

# BEST PRACTICES IN: Chronic Constipation in the Elderly

**Epidemiology:** Chronic constipation (CC) is a common disorder in the United States. Estimates have shown it affects between 2% and 28% of adults.<sup>1</sup> Demographic patterns suggest it is more prevalent in certain populations. Chronic constipation is two to three times more common in women than in men,<sup>2</sup> and the prevalence rate in individuals  $\geq 65$  years of age is up to 24%, making the older adult population one of the most affected groups.<sup>3</sup> Constipation frequently affects more nonwhites than whites and people with low incomes or less formal education.<sup>2</sup>

The prevalence of constipation is comparable to, or outnumbers, most other chronic digestive conditions, such as peptic ulcer disease, gall bladder disease,<sup>2</sup> and gastroesophageal reflux disease.<sup>4</sup> The prevalence of constipation also exceeds some nondigestive conditions, including hay fever<sup>5</sup> and migraine headaches.<sup>6</sup>

**Costs:** In the United States, constipation results in more than 2.5 million visits to physicians<sup>7</sup> and 92,000 hospitalizations.<sup>2</sup> The National Disease and Therapeutic Index estimates the frequency of visits for different diseases to physicians' offices throughout the United States.<sup>7</sup> It concluded there was an age-related increase in the rate of physician visits for constipation, with the greatest increases occurring in 60- to 64-year-olds and those greater than 65 years of age.

In 2005, Americans spent an estimated \$690 million on over-the-counter (OTC) laxatives.<sup>8</sup> Elderly persons are most likely to make up a large proportion of spending for both prescribed and OTC laxatives, accounting for almost \$800 million per year in the United States.<sup>9</sup>

**Definitions:** Chronic constipation can be either primary or secondary constipation. Primary constipation can be classified into three categories: slow-transit constipation, dyssynergic defecation, and normal-transit constipation. Secondary constipation may be due to underlying medical conditions or medications. In a study of >1000 patients with primary constipation, normal-transit constipation was most prevalent (59%), followed by defecatory disorders (25%), slow-transit (13%), and a combination of defecatory disorders and slow-transit (3%).<sup>10</sup>

Slow-transit constipation (colonic inertia) is diagnosed when colonic time is prolonged.<sup>11</sup> Many of these patients will have a lack of increase in motor activity after meals.<sup>11</sup> These patients experience more delayed emptying of the proximal colon and fewer high amplitude peristaltic contractions.<sup>11</sup>

Dyssynergic defecation results from pelvic floor dysfunction<sup>11</sup> and leads to inability or difficulty expelling stool from the rectum.<sup>12</sup> Dyssynergic defecation itself can lead to slow-transit constipation, and therefore this diagnosis should be considered in all patients with slow-transit constipation.<sup>12</sup>

Normal-transit constipation is the most predominant type.<sup>11</sup> It is diagnosed when stool passes through the colon and frequency is normal, yet patients still perceive they are constipated.<sup>11</sup> It may be due to a perceived difficulty with defecation or the presence of hard stools.<sup>11</sup>

Part of the difficulty in diagnosing CC, as well as in evaluating prevalence and incidence, has been the lack of consensus on definitions.<sup>13</sup> Patients define constipation in terms of symptoms (eg, discomfort during defecation and the presence of gas or bloating),<sup>14,15</sup> whereas physicians have traditionally defined constipation in terms of frequency of bowel movements.<sup>16</sup>

The Rome III definition of constipation updated the Rome II diagnosis and treatment recommendations and was published in 2006.<sup>17</sup> Rome III now incorporates both symptoms and frequency in the definition and can be used to help formulate a diagnosis of constipation, requiring at least two of the following symptoms:<sup>17</sup>

- Straining during  $\geq 25\%$  of defecations
- Lumpy or hard stools in  $\geq 25\%$  of defecations
- Sensation of incomplete evacuation in  $\geq 25\%$  of defecations
- Sensation of anorectal obstruction/blockage for  $\geq 25\%$  of defecations
- Manual maneuvers to facilitate  $\geq 25\%$  of defecations
- $< 3$  defecations per week.

In addition to these criteria, the following conditions must also be met: loose stools are rarely present without using laxatives, insufficient criteria are met for diagnosis of irritable bowel syndrome, and stated criteria are fulfilled for the last 3 months with symptom onset more than 6 months prior to diagnosis.<sup>17</sup>

**Complications of CC in the Elderly:** The major complication of constipation in elderly patients is fecal impaction, which can result in intestinal obstruction, colonic ulceration, or overflow diarrhea leading to fecal incontinence (FI).<sup>18,19</sup> FI may be more prevalent in nursing home residents who are immobile, mentally impaired, or have coexisting constipation.<sup>19,20,21</sup>

The excessive straining, associated with constipation, can



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result in hemorrhoids, anal fissures, rectal prolapse, and consequent anal pain and bleeding.<sup>18</sup> Straining may have negative effects on the cerebral, coronary, and peripheral arterial circulation, resulting in syncope, cardiac ischemia, and transient ischemic attacks.<sup>18</sup>

