# Understanding Fecal Impaction

## INTRODUCTION

Constipation is one of the most common problems seen by both primary care physicians and colorectal surgeons.[1] Constipation is usually defined as less than three bowel movements in a week, hard stools, straining or difficulty in evacuation of stool, or a feeling of incomplete evacuation. Extreme and severe cases of constipation can lead to fecal impaction characterized by inspissated and hard stools collected in the sigmoid colon and/or rectum,[2] which cannot be evacuated by regular peristaltic activity. If not recognized and treated early, it can give rise to the formation of fecaliths, or stone-like feces.[3]

Fecal impaction is a distressing condition, which causes significant discomfort[4] and decreases quality of life of the patient, especially for the elderly patient.[3]

## RISK GROUPS

Fecal impaction can affect all ages.[2] But, some population groups are more at risk of developing fecal impaction.

Institutionalized elderly patients or physically and mentally incapacitated persons are especially at risk of developing fecal impaction resulting from an interplay of various factors such as poor eating habits (low fiber diet), dehydration,[5] decreased colonic motility and decreased rectal sensation or ignoring the urge to pass stool because of depression, dementia, physical weakness, immobility, or inadequate access to toilet facilities.[6] Chronic fecal retention causes suppression of rectal sensation. Hence, only large stools will be perceived, leading to difficulty with defecation.[7] Most children with functional constipation may have fecal impaction.[8]

Underlying or comorbid medical conditions may be associated with fecal impaction. These include scleroderma, chronic renal failure, congenital abnormalities in the anorectal region, previous surgical procedure of the intestine,[3] diabetes,[9] mechanical colorectal obstruction (due to cancer or inflammatory disease) and intestinal motility disorders such as Hirschsprung's disease.[10]

Patients with neuropsychiatric disorders such as Alzheimer's disease, Parkinson's disease, dementia, severe stroke and spinal cord injury are also prone to fecal impaction.[4]

Fecal impaction may be an adverse effect of some medications such as opiate analgesics, anticholinergics, antipsychotics, antihypertensive, calcium channel blockers, antacids, and iron preparations,[7] which increase the chances of fecal impaction by reducing colonic motility.[5]

Regardless of the cause, the normal absorption of water continues to harden the retained stool. Continued colonic motility or peristalsis may also contribute to packing of stool. The result is a large, hard bolus of stool that becomes impossible to pass.[6]

## COMPLICATIONS

The complications of fecal impaction include: Urinary tract obstruction, colon perforation, dehydration, electrolyte imbalance, renal insufficiency, fecal incontinence, decubitus ulcers.[5]

In severe cases, fecal impaction can cause stercoral ulcerations, rectal bleeding,[5] bowel perforation or intestinal obstruction.[11]

A stercoral ulcer is an ulcer of the colon due to the pressure effects of the localized hardened and impacted fecal mass or 'fecaloma',[12] which may lead to bowel perforation. Stercoral perforations occur mainly in the sigmoid colon or rectosigmoid junction.[13]

Fecaloma are denser than a fecal impaction, are often laminated, and can calcify, so that they appear radiopaque on radiological studies.[14] If left untreated, these complications can be life threatening.[11]

Regardless of the etiology, fecal impaction is caused by continued colonic peristalsis in a patient with constipation, which continues to pack the already loaded bowel with stool. The normal absorption of water continues to harden the retained stool. The result is a large, hard bolus of stool that becomes impossible to pass.[6]

## FECAL IMPACTION: CLINICAL PRESENTATION

Symptoms associated with fecal impaction may include constipation, rectal discomfort, anorexia, nausea, vomiting, abdominal pain, urinary frequency, and urinary overflow incontinence,[6] confusion, agitation and worsening psychosis.[4]

Patients may also present with a spurious or overflow diarrhea[3] or fecal incontinence.[7]

### Fecal Incontinence

Fecal incontinence has been defined by the International Continence Society as "the involuntary loss of liquid or solid stool that is a social or hygienic problem".[15]

In patients with fecal impaction, fecal incontinence may occur due to an altered anorectal angle, low anal pressures and decreased anorectal sensation.[16] The prolonged relaxation of the internal anal sphincter tone allows liquid stool to flow around impacted stool and to escape through the anal canal.[17]

## DIAGNOSING FECAL IMPACTION

Elderly institutionalized patients may often be not aware of their symptoms leading to a delay in diagnosis of fecal impaction. A high level of suspicion is therefore required to diagnose fecal impaction. The treating physician must rule out a fecal impaction before starting antidiarrheal treatment in high risk patients, who present with new-onset diarrhea.[5]

A detailed history of bowel habits and a full physical examination,[3] which includes a digital rectal exam along with radiologic imaging, such as an acute abdominal series or computed tomography (CT) is therefore mandatory.[3]

