

## Common Gastrointestinal Problems in the Elderly

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### Objectives

- Understand the pathophysiology, clinical manifestations, diagnosis and management of GI diseases of the elderly.
- Differentiate between normal aging processes of the GI system and disease states.
- Identify physiologic changes of aging for the GI system.
- Take a complete GI history and perform a careful and accurate physical examination with a geriatric focus.
- Formulate comprehensive and accurate problem lists, differential diagnoses and plans of management for common GI problems in the elderly.
- Demonstrate understanding of the major age-related changes in physical and laboratory findings during diagnostic reasoning.



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## Normal Continence and Defecation

- Continence- ability to retain feces until socially conducive to defecate
- Defecation- evacuation of feces from colon
- Both processes involved the musculature of the pelvic floor
  - Internal and external sphincters, perineal muscles, levator ani
  - These structures are innervated by the sacral roots S2-4 and the pudendal nerve



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## Defecation

- When the cerebral cortex receives an awareness and perception of the rectum being filled
- Anal sphincters and puborectalis relax → Valsalva (voluntary)



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## Age Related Changes to Colon

- ❑ Reductions in myenteric neurons, calcium influx, and tensile strength of the collagen/muscle fibers
- ❑ No clear effect of age on colonic transit, as many constipated older patients have normal transit times



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## Age Related Changes to Ano-rectum

- ❑ Reduced rectal compliance
- ❑ Impaired rectal sensation
- ❑ Decreased sphincter pressures



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## Old People Fixate on Their Bowels

- Too often, not enough, too loose, too hard, too much, not enough, smells different, looks different, explosive, like peanut butter, and on and on



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## Constipation

- The American College of Gastroenterology defines constipation based upon symptoms including unsatisfactory defecation with either infrequent stools, difficult stool passage or both
- Other medical societies define constipation as less than 3 bowel movements per week



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## Constipation

- Disproportionately affects older adults
  - ▣ Prevalence of 50% of community dwelling elderly
  - ▣ Prevalence of 74% of nursing home residents
- Constipation is not a physiologic consequence of normal aging, however, decreased mobility and other comorbid medical conditions may contribute to its increased prevalence in older adults



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## Constipation - Causes

- Decreased mobility
- Medications
- Underlying diseases
- Impaired anorectal sensation
- Staff ignoring calls for assistance
- Irritable bowel syndrome
- Dyssnergia
- Most commonly multifactorial



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**Table 2** Common associations with constipation in the elderly

Nongastrointestinal medical conditions	Medications
Endocrine and metabolic disorders	<ul style="list-style-type: none"> <li>• Analgesics (opiates, tramadol, NSAIDs)</li> <li>• Anticholinergic agents</li> <li>• Calcium channel blockers</li> <li>• Tricyclic antidepressants</li> </ul>
<ul style="list-style-type: none"> <li>• Diabetes mellitus</li> <li>• Hypothyroidism</li> <li>• Hyperparathyroidism</li> <li>• Chronic renal disease</li> </ul>	<ul style="list-style-type: none"> <li>• Antiparkinsonian drugs (dopaminergic agents)</li> <li>• Antacids (calcium and aluminum)</li> <li>• Calcium supplements</li> <li>• Bile acid binders</li> <li>• Iron supplements</li> <li>• Antihistamines</li> <li>• Diuretics (furosemide, hydrochlorothiazide)</li> <li>• Iron supplements</li> <li>• Antipsychotics (phenothiazine derivatives)</li> <li>• Anticonvulsants</li> </ul>
Electrolyte disturbances	
<ul style="list-style-type: none"> <li>• Hypercalcemia</li> <li>• Hypokalemia</li> <li>• Hypermagnesemia</li> </ul>	
Neurologic disorders	
<ul style="list-style-type: none"> <li>• Parkinson disease</li> <li>• Multiple sclerosis</li> <li>• Autonomic neuropathy</li> <li>• Spinal cord lesions</li> <li>• Dementia</li> </ul>	
Myopathic disorders	
<ul style="list-style-type: none"> <li>• Amyloidosis</li> <li>• Scleroderma</li> </ul>	
Other	
<ul style="list-style-type: none"> <li>• Depression</li> <li>• General disability</li> </ul>	

