A 148-bed community hospital, which is part of a large academic health system, has seen physician specialists admit more complex patient cases to a 36-bed medical-surgical unit over the past few years. The usual census in the past included patients who had experienced an appendectomy, hysterectomy, or cholecystectomy. Many of these patients are now discharged from the outpatient surgery service. Today, the population on this unit includes patients who have undergone a thoracotomy with placement of multiple chest tubes, multi-level spinal fusion, and laminectomy, patients recovering from cranio-neurosurgical procedures, and patients of prostatectomy and urologic reconstruction surgeries. The “overnight observation” patients are now bariatric surgery patients with precise regimens to follow or bilateral mastectomy patients.

The nurses on this medical-surgical unit began to feel the impact of the increase in patient acuity while their staffing ratios remained the same. They also felt an imbalance in workload among the team at times when the assignments did not accurately reflect patient acuity nor balance the skill mix of the staff.

Charge nurses, who made the nurse-patient assignments for each 12-hour shift, attempted to balance the workload by using a subjective evaluation of patient acuity and the unit’s nursing skill mix. Assignments were often made under time-pressure and with limited information. The staff nurses requested a more objective and equitable way of defining acuity ratings to promote safer patient care. The unit’s Clinical Nurse Specialist and Nurse Manager were supportive and felt it important to advocate for the nurses and their patients.

continued on page 9
Thoughts from the Editor

“Just a Nurse”

I recently had an experience that is unfortunately all too familiar. I’ve been participating in multidisciplinary discussions with other university professors to develop a collaborative program encouraging disadvantaged youth to pursue biomedical science degrees including social, behavioral, and clinical professions. When I was asked to sit on the committee, I thought my expertise and background in nursing science would be a valued addition. However, a professor from biology assumed those seeking biomedical degrees would most likely want to pursue only chemistry or biology — certainly not nursing. The physics professor on the committee asked why nursing students would need to take a chemistry course at all. A professor representing psychology seemed to appreciate the clinical portion of nursing, but was also unclear about why youth with biomedical interests would choose nursing. My response was similar to every other time I’ve encountered these types of assumptions. I taught the group what nurses do, what they know, how smart they are, and the extensive scientific education they all have in order to do their jobs well.

I don’t like feeling so defensive about being a nurse. When I’m around other nurses, there is a sense that we all know exactly how much science, intelligence, and knowledge it took for each of us to become a registered nurse. Ours is not a new profession, so why is it that so many non-medical people have no idea what we do or what it takes to do what we do…and do it well? The phrase “just a nurse” implies that anyone with a few minimal skills could perform the role of a nurse.

Nursing is unique in that it combines a plethora of sciences. Nurses are trained to understand the chemical reactions of numerous pharmacological therapies. Biological knowledge is essential for understanding human physiology and how patients will react to thousands of different variables. In addition, because nurses care for people in vulnerable situations, knowledge of ethics, therapeutic communication, mental health, psychology, and astute assessment skills are also imperative.

Nurses must combine the hard sciences with the complexities of the human experience in an effort to heal, improve health, or provide for a comfortable death. The ability to perform extremely complex tasks — such as proper nutrition assessments, sage nurse-patient assignments, or assessing the cause of recurrent constipation and using evidence-based practices to prevent reoccurrence — all while educating and caring for the people affected by these issues takes the intelligence, knowledge, skills, kindness, compassion, and expertise unique to nurses.

To understand and navigate the evolving health care coverage, manage global and natural disasters, practice in advanced roles, implement good nutrition strategies, and meet the health care needs of individuals, families, and communities takes much more than just having an understanding of chemistry or biology. To effectively do all that, it takes a scientifically well-trained nurse knowledgeable in all the sciences (chemistry, biology, physiology, mathematics, psychology, sociology, and nursing). It takes “just” a nurse.

Molly McClelland, PhD, MSN, RN, CMSRN, ACNS-BC
MedSurg Matters! Editor
Healthy to Undernourished: Post-Hospital Syndrome

Bob was a 62-year-old man who weighed 180 pounds and was 5 feet, 10 inches tall. He was a very active man who played on a golf team two days a week. Bob was admitted to the hospital for elective abdominal and inguinal hernia repairs. Bob’s surgery went well, and he was discharged three days later. When Bob arrived home, he could barely make it up the stairs to his bedroom. He was exhausted. He felt weak and unstable. What went wrong?

Like many hospitalized patients, Bob’s body was stressed during the hospitalization. He underwent surgery. He was NPO the night prior to surgery, didn’t have any nutrition the day of surgery, and was nauseated postoperatively. All of these factors limited his intake of nutrients. Furthermore, his abdominal pain limited his mobility during the hospitalization and prevented him from sleeping well. Bob was undernourished and deconditioned when he returned home.

Dr. Krumholz (2013) terms this familiar condition Post-Hospital Syndrome, the temporary condition of weakness acquired during hospitalization that places patients at risk for post-discharge complications. During a hospitalization, the focus is often placed on the patient’s immediate care needs. Effectively caring for a patient involves managing his or her immediate care needs related to hospitalization, but also addressing the essential elements of nutrition, mobility, and sleep. Unfortunately, these essential elements are often under-emphasized.

What if Bob’s nurse identified his inadequate nutrient intake on post-operative day 1 and collaborated with his physician and dietician to establish a clear plan? Bob could have received anti-emetics prior to each meal to reduce the nausea and increase the likelihood of eating. Bob might have received a bland food tray that may have been more palatable in face of the nausea. Perhaps, Bob could have been asked to identify foods that he preferred and wanted to eat. Bob’s environment could have been optimized to make it more conducive to eating. His bedside table might have been cleaned off prior to the tray delivery. He also could have been assisted to brush his teeth and wash hands to create a more supportive mealtime environment. He might have been helped out of bed and into a chair to facilitate eating and promote mobility.

Moreover, Bob could have received a nutrition plan to take home. Often, patients are told to return to a ‘regular’ home diet. Yet without fully understanding the patient’s home nutrition regimen, the ‘regular’ home diet may be inadequate. Bob might have benefited from a prescriptive home nutrition plan to increase his stamina, aid his healing, and prevent complications. Bob also could have been given a prescription for anti-emetics to facilitate nutritional intake at home.

