

Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 8e >

Chapter 74: Constipation

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FIGURE 74-1.

INTRODUCTION AND EPIDEMIOLOGY

Constipation is an extraordinarily common cause of patient morbidity in the United States.^{1,2,3,4} The incidence of constipation increases with age, with 30% to 40% of persons >65 years old citing constipation as a problem.^{4,5} Constipation affects as many as 80% of critically ill patients and is directly associated with patient mortality in this population.⁶

Physicians and patients define constipation differently. Physicians have traditionally defined constipation as fewer than three bowel movements per week. In contrast, patients commonly define constipation in terms such as abdominal discomfort, bloating, straining during bowel movements, or the sensation of incomplete evacuation. Consequently, constipation should not be defined simply by stool frequency alone, because doing so maximizes the potential to underdiagnose a significant number of patients who suffer from the condition.⁷ The Rome criteria for the definition of constipation consist of two or more of the following signs or symptoms: (1) straining at defecation at least 25% of the time, (2) hard stools at least 25% of the time, (3) incomplete evacuation at least 25% of the time, (4) fewer than three bowel movements per week, (5) symptoms for at least 12 weeks (consecutive or nonconsecutive) in the preceding 12 months for chronic constipation.⁸

PATHOPHYSIOLOGY

Constipation is a complicated condition with multiple, often overlapping causes ([Table 74-1](#)). Gut motility is affected by diet, activity level, anatomic lesions, neurologic conditions, medications, toxins, hormone levels, rheumatologic conditions, microorganisms, and psychiatric conditions. Constipation is best thought of as either acute or chronic, as doing so helps formulate a differential diagnosis. Due to the rapidity of symptoms onset, acute constipation should be treated as intestinal obstruction until proven otherwise. Common causes of intestinal obstruction include quickly

growing tumors, strictures, hernias, adhesions, inflammatory conditions, and volvulus. Other causes of acute constipation include the addition of a new medicine (e.g., narcotic analgesic, antipsychotic, anticholinergic, antacid, antihistamine), change in exercise or diet (e.g., decreased level of exercise, fiber intake, or fluid intake), and painful rectal conditions (e.g., anal fissure, hemorrhoids, anorectal abscesses, proctitis). Chronic constipation can be caused by many of the same conditions that cause acute constipation. However, some specific causes of chronic constipation include neurologic conditions (e.g., neuropathies, Parkinson's disease, cerebral palsy, paraplegia), endocrine abnormalities (e.g., hypothyroidism, hyperparathyroidism, diabetes), electrolyte abnormalities (e.g., hypomagnesia, hypercalcemia, hypokalemia), rheumatologic conditions (e.g., amyloidosis, scleroderma), and toxicologic causes (e.g., iron, lead).

TABLE 74-1
Differential Diagnosis of Constipation

Acute causes
Gastrointestinal: quickly growing tumors, strictures, hernias, adhesions, inflammatory conditions, and volvulus
Medicinal: narcotic analgesic, antipsychotic, anticholinergic, antacid, antihistamine
Exercise and nutrition: decrease in level of exercise, fiber intake, fluid intake
Painful anal pathology: anal fissure, hemorrhoids, anorectal abscesses, proctitis
Chronic causes
Gastrointestinal: slowly growing tumor, colonic dysmotility, chronic anal pathology
Medicinal: chronic laxative abuse, narcotic analgesic, antipsychotic, anticholinergic, antacid, antihistamine
Neurologic: neuropathies, Parkinson's disease, cerebral palsy, paraplegia
Endocrine: hypothyroidism, hyperparathyroidism, diabetes
Electrolyte abnormalities: hypomagnesia, hypercalcemia, hypokalemia
Rheumatologic: amyloidosis, scleroderma
Toxicologic: lead, iron

