COX-2 inhibitors should be carefully assessed as these agents offer only very modest benefits over nonselective NSAIDs and present additional cardiovascular risks.^{20, 21} The decision to use an NSAID must be individualized on the basis of GI and cardiovascular risk and the agent selected must be effective for the condition for which it is prescribed.

It is unclear whether eradicating the bacterium *Helicobacter pylori* reduces ulcer risk in chronic NSAID users. Eradication has been recommended in users of aspirin or nonspecific NSAIDs who have a history of ulcers or upper GI bleeding.²²

Patients with active peptic ulcer disease or a history of documented peptic ulcer or gastric mucosa-associated lymphoma should be tested for *H. pylori*. Those who test positive should be treated to prevent recurrence of these conditions.²³ The most effec-

tive available regimen combines a PPI (e.g., lansoprazole, 30 mg; omeprazole, 20 mg; pantoprazole, 40 mg; rabeprazole, 20 mg [all twice daily]; esomeprazole, 40 mg once daily) with amoxicillin, 1 g twice daily, and clarithromycin, 500 mg twice daily, for 2 weeks.

In patients with penicillin allergy, metronidazole, 500 mg twice daily, can be substituted for amoxicillin. Alternatively, a PPI may be combined with bismuth, 525 mg 4 times daily; metronidazole, 500 mg 4 times daily; and tetracycline, 500 mg 4 times daily, for 2 weeks. Side effects may include a metallic taste (with metronidazole or clarithromycin), a disulfiram-like reaction to alcohol, seizures, peripheral neuropathy (with metronidazole), a photosensitivity reaction (with tetracycline), and diarrhea or allergy (with amoxicillin).²⁴

The use of the following general approaches can enhance facility-wide prevention, minimization, or timely management of some GI disorders:

- ◆ Standard use of assessment and treatment protocols.
- ◆ Medication reviews (including monthly drug regimen reviews) to identify and eliminate inappropriate or problematic medications or dosages.
- ◆ Bowel regimens that address toileting, mobility, bowel and bladder training, hydration, and diet and that identify patients who have had excessive or inadequate bowel movements within a 72-hour period.
- ◆ Education of patients, families, and facility staff about the recognition and prevention of GI disorders.
- ◆ Documentation of risk factors for GI disorders in patients' histories (see Table 6).
- ◆ Appropriate infection-control interventions.

MONITORING

STEP 9

Monitor the patient's response to treatment and adjust interventions as necessary. Monitoring of patients with GI disorders is essential to determine the efficacy of treatments, reduce the risk of recurrence of the disorder, and ensure that patients with GI disorders are as comfortable as possible. The most important component of monitoring is reassessment of the patient at regular intervals to determine whether interventions to treat the GI disorder are effective.

STEP 10

Monitor the status and treatment of underlying causes of GI disorders and review relevant medications. The following practices can help facilities to monitor the management of patients with GI disorders.

- ◆ Review drug regimens monthly to identify medications that may be causing or contributing to GI disorders, identify patients who are receiving medications for GI disorders, and assess the efficacy of these drugs.

- ◆ Weigh patients monthly and as indicated by changes in appetite or general condition.
- ◆ Monitor patients' food intake and eating habits for changes in total intake, food preferences, or eating pattern.
- ◆ Train nursing assistants to report to nurses or other appropriate individuals when patients complain of abdominal pain, bloating, or other symptoms that may indicate a GI disorder.

Educate all staff about the value of keeping patients adequately hydrated and of addressing hydration risks and fluid and electrolyte imbalance. (see PALTmed CPG on dehydration and fluid maintenance.^h)

STEP 11

Monitor the facility's management of gastrointestinal disorders. Consider reviewing the management of patients with GI disorders through the facility's quality assurance process. Various quality indicators may be used to assess facility performance in the identification and treatment of GI disorders (Table 16). These indicators can be applied to improve overall facility processes related to the management of GI disorders. Facilities may select the indicators most relevant to their population to measure the success of their management of GI disorders.

TABLE 16
Process and Outcome Quality Indicators Related to GI Disorders

Process Indicators

- ◆ Percent of new admissions who are screened for history of gastrointestinal (GI) disorders
- ◆ Percent of individuals with gastrointestinal (GI) symptoms who receive a detailed symptom description and physical assessment
- ◆ Percent of individuals with gastrointestinal (GI) symptoms for whom specific causes are identified based on symptom description and physical assessment
- ◆ Percent of individuals with clinically significant constipation in the facility who are on an individualized bowel program
- ◆ Percent of individuals in the facility who are receiving medications associated with causing clinically significant gastrointestinal (GI) symptoms
- ◆ Percent of compliance with basic preventive measures and precautions recommended to prevent GI outbreaks

Outcome Indicators

- ◆ Percent of individuals who are hospitalized with acute gastrointestinal (GI) symptoms
- ◆ Percent of individuals with recurrent gastrointestinal (GI) bleeding
- ◆ Frequency of reportable outbreaks of GI illness in the facility
- ◆ Percent of at-risk individuals (taking opioids, immobile, etc.) who develop clinically significant constipation or complications including fecal impaction

^h Post-Acute and Long-Term Care Medical Association. Dehydration and Fluid Maintenance. Clinical Practice Guideline. 2001. Columbia, MD.

SUMMARY

Aging is associated with an increased prevalence of several GI disorders. In addition to causing discomfort and impairing patients' quality of life, GI disorders may cause or contribute to other potentially serious medical conditions. Clinically significant abnormalities in GI function should therefore be addressed promptly in the long-term care population.