Looking to the future of health care, patients like Bob need comprehensive nutrition plans. Nutrition that is prioritized during hospitalization and transitioned to home provides our patients with the best chances for success. Providing quality nutrition care is a key element in reducing Post-Hospital Syndrome and rapidly returning patients to a functional life.

Reference

Beth Quatrara, DNP, RN, CMSRN, ACNS-BC, is a Clinical Nurse Specialist – Advanced Practice Nurse 3, and Director of PNSO Nursing Research Program, University of Virginia Health System, Charlottesville, VA. She is the “Nutrition to Improve Outcomes” Column Editor and the AMSN Clinical Representative to the Alliance to Advance Patient Nutrition.
Nursing Management of Constipation in the Medical-Surgical Setting

Robert Hunter

Constipation is a common lower gastrointestinal disorder that is often overlooked in acute care services. Nurses can have a significant impact in prevention and treatment of constipation through comprehensive nursing assessment, timely interventions, and patient advocacy.

Constipation, a common condition that is negatively associated with quality of life (Belsey, Greenfield, Candy, & Geraint, 2010), results in a significant cost to the United States health care system. As of 2001, the total cost of treating constipation in the United States was $253 million per year, with inpatient care accounting for 55% of the total cost (Martin, Barghout, & Geraint, 2006). Further studies are needed to evaluate the current cost of constipation on the United States health care system.

Nurses play a key role in preventing and treating constipation through comprehensive nursing assessment, timely interventions, and patient advocacy. As a part of patient advocacy, it is critical that nurses understand constipation, articulate assessment findings to providers, and collaborate on evidence-based treatment options so that appropriate medical therapies are administered when indicated. By doing so, nurses may decrease the psychological and physiological stress associated with constipation and the patient is less likely to have a delayed discharge.

Definition

Medical professionals and patients define constipation in many different ways. Patients tend to define constipation qualitatively, based upon their symptoms, such as straining to pass fecal material, unsatisfactory defecation, infrequent passage of stools, and abdominal bloating (Lindberg et al., 2011). Clinicians generally define constipation quantitatively and based on frequency of stools, typically considering less than three bowel movements a week abnormal (Leung, Riutta, Kotecha, & Rosser, 2011). The Rome diagnostic criteria in Table 1 attempts to standardize the definition of constipation (Longstreth et al., 2006).

Categories of Constipation

Constipation can be broadly divided into three categories: normal transit constipation (functional), slow transit constipation, and outlet constipation.

Normal Transit Constipation

In normal transit constipation, stool transit time and frequency does not change; patients often complain of abdominal pain, bloating, difficult passage of stools, and hard stools (Gallagher, O’Mahony, & Quigley, 2008). Many providers consider normal transit constipation a component of constipation-predominant irritable bowel syndrome rather than a category of constipation (Gallagher et al., 2008).

Slow Transit Constipation

Slow transit constipation results from decreased peristalsis in the colon, causing longer intestinal transit time before stool reaches the rectum. As the stool remains in the colon, water continues to be reabsorbed, leading to a hard and dry stool. With slow transit constipation, individuals will complain of infrequent bowel movements. The etiology of slow transit constipation is poorly understood. Postulated causes of slow transit constipation include lack of fiber, neuropathy, and disorders of the enteric nervous system and endocrine system (Frattini & Nogueras, 2008).
Outlet Constipation

Outlet constipation (also known as pelvic floor dysfunction, rectal outlet delay, obstructive defecation, or pelvic floor dyssynergia) occurs when there is difficulty evacuating stool (Kyle, 2011a; Marples, 2011). Inadequate anal relaxation, paradoxical anal contraction, and impaired rectal contraction are thought to be the primary causes of outlet constipation (Rao & Go, 2009). Patients may report feelings of incomplete defection or the need to strain with defection. Anatomical problems of rectocele or rectal wall prolapse can inhibit normal functions of the pelvic floor muscles and contribute to outlet constipation (Leung et al., 2011). Other conditions leading to outlet obstruction include impaired rectal sensation, organic causes (e.g., tumor), and anismus that occurs when the external anal sphincter muscle contracts rather than relaxes during defecation (Norton, 2006; Tack et al., 2011).

Nursing Assessment

Effective nursing assessment and diagnosis are essential for the prevention and management of constipation. Neglecting a gastrointestinal assessment can lead to failed prevention or treatment of constipation, resulting in an extended length of stay in the hospital. Providers may be reluctant to discharge a patient until bowel function is restored. Due to the multi-factorial nature of constipation, identifying contributing factors can be challenging (see Tables 2 and 3). In addition to physical causes, constipation may also be affected by psychological, emotional, and environmental factors. Presenting symptoms should be considered in relation to relevant medical history (Kyle, 2011b). For example, a patient may complain of new-onset constipation with sleep deprivation, perhaps related to underlying depression. It is essential that on admission to a unit, nurses assess for constipation and risk factors beyond the patient’s primary diagnosis. During patient admission, the nurse should collaborate with the admitting provider regarding current bowel function and the need for laxatives or enemas, if constipation has not already been addressed. Continued assessment and collaboration with providers throughout the patient’s stay is essential for proper management of constipation.

The nursing assessment should encompass the following subjective and objective information:

- Patient’s description of constipation symptoms including excessive straining during defection, nature of stools, sensation of obstruction or incomplete evacuation, abdominal pain, abdominal tenderness or discomfort, nausea, vomiting, or rectal pain on defecation.
- Last bowel movement, number of stools per week, or changes in bowel habits.
- Examination of the abdomen including auscultation of the four quadrants, palpation for firmness or tenderness, and general appearance.
- Assessment of bowel management at home including laxative use, dietary habits, and exercise regimen.
- Contributing medications or medical history (see Table 2).

