NEW THOUGHTS ABOUT AN OLD PROBLEM: THE IMPACT AND DIAGNOSIS OF CHRONIC CONSTIPATION*

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ABSTRACT

Chronic constipation is a critical problem affecting a surprisingly large number of Americans. Its prevalence ranks among the most common chronic diseases in this country. For many patients, it is an embarrassing subject, so by the time they present to a healthcare professional, their life has been significantly impacted by constipation symptoms. Chronic constipation has myriad primary and secondary causes; thus, it presents in virtually every clinical area of medicine. It is frequently defined as too few stools per unit of time, but there are many other aspects of bowel movements that comprise constipation, such as straining, hard or lumpy stools, incomplete evacuation, inability to evacuate stools, abdominal bloating or fullness, and a need for manual maneuvers to facilitate evacuation. Defining the symptoms within these parameters is important for a correct differential diagnosis. This article reviews the anatomy of the anorectal area in addition to the physiology of stool production and evacuation. It also explains the Rome III criteria and the American College of Gastroenterology Task Force criteria for constipation. Tools for assessing patients with chronic constipation symptoms are discussed, in addition to the unique and pivotal role of the nurse practitioner in treating these patients.


THE BURDEN OF CHRONIC CONSTIPATION

Chronic constipation is not usually perceived as a serious condition. Yet, for those experiencing chronic constipation, the impact is significant and often far-reaching into many aspects of quality of life and functioning.

Chronic constipation is encountered frequently in many areas of healthcare beyond gastroenterology, including primary care, geriatrics, psychiatry, cardiology, neurology, pain medication, and physical rehabilitation. In fact, with a prevalence of 12% to 19% among US adults, it ranks among the most common chronic diseases, including coronary heart disease (5.9%), asthma (6.4%), diabetes (6.7%), migraine (15.1%), and hypertension (21.6%).

Additionally, chronic constipation represents an economic burden for the patient and healthcare provider. A recent analysis of the 2001 National Ambulatory Medical Care Survey, the National Hospital Ambulatory Medical Care Survey, and the National Hospital Discharge Survey revealed that 2.7 million ambulatory visits in the United States were because of chronic constipation, costing $235 million. Of these visits, an estimated 1.84 million were office based, 555 000 were emergency department visits, 300 000 were hospital outpatient, and 38 000 were inpatient visits. When chronic constipation was included as a secondary diagnosis, an additional 3 million ambulatory and 240 000 inpatient visits were documented.

The Burden of Chronic Constipation

Often, by the time a patient presents with chronic constipation to a healthcare provider, it has already become a debilitating problem. The patient may have been dealing with it for years, perhaps intermittently over a lifetime. A 2002 general population survey in Canada revealed that chronic constipation distresses
patients and greatly impairs their quality of life (Figure 1). Using the Short Form-36, investigators found significant decreases in mean physical and mental component summary scores and the 8 subscores in those with self-reported constipation and functional constipation (defined by Rome II criteria), compared with Canadian normative data. As illustrated by this study, constipation affects vitality, social functioning (some patients are unable or unwilling to leave the house because of constipation), mental health, and pain associated with straining when passing stool. In one study, approximately 90% of patients with constipation continued to report constipation during the 12 to 20 months of follow-up.

Constipation occurs more than twice as frequently in women than men, at a ratio of 2.2:1. It increases in prevalence with age, particularly after age 65, and with lower amounts of exercise. It is also associated with depression and psychological distress factors that may be considered well known. However, it may also be surprising to learn that constipation is linked to socioeconomic status, with more symptoms reported by subjects in low socioeconomic classes (perhaps because of a diet low in fiber), lower educational level, and non-Caucasian ethnicity.

**DIAGNOSIS: WHAT IS CONSTIPATION?**

One of the biggest challenges for any healthcare practitioner treating chronic constipation is correctly defining constipation and ensuring that the patient is actually describing constipation. Most clinicians and patients define constipation as too few stools per unit of time (ie, infrequency is the primary criterion). For the patient, however, frequency is often a less pressing concern than other aspects of stool passage. Patients with self-reported constipation report many symptoms other than low stool frequency, such as straining (81%), hard or lumpy stools (72%), incomplete evacuation (54%), inability to evacuate stools (39%), abdominal bloating or fullness (37%), and a need to press around or in front of the anus for evacuation (28%), compared with fewer than 3 bowel movements per week (36%). In fact, some patients are comfortable with once-weekly bowel movements that are easy to pass; however, they still express concern about constipation because of the general preoccupation with frequency. Therefore, when patients report constipation, it is important to help them define what they mean by this term because they may not be experiencing infrequent stools.