Optimal management of GI disorders involves providing treatments tailored to the specific nature and causes of the patient's problem, monitoring patients' progress to determine treatment efficacy, preventing recurrence, and maintaining comfort. Identifying at-risk patients and, to the extent possible, implementing practices aimed at preventing GI problems before they develop is also very important. The recommendations in this clinical practice guideline can assist long-term care facilities in the optimal management of GI disorders.

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NOTES

This is the gastrointestinal disorders in the long-term care setting algorithm to be used in conjunction with the written text of this clinical practice guideline. The numbers next to the different components of the algorithm correspond with the steps in the text.

Recognition

Step 1
Identify the presence of GI disorders.

Step 2
Assess the patient for risk factors for GI disorders.

Step 3
Characterize the nature and severity of the GI disorder.

Assessment

Step 4
Is urgent evaluation and management required?

No
Document basis for decision and manage patient's discomfort and symptoms.

Yes
Step 5
Identify the cause(s) of the GI disorder.

Step 6
Determine the appropriateness of a referral for a specialty consultation.

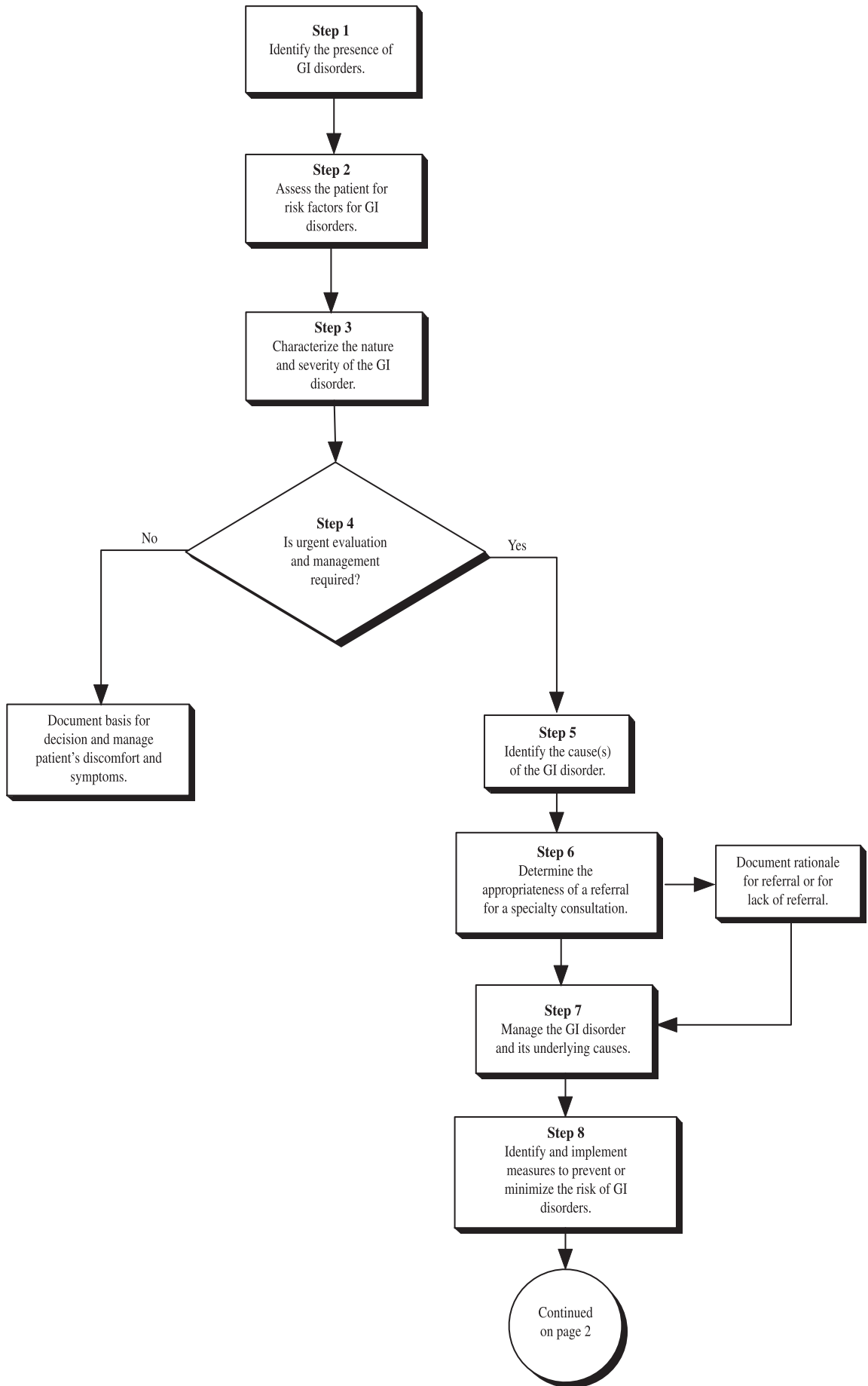
Document rationale for referral or for lack of referral.

Step 7
Manage the GI disorder and its underlying causes.

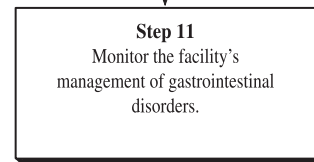
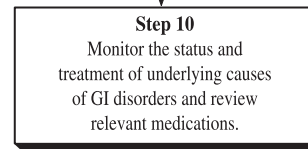
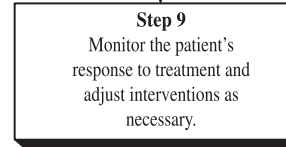
Step 8
Identify and implement measures to prevent or minimize the risk of GI disorders.

Continued on page 2

Treatment



Monitoring



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