### Table 1. Rome Criteria III to Diagnose Constipation

<table>
<thead>
<tr>
<th>1)</th>
<th>Patient must experience two or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Straining ≥ 25% of defections</td>
</tr>
<tr>
<td>B.</td>
<td>Lumpy or hard stools ≥ 25% of defections</td>
</tr>
<tr>
<td>C.</td>
<td>Sensation of incomplete evacuation ≥ 25% of defections</td>
</tr>
<tr>
<td>D.</td>
<td>Manual maneuvers to facilitate ≥ 25% of defections (e.g., digital evacuation)</td>
</tr>
<tr>
<td>E.</td>
<td>Fewer than three defections every week</td>
</tr>
<tr>
<td>2)</td>
<td>Stool rarely loose without use of laxatives</td>
</tr>
<tr>
<td>3)</td>
<td>Criteria insufficient to indicate irritable bowel syndrome</td>
</tr>
</tbody>
</table>

Source: Longstreth et al., 2006.

### Table 2. Medications and Medical Disorders Associated with Constipation

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medications</td>
<td>Antacids, anticholinergics (tricyclic antidepressants, antihistamines, antipsychotics, antispasmodics), antiepileptics, anti-Parkinsonian drugs, calcium channel antagonists, calcium supplements, iron supplements, diuretics, opioids</td>
</tr>
<tr>
<td>Cardiac Disorders</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>Endocrine and Metabolic Disorders</td>
<td>Diabetes mellitus, chronic renal disease, hyperthyroidism, hypothyroidism</td>
</tr>
<tr>
<td>Gastrointestinal Disorders</td>
<td>Anal fissure, colorectal tumor, diverticular disease, hemorrhoids, irritable bowel syndrome, megacolon, strictures, rectal prolapse, volvulus</td>
</tr>
<tr>
<td>Myopathic Disorders</td>
<td>Amyloidosis, dermatomyositis, systemic sclerosis</td>
</tr>
<tr>
<td>Neurological Disorders</td>
<td>Autonomic neuropathy, cerebrovascular disease, dementia, depression, multiple sclerosis, spinal cord lesion, Parkinson’s disease</td>
</tr>
</tbody>
</table>

Source: Gallagher et al., 2008; Kyle, 2011b; Rao & Go, 2010.
• Assessment of the perineal area for hemorrhoids, rectal prolapse, tears, bleeding, excoriation, lesions, and fecal soiling (Kyle, 2011a).
• Digital rectal exam if the clinician is trained and competent to do the procedure. Many facilities require nurses to obtain an order from a provider to perform digital rectal exams. The clinician should assess for the presence and consistency of fecal matter in the rectum and its consistency, masses, or irregular surface contours and anal sphincter function and tone. Weak resting tone may contribute to fecal incontinence, whereas increased tone may reveal a potential cause of constipation. This assessment may help determine the need for a suppository or manual evacuation of feces in severe cases (Kyle, 2011a).

### Complications of Constipation

Patients with a history of chronic constipation bear a higher risk than the general population for specific complications. Although complications are rarely life threatening, nurses need to be familiar with the potential complications in order to promptly initiate treatment. Complications include fecal incontinence, hemorrhoids, anal fissure, organ prolapse (i.e., uterus, rectum, bladder, and vagina), fecal impaction and bowel obstruction (Leung et al., 2011). Stercoral perforation (perforation of the bowel due to fecal mass) is a rare but potentially life threatening complication (Sakharpe, Lee, Park, & Dy, 2012). Persistent straining causes increased intra-abdominal and intrathoracic pressure, putting the patient at risk for hernias, worsening gastric reflux, hemorrhoids, syncope as a result of vasovagal response, and less commonly, transient ischemic attacks (Kyle, 2011c; Gallagher et al., 2008).

### Pharmacological Management of Constipation

Providers often prescribe a wide variety of treatments for constipation, despite a lack of robust research to support specific medical therapies (Leung et al., 2011). Through the admission medication reconciliation process or specific physician inpatient orders, patients will often have scheduled and “as needed” (PRN) laxatives available. Nurses frequently need to select which laxative(s) to administer among several PRN options. By understanding the different classes of laxatives and the mechanism of action, nurses can use their assessment findings to administer the appropriate laxative(s). Several commonly used classes of laxatives include bulk-forming, osmotic, stimulant, enemas and suppositories, stool softeners, and peripheral opioid antagonists. Less frequently used laxatives within the inpatient setting—such as Lubiprostone (Amitiza®), Tegaserod (Zelnorm®), and Linaclotide (Linzess®)—go beyond the scope of this article.

<table>
<thead>
<tr>
<th>Fiber and Bulk-Forming Laxatives</th>
</tr>
</thead>
</table>
| Fiber and bulk-forming laxatives cause increased water absorbency and stool weight, which results in increased peristalsis. Bulk-forming laxatives are the least harmful class of laxatives, but they may take up to three days to be effective (see Table 4) (Kyle, 2011a). Commonly used over-the-counter bulk-forming laxatives include psyllium (Metamucil®), bran, and methylcellulose. Bulk-forming laxatives are inappropriate for patients on fluid restrictions because limited fluid intake may result in mechanical obstruction. Bloating, abdominal pain, and flatulence are the most common adverse effects. Fiber and bulk-forming laxatives are considered first-line treatments for preventing and treating chronic constipation (Lindberg et al., 2011). In the acute care setting, faster acting and more effective therapies may be needed to treat acute constipation.

### Osmotic Laxatives

Osmotic laxatives draw water into the intestinal lumen, resulting in softer stool and improved propulsion of stool. Osmotic laxatives include polyethylene glycol (PEG 3350), lactulose, saline laxatives (magnesium salts), and sorbitol. Because osmotic laxatives function in the colon and not systemically, they are generally considered safe for most patients. However, several severe adverse effects may occur with osmotic laxatives including electrolyte abnormalities, hypovolemia, and diarrhea (Gallagher et al., 2008). Patient populations with renal insufficiency or renal failure are prone to electrolyte abnormalities; therefore it may be prudent to consider alternative therapies. Adverse effects of PEG 3350, lactulose, and sorbitol include abdominal cramping, bloating, and flatulence (Johanson, 2007; Leung et al., 2011). PEG 3350 and lactulose are both strongly supported by systematic reviews as treatment modalities.
Table 4. Laxative Effectiveness Time

