Bowel obstruction can be a serious condition that may lead to perforation, sepsis, and even death. We give you the tools you need for early detection and appropriate treatment so you can help get things moving smoothly again for your patient.

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Although things usually flow smoothly along the 750 cm of the average adult’s intestinal tract, obstruction may occur. More than just a backup, obstruction may progress to strangulation of the bowel, bowel infarction, perforation, sepsis, and even death. Because early detection is essential to successful outcomes, nurses must be aware of signs and symptoms of bowel obstruction, as well as appropriate interventions. But first, let’s briefly review the anatomy of the intestinal tract.

**Intestines both large and small**

The intestinal tract consists of the small and large intestine (see *Structures of the intestinal tract*). The small intestine, the longest organ in the gastrointestinal (GI) tract, joins to the pylorus of the stomach at the pyloric sphincter and has three major divisions: the duodenum, the jejunum, and the ileum. Its main function is to complete food digestion. Most of the nutrients, water, and electrolytes in foods are digested and absorbed during the 6- to 8-hour passage through the small intestine. The large intestine extends from the ileocecal valve of the small intestine to the anus. It consists of segments—the cecum, vermiform appendix, ascending colon, transverse colon, descending colon, and sigmoid colon—and the rectum. The large intestine mainly functions to absorb water and eliminate digestive waste products.

**Causes for alarm**

Bowel obstruction occurs when a blockage prevents the normal flow of contents through the intestinal tract. Obstruction can occur in either the small (most common) or large intestine (most likely to occur in the sigmoid colon), and it may be partial or complete. The severity of the obstruction depends on the region of the bowel affected, the degree to which the lumen is occluded, and the degree to which the vascular supply to the bowel wall is disturbed. Extrinsic, intrinsic, or intraluminal factors may be the cause. Let’s take a closer look.

**Extrinsic** bowel obstruction begins outside the GI tract. Adhesions (scar tissue growth) or herniation (loops of bowel protrude through hernias and become trapped) may be the cause. A volvulus, or twisted off area of bowel, may occur without any warning or reason. Masses caused by abscesses, aneurysm, endometriosis, or tumor growth may also cause a detour in the path of the bowel.

**Intrinsic** bowel obstruction is caused by blockages of the lumen, including tumors, inflammatory processes from chronic or acute bowel diseases, or congenital defects. Hematomas or clots may form related to trauma, cardiac dysrhythmias, or bleeding disorders. And strictures may occur in response to medications such as cathartic laxatives.

Finally, **intraluminal** bowel obstruction is caused by things that entered but didn’t pass through the bowel. These include meconium...
the 750
ileus; impaction secondary to barium, fecal materials, or gallstones; bezoars or large masses of undigested fiber; and foreign bodies entering and lodging in the GI tract.

**Call in the mechanics**

Many of the causes of bowel obstruction are mechanical in origin (see *Picturing common causes of bowel obstruction*). The ability of the body to transport stool through the tunnel of the GI tract is impaired by a change in the terrain, including:

• **adhesions.** Resulting from an overgrowth of tissue that forms bands around the bowel after surgical procedures, incidents of infection or ischemia, or damage from foreign bodies, adhesions are the most common cause of small bowel obstruction, accounting for 65% to 75% of all diagnosed cases in the United States.

• **herniation.** Hernias, in which loops of intestine protrude through a weakened area of the muscle wall, are responsible for 25% of small bowel obstruction cases in the United States and 57% of cases worldwide.

• **volvulus or intussusception.** A history of periods of laxative use and constipation may lead to a volvulus, in which the bowel twists and turns on itself, or intussusception, in which one part of the bowel slips into another part located below it (like a telescope shortening), accounting for 10% to 15% of small bowel obstruction cases.

• **tumors.** Adenocarcinoid tumors account for the majority of large bowel obstructions. The tumor may be located in the bowel itself, or compression of the intestinal lumen by tumors found in related GI structures, including the colon, female reproductive organs, pancreas, and stomach, may occur.

• **diverticulitis.** Diverticulitis, in which herniations called diverticula become inflamed and push the mucosal lining of the GI wall through the surrounding muscle, accounts
for 10% of large bowel obstruction.