**Abbreviation:** NSAIDs, nonsteroidal anti-inflammatory drugs.

## Constipation - Diagnosis

- Detailed history and physical are most important tools
  - New medications and timing of onset
  - What do they perceive as constipation
  - Digital rectal exam
- Blood tests
- Colonoscopy is rarely necessary but can identify obstructive causes including colorectal cancer and colitis

## Constipation - Colonoscopy

- Colonoscopy → alarm features (blood, anemia, weight loss, pain, family history of CRC)
- Remember screening / surveillance guidelines
- If patient not a good anesthesia candidate, consider barium enema



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## Constipation - Diagnosis

- If colonoscopy does not reveal etiology, other diagnostic tests including colonic transit studies, manometry, balloon expulsion test can identify pathology



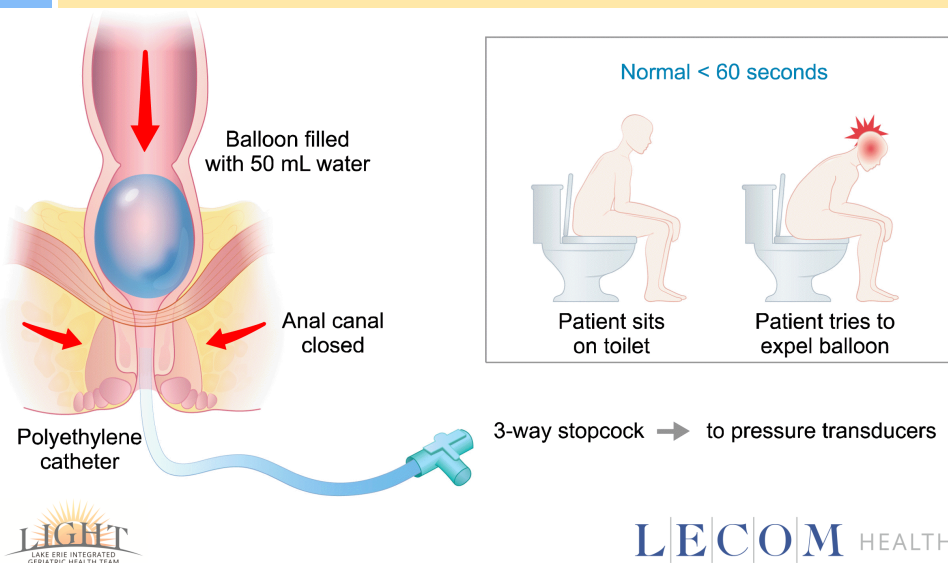
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## Sitz Marker Study



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## Balloon Expulsion Test



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## Slow Transit Constipation

- Delay of stool transit through the colon due to a myopathy, neuropathy, or an evacuation disorder
  - Dyssynergic defecation - difficulty expelling stool from the ano-rectum
    - Impaired rectal contraction or paradoxical contraction
    - Common in multiparous women



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## Irritable Bowel Syndrome

- Chronic recurrent abdominal pain associated with altered bowel habits
  - >25% stools hard lumpy
- Often diagnosed at younger age but management can become more difficult with age



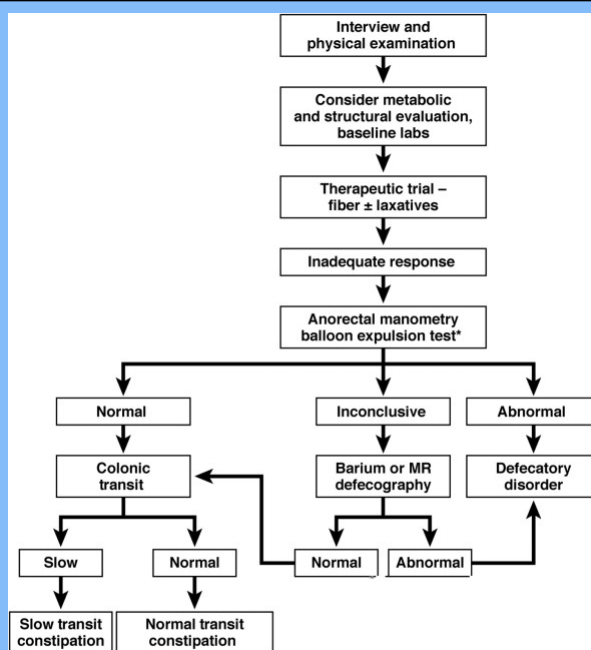
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## Chronic Constipation Management