<table>
<thead>
<tr>
<th>Class</th>
<th>Common Laxatives</th>
<th>Onset Time (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk-Forming and Fiber</td>
<td>Bulk Forming; Psyllium, bran, and methylcellulose</td>
<td>48-72</td>
</tr>
<tr>
<td>Osmotic</td>
<td>Polyethylene glycol (PEG), lactulose, saline laxatives (magnesium salts) (e.g., milk of magnesia, sodium biphosphate, and sorbitol)</td>
<td>Saline 0.5-3 Others 24-48</td>
</tr>
<tr>
<td>Stimulant</td>
<td>Senna and bisacodyl</td>
<td>6-12</td>
</tr>
<tr>
<td>Stools Softeners</td>
<td>Docusate sodium and docusate calcium</td>
<td>24-48</td>
</tr>
<tr>
<td>Peripheral Opioid Antagonists</td>
<td>Alvimopan and methylnaltrexone</td>
<td>Within 8 hours</td>
</tr>
</tbody>
</table>

Source: Gallagher et al., 2008; Rao, 2009.


dities for constipation; however, a recent Cochrane article found PEG 3350 superior to lactulose in terms of stool frequency per week, relief of abdominal pain, and stool softness (Lee-Robichaud, Thomas, Morgan, & Nelson, 2010). The use of saline laxatives is not strongly supported by research (Gallagher et al., 2008).

**Stimulant Laxatives**

Stimulant laxatives cause increased intestinal peristalsis, resulting in improved mucus secretion and intestinal motility. The two commonly used classes of stimulant laxatives are anthraquinone (e.g., senna and cascara) and diphenylmethane derivatives (e.g., bisacodyl). Stimulant laxatives take effect 6-12 hours post administration (see Table 4) and therefore should be given at bedtime. There is inadequate data supporting the long-term use of stimulant laxatives, but given the typical short length of inpatient stay, stimulant laxatives are appropriate to use in an acute care setting. Due to the increased intestinal motility, a common side effect is abdominal cramping (Tack & Müller-Lissner, 2009).

**Enemas and Suppositories**

Enemas and suppositories, used alone or in conjunction with oral laxatives, work rapidly to clear the rectum of stool and restore normal bowel function when oral laxatives are unsuccessful. After the rectum is cleared, patients typically start a bowel management program, which includes diet modification and may also include medical management. The mechanisms of action for the different types of suppositories and enemas include carbon dioxide releasing (potassium bitartrate and sodium bicarbonate), hyperosmotic (e.g., glycerin and sodium phosphates), lubricant (e.g., mineral oil and glycerin), stimulants (e.g., bisacodyl and senna), and stool softeners (e.g., docusate) (Mayo Clinic, 2011).

Enemas play an important role in preventing fecal impaction (Gallagher et al., 2008). Types of enemas include tap water, normal-saline, vegetable oil, and soap. Tap water enemas are considered mild enemas with few side effects; however, repeated use in a short time frame can cause electrolyte abnormalities as a result of water absorption in the rectum and colon (Nepal, Atreja, & Lashner, 2012). Soap sud enemas are thought to be more effective than tap water enemas but may result in rectal or colon inflammation (Cassagnol, Saad, Ebtesam, & Ezzo, 2010; Rao & Go, 2010).

Sodium phosphate and sodium citrate enemas are commonly used in practice. Serious complications are infrequent for low risk patients. Higher risk patients may experience life threatening adverse effects as a result of sodium phosphate or sodium citrate enema administration. The adverse effects of phosphate enemas include fluid and electrolyte imbalances such as hyperphosphatemia, hypernatremia, hypocalcemia, and metabolic acidosis (Mendoza, Legido, Rubio, & Gisbert, 2007). Because of the high salt content, sodium citrate enemas may exacerbate edema in patients with end-stage heart failure and thus should be used with caution in this patient population (Kyle, 2011a). Risk factors for the adverse events include patients with chronic renal failure, elderly patients, and patients with decreased intestinal motility (Mendoza et al., 2007). A recent study recommends sodium phosphate enemas be limited only to low risk patients due to severe complications experienced by elderly patients who received sodium phosphate enemas (Ori et al., 2012). In the study, complications that patients experienced from sodium phosphate enema administration included acute renal failure, hypotension with volume depletion, extreme hyperphosphatemia, severe hypocalcemia, hypernatremia, and hypokalemia (Ori et al., 2012). In light of this new evidence, current guidelines are likely to be revised to recommend warm water enemas of 30-60mL until further data is published.

**Stool Softeners**

Stool softeners allow water and fat to penetrate feces by lowering surface tension on the stool. Docusate sodium and docusate calcium are commonly used in practice. Stool softeners are no longer recommended to treat constipation because of the limited supporting evidence and questionable efficacy (Gallagher et al., 2008).

**Peripheral Acting µ-Opioid Receptor Antagonists (Peripheral Opioid Antagonists)**

Alvimopan and methylnaltrexone can be used for treatment of opioid-induced constipation and act peripherally so that pain relief is not affected. With a 5 mg dose of methylnaltrexone, 50% of patients had a bowel movement within four hours of administration (Portenoy et al., 2008). Peripheral opioid antagonists also show promise in ameliorating opioid-induced side effects such as nausea, post-operative ileus, uri- nary retention, and pruritus (Rao & Go, 2010). As an additional note, due to the...
constipating effects of opioids, any patient consistently receiving opioids should also receive laxative treatment.

**Discharge Education and Considerations**

Nurses play an instrumental role in providing education at discharge to help patients prevent and manage constipation at home. Nurses should educate patients on non-pharmacologic management of constipation and provide medication teaching on any prescribed laxative.