The Rome criteria are often used in clinical research to define gastrointestinal disorders. Published as part of the Rome II criteria in 1999 and updated this year in Rome III, the criteria for chronic constipation are based on chronicity and specific features of bowel movements. Constipation is defined as at least 2 symptoms (straining, hard or lumpy stools, sensation of incomplete evacuation, sensation of anorectal obstruction or blockage, use of manual maneuvers to facilitate defecation, and fewer than 3 bowel movements per week) in at least 25% of defecations for 12

![Figure 1. Chronic Constipation Affects Quality of Life](image-url)
weeks (not necessarily consecutive) within the past 6 months. Manual maneuvers to ease stool passage include placing pressure on in the perineum to raise it, placing a finger inside the vagina to push the stool back, or placing a finger in the anus itself to widen the opening. Also, to make a diagnosis of chronic constipation, the symptoms should not alternate with loose stools, and the symptoms should not meet the criteria for irritable bowel syndrome (IBS), including no association with pain (or pain is not the predominant symptom).

The Rome criteria are used more often as a research tool. For clinical purposes, the American College of Gastroenterology appointed a task force to examine the current diagnosis and treatment of chronic constipation. The Task Force criteria for constipation are unsatisfactory defecation characterized by infrequent stools, difficult stool passage (including straining, a sense of difficulty passing stool, incomplete evacuation, hard or lumpy stools, prolonged time to expel stool, or need for manual maneuvers to pass stool), or both. Although the criteria are similar to those in Rome III, this broader definition is more useful in a clinical setting, where patients may not be able to quantify their symptoms as readily.

A common topic of discussion in the gastroenterology community is differentiating chronic constipation from IBS with constipation. In fact, these conditions may be a continuum of a single disorder. Pain is often identified as the discriminating factor between the 2 disorders, with pain associated with IBS. Practically speaking, however, the treatment for both disorders is similar.

**INITIAL WORKUP**

Because many patients are embarrassed about constipation or any discussion of bowel movements, the onus is on the nurse or nurse practitioner to ensure good communication between patient and practitioner. First, encourage the patient to specifically identify his symptoms (eg, infrequent stool or difficult passage) and then look for red flags that may signal a more serious problem. Red flags (or alarm features) are listed in Table 1. All patients with a red flag should undergo appropriate diagnostic testing. Patients without red flags will most likely have functional chronic constipation and will probably not require further testing for diagnosis.

**ELICITING THE PATIENT HISTORY**

Nurses and nurse practitioners tend to be adept at history taking, which is an essential component of managing chronic constipation. Creating a relaxing and inviting atmosphere in which the patient can share this information may be a challenge in a primary care setting. Although it is said anecdotally that patients reveal their symptoms in the first 20 seconds of an office visit, some patients may require 10 to 20 minutes of conversation before the true problematic symptoms are discussed. Table 2 lists some of the most pertinent questions to ask the patient presenting with symptoms of constipation, as recommended by the American Gastroenterological Association guidelines on constipation. Because constipation is a sensitive and often embarrassing subject, it is helpful to remind recent patients that the topic is commonly discussed with healthcare professionals and there is no reason to feel uncomfortable talking about it with a healthcare provider.

The chronicity of constipation symptoms is important to define. Even in the primary care setting, often, patients will have suffered with these symptoms for a long time before seeing a healthcare provider. They will most likely have tried numerous types of fiber supplements or over-the-counter laxatives, which were ineffective. The patient, at this point, is in a significant amount of physical and mental discomfort, in addition to possibly being functionally impaired. Thus, it is important to identify the most distressing symptom(s), in addition to the type and frequency of laxative or fiber supplement a patient has tried. Enemas and sup-
repositories are used frequently by elderly patients. Herbal teas obtained at health food stores and widely advertised on the Internet are being used more frequently as laxatives. Identifying the products patients have tried unsuccessfully can often help to more completely estimate the severity of the problem.