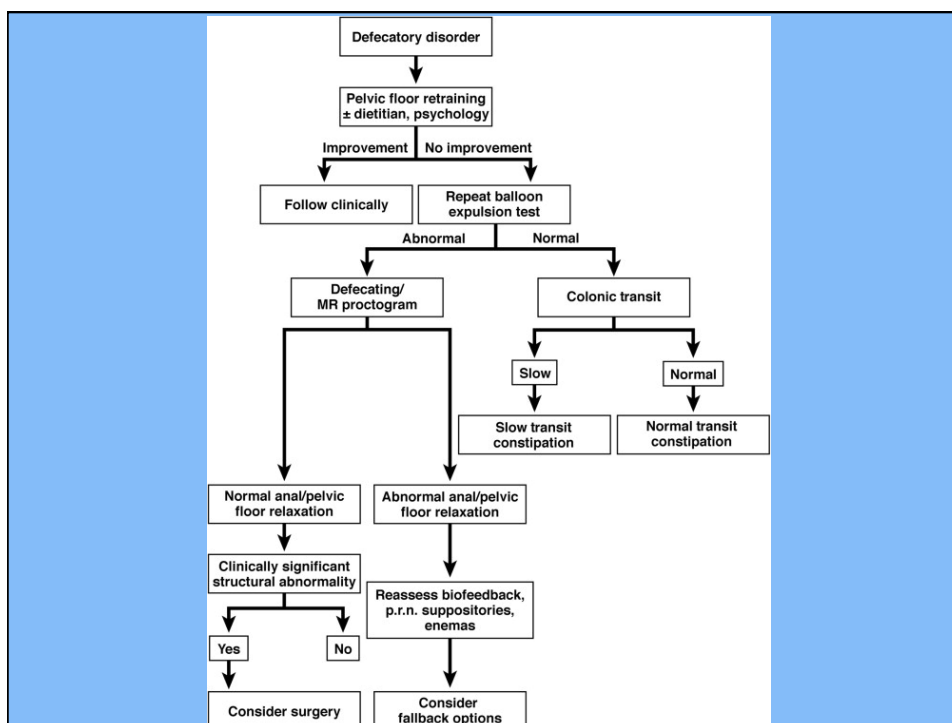
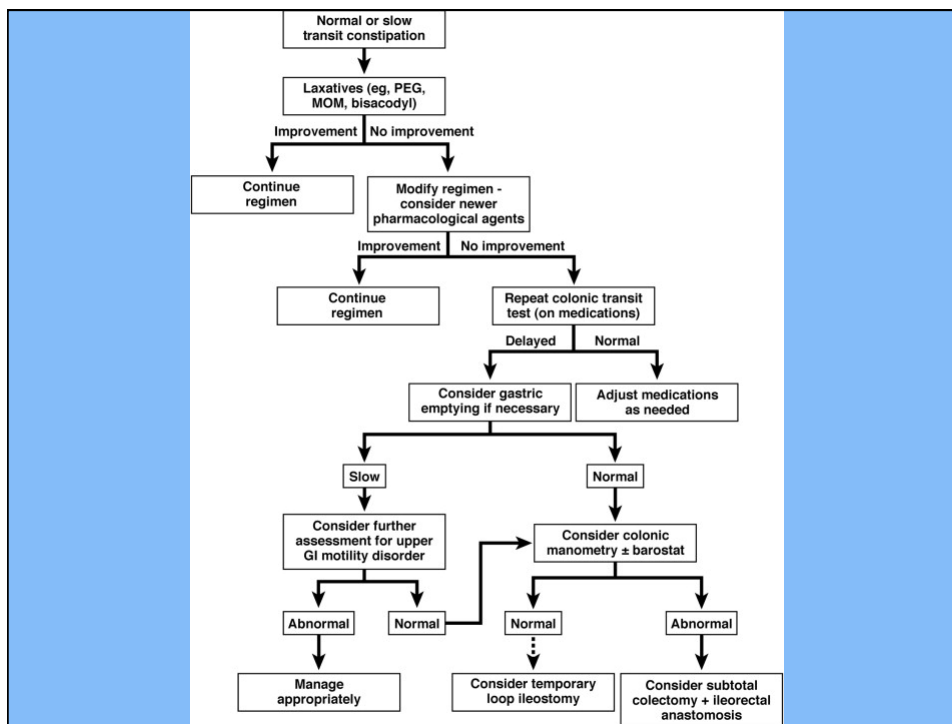
- Dietary fiber, bulking agents, osmotic and stimulant laxatives, stool softeners, prokinetics, biofeedback, surgery
- Review meds to see if any adjustments can be made
  - ▣ CCBs, tricyclic anti-depressants, anti-cholinergics, opiates, etc.