Functional obstruction, in which the intestinal muscles can’t propel the contents along the bowel, may also occur. Examples include amyloidosis, muscular dystrophy, endocrine disorders (such as diabetes), and neurologic disorders (such as Parkinson’s disease). Nerve innervation is yet another reason that things might back up. Electrolyte imbalances and uremia both inhibit nerve conduction. Spinal cord lesions may permanently inhibit nerve innervation to a section of the GI tract, leading to impaction.

**Progression of events**

When a small bowel obstruction occurs, large amounts of fluids and gases are trapped in the lumen of the intestine above the obstruction related to fluid intake, production of saliva, and gastric juices. The swallowing of air while experiencing pain and anxiety, as well as production of methane and ammonia by the normal flora of the GI tract, leads to distension. The lower the obstruction is in the GI tract, the more marked the abdominal distension. As the situation progresses, the bowel itself becomes edematous and distends. Capillaries become more permeable, resulting in shifting of fluids and electrolytes across the tissues and into the peritoneal cavity. Dehydration and acidosis develop from a loss of water and sodium. Hypovolemia occurs as fluids are pulled out of the vascular bed and shifted into the area of involvement. Peristalsis below the obstruction decreases, leading to an overgrowth of bacteria in the gut. This bacteria, combined with the increased permeability of the intestine, leads to bacterial peritonitis. Above the obstruction, contents of the bowel increase in volume. As pressure in the abdominal cavity builds, perfusion is inhibited, which contributes to tissue ischemia and necrosis.

As in small bowel obstruction, large bowel obstruction results in an accumulation of intestinal contents, fluids, and gas proximal to the obstruction. Obstruction in the large intestine can lead to severe distension and perforation unless some gas and fluid can flow back through the ileocecal valve. Dehydration occurs more slowly than in small bowel obstruction because the colon can absorb its fluid contents and distend to a size considerably larger than its normal full capacity. If blood supply to the colon is cut off, intestinal strangulation and necrosis (a life-threatening condition) occur.

**Signs and symptoms on parade**

In small bowel obstruction, the initial symptom is usually crampy abdominal pain that’s wavelike and colicky. The patient may pass blood and mucus but no fecal matter and flatus. Reflux vomiting occurs. If the obstruction is complete, the peristaltic waves eventually assume a reverse direction, propelling the intestinal contents toward the mouth instead of the rectum, resulting in fecal-smelling breath. If the obstruction is in the ileum, fecal vomiting occurs: The patient will vomit the stomach contents, then the bile-stained contents of the duodenum and jejunum, and, finally, the fecal-like contents of the ileum. Signs of dehydration—intense thirst, drowsiness, general malaise, aching, and a parched tongue and mucous membranes—will become evident and hypovolemic shock will occur if the obstruction continues uncorrected.

In large bowel obstruction, symptoms develop and progress relatively slowly. In patients with obstruction in the sigmoid colon, constipation may be the only symptom for months. The shape of the stool gradually increases in size, and blood in the stool may occur. The patient may experience weakness, weight loss, and anorexia. Eventually, the abdomen becomes markedly distended, loops of large bowel become visibly outlined through the abdominal wall, and the patient experiences crampy lower abdominal pain. Finally, fecal vomiting occurs.
The power of assessment

Begin assessing your patient by taking a history of the events leading him to seek care. Has a similar incident occurred previously? Has he recently undergone surgery or suffered a traumatic event? Does he have a history of GI diseases, including inflammatory bowel disease, diverticulitis, gastric diseases, or pancreatitis? Previous incidents of cancer, as well as adverse reactions to antineoplastic therapies, may also provide clues to the nature of the incident. If your patient is a woman, the timing of symptoms during menstruation may indicate an obstruction caused by endometriosis. A decrease in peristalsis may be secondary to medication use. For example, treatment for constipation may lead to obstruction as the bowel contracts, and bulk laxatives or dry fiber products may form a mechanical blockage when inadequate oral fluid intake occurs.