**Non-Pharmacologic Management**

Lifestyle modifications such as diet, exercise, and increasing fiber intake can be sufficient in preventing constipation without the use of laxatives, depending on the severity of the constipation. Increasing fluid intake is commonly recommended as a means to prevent or manage constipation (Leung et al., 2011). However, there is conflicting evidence about whether increasing fluid intake is an effective intervention. For inactive individuals, exercise positively correlates with bowel function (Kyle, 2011a). The nurse should assess which activities the patient is willing to do for exercise and encourage these activities if not contraindicated. Dietary assessment prior to discharge is necessary to determine if fiber deficiency may be responsible for constipation. Increasing fiber intake to 25 grams a day can help prevent fiber deficiency constipation (Lindberg et al., 2011). Nurses should educate patients about the types of food with high fiber content as well as other foods that may be constipating or act as pro-motility agents. An alternative therapy for patients experiencing outlet constipation is biofeedback, a learned strategy for behavior modification. Patients are taught diaphragmatic breathing and synchronizing abdominal push efforts with anal relaxation while a rectal probe measures pressure readings (Rao & Go, 2010). Biofeedback is supported by randomized controlled trials and improves bowel function by increasing control and sensation of the pelvic floor muscles and anorectum, eliminating paradoxical contractions (Leung et al., 2011).

**Collaboration at Discharge**

Prior to discharge, the nurse needs to be cognizant if a patient has a history of chronic constipation, risk factors for constipation, or new interventions from the hospital course that may require constipation prophylaxis. The nurse should then collaborate with the discharge provider to determine if a prescription is necessary to prevent constipation or if non-pharmacological management is sufficient. For example, when a patient is prescribed opioids at discharge, there needs to be consideration for laxative prescription as well. If a patient resides in a long-term care facility or has a home caregiver, these parties should be notified of any necessary changes to diet, exercise, or medical management.

**Conclusion**

Patients in a hospital setting are at high risk for presenting with or developing constipation. Nursing professionals play a crucial role in identifying and managing constipation for patients. Prompt recognition and treatment of constipation are paramount to decreasing cost and improving patient well-being. Nurses should advocate for patient’s needs through collaboration with providers. Sharing nursing assessment findings, as well as appropriate evidence-based treatment options, can make a difference for the patient in managing constipation.

**References**


Additional Reading


Robert Hunter, MSN, RN, is a Registered Nurse, Medical-Telemetry, St. Joseph Medical Center, Tacoma, WA.

**Patient Acuity Tool**

*continued from page 1*

**Literature Review**

A literature search completed in CINAHL® used the search terms patient classification, clinical assessment, and acuity score for the year 2004 and forward. Articles were examined for relevance to our setting and resources. For instance, methods using proprietary software were reviewed for concepts but not considered for implementation.

Twigg and Duffield (2009) agreed that nurse workload is difficult to define and measure, yet necessary to ensure adequate staffing for safe patient care. They reviewed methods of determining nursing workload that have been used historically and agreed that it remains a complex process.

Brennan and Daly (2009) cited tools that have been used to determine patient acuity, yet agreed that there is inconsistency in how acuity is defined and measured. They agreed that measurement of patient acuity should incorporate patient severity of illness and nursing workload factors.

Rauhala and Fagerström (2004) discussed the RAFAELA system, a mnemonic they created, comparing patient acuity with nurse resources. The RAFAELA system assigns points based

---

**Figure 1.**

*Original 20 Categories and Final 10 Categories*

![Original 20 Categories and Final 10 Categories](image-url)
on care intensity for patient needs and uses the Professional Assessment of Optimal Nursing Care Intensity Level (PAONCIL) tool, which establishes optimal nursing intensity per caregiver. The RAFAELA system – used primarily in Finland for outpatient departments, psychiatric nursing care, primary health care, and long-term or home care – was complicated to use and not applicable to our patient population.

DeLisle (2009) found that using an acuity tool representative of patient status and clinical intensity could be used to assist in equitable distribution of nursing workload. The acuity tool rated patients a Level I-V based on nursing time required to administer chemotherapy in an outpatient ambulatory oncology unit. Although this was not our patient population, this information was helpful in considering clinical severity and nursing workload indicators in determining acuity and making patient assignments.

The literature was helpful in stimulating discussion about how to define acuity, but a specific patient acuity assessment tool appropriate for our medical-surgical patient population was not found. Using input from staff nurses, the authors set out to develop a comprehensive acuity assessment tool that could be used objectively and consistently by the staff. The intention was to utilize this tool to make appropriate patient assignments and balance the unit workload to maximize safe, effective patient care.

**Method**

The authors held roundtable discussions that were open to all staff on the unit over a period of several months. Discussions included “what defines acuity” and “how to differentiate levels of acuity.” The team talked about what “counts” – illness of the patient or how much nursing time is required to care for them or both. What about the psychological “work” of dealing with an anxious, upset, or confused patient?

At first, the proposed acuity tool had 20 categories (see Figure 1). The number of categories and descriptors were refined over a period of eight weeks by the researchers with input from the nurses and manager. Through discussions and continual assessment of the patient population, the team was able to refine descriptors that identified different levels of acuity. After ten revisions, the final tool consisted of 10 categories – six related to patient clinical severity and four related to nurse workload (see Figure 2).

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### Figure 2. Final Acuity Tool

<table>
<thead>
<tr>
<th>DRAH 5th Floor Acuity Tool</th>
<th>2: Stable Patient Typical Workload</th>
<th>3: Complex Patient Increased Workload</th>
<th>4: High Risk Highest Workload</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td>Q4 hour, Alert and oriented CNA score ≤ 7</td>
<td>Q2 hour Confused w/o sitter CNA score &gt; 7</td>
<td>Q1 hour or 1:1 Care Detrimental LOC Delirium (Post-op or DT)</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td>Stable Room Air or NO&lt;2L O2</td>
<td>Treated, NO&gt;2L, nasal CPAP Continuous Pulse Ox</td>
<td>Compromised At Risk Masks, BiPAP, Full face CPAP</td>
</tr>
<tr>
<td><strong>Cardiac</strong></td>
<td>BP, HR, RR &lt; 75% of Baseline: Medication ct w/monitor</td>
<td>Changes BP/HRRhythm Post-op monitor, AICD/Pacemaker</td>
<td>Unstable Rhythm, New atrial fibr., Frequent ectopy</td>
</tr>
<tr>
<td><strong>Medications and Therapeutic Protocols</strong></td>
<td>PO/VF/B, TPN, BIAC 0300, G6, Q4 Mg / K protocol</td>
<td>Blood administration, BG w Carb C1, 2hr PC, Heparin Drip, SBU</td>
<td>2 or more Transfusions Fluid Bolus for BP, UCP, Endotool, insulin drip</td>
</tr>
<tr>
<td><strong>Drainage Devices</strong></td>
<td>JP, Hemovac, NGT, Pneumostent, Helinitic, CT Wound, Truven</td>
<td>Q2 Hr measure any CT to Suction, Pleura, NO-Than with Feeding</td>
<td>Q1 Hr measure i.e. lumbar drain 2 or more CT to Suction CT Output &gt; 1000ml/2hr</td>
</tr>
<tr>
<td><strong>Pain Management</strong></td>
<td>PO, Q4 IV, PCA, OnQ</td>
<td>Peri-ventral, Epidural, Intrathecal</td>
<td>Uncontrolled Pain, Multiple Device</td>
</tr>
</tbody>
</table>

