Elimination: Geriatric Self-Learning Module

The Geriatric Resource Nurse Model is used at the University of Virginia to improve the competency of staff in caring for older adults. Eight self-learning educational modules were developed to address common concerns in hospitalized elders. The Elimination: Geriatric Self-Learning Module is published here, along with a post-test. This is the fourth in a four-part publication of self-learning modules.

The Geriatric Resource Nurses at the University of Virginia developed the Self-Learning Modules in Geriatric Care. The SPPICEES pneumonic addresses the eight distinct modules, each targeting a commonly encountered area of health concern of older adults across health care settings. These include:

- **S**: Sleep
- **P**: Problems with eating and nutrition
- **P**: Pain
- **I**: Immobility
- **C**: Confusion
- **E**: Elimination
- **E**: Elder abuse
- **S**: Skin

The modules were designed using a case study approach in order to encourage the learner to gain new knowledge as well as apply this knowledge. Each module includes two case studies, one applicable to the care of an older adult in the inpatient setting and the other applicable to an older adult in the outpatient setting. Each module will take approximately 20 to 30 minutes to complete.

The completion of these self-study modules alone does not ensure the staff member is age-specific competent; this is determined through the observation and demonstration of behaviors while working directly with older adults. However, these modules will enhance the staff member’s knowledge as a foundational step in developing competent behaviors.

**Purpose**

The purpose of this module is to provide age-specific educational information related to elimination problems in older adults for the inpatient and outpatient staff.

**Target Audience**

This self-study module was developed for use by a target audience of health care professionals who care for inpatient and outpatient older adults.
Objectives

At the conclusion of this module, the professional patient care staff is expected to be able to:

1. Define constipation and identify contributing factors in older adults.
2. Distinguish between transient and established incontinence, identifying examples of each.
3. Describe the clinical evaluation of the older adult experiencing problems in elimination.
4. Identify appropriate pharmacologic and nonpharmacologic management strategies for dealing with problems of elimination.

Overview

Problems of elimination (specifically constipation and urinary incontinence) are prevalent in older adults. Among patients older than 65 years, constipation is present in up to 30% of outpatients, 41% of inpatients, and 80% of nursing home residents. In the community-dwelling older population, the prevalence of urinary incontinence is 15% to 35%. At least half of the 1.5 million nursing home residents are incontinent of urine.

Problems of elimination are often preventable and, if not curable, can usually be improved and managed effectively with a variety of strategies. Early recognition and intervention are critical in order to provide patient comfort, and prevent physiological and psychological distress and complications.

Case Study

Mr. M. is 88 years old with type II diabetes and a history of mild heart failure and hypothyroidism. He has been followed in the medical outpatient clinic for 10 years. He was admitted to urology for benign prostatic hypertrophy. Preoperatively, he was taking NPH insulin 45 units SQ daily, furosemide (Lasix®) 40 mg daily, KCl 20 mEq three times daily, levothyroxine (Synthroid®) 50 mg daily, and natural psyllium fiber (Metamucil®) one package twice daily. Postoperatively, the same medications were continued. As he is preparing for discharge, he reports he has not had a bowel movement in 4 days and he is feeling extremely uncomfortable.

• What are some factors contributing to his constipation?
• Identify potential complications if interventions are not taken.
• What interventions are likely to be taken now?
• What instructions will you give him at discharge to help avoid future problems with constipation?

Constipation in Elders

Constipation has a variety of definitions:

• Infrequent or difficult elimination.
• No more than three bowel movements/week.
• Straining, in more than 25% of defecations.

Constipation may be the result of a disorder of the lower gastrointestinal tract or a systemic condition such as hypothyroidism, hypercalcemia, or diabetes. Frequent contributing factors are medications such as anticholinergics or opioids, inadequate fluid, fiber, or exercise.
Table 3.  
Power Pudding

| 1/2 cup prune juice  |
| 1/2 cup applesauce  |
| 1/2 cup wheat bran flakes  |
| 1/2 cup whipped topping  |
| 1/2 cup prunes (canned, stewed)  |

(If diabetic, use no-added-sugar applesauce and light whipped topping.)

Blend ingredients, cover and refrigerate; keep as long as 1 week. Take 1/4 cup portions with breakfast. Regulate dose as needed.

Standard Recipe

1 cup bran  
1 cup applesauce  
1 cup prune juice

Mix and store in refrigerator. Start with administration of 1 oz per day. Increase and decrease dosage as needed.

Table 4.  
Pharmacologic Treatment of Constipation in Elders

- **Stimulant Laxatives**
  - Senna/Cascara (Ex-Lax®, Senokot®, Nature’s Remedy®)  
  - Oral bisacodyl (Dulcolax®)  
  - Phenolphthalein and castor oil (not recommended in elders due to side effects of malabsorption and dehydration)

- **Bulk Laxatives**
  - Psyllium (Metamucil®, Perdiem®)  
  - Methylcellulose (Citrucel®)  
  - Polycarbophil (FiberCon®)

- **Osmotic Laxatives**
  - Magnesium hydroxide (Milk of Magnesia®)  
  - Magnesium citrate  
  - Sodium phosphate  
  - Lactulose  
  - Polyethylene glycol (MiraLax®)  
  - Glycerine  
  - Sorbitol

- **Fecal Softeners**
  - Docusate sodium (Colace®)  
  - Mineral oil

- **Enemas**
  - Phosphate  
  - Soap suds  
  - Tap water  
  - Oil retention

Table 5.  
Potentially Reversible Causes of Urinary Incontinence

<table>
<thead>
<tr>
<th>Medical Conditions</th>
<th>Environmental Factors</th>
<th>Chemical Bladder Irritants</th>
<th>Medications</th>
<th>Increased Urinary Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stool impaction</td>
<td>Impaired mobility</td>
<td>Caffeine</td>
<td>Anticholinergics</td>
<td>Excess intake</td>
</tr>
<tr>
<td>Acute or chronic confusion</td>
<td>Physical/chemical restraint</td>
<td>Spicy foods</td>
<td>Calcium channel blockers</td>
<td>Diuretics</td>
</tr>
<tr>
<td>Neurologic disorders</td>
<td>Difficult access to toilet</td>
<td>Aspartame</td>
<td>Sedatives/hypnotics</td>
<td>Metabolic conditions</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td></td>
<td></td>
<td></td>
<td>Volume overload</td>
</tr>
<tr>
<td>Heart failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atrophic vaginitis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric disorders</td>
<td></td>
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</tbody>
</table>

Colonic motility appears to be largely unaffected by the aging process, and prolonged transit time seems to be more reflective of a combination of factors associated with aging (co-morbidity, impaired mobility, medications) rather than aging itself.

If not treated in a timely fashion, constipation can lead to considerable discomfort associated with fecal impaction. Other adverse consequences can include intestinal obstruction and urinary retention with overflow. Straining at defecation can lead to cerebral coronary or peripheral vascular complications.

Clinical Evaluation of the Constipated Patient

A comprehensive history and physical exam should be completed for the patient with bowel elimination problems (see Table 1). Self-report of bowel movement frequency is often unreliable in diagnosing clinical constipation. Straining reports or actual observation of bowel movement frequency and characteristics may be more reliable indicators.

Treatment of Constipation

Constipation usually may be prevented by a balanced regimen that includes adequate amounts of fluid, fiber, and exercise (see Table 2). Natural fiber is most accessible and less expensive than commercially available bulking agents (see Table 3).

Pharmacologic management is sometimes indicated (see Table 4). Bulk laxatives account for 25% of over-the-counter laxative sales. Although they are not expensive and are generally safe, it is essential that they be taken with an adequate amount of water.

Osmotic laxatives are typically first-line pharmacologic therapy after fiber; they act by increasing stool bulk by causing an influx of water. Although generally well tolerated and inexpensive, they can cause severe diarrhea and dehydration if overused.

Stimulant laxatives comprise about 25% of purchased over-the-counter laxatives. They generally should be avoided for long-term use due to common effects of cathartic colon and electrolyte imbalance.

Enemas induce evacuation as a response to colonic distension as well as by plain lavage. Frequent use of enemas can promote electrolyte losses and imbalances and increase the risk of perforation of the rectum if the patient is not manually disimpacted first.

Case Study

Mrs. D. is a 74-year-old patient seen regularly in the geriatric outpatient clinic. She was diagnosed about a month ago as having irritable bowel syndrome and she takes Bentyl® 20 mg three times daily. Several days ago, she developed an upper respiratory infection which she has been self-treating with an over-the-counter cold preparation. Her gait is slow due to arthritis. She lives with her daughter, who reports that her mother has a recent onset of urinary incontinence.

- What are potential etiologies for her sudden incontinence?
- What clinical evaluation is indicated?
Urinary Incontinence in Elders

Urinary incontinence is the involuntary loss of urine sufficient to be a problem. The Agency for Healthcare Research and Quality (AHRQ) guidelines for urinary incontinence identifies two types: transient (acute) and established (chronic). Transient incontinence is characterized by an acute onset of leaking urine, usually secondary to a reversible cause (see Table 5).

Established incontinence is characterized by four primary types, although it is important to recognize that these are not discrete types and often are present in mixed forms (see Table 6).

Clinical Evaluation of the Patient with Incontinence

The history should focus on soliciting from the patient the characteristics of incontinence: onset, frequency, duration, and severity. Identifying any contributing or precipitating factors is essential. A bladder record is helpful in identifying voiding pattern and frequency (continent and incontinent episodes).

The physical exam is a comprehensive one that includes vital signs; and abdominal, musculoskeletal, skin, genitourinary, and rectal examination.

Treatment of Incontinence

Treatment of incontinence primarily includes nonpharmacologic approaches (see Table 7). Additional strategies target specific types of incontinence and may include Kegel exercises, medications, self-catheterization, collagen implants, biofeedback, electrical stimulation, and surgery.

Containment measures (pads, briefs) may be used temporarily until treatment becomes effective in order to keep the patient more functional and comfortable. They should never be used as the sole strategy.

Table 6. Established Incontinence

<table>
<thead>
<tr>
<th>Type</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>Leaking of urine occurs with increases in intra-abdominal pressure.</td>
</tr>
<tr>
<td>Urge</td>
<td>Leaking of urine occurs with strong desire to void.</td>
</tr>
<tr>
<td>Overflow</td>
<td>Leaking of urine occurs with an overly distended bladder.</td>
</tr>
<tr>
<td>Functional</td>
<td>Leaking of urine is unrelated to genitourinary system but associated with other physical or cognitive deficits.</td>
</tr>
</tbody>
</table>

Table 7. General Management Strategies for Urinary Incontinence

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a regular toileting schedule.</td>
<td>Use toilet schedule and prompted toileting assistance. Prevent constipation through adequate fluid, fiber, mobility.</td>
</tr>
<tr>
<td>Manage fluid intake.</td>
<td>Spread 1,500-2,000 cc throughout the day. Avoid bolus or late evening fluid. Avoid caffeine and alcohol. Avoid precipitants.</td>
</tr>
<tr>
<td>Modify the environment.</td>
<td>Assess toilet facilities. Use raised toilet seats/grab bars. Use easily removable clothing. Use adequate lighting.</td>
</tr>
<tr>
<td>Avoid indwelling catheters.</td>
<td>Discontinue catheter as soon as possible. Establish a toilet pattern.</td>
</tr>
<tr>
<td>Avoid restraint.</td>
<td>Remove restraints as often as possible. Keep one side rail down to allow mobility.</td>
</tr>
<tr>
<td>Avoid medications that contribute to incontinence.</td>
<td>Diuretics, psychotropics, alpha adrenergics, calcium channel blockers, and anticholinergics may contribute to incontinence.</td>
</tr>
</tbody>
</table>

Resources

Constipation


Urinary Incontinence


1. The most common cause of constipation in elders is
   a. malignancy.
   b. gastrointestinal disease.
   c. inadequate fluid, fiber, exercise.
   d. medications.

2. The first line of pharmacologic therapy for constipation is
   a. fiber.
   b. stimulant laxatives.
   c. enemas.
   d. osmotic laxatives.

3. Potentially reversible causes of urinary incontinence include
   a. medical conditions.
   b. environmental factors.
   c. medications.
   d. chemical bladder irritants.
   e. all of the above.

4. Leaking of urine as a result of increases in abdominal pressure
   (coughing, sneezing) is referred to as:
   a. stress incontinence.
   b. urge incontinence.
   c. overflow incontinence.
   d. functional incontinence.

5. Management of urinary incontinence is an achievable goal. The
   cornerstone to therapy is
   a. fluid restriction.
   b. Ditropan® therapy.
   c. use of a regular toileting schedule.
   d. biofeedback.

Post-Test Answers
1. c
2. a
3. e
4. a
5. c