- Patients with fecal impaction often give a history of inability to evacuate stools spontaneously and complain of total constipation. A history of progressive abdominal distension with increasing abdominal discomfort or pain is present in most patients.[3] About 39% of patients with fecal impaction reported a history of prior impactions.[7]
- On physical examination, abdomen may be distended. Hard fecal mass may be palpable along the colon in thin-built or emaciated patients.[3]
- The diagnosis of fecal impaction is confirmed by performing a digital rectal examination, typically shows hard stool in the rectum; however, the stool may be of a softer consistency or may be absent, an outcome that could be the result of prior enemas or suppositories that did not relieve a more proximal stool impaction.[6] When a rectal exam does not reveal fecal impaction or hard fecal masses in the rectum, the possibility of fecal impaction more proximal in the bowel or other causes, such as strictures or volvulus of the colon, should be considered.[3]
- The perineal examination should be performed to search for inflammatory lesions, anal fissure, or anal deformity.[6]

In patients with a more proximal impaction, the diagnosis may only be established by sigmoidoscopy or by radiological studies.[5] A plain X-ray of the abdomen can reveal fecal overloading of the colon with colonic distention of the in segment proximal to the region of fecal impaction.[3] However, a CT abdomen with oral or rectal contrast is the most useful and commonly used radiological imaging for evaluation.[3] It detects the presence of large fecal matter in the colon and rectum with or without signs of colonic perforation. If signs of bowel obstruction (dilated small bowel or colon with air-fluid levels) are present, then proximal softening or washout using oral solutions is contraindicated.[4]

## MANAGEMENT OF FECAL IMPACTION

The aim of treatment is to relieve fecal impaction and then to prevent recurrence by correcting the underlying factor.[4] The treatment options are a digital evacuation of the impacted fecal mass or the rectal administration of stool softening agents, usually enemas or suppositories.[3]

### Manual Disimpaction

If hard stool can be palpated in the rectum, then digital fragmentation and extraction of the stool is done.[5] A local anesthetic lubricant is used to facilitate the procedure.[6]

A well-lubricated, gloved index finger is inserted into the rectum and the hardened stool is gently broken up using a scissoring motion. The finger is then moved in a circular manner, bent slightly and removed, extracting stool with it. This maneuver is repeated until the rectum is cleared of hardened stool.[4] Following manual disimpaction, most patients are relieved of their condition.[3]

### Distal Softening

Softening of hardened stool and stimulation of evacuation with enemas and suppositories is often helps to relieve fecal impaction.[4]

### Proximal Softening

Oral lavage with polyethylene glycol + electrolytes (PEG+E) may be used to soften or washout proximal stool. But, it is contraindicated in the presence of complete bowel obstruction.[7]

## REFERENCES


1. Steele SR, Mellgren A. Constipation and obstructed defecation. Clin Colon Rectal Surg. 2007;20(2):110-7.
2. Chen CC, Su MY, Tung SY, Chang FY, Wong JM, Geraint M. Evaluation of polyethylene glycol plus electrolytes in the treatment of severe constipation and faecal impaction in adults. Curr Med Res Opin. 2005;21(10):1595-602.
3. Setya A, Mathew G, Cagir B. Fecal impaction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK448094/
4. Obokhare I. Fecal impaction: a cause for concern? Clin Colon Rectal Surg. 2012;25(1):53-8.
5. Tracey J. Fecal impaction: not always a benign condition. J Clin Gastroenterol. 2000;30(3):228-9.
6. Prather CM, Ortiz-Camacho CP. Evaluation and treatment of constipation and fecal impaction in adults. Mayo Clin Proc. 1998;73(9):881-6; quiz 887.
7. Araghizadeh F. Fecal impaction. Clin Colon Rectal Surg. 2005;18(2):116-9.
8. Poddar U. Approach to constipation in children. Indian Pediatr. 2016;53(4):319-27.
9. Rey E, Barcelo M, Jiménez Cebrián MJ, Alvarez-Sanchez A, Diaz-Rubio M, Rocha AL. A nation-wide study of prevalence and risk factors for fecal impaction in nursing homes. PLoS One. 2014;9(8):e105281.
10. Hernu R, Cour M, Wallet F, Argaud L. Threatening fecal impaction. J Emerg Med. 2017;52(1):e13-e15.
11. Rao SSC, Go JT. Update on the management of constipation in the elderly: new treatment options. Clin Interv Aging. 2010;5:163-71.
12. Maull KI, Kinning WK, Kay S. Stercoral ulceration. Am Surg. 1982;48(1):20-4.
13. Davies A, Webber K. Stercoral perforation of the colon: a potentially fatal complication of opioid-induced constipation. J Pain Symptom Manage. 2015;50(2):260-2.
14. Polecritti M, Esper CJ, Henwood WR, et al. Stercoral perforation of the colon. August 2007. Available from: https://www.hcplive.com/view/2007-08_02
15. Norton C, Whitehead W, Bliss DZ, Harari D, Lang J. Conservative and pharmacological management of fecal incontinence in adults. Available from: www.ics.org/publications/ici_3/v2.pdf/chap24.pdf
16. Guinane J, Crone R. Management of faecal incontinence in residential aged care. Aust J Gen Pract. 2018;47(1-2):40-3.
17. Rao SSC; American College of Gastroenterology Practice Parameters Committee. Diagnosis and management of fecal incontinence. American College of Gastroenterology Practice Parameters Committee. Am J Gastroenterol. 2004;99(8):1585-604.