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**Clinical Severity Indicators**

- **Admit/DC/Transfer**
  - Post-op, Routine DC, Inpatient – staying
  - Post-op (first 24 hours) Complex DC, Admit/Transfer In
  - Post-op (complicated) Transfer to higher level
- **Education and/or Psychosocial**
  - Cairn, Cooperative
  - Anxious, Service Recovery EDB Education Protocol BluePhone/Translator
  - Highly Agitated 1:1 Extensive patient/family service recovery
- **Wound/Ostomy/Continence**
  - Q6DIO Dressing by RN Wound Vac, Ostomy 1 assist to BR/Bedpan
  - TID Dressings by RN, High Output Ostomy Enemas or Bowel Prep
  - Dressings > 30min > TID Multiple Wound Vacs Q1 Toilet/Incontinence
- **ADLs and Isolation**
  - Independent of ADL 1 person assist w/ADL Standard Precautions
  - Turns Q2 hours, 2 person assist for OOB Isolation – all types
  - Para- or Quadriplegic Total Care

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**Nurse Workload Indicators**

- **All 2s makes a “2”**
- **Any 3 makes patient a “3”**
- **Any 4 makes patient a “4”**
Using the tool, a typical, uncomplicated postoperative patient was rated a 2. A complex surgical patient with more extensive care needs was a 3, and a patient at high risk for a decline in status or requiring frequent nursing care or assessment would have a 4 rating. Patients were rated a 2, 3, or 4 in each of the ten categories. For example, in the respiratory category, a stable laparoscopic cholecystectomy patient might need oxygen per nasal cannula at 2 liters per minute (lpm) for the first 24 hours due to the carbon dioxide gas used to inflate the abdomen during the procedure and would be identified as a 2. A patient requiring oxygen support above 2 lpm per nasal cannula, perhaps due to cardiac status would be a 3. A patient with decompensating respiratory status requiring a full-face oxygen mask would have a 4 rating.

**Results**

Content validity was verified using the input of the nursing staff and manager during the ten design and revision meetings. The resulting acuity tool was piloted and validated for usability and feasibility on all shifts at varying times and days of the week. During this phase, a total of 40 nurses assessed 183 patients. Patients were scored in each of the ten categories. Initially, raw scores were used and converted to an overall acuity rating of 2, 3, or 4. Refinement of the tool showed that a score of 3 for any category gave the patient a final 3 acuity rating, and a 4 score in any category gave a final 4 rating. This refinement eliminated the need to perform mathematical calculations and greatly reduced the complexity of use. Acuity ratings using the tool were then compared to ratings assigned by charge nurses using their traditional, subjective method.

During the trial period, the charge nurses rated 51% of patients as 2 and 49% of patients as 3 (none of the patients received a 4). When nurses used the new tool for the same patients concurrently, 32% of patients were a 2, 53% were a 3, and 15% were a 4 rating (see Figure 3). These ratings reflected the nurses’ perceptions of their patients’ acuity. There was agreement among management and the researchers that nurses were not overstating the number of high-acuity patients.

**Implementation**

The next phase was to implement the new acuity tool. Beginning July 18, 2011, each nurse rated his or her patients’ acuity using the tool. During this phase, 43 nurses rated 488 patients. Data revealed that 51% of the patients received an acuity rating of 2, 38% received a 3 rating, and 12% received a 4 rating (see Figure 3). Data collected using the objective tool showed that our previous subjective method failed to identify high-acuity patients.

Acuity indicators were analyzed to determine frequencies of occurrence (see Figure 4). The most frequently occurring driver for a patient rating of 4 was activities of daily living and isolation (for example, the care required for a paraplegic and a quadraplegic postoperative patient due to nursing workload). The second most common driver for a 4 was wound/ostomy (for exam-
A high-output ileostomy patient requiring frequent monitoring of output volume, site leakage, and fluid/electrolyte imbalance. The top drivers for an acuity rating of 3 were activities of daily living, patient’s isolation status, and admit/discharge/transfer.

The acuity ratings completed by nurses are now given to charge nurses to make the assignment for the oncoming shift. The typical nurse-patient ratio of 5:1 is adjusted to 4:1 if a nurse has a patient with a rating of 4. Novice nurses are assigned patients with acuity ratings of 2 or 3, and assignments are balanced to distribute the unit workload (see Figure 5).

<table>
<thead>
<tr>
<th>Patient</th>
<th>Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient A</td>
<td>3</td>
</tr>
<tr>
<td>Patient B</td>
<td>4</td>
</tr>
<tr>
<td>Patient C</td>
<td>2</td>
</tr>
<tr>
<td>Patient D</td>
<td>3</td>
</tr>
</tbody>
</table>

The advantages of the tool are simplicity, cost, and customization. The tool does not require complex documentation (i.e., any 4 is a 4) and requires about ten seconds per patient per shift to complete. It does not require expensive information technology support. Finally, the tool is easily adapted to the unique needs of any patient population.

Conclusions

Our experience illustrates that the use of the collaboration process by management and staff nurses can lead to the development of an objective, quantitative acuity tool to assign patient acuity to medical-surgical patients. This unit used this tool to effectively determine nurse-patient ratios and develop a safer nursing workload. Currently, the authors are mentoring other units at our hospital to facilitate the development of an acuity tool for their patient populations.