Pain is generally the symptom that leads a patient to seek care, and an accurate, detailed history of this symptom provides insight as to the nature of the obstruction. Was the pain sudden in onset or has it been chronic? Has it remained the same or has it been building in intensity over a period of weeks or even months? A patient experiencing strangulation or necrosis of the bowel will complain of pain more intense than physical findings would suggest, especially if an erythematous area is present at the site of the greatest amount of pain. A dull pain that moves may be the result of ascites. Tenderness over an area of herniation suggests incarceration of the bowel in this area. Generally, the farther down the intestinal tract the blockage is, the more intense the pain. Rebound tenderness suggests that the bowel has been perforated.

Bowel sounds will likely be high-pitched, hyperactive, tinkling, and almost metallic in

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Picturing common causes of bowel obstruction

A. Intussusception or shortening of the colon caused by the movement of one segment of bowel into another

B. Volvulus of the sigmoid colon with the twist moving counterclockwise (found in most cases)

C. Inguinal hernia in which the sac of the hernia is a continuation of the peritoneum of the abdomen
quality over the area of obstruction because the body is attempting to clear the blockage. Below the area of impaction, bowel sounds are usually quiet, if not absent. There may be no substances passed rectally; however, watery stool may be leaking past the area of blockage. This is the body’s attempt to lubricate, loosen, and expel the blockage.

**Identifying the scene**

Lab values will dictate the course of fluid and electrolyte management. Proximal obstruction resulting in emesis leads to loss of sodium, potassium, chloride, and hydrogen. Sodium, blood urea nitrogen, and creatinine levels and osmolality will be elevated due to fluid shifting out of the vascular bed and into the intestine. The white blood cell count will be elevated as inflammation develops. Hemoglobin and hematocrit values will be elevated in the face of fluid loss, leading to the increased likelihood of development of thromboembolic complications. Alanine aminotransferase, alkaline phosphatase, amylase, aspartate aminotransferase, creatine phosphokinase, lactate dehydrogenase, and lipase values will be elevated related to the response of other digestive tract organs to the situation. Respiratory acidosis may occur if the patient experiencing pain develops a shallow breathing pattern. Metabolic acidosis may develop as perfusion decreases and tissue death occurs. Guaiac-positive (the presence of hidden blood) gastric products, whether vomitus, aspirate from the gastric tube, or products expelled rectally, indicate an increase in permeability. Frank blood is an indication of perforation and the need for immediate surgical intervention.

Multiple diagnostic tools may be employed. An X-ray of the abdomen will show dilation of the bowel, as well as free air in the event of perforation. A barium swallow or an enema will help identify the location of the obstruction. A computed tomography scan may show mechanical changes secondary to the obstruction. The addition of a contrast medium will illustrate vascular changes. Magnetic resonance imaging provides a more detailed picture of the vascular and mechanical changes that have occurred.

**Treatment on the way**

If the obstruction is incomplete, medical management is preferred. The patient will generally have a nasogastric (NG) tube

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**Mechanical causes of bowel obstruction**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Course of events</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesions</td>
<td>Loops of intestine become adherent to areas that heal slowly or scar after abdominal surgery.</td>
<td>After surgery, adhesions produce a kinking of an intestinal loop.</td>
</tr>
<tr>
<td>Intussusception</td>
<td>One part of the intestine slips into another part located below it (like a telescope shortening).</td>
<td>The intestinal lumen becomes narrowed.</td>
</tr>
<tr>
<td>Volvulus</td>
<td>The bowel twists and turns on itself.</td>
<td>The intestinal lumen becomes obstructed. Gas and fluid accumulate in the trapped bowel.</td>
</tr>
<tr>
<td>Hernia</td>
<td>The intestine protrudes through a weakened area in the abdominal muscle or wall.</td>
<td>Intestinal flow may be completely obstructed. Blood flow to the area may also be obstructed.</td>
</tr>
<tr>
<td>Tumor</td>
<td>A tumor that exists within the wall of the intestine extends into the intestinal lumen, or a tumor outside the intestine causes pressure on the wall of the intestine.</td>
<td>The intestinal lumen becomes partially obstructed; if the tumor isn’t removed, complete obstruction results.</td>
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How to measure NG tube length and confirm placement

To measure length:

1. Mark the NG tube at a point 20 inches (50 cm) from the distal tip; call this point A.

2. Have the patient sit in a neutral position with her head facing forward. Place the distal tip of the tubing at the tip of the patient’s nose (N), extend the tube to the tragus (tip) of the ear (E), and then extend the tube straight down to the tip of the xiphoid (X). Mark this point B on the tubing.