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\*Because anorectal manometry, rectal balloon expulsion test may not be available in all practice settings, it is acceptable, in such circumstances, to proceed to assessing colonic transit with the understanding that delayed colonic transit does not exclude a defecatory disorder.



## Constipation Complications

- ❑ Fecal incontinence (often perceived as diarrhea)
- ❑ Encoparesis \*\*\*\*\*
- ❑ Impaction
- ❑ Stercoral ulcerations
- ❑ Prolapse



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## Let's Loosen Things up A Bit...



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## Diarrhea

- Loose stools of more than 200g per day in a least 3 bowel movements per day
- Approximately 85% of all mortality associated with diarrhea involves the elderly



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## Causes of Diarrhea in the Elderly

### Common Causes

**Infections**  
**Drug-induced diarrhea**  
**Malabsorption**  
**Fecal impaction- encoparesis**  
**Colonic carcinoma**  
**Small bowel bacterial overgrowth**  
**Diabetic diarrhea**

### Less Common Causes

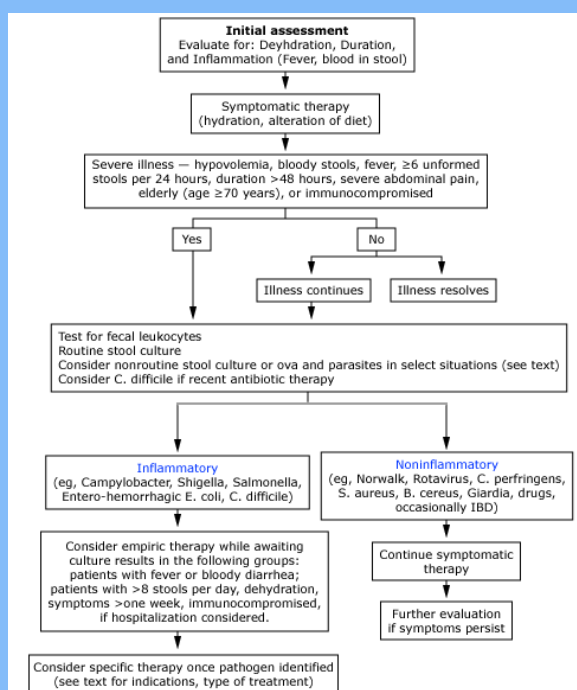
**Celiac disease**  
**Inflammatory bowel disease**  
**Thyrotoxicosis**  
**Scleroderma with systemic manifestations**  
**Whipple's disease**  
**Amyloidosis with small bowel involvement**  
**Pancreatic insufficiency**



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## Acute Diarrhea

- Initial assessment of fluid status is of outmost importance
- Most commonly, infection though very little increased risk compared to younger patients
  - ▣ Exception - Clostridium difficile



## Clostridium difficile

- History of prior antibiotic exposure, hospitalization
  - ▣ Increase incidence of community acquired
- If a patient has strong a pre-test suspicion for CDI, empiric therapy for CDI should be considered regardless of the laboratory testing
  - ▣ The negative predictive values for CDI are insufficiently high to exclude disease in these patients.