References


Kathy Chiulli, MSN, RN, CMSRN, was a Medical-Surgical Clinical Nurse Specialist, Inpatient Medical-Surgical Units, Duke Raleigh Hospital, Raleigh, NC, at the time this article was written.

Jackie Thompson, MSN, RN, CMSRN, was a Stroke Coordinator, Duke Raleigh Hospital, Raleigh, NC, at the time this article was written.

Kristi L. Reguin-Hartman, BSN, RN, was an Education Resource Specialist, WakeMed Hospital, Raleigh, NC, at the time this article was written.
Recognizing the need to better assist the new graduate nurses in their transition period, a medical-surgical departmental on-boarding program was implemented in January 2010. In the on-boarding program, the medical-surgical clinical director and educator met with the new graduate nurses every three months at pre-scheduled times throughout the first year of employment. During these pre-planned meetings, the director and educator provided encouragement and established trusting relationships with the new graduates. According to IUHB’s Human Resource Department, this program was successful in decreasing first-year graduate nurse turnover from 45% to 18% from the January 1, 2010, implementation. Turnover rates again increased in 2011 to 29% when a change in medical-surgical leadership occurred. Sustainability of the program’s success was not maintained.

Planning

The Clinical Education and Practice Department was eager to make changes to the current two-week centralized orientation program provided to new nurses entering the organization. It was essential to provide an approach that was thoughtful, evidence-based, and built on the American Nurses Association’s (ANA) Professional Practice Standards and the National Nursing Staff Development Organization (NNSDO) standards of learning (ANA, 2012; NNSDO, 2009).

Restructuring the New Nurse Orientation Program: Making It Meaningful, Relevant, Engaging, and Pertinent to Quality Patient Outcomes

High turnover rates are reported among new nurses within their first year of work following graduation (Bullock, Paris, & Terhaar, 2011; Hippeli, 2009). Restructuring new graduate nurse orientation should be explored to assist the novice nurses during their time of transition from student to practice.

Evidence demonstrates that the first year of employment for a new graduate nurse can be quite stressful and tenuous at best, and turnover rates can be as high as 60% (Bullock et al., 2011; Hippeli, 2009). This high turnover rate can result in lower nurse satisfaction while also negatively impacting patient care and the financial well-being of organizations. The rollout of newer nurses into nursing practice skews the level of experience, knowledge, and critical-thinking capabilities on nursing units. It is estimated to cost $50,000 to recruit and train one new nurse (Kowalski & Cross, 2010).

Transitioning from the classroom to the real world of health care for a new nurse graduate can be overwhelming. Hospitals have shown initial success in facilitating a smooth transition through residency programs and structured preceptor programs (Hillman & Foster, 2011). While the success of transitioning to the real world is multi-faceted — including the implementation of a residency program and a defined preceptor program — the foundation of transition success begins on the first day the new nurse graduate enters the facility.

Background

Indiana University Health Bloomington (IUHB) became a Magnet® facility in 2010 with an impressive overall turnover percentage of 9.73% in 2009 and 7.68% in 2010. However, the IUHB Human Resource Department reported the first-year new graduate nurse turnover rate for the two medical-surgical units, where the majority of new graduate nurses begin their careers at IUHB, was 45% in 2009 and 18% in 2010. Hippeli (2009) and Bullock and colleagues (2011) reported first-year new graduate nurse turnover rates ranges between 27% and 60%. The 18% turnover rate achieved at IUHB in 2010 was significant in relation to the 2009 turnover rate, as well as in comparison to reported new graduate turnover rates.
information presented. The participants expressed boredom with content and teaching techniques, and commented they did not value the learning methodology of orientation.

With this knowledge, the clinical educators and manager began an eight-month journey to restructure new nurse orientation. Pesut and Hermann’s (1999) methodology of having a goal and working backward to achieve that goal was used as a model for restructuring the orientation program. The main goal for change was to make centralized orientation meaningful, relevant, engaging, and pertinent to quality patient outcomes.

New graduate nurse orientation evaluations of the current orientation program identified that the majority of learning occurred while performing patient care. To be respectful of this feedback, the planning group decided to streamline the two-week centralized orientation program to one week, allowing the new graduate nurses to begin on the nursing units one week sooner. The centralized orientation program content was trimmed down to only two topics: organizational patient quality outcomes and The Joint Commission’s National Patient Safety Goals (2014).

While this new program was designed with the new graduate nurse in mind, IUHB disseminated the new centralized orientation program to include all new nursing personnel hires, including both new graduate nurses and newly hired experienced registered nurses (RNs) as well as newly hired Patient Care Technicians (PCTs), the unlicensed assistive nursing personnel. IUHB as an organization values teamwork, and it was important for the orientation program to highlight this. Historically, PCT, new graduate nurse, and newly hired experienced RN orientation had been separate orientation programs.

Patient care scenarios are the core of the new centralized orientation program and are presented and discussed to allow for intradisciplinary learning among PCTs, new graduate nurses, and experienced nurses. Learning in a safe environment with the assistance of both low and high fidelity simulation methods is now the primary learning modality utilized in the centralized orientation program.

Implementation

The new centralized orientation program was implemented in January 2012. The program implementers recognized that flexibility and adaptability are essential to success. Each orientation week may have different numbers of PCTs and nurses. Adapting the scenarios to best accommodate the varying number of orientees attending orientation has been necessary. Furthermore, reviewing the centralized orientation program evaluations to continuously strive to optimize orientee learning also necessitates flexibility and adaptability. Orientee feedback continues to drive the centralized orientation program, and the program is adapted at times as necessary.

The Clinical Education and Practice (CEP) team developed a structured yearlong timeline that each clinical educator follows with each orientee. This timeline focuses on skills acquisition, clinical documentation, and collaborative relationship building. A yearlong residency program is being developed with plans to provide discussion groups with the

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* AMSN gift certificates are not valid for the MSNCB CMSRN certification, recertification, and exam exemption fees.
new graduate nurses at three-, six-, nine-, and twelve-month post-hire intervals.