Other important features that must be defined are stool consistency and urgency. In older patients with intermittent loose stools, for example, fecal impaction should be considered and ruled out. Among younger patients with busy schedules and lifestyles, the urge to defecate is frequently lost, particularly among young professionals and students, because normal urges to defecate (eg, after breakfast and coffee) are ignored. Bloating is also a common symptom of constipation and is often cited by patients as one of the most uncomfortable. Some women can facilitate a bowel movement by applying pressure to the perineum. This may be sufficient to relieve a sensation of incomplete evacuation.

**CAUSES OF CONSTIPATION**

There are numerous secondary causes of constipation, the most common of which is medication. Table 3 lists the most common prescription and nonprescription medications that are associated with constipation. Patients often face the choice of relieving a disorder (eg, pain or depression) or relieving their constipation. It is important to reassure them that treatments for constipation are available, so they can continue to use their medications when no less constipating alternative exists.

Other secondary causes of constipation are: mechanical obstruction; metabolic and endocrine disorders (particularly hypothyroidism); neurological disorders (eg, spinal cord injury and paralysis); collagen, vascular, and muscular disorders (eg, multiple sclerosis and myasthenia gravis); and pregnancy.

Primary causes of constipation include normal transit constipation, defecatory disorders, IBS with constipation, and slow-transit constipation (colonic inertia). Defecatory disorders include rectocele (a common cause), megarectum, perineal descent (in which the pelvic floor cannot support the rectum; also common), and pelvic floor dyssynergia, which is greatly underdiagnosed and undertreated.

Many patients want to know why they are constipated. Even if a definitive cause cannot be identified, the treatments are the same. For nurse practitioners who are addressing patient questions and concerns, it is useful to be able to explain the physiology of a bowel movement. Briefly, most people ingest 1 to 2 quarts of fluid and food each day. Added to this are roughly 8 L of digestive secretions, saliva, gastric juice, bile, pancreatic juice, and gut secretions. The 10 L of food and liquid is reduced to approximately 1 L by the time it reaches the small bowel. Thus, each day, approximately 1 L moves into the colon. Although it takes only 4 to 5 hours for this bolus to move from the stomach to the cecum, it takes roughly 24 hours for it to move through the colon to the rectum.

**Table 2. Eliciting the Patient History for Chronic Constipation**

| 1. What brings you to see me? What are your concerns? |
| 2. How long have you experienced these symptoms? |
| 3. Does constipation limit your daily activities? |
| 4. What is your most distressing symptom? |
| 5. What is your approximate intake of dietary fiber? |
| 6. What laxatives have you tried? Are you currently using laxatives? How often? What dosage? |
| 7. Are you using enemas or suppositories? |
| 8. Are you taking any herbal medications or teas? |
| 9. How often do you have bowel movements? |
| 10. What is the consistency of your stool? |
| 11. How often do you feel the urge to defecate? Do you always attempt to have a bowel movement after this feeling? |
| 12. What other symptoms do you experience: straining, feelings of incomplete evacuation, or need for manual maneuvers? |

**Table 3. Medications That Commonly Cause Constipation**

<table>
<thead>
<tr>
<th>Prescription Drugs</th>
<th>Nonprescription Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opiates</td>
<td>Antacids, especially calcium-containing antacids</td>
</tr>
<tr>
<td>Anticholinergic agents</td>
<td>Calcium supplements</td>
</tr>
<tr>
<td>Tricyclic antidepressants</td>
<td>Iron supplements</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>Antidiarrheal agents</td>
</tr>
<tr>
<td>Antiparkinsonian drugs</td>
<td>Nonsteroidal anti-inflammatory drugs</td>
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<tr>
<td>Sympathomimetics</td>
<td>Antihistamines</td>
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<td>Antipsychotics</td>
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<td>Diuretics</td>
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<td>Antihistamines</td>
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from the cecum to the rectum. During this transit, the lining of the colon absorbs water and salt, and colonic bacteria digest the fiber and other undigested material. The colon will also absorb another 90% of the liquid from this bolus. By the time the stool reaches the rectum, it has been reduced to approximately 100 mL (or roughly 1/2 cup). This amount of stool is usually sufficient to trigger the urge to defecate. If this process is slower, the stool becomes dry and hard, leading to difficulty in passage.