CLINICAL FEATURES

HISTORY

The differential diagnosis of constipation is broad, so obtain a thorough history. Determine when the symptoms started and then determine whether there are any temporally related clues that can help narrow the differential diagnosis. Was a new medication or dietary supplement added at that time? Was there a decrease in fiber or fluid intake? Was there a change in activity level? Past medical and family history can help shed light on the cause of the constipation. Is there a history of hypothyroidism or diabetes? Does the patient have frequent kidney stones, which would point toward hyperparathyroidism? Although most patients who present with constipation do not have emergent conditions and may be treated symptomatically as outpatients, there are several historical elements that hint to a more ominous cause of symptoms, such as intestinal obstruction. Worrisome findings in addition to constipation include rapid onset, nausea or vomiting, inability to pass flatus, severe abdominal pain and distention, unexplained weight loss, rectal bleeding, unexplained iron-deficiency anemia, or a family history of colon cancer.² Any of these findings should prompt a more rigorous evaluation. Diarrhea alone does not rule out constipation/obstruction, as liquid stool can be passing past an obstructive source.

PHYSICAL EXAMINATION

In addition to a focused abdominal and pelvic examination, a rectal examination is essential. Examine the patient thoroughly for the presence of hernias and abdominal or pelvic masses. Bowel sounds will be decreased in cases of slow gut transit and increased in cases of obstruction. Ascites in the presence of constipation can be a sign of ovarian or uterine neoplasm in postmenopausal women. External rectal examination may demonstrate anal fissures, hemorrhoids, abscesses, or protruding masses. Digital rectal examination is useful in that it may demonstrate fecal impaction or an obstructing rectal mass. Especially common in the elderly is watery stool making its way around an overt impaction. Normal rectal tone is useful in ruling out neurologic causes of obstruction. Any stool retrieved from the rectal vault should be visually inspected and tested for occult blood. The finding of grossly bloody or guaiac-positive stool in the setting of constipation suggests concern for cancer, bowel ischemia, stercoral ulcer, or inflammatory bowel disease.

