

Chapter 16

Gastrointestinal and Urologic Emergencies

Unit Summary

Students who complete this chapter presentation and the related course work will understand the concept of the following: anatomy and physiology of the gastrointestinal, genitourinary, and renal systems. Students should be able to assess and manage various patient populations with numerous related gastrointestinal/genitourinary complaints, some of which include but are not limited to direct or referred abdominal pain, hypoglycemia, hyperglycemia, shock related to acute (medical versus trauma) or chronic gastrointestinal disorders, hemorrhage, peritonitis, and complications related to the renal system (renal dialysis).

National EMS Education Standard Competencies

Medicine

Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