Figure 2 shows a diagram of normal anorectal anatomy.14 The rectum sits almost at a right angle (the anorectal angle) to the anal sphincter, maintained by the puborectalis muscle, a loop of muscle that runs from the front of the pelvis around the back of the rectum and can remain contracted for long periods of time. This muscle is most important for preserving solid fecal continence; the anal sphincter is essential for continence with water, stools, and flatulence. For stool to pass, the rectum needs to elongate, which is accomplished by relaxation of the puborectalis muscle. A common cause of constipation is the inability to relax this muscle, so that stool remains trapped at the anorectal angle—pelvic floor dyssynergia. In primary care, roughly one-third of patients may have pelvic floor disorders associated with constipation.

Understanding the physiology of bowel movements can help to align symptoms with causes. For example, lack of urge and decreased stool frequency suggest a slow-transit disorder. Symptoms suggestive of a defecatory disorder include hard stools, impaction, need for digital maneuvers, feelings of anal blockage, straining, and high anal sphincter tone at rest. Minimal (<1 cm) or excessive (>3.5 cm) perineal descent, tender puborectalis muscle on palpation, and defect in the anterior wall of the rectum suggestive of a rectocele.14-16

OTHER COMPONENTS OF THE CONSTIPATION WORKUP

If it is difficult to ascertain from patients what their constipation symptoms are, it is even more difficult to encourage a discussion of stool type. However, defining the stool type can help determine the cause of constipation. The Bristol Stool Scale (Figure 3) is a useful graphical aid that patients can use to simply point to the stool type they pass. As shown in Figure 3, the scale also correlates well with stool transit.17-19 Prolonged colon transit produces hard, lumpy stools, whereas rapid transit produces loose, watery stools.

The rectal exam is an important part of the patient examination and nurse practitioners should become more practiced at this assessment. Not only does it pro-

Figure 2. Normal Anorectal Anatomy and Physiology


Figure 3. The Bristol Stool Scale

vide useful clinical information but, also, patients are often comforted by the thoroughness of overall evaluation. The rectal exam can demonstrate whether the muscles in the rectal area (e.g., the puborectalis) are functioning correctly. These muscles are within a finger's length of the anus. In fact, rectal exams should be part of a complete physical examination for healthy adults.

To perform a rectal exam, the patient should lay comfortably on his side. After applying lubricant to the index finger, insert your finger into the anus. Pay attention to the muscle bulkiness (i.e., atrophy or bulky, strong muscles). The puborectalis feels like a bar that extends across the posterior of the rectum. Ask the patient if that muscle is sore or tender; feel its pliability. Ask the patient to squeeze the anal sphincter (as if they are trying to prevent a bowel movement). This provides a measure of sphincter and puborectalis strength. Finally, ask the patient to bear down, as if they are evacuating. In a healthy individual, the muscles should relax and the anus should open like a funnel, which would allow the stool to evacuate. If the puborectalis tightens, the patient is said to have dyssynergic defecation. The rectal exam should also include a gross anatomical evaluation to look for external and internal hemorrhoids, anal fissures, rectal prolapse, and rectocele.

The remaining aspect of the constipation workup is laboratory tests. Some of the basic clinical laboratory tests that may be performed for patients with constipation include a complete blood count, thyroid function tests (thyroid-stimulating hormone, free T4), and measurements of calcium and electrolytes. The American College of Gastroenterology Task Force does not recommend diagnostic testing in patients without alarm signs or symptoms (other than routine colon cancer screening for all patients 50 years of age and older). Nonetheless, these tests can be useful as a general measure of overall health.

CONCLUSIONS

Chronic constipation is not a trivial gastrointestinal symptom, and because it can be an embarrassing subject for patients, the onus rests on the healthcare provider to create an atmosphere that fosters easy discussion of the symptoms. The rectal examination is an integral part of the patient workup and an assessment tool at which every nurse or nurse practitioner should become adept. With appropriate diagnostic skills, a thorough evaluation, and a sense of comfort from the healthcare provider, chronic constipation can be better managed in any of the varied clinical areas in which it is so frequently encountered.

REFERENCES