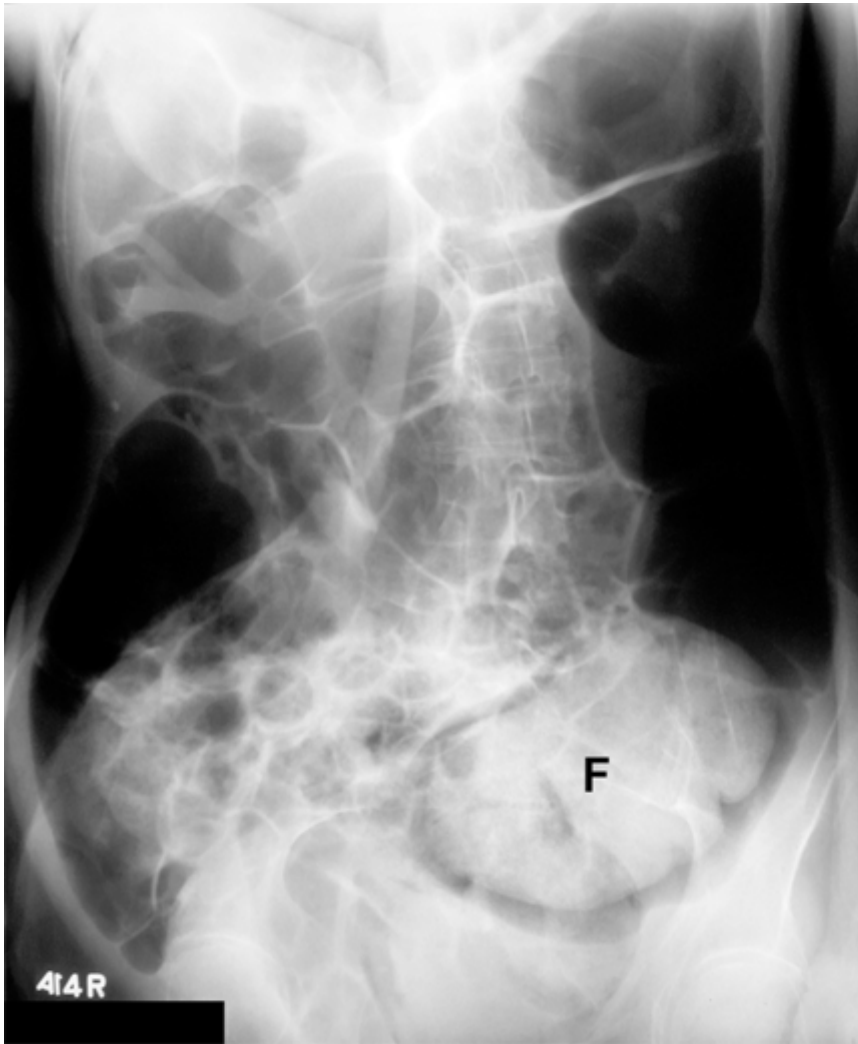
LABORATORY EVALUATION AND IMAGING

The evaluation of a constipated patient depends on the level of concern for an organic cause of constipation. If the patient is chronically constipated, little is usually gained from any testing so long as the history and physical examination do not point toward an organic cause. If the patient has a history concerning for intestinal obstruction (e.g., acute onset of symptoms, vomiting, significant abdominal distention or pain), an upright chest film and abdominal flat and erect films are useful. In cases of complete or partial intestinal obstruction, these films may
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abdominal series of radiographs, then abdominal CT with PO and IV contrast may be necessary to make the diagnosis. In cases of suspected fecal impaction, an abdominal film should be obtained ([Figure 74-1](#)). In a constipated patient, such a film will demonstrate colonic or rectal dilation with or without air-fluid levels. Normal maximum diameter of the colon is 6 cm, whereas normal maximum diameter of the rectum is 4 cm.² In all patients in whom an organic cause of constipation is suspected, laboratory evaluation should include a CBC and electrolytes. CBC is useful to screen for anemia, and electrolytes are useful to identify hypomagnesemia, hypercalcemia, and hypokalemia. Obtain thyroid function tests for suspected hypothyroidism. Obtain serum lead and iron levels for suspected heavy metal toxicity.

FIGURE 74-1.

Large bowel obstruction due to fecal impaction (F). [Reused with permission from Schwartz DT (Ed): *Emergency Radiology: Case Studies*. © McGraw-Hill, Inc., 2008. Chapter II-2, Fig. 19.]



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SPECIAL CONSIDERATIONS

FUNCTIONAL CONSTIPATION

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The treatment of chronic (functional) constipation requires a multidisciplinary approach. There is no quick medication fix to alleviate the problem. The most important thing a physician can do for the ED patient is to stress lifestyle and diet modification. A strict dietary and exercise regimen is important, because without adequate fluid (1.5 L per day), fiber (10 grams per day), and exercise, medicinal methods usually fail.⁴ Both fiber and laxatives modestly improve bowel movement frequency in adults with chronic constipation. There is inadequate evidence to determine whether fiber is superior to laxatives or one laxative class is superior to another.⁹

Medications often employed in the treatment of constipation are listed in [Table 74-2](#). Of note, insufficient evidence exists supporting that laxative treatment is better than placebo in children with constipation or probiotics as a natural alternative. No current recommendations support one laxative over another for childhood constipation.¹⁰ Also, there is no "best" management of constipation in palliative care and no evidence to support the use of one laxative, or combinations of laxatives, over another.¹¹ There has been some promise recently with the subcutaneous use of [methylnaltrexone](#) in multiple studies.^{12,13,14} The effectiveness of rectal irrigation for functional bowel disorders is not clear.¹⁵ In its extreme form, functional constipation can result in a variety of potentially life-threatening complications, especially fecal impaction and intestinal pseudo-obstruction (Ogilvie's syndrome¹³).

TABLE 74-2

Medical Adjuncts for the Treatment of Constipation

Type	Generic Name	Trade Name	PRN Doses	Side Effects	Mechanism
Fiber	Bran Psyllium	NA Metamucil®	1 cup daily 1 teaspoon three times a day	Bloating, flatulence Bloating, flatulence	Increases stool bulk or transit time; increases gut motility
Emollient	Docusate sodium	Colace®	100 milligrams daily/twice a day	Cramping	Facilitates mixture of stool fat and water
Stimulants	Bisacodyl Anthraquinones Senna	Dulcolax® Peri- Colace® Senokot®, Ex-lax®	10 milligrams PR three times a day One to two tablets PO daily/twice a day Two tablets PO daily/twice a day or 15–30 mL daily/twice a day	Incontinence, rectal burning Melanosis coli, degeneration of myenteric plexus Laxative abuse, nausea, melanosis coli, cramping	Stimulates the myenteric plexus, thereby increasing intestinal motility
Saline laxative	Magnesium	Milk of magnesia Magnesium citrate	15–30 mL daily/twice a day 100–240 mL daily/twice a day	Magnesium toxicity, especially in renal insufficiency Cramping, flatulence, hypermagnesemia	Decreased colonic transit time
Suppository	Glycerin suppository	NA	1 PR daily	Rectal irritation	Local rectal stimulation