There is a high degree of polypharmacy in the elderly due to the age-related increase in comorbid diseases. Consequently, there is an increased potential for adverse drug-drug interactions in this population.<sup>22</sup> Polypharmacy, when associated with age-related reductions in renal function,<sup>23</sup> can impact the safety profile and dosing of the multiple medication regimens in elderly patients.<sup>22</sup> These factors, combined with other changes observed in the aging kidney (eg, decreased ability to concentrate urine, inability to conserve sodium, and decreased excretion of potassium), can lead to an increased risk for electrolyte imbalance.<sup>24</sup>

CC results in numerous health-related, quality-of-life complications, and it is well established that patients who suffer from CC report lower levels of general well-being.<sup>25</sup> Depression is one of the most prevalent health-related comorbidities<sup>26</sup> due in part to the fact that individuals with CC report restricted social activities in order to avoid embarrassing accidents caused by laxatives used to treat their constipation.<sup>21</sup>

**Predisposing Factors, Age, and Constipation:** Especially in the elderly, constipation may be caused by any number of underlying conditions. These may include systemic illnesses, low caloric intake and deficient intake of dietary fiber, neurologic conditions (eg, multiple sclerosis, Parkinson's disease), psychological conditions (eg, depression), metabolic disorders (eg, hypothyroidism), end-stage renal disease, and rectoanal conditions (eg, anal fissures).<sup>27,28</sup> In addition, many elderly patients receive multiple medications, many of which can decrease gastrointestinal motility and cause changes in bowel function (especially opiates and calcium channel blockers).<sup>29</sup>

Constipation is the most prevalent digestive complaint in community-dwelling elderly, as well as in long-term care (LTC) settings,<sup>9</sup> and because of its complications, diagnosis may present unique challenges. LTC residents may complain of decreased stool frequency, abdominal discomfort or distention, frequent straining, or rectal fullness, but physicians may need to look for other clues, such as low-grade fever and loss of appetite, especially in residents who are unable to communicate verbally.

Age-related physiologic and anatomical changes in rectoanal function may also produce CC or FI in the elderly.<sup>21</sup>

These changes include:

- **Motor changes:** Aging may influence smooth muscle directly or through changes in visceral innervation.<sup>21,30</sup>
- **Anatomic changes:** Aging may result in increased thickening of the internal anal sphincter plus thinning of the external anal sphincter.<sup>21</sup>
- **Neurologic changes:**
  - Decreased mucosal electrosensitivity
  - Decreased sensation of rectal distention
  - Reduced function of somatic motor nerves<sup>21,31</sup>
  - Decreased neural density in the enteric nervous system, which controls and coordinates motility, blood flow, and secretion to meet the body's digestive needs.<sup>32,33</sup>

**Diagnosis:** The first step in diagnosing chronic constipation is to obtain a full patient history to determine whether symptoms are secondary to identifiable organic diseases or current treatments<sup>11</sup> for other conditions, including opiates and iron supplements.<sup>29</sup>

A physical examination of the rectum is necessary to rule out any physical abnormalities.<sup>11</sup> A digital examination of the rectum can determine whether a fecal impaction, anal stricture, or rectal mass is present and can evaluate its integrity.<sup>11</sup>

Standard laboratory tests<sup>34</sup> (eg, complete blood count, thyroid function tests, serum calcium) and structural tests of the colon (eg, colonoscopy, flexible sigmoidoscopy, barium enema) may be necessary to identify undiagnosed medical conditions that may lead to constipation.<sup>34</sup>

Although an evaluation of the structure and function of the colon is not routinely performed, it is recommended when organic causes of constipation are suspected.<sup>34</sup> A colonoscopy is recommended for patients more than 50 years of age<sup>34</sup> who have not previously had colon cancer screening,<sup>35,36</sup> or when family history of inflammatory bowel disease or colon cancer, sudden onset or worsening of symptoms, or alarm symptoms,

including rectal bleeding, heme-positive stool, weight loss, and iron-deficient anemia, are present in patients of any age.<sup>34</sup>

Johnson developed a flow chart published in 2006 to provide a systematic method of evaluating CC and developing a differential diagnosis.<sup>37</sup> The procedure starts with an evaluation of the findings for red flags. If any are present, they are evaluated further; otherwise the disease is classified as occasional constipation or CC depending on the duration of symptoms: less than 3 months indicates occasional constipation, while more than 3 months indicates CC.

**Summary:** CC is a common problem, especially in the elderly, and is a major source of morbidity. Because this condition affects the quality of life in so many elderly patients, therapy is encouraged to relieve symptoms and to prevent complications.

If left untreated, the elderly are at higher risk from complications resulting from constipation, including negative effects on the cerebral, coronary, and peripheral arterial circulation. This population also has the potential to benefit greatly from appropriate therapy relevant to CC; therefore, treatment options should be identified early to optimize therapy and minimize complications.<sup>22</sup>

The differential diagnosis of primary constipation is important, because constipation secondary to other illnesses and therapies is common, and older patients tend to have more of these other illnesses.<sup>21</sup> It is important to promote careful consideration of drug-drug interactions and specific side-effect profiles when choosing an appropriate and effective constipation treatment regimen for elderly patients with reduced renal clearance.<sup>21</sup> If a pharmacologic approach is deemed appropriate, it should take into account age-related changes and complications, especially in terms of polypharmacy, electrolyte imbalance, and reduced kidney function.

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