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## Clostridium difficile- Treatment

- Any inciting antimicrobial agent(s) should be discontinued, if possible
- Patients with mild-to-moderate CDI should be treated with metronidazole 500 mg orally three times per day for 10 days
- Patients with severe CDI should be treated with vancomycin 125 mg four times daily for 10 days



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## Mild to moderate CDI

- Diarrhea plus any additional signs or symptoms not meeting severe or complicated criteria
- Metronidazole 500mg orally three times a day for 10 days. If unable to take metronidazole, vancomycin 125 mg orally four times a day for 10 days
- If no improvement in 5–7 days, consider change to vancomycin at standard dose (vancomycin 125mg four times a day for 10 days)



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## Severe CDI

- Serum albumin <3g/dl plus ONE of the following:  
WBC  $\geq 15,000$  cells/mm<sup>3</sup>,  
Abdominal tenderness
- Vancomycin 125 mg orally four times a day for 10 days



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## Severe and Complicated CDI

- Admission to intensive care unit for CDI
- Hypotension with or without required use of vasopressors
- Fever  $\geq 38.5^{\circ}\text{C}$
- Ileus or significant abdominal distention
- Mental status changes
- WBC  $\geq 35,000$  cells/mm<sup>3</sup> or  $< 2,000$  cells/mm<sup>3</sup>
- Serum lactate levels  $> 2.2$  mmol/l
- End organ failure (mechanical ventilation, renal failure, etc.)



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## Severe and Complicated CDI

- Vancomycin 500 mg orally four times a day and metronidazole 500 mg IV every 8 h, and vancomycin per rectum (vancomycin 500 mg in 500 ml saline as enema) four times a day
- Consult surgery



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## Recurrent CDI

- Repeat Flagyl or Vanco regimen
- Consider Vanco taper or pulse dosing
- After 3 occurrences consider FMT



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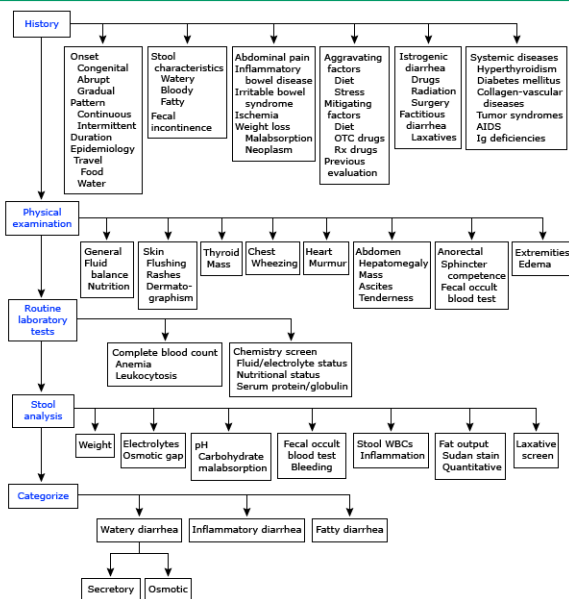
## Chronic Diarrhea

- Defined as diarrhea that lasts for 4 weeks
- The approach to chronic diarrhea in the elderly is generally the same as in younger adults



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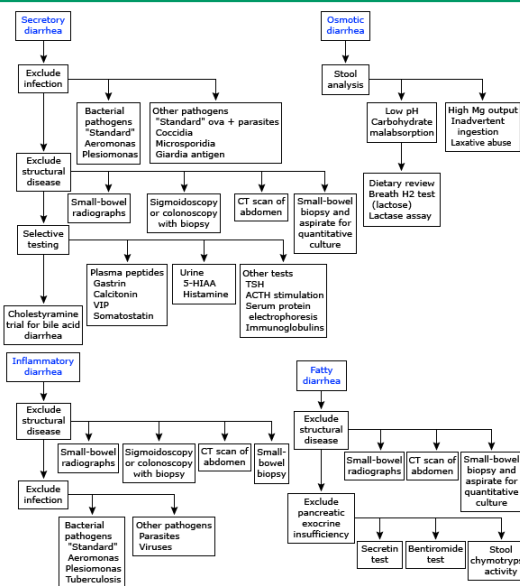
### Diagnostic approach to chronic diarrhea - part I



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### Diagnostic approach to chronic diarrhea - part II



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