Type	Generic Name	Trade Name	PRN Doses	Side Effects	Mechanism
Hyperosmolar agents	Lactulose Sorbitol Polyethylene glycol	NA NA GoLYTELY® MiraLAX®	15–30 mL daily/twice a day 15–30 mL daily/twice a day 1 gallon/4 h 17 grams daily, onset of effect 1-3 days	Cramps, flatulence, belching, nausea Cramps, flatulence Nausea, cramping, anal irritation	Osmotically active nonabsorbable sugars pull fluid into the gut
Enemas	Mineral oil Tap water Soap suds Monophosphate	NA NA NA Fleets®	100–250 mL PR 500 mL PR 1500 mL PR 1 unit PR	Local trauma Local trauma Local trauma Local trauma, hyperphosphatemia (especially in patients with renal failure)	Colonic distention encourages evacuation

Abbreviations: NA = not applicable; PRN = as needed.

OPIOID-INDUCED BOWEL DYSFUNCTION

Opioid-induced bowel dysfunction is a frequent condition in patients receiving opioids for chronic pain or even acute postoperative pain.¹⁶ Nearly half of patients taking opioid therapy for pain of noncancerous origin report constipation related to opioid therapy (<3 complete bowel movements per week), compared with 7.6% in a control group.¹⁷

FECAL IMPACTION

Physician resistance to manual disimpaction does the patient a disservice, as enemas provide little or no relief. Diarrhea does not rule out fecal impaction, especially in the elderly, debilitated patient, and failure to perform a rectal examination will result in misdiagnosis. Manual disimpaction is a painful procedure for which patients may require sedation. After disimpaction, prescribe a regimen of medications and medical adjuncts to properly reestablish fecal flow.

INTESTINAL PSEUDO-OBSTRUCTION (OGILVIE'S SYNDROME)

Ogilvie's syndrome, or acute colonic pseudo-obstruction, is a clinical disorder with the signs, symptoms, and radiographic appearance of an acute large bowel obstruction with no evidence of distal colonic obstruction. The colon may become massively dilated >10 cm. If the bowel is not decompressed, the patient risks perforation, peritonitis, and death.^{18,19} The exact mechanism is not known but is thought to be secondary to a dysregulation of colonic motor activity by the autonomic nervous system. Predisposing factors include recent surgery, underlying neurologic disorders, and critical illness.²⁰ Treatment is varied and determined with surgical consultation. The symptoms may resolve with conservative management but may require operative or colonoscopic decompression of the dilated intestine.

ORGANIC CONSTIPATION

Symptoms suggestive of organic constipation are acute onset, weight loss, rectal bleeding/melena, nausea/vomiting, fever, rectal pain, and change in stool caliber.²¹ Intestinal obstruction or carcinoma is the primary consideration. If fecal impaction is the cause, manual disimpaction is the treatment.

DISPOSITION AND FOLLOW-UP

Many constipated patients can be safely discharged from the ED with the caveat that certain key aspects have been adequately addressed²² (**Table 74-3**). Fecal impaction requires disimpaction before discharge. Patients with organic constipation of a nonobstructive cause also can be managed safely as outpatients. The primary care provider should be contacted to ensure follow-up and to communicate concern for an organic process.

TABLE 74-3

Key Aspects to Address Before Discharging a Constipated Patient

Possible obstructing lesion
Systemic illness
Medication interaction/effect
Electrolyte imbalance
Potential for intestinal perforation with self-administered enemas

Referral to a gastroenterologist is warranted for patients with nonorganic constipation of recent onset; chronic constipation associated with weight loss, anemia, or change in stool caliber; refractory constipation; and constipation requiring chronic laxative use.²³ Patients with organic constipation of obstructive origin require hospitalization and surgical evaluation.

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