3. To locate point C on the tube, find the midpoint between points A and B. The NG tube is passed to point C to ensure optimum placement in the stomach.

To confirm placement after the initial X-ray is done, a combination of three methods is recommended:

1. Measure the length of the exposed portion of the tube every shift and compare it with the original measurement. An increase in length of exposed tube may indicate dislodgment or a leaking or ruptured balloon if the tube has a balloon.

2. Visually assess the color of aspirate to help distinguish between gastric and intestinal placement. Gastric aspirate is most frequently cloudy and green, tan or off-white, or bloody or brown. Intestinal aspirate is primarily clear and yellow to bile-colored. Pleural fluid is usually pale yellow and serous, and tracheobronchial secretion are usually tan or off-white mucus.

3. Measure the pH of aspirate, which is a more accurate method of confirming tube placement than measuring the exposed tube length or assessing tube aspirate. The pH of gastric aspirate is acidic (1 to 5), the pH of intestinal aspirate is approximately 6 or higher, and the pH of respiratory aspirate is more alkaline (7 or greater).
placed for decompression of the GI tract (see *How to measure NG tube length and confirm placement*). This intervention provides resolution for many obstructions, as relief of pressure on the lumen helps normal peristaltic activities resume. Management of the patient’s NG tube includes using the appropriate method of suction for the tube in use, assessing the tube for patency and proper placement at least every 4 hours, and documenting the appearance and guaiac status of any aspirate. Securing the tube so that it doesn’t pull on the nares will promote comfort and help avoid tissue irritation and breakdown. Withholding oral consumption of foods and fluids will help to avoid further irritation and damage to the GI tract. To help monitor output, a urinary catheter is generally placed.

Administration of I.V. fluids and electrolytes will be governed by lab findings, measurement of central venous pressure (CVP), and changes in daily weight. For patients with cardiac, pulmonary, or renal impairment, monitoring the central venous and pulmonary artery pressure will help to fine-tune fluid balance. The measurement of CVP helps determine whether the volume of fluids used to treat hypotension is adequate and that the fluids are staying in the vascular bed rather than seeping into the third spaces, as would be the case in sepsis. With exaggerated shifts of fluids and electrolytes related to the obstruction, or related to the cause of obstruction, the patient requires frequent monitoring of lab values with adjustment of I.V. infusions as necessary. Administration of broad-spectrum antibiotics helps to combat peritonitis or sepsis and is the standard of care in treating patients who develop a fever. Parenteral nutrition, used in patients who aren’t believed to be septic, helps prevent further complications with other body systems related to chronic malnutrition, including tissue breakdown. (Many clinicians believe that parenteral nutrition promotes growth of pathogens if a blood culture is positive, impairing successful treatment with antibiotics.) Control of pain must be conservative because most agents of pain relief have a tendency to slow peristalsis, which may complicate the obstruction.

Should the patient pass adequate amounts of gas or stool, his condition may improve and eventually resolve with medical management; however, the development of rebound tenderness where it wasn’t previously present is an immediate indication of the patient’s decline. Signs and symptoms of sepsis, including fever, increased capillary permeability demonstrated by edema, decreasing BP, increasing heart rate, and respiratory difficulties, will warrant evaluation and surgical management.

Surgical treatment depends largely on the cause of the obstruction. In the case of adhesions or hernias, the procedure involves dividing the adhesion to which the intestine is attached or repairing the hernia. In some instances, the portion of the affected bowel may be removed and an anastomosis performed (see *Types of bowel resection and intestinal stomas*). A temporary or permanent ileostomy (a surgical opening into the ileum, creating a stoma on the outside of the abdomen) or colostomy (a surgical opening into the colon, creating a stoma on the outside of the abdomen) may be necessary. Less invasive techniques, including endoscopy and colonoscopy, may be used to correct volvulus. Laparotomy will likely be needed for resolution of mechanical issues, and it’s absolutely necessary for correction of perforation.

**Complication station**

The patient experiencing bowel obstruction is at risk for infection, respiratory impairment, alteration of clotting mechanisms, and skin breakdown. Let’s take a closer look.

The thinning of the edematous bowel with increased capillary permeability encourages flora normally confined to the lumen of the bowel to escape to the peritoneal cavity,
increasing the patient’s risk of infection. Abdominal pain may lead to urinary retention, allowing bacteria to ascend the urethra and thrive in warm urine. Shallow respirations allow fluids to pool in the alveoli, giving bacteria from the upper respiratory and GI tracts the opportunity to proliferate in the lungs. Surgical wounds may be contaminated, especially if the bowel has been perforated before surgical intervention. Monitor the patient’s body temperature and observe for erythematous areas, especially near the surgical wound. Observe that the edges of the wound are approximated. Document the color, odor, and consistency of any wound drainage. If the wound has been left open, follow aseptic technique when changing the dressing. Report any changes immediately to the healthcare provider.

The patient is also at risk for respiratory impairment related to pain and sepsis. A patient with inadequate pain relief will take shallow breaths, and sepsis increases the need for oxygen while reducing circulation. Increased capillary permeability from sepsis leads to leaking of albumin into the alveolar bed, impeding gas exchange. Be alert to changes in oxygen saturation status and look for early signs of respiratory distress, such as increasing anxiety, picking at sheets, and an increase in heart and respiratory rates. Administer oxygen as ordered. Encourage physical activity so that the patient will take deeper breaths, whether by using an incentive spirometer or ambulating.

Because the liver controls clotting mechanisms, the patient with impaired bowel function often produces altered levels of clotting factors. The patient is also at high risk for disseminated intravascular coagulation. Early initiation of treatment with drotrecogin alfa (activated) will prevent activation of protein C, preventing complications from impaired clotting in this situation. The use of heparin therapy may prevent clotting factors from being used up. Low-molecular-weight heparin products provide a more continuous level of antico-
**Indications:** Disease of the descending and upper sigmoid colon

**Indications:** Disease of the lower sigmoid colon or upper rectum

**Indications:** Disease of the descending and upper sigmoid colon

**Loop stoma**
To create a loop stoma, the surgeon brings a loop of intestine out through an abdominal incision to the abdominal surface and supports it with a rod or bridge (usually removed in 5 to 7 days). The anterior wall of the bowel loop is opened with a small incision to provide fecal diversion. The result is a stoma with a proximal, functioning limb and a distal, nonfunctioning limb. The wound is then closed around the exposed intestinal loop.

**Double-barrel stoma**
For a double-barrel stoma, the surgeon divides the intestine and brings both the proximal and distal ends through the abdominal incision to the abdominal surface. A small incision is made in the proximal stoma for fecal drainage. The distal stoma leads to the inactive intestine and is left intact. When the intestinal injury has healed, the colostomy is reversed and the divided ends of the intestine are anastomosed to restore intestinal integrity.
agulation, whereas I.V. preparations are less expensive and are easily monitored and titrated. Monitor prothrombin time, international normalized ratio, and partial thromboplastin time. Assess the skin for petechiae, temperature, and alteration in color because unilateral changes may indicate clotting. Assess all body fluids for guaiac status. Encourage the patient to move his legs while in bed and to cross his ankles rather than his legs when sitting up. Avoid leaving him in any position that may impair circulation for any period of time.

Lastly, the patient may be experiencing malnutrition, whether because of poor diet or poor absorption, which can lead to skin breakdown. Monitoring of prealbumin, albumin, or total protein levels will help provide clues to this situation and indicate the need for aggressive use of pressure-relieving products. Air mattress overlays, air beds, or even kinetic therapy may be indicated. Your facility’s policy and procedure manual will provide guidance as to which products you’ll be able to use. In addition to repositioning the patient every 2 hours, keeping linens wrinkle-free and dry is essential. Avoiding harsh detergents and using products to protect the skin from moisture, stool, and urine will help to maintain skin integrity. The use of wafer-type dressings will encourage healing by limiting contact with the environment, as well as promoting patient comfort.

**For your consideration**

Both the obstruction and the aftermath of treatment will cause pain and discomfort for your patient. Assess his pain by having him rate it on a scale of 0 to 10, with 0 being no pain and 10 being the worst pain imaginable. The goal is that your patient will verbally express relief of pain. He should be able to move and breathe in order to decrease complications from immobility and poor gas exchange. A person with abdominal pain will tend to slouch, so his ability to stand straight is an indication of reduced discomfort. Teach your patient to use a pillow to splint his abdomen when he moves or takes deep breaths, as he needs to.

Pain and uncertain outcomes are causes of anxiety, both for your patient and his family. Your patient may have been dealing with chronic, intermittent pain or a very sudden onset of symptoms, and either situation can exhaust his coping ability. The correct answer to questions about his course of therapy is that it will depend on his response to treatment; however, the inability to give specific answers to your patient and his family’s questions may also increase his anxiety. Allowing verbalization of concerns and understanding that inappropriate behavior is being directed at the situation, not the healthcare team, are essential. Use of social services and counseling will help to identify available resources for your patient, if needed. Administration of anxiolytic medication, as ordered, will not only reduce anxiety and help your patient rest, but will also help his muscles relax, encouraging passage of bowel contents.

**Patient-teaching pearls**

Many of the causes of bowel obstruction are related to behavioral issues. Teach your patient that frequent laxative use causes contraction of the bowels, as well as electrolyte imbalances, both of which predispose him to obstruction. The improper use of bulk-forming laxatives increases constipation and blockage when inadequate fluid intake occurs. Tell him to avoid laxatives and increase fluid intake to promote good bowel hygiene. Stool softeners will help avoid the need to strain to pass stool, and regular exercise such as walking will strengthen abdominal walls and aid with the passing of stool. Encourage him to consume a diet rich in fruits and vegetables, which will increase fiber intake with the added bonus of providing vitamins and minerals to accelerate tissue synthesis.

If your patient has undergone surgery
Guidelines for changing an ileostomy appliance

Changing an ileostomy appliance is necessary to prevent leakage (the whole appliance, including the flange or wafer, is usually changed every 5 to 7 days), to allow for examination of the skin around the stoma, and to assist in controlling odor if this becomes a problem. The appliance should be changed any time the patient complains of burning or itching under the disk or pain in the area of the stoma; routine changes should be performed early in the morning before breakfast or 2 to 4 hours after a meal, when the bowel is least active.

• Promote patient comfort and involvement in the procedure. Have the patient assume a relaxed position, provide privacy, and explain the details of the procedure. Expose the ileostomy area and remove the ileostomy belt (if worn).
• Remove the appliance. Have the patient sit on the toilet or on a chair facing the toilet. A patient who prefers to stand should face the toilet. The appliance (pouch) can be removed by gently pushing the skin away from the adhesive.
• Clean the skin. Wash the skin gently with a soft cloth moistened with tepid water and mild soap; the patient may prefer to bathe before putting on a clean appliance. (The patient may shower with or without the pouch. Micropore or waterproof tape applied to the sides of the appliance will keep it secure during bathing.) Rinse and dry the skin thoroughly after cleaning.
• Apply the appliance (when no skin irritation is present). Apply an appropriate skin barrier to the peristomal skin before applying the appliance. Remove the cover from the adherent surface of the disk of the disposable plastic appliance and apply it directly to the skin. Press firmly in place for 30 seconds to ensure adherence.
• Apply the appliance (when skin irritation is present). Clean the skin thoroughly, but gently; pat dry. Apply triamcinolone acetonide spray, blot excess moisture with a cotton pledget, and dust lightly with nystatin powder. Alternatively, you may apply a skin barrier. The stomal opening should be cut to the same size as the stoma; use a cutting guide (supplied with the skin barrier). Apply the wafer directly to the skin. Another alternative is to moisten a karaya gum washer and apply it when it’s tacky. If the skin is moist, karaya powder may be applied first and any excess dusted off gently. Apply the pouch to the treated skin.
• Check the pouch bottom for closure; use the rubber band or clip provided.

Pouching options

One-piece systems

- Skin barrier
- Starter opening
- Cut-to-fit skin barrier
- Tape collar
- Comfort panel
- Tail

In a one-piece system, the pouch and skin barrier are a single unit.

Tail clip

Two-piece systems

- Tape collar
- Skin barrier
- Starter opening
- Flange
- Comfort panel
- Tail

In a two-piece system, the pouch attaches to a skin barrier with flange.

Tail clip
resulting in an ileostomy or colostomy, he’ll need focused education on this aspect of his personal care (see Guidelines for changing an ileostomy appliance). Selection of the proper size of appliances, care of the site and skin near the colostomy, and dietary changes to help reduce gas production are important issues to address. Products are available to reduce odors and help appliances adhere more successfully. If an enterostomal nurse is available, enlist her services as soon as possible to help your patient cope with personal care, as well as the alteration in his body image.

**Smooth runnings**

Although the patient experiencing a bowel obstruction is challenging to care for because of multiple system involvement, full recovery is possible. Astute assessment skills paired with effective multidisciplinary communication will help to accelerate care. Speedy intervention will help alleviate the backup, and vigorous nursing care has the ability to prevent more fender benders in the future.

**Learn more about it**


1. The large intestine’s main function is that of
   a. nutrient absorption.
   b. water absorption.
   c. lubrication.

2. Which of the following is an example of an intrinsic bowel obstruction?
   a. herniation
   b. tumors
   c. impacted feces

3. The most common cause of small bowel obstruction is
   a. intussusception.
   b. adhesions.
   c. herniation.

4. Which condition can cause functional bowel obstruction?
   a. endometriosis
   b. inflammatory bowel disease
   c. diabetes

5. Obstruction in which area would lead to the greatest abdominal distension?
   a. duodenum
   b. ascending colon
   c. sigmoid colon

6. Bowel obstruction causes
   a. intestinal bacteria to migrate to the peritoneal cavity.
   b. fluid to shift from the area of involvement into the vasculature.
   c. increased peristalsis below the obstruction.

7. Dehydration occurs more rapidly from obstruction in the
   a. ileum.
   b. transverse colon.
   c. rectum.

8. Over an area of obstruction, bowel sounds are likely to be
   a. high-pitched and hyperactive.
   b. normal in pitch but sluggish.
   c. quiet or absent.

9. What’s the most common symptom causing people to seek care?
   a. constipation
   b. vomiting
   c. pain

10. Which condition is most likely to cause more intense pain than the physical exam suggests?
    a. perforation
    b. bowel necrosis
    c. ascites

11. Which sign or symptom associated with bowel obstruction is most likely to be treated with emergency surgery?
    a. vomiting bright red blood
    b. absent bowel sounds
    c. vomiting fecal matter

12. Incomplete obstruction will most likely be treated with
    a. gastrointestinal decompression.
    b. nasogastric (NG) tube feedings.
    c. surgery.

13. NG tube patency and positioning should be checked at least every
    a. 1 hour.
    b. 4 hours.
    c. 8 hours.

14. Which therapy is most likely to complicate bowel obstruction?
    a. antibiotics
    b. total parenteral nutrition
    c. analgesics

15. Which complication is least likely to result from the pain of bowel obstruction?
    a. urinary tract infection
    b. peritonitis
    c. pneumonia

16. Discharge teaching should encourage
    a. frequent laxative use.
    b. bulk-forming agents with small amounts of water.
    c. regular exercise.

17. When is the least desirable time to change an ileostomy bag?
    a. early morning before breakfast
    b. just after the midday meal
    c. 2 to 4 hours after a meal

18. Which statement about care of an ileostomy stoma is correct?
    a. Press on the disk for 30 seconds during appliance application.
    b. Appliances should be changed only when leakage is apparent.
    c. The stomal disk opening should be cut 1 inch larger than the stoma.

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Go to next page for the CE Enrollment Form.