**Evaluation**

Although still relatively new in this implementation, the feedback received thus far is overwhelmingly positive as evidenced by comments received on the written evaluations.

One of the experienced RNs, who had been through the previous orientation program a couple of years ago and was now a rehire at IUHB stated, “This new orientation was so much more meaningful because you got rid of all that extra stuff. I could focus on what is important.”

A new graduate nurse stated, “Wow, to know there is this team of people dedicated to my learning is incredible. I feel like I’m the most important person here.”

While it is too early in the program implementation to measure success, data derived from patient outcomes such as patient satisfaction, pressure ulcers, falls, pain control, and hospital-acquired infections will be monitored monthly. A simple ten-question pre-/post-test to evaluate the effectiveness of the new centralized orientation program has been developed. Qualitative data obtained from the learners’ debriefing sessions will also be used to evaluate and continually adapt the program. Ongoing monitoring of RN turnover rates, especially the first-year rates, will optimally be the key to whether or not this program has contributed to a better transition for the new nurses.

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Pam Adams, MSN, RN, is a Clinical Manager; Clinical Education and Practice, Indiana University Health Bloomington, Bloomington, IN.

Lillian Bartlett, BSN, RN, is a Clinical Educator of Surgical Services, Indiana University Health Bloomington, Bloomington, IN.

David Blasdel, CHUC, is a Clinical Educator, Unlicensed Assistive Personnel, Indiana University Health Bloomington, Bloomington, IN.

Jason Giesler, BSN, RN, is a Clinical Educator, Critical Care and Central Telemetry, Indiana University Health Bloomington, Bloomington, IN.

Barb Haley, BSN, RN, is a Clinical Educator, Oncology and Float Pool, Indiana University Health Bloomington, Bloomington, IN.

Ronda Hendricks, BSN, RN, is a Clinical Educator, Women and Children Services, Indiana University Health Bloomington, Bloomington, IN.

Diana Hensley, BSN, RN, is a Clinical Educator, Ortho/Neuro and Acute Rehab, Indiana University Health Bloomington, Bloomington, IN.

Cheryl Jacobs, BSN, RN, is a Clinical Educator, Women and Children Services, Indiana University Health Bloomington, Bloomington, IN.

Peggy Lee, BSN, RN, is a Clinical Educator, Cardiovascular Services, Indiana University Health Bloomington, Bloomington, IN.

Courtney Moore, BSN, RN, is a Clinical Educator, Behavioral Health, Indiana University Health Bloomington, Bloomington, IN.

Reagan Norman, BSN, RN, is a Simulation Specialist, Indiana University Health Bloomington, Bloomington, IN.

Mary Anne Proctor-Holmes, BSN, RN, is a Clinical Educator, Medical/Surgical, Indiana University Health Bloomington, Bloomington, IN.

**Conclusion**

While the orientation program in and of itself is not the sole factor to address first-year new graduate nurse graduation turnover rates, the IUHB education team believes orientation can positively affect the turn rates. Any opportunity to better prepare new graduate nurses to the realities of nursing practice will help with the transition from student nurse to professional nurse.

Health Care Reform: A Call for Manuscripts

*MedSurg Matters!* includes an ongoing column – “Health Care Reform” -- which addresses the impact of the Affordable Care Act (2010) as well as the Institute of Medicine (IOM) *Future of Nursing* recommendations on health care and nursing.

Authors are needed for future columns, in particular to address IOM recommendations for nursing education. Manuscripts are sought on these topics:

- Life-Long Learning
- BSN Preparation
- MSN Preparation
- DNP and PhD Preparation
- Funding Sources for Advancing Your Education

The following are minimal areas to include when addressing education preparation for nursing: overview of the IOM recommendation for nursing education for the specific degree, benefits of attaining an advanced degree (professional, personal, and effect on patient outcomes), core courses, online versus traditional programs, and a list of the top 10 programs.

Queries regarding these and other related topics should be sent to msmnnews@ajn.com. Suggested manuscript length is 3-5 double-spaced, typewritten pages (1-2 newsletter pages).

Download the Author Guidelines at www.amsn.org/newsletter and get started today!
NSAIDs: Is Naproxen the Safest Choice?

Non-steroidal anti-inflammatory drugs (NSAIDs) are among the most commonly taken over-the-counter and prescribed medications in the United States. NSAIDs are used to reduce inflammation and pain. Leading medications in this class include: ibuprofen (Motrin®, Advil®), naproxen (Alleve®, Naprosyn®), ketoprofen (Ketofen®, Ostofen®), celecoxib (Celebrex®) and aspirin (Bayer®). Nonetheless, despite their widespread use and effectiveness, serious complications are associated with this class of drugs. NSAIDs have been found to cause peptic ulcer disease, gastrointestinal bleeding, kidney disease, heart attack, and stroke – especially when overused or in combination with other things like alcohol and tobacco.

Recently, the medication naproxen, which is manufactured by several leading pharmaceutical companies, was reported to be safer than other NSAIDs relating to cardiovascular complications. In a report published by CBS News (http://www.cbsnews.com/news/aleve-may-be-safer-on-heart-than-other-anti-inflammatory-drugs/) on January 28, 2014, data suggested that the cardiovascular risks associated with taking naproxen were lower compared to the other NSAIDs. The results of the new data could have significant financial implications for the companies producing naproxen. Considerations to remove the warning labels from naproxen packaging were being discussed.

The Federal Drug Administration (FDA) met in March 2014 to review the new naproxen findings and to determine if cardiovascular warning labels could be removed from packaging. However, in a 16-9 vote, the FDA panel decided against removing the warning labels from naproxen packaging, claiming the initial data was biased and limited in validity. Therefore, nurses should continue to teach patients that all NSAIDs (including naproxen products) do carry cardiovascular risks in addition to the aforementioned potential complications to watch for when taking NSAIDs.

More information on the results of the FDA decision can be found at: http://www.healio.com/cardiology/vascular-medicine/news/print/cardiology-today/%7B4f5f075f-9662-4e1d-9f84-f631501abfc%7D/fda-advisers-data-do-not-support-lower-cv-risk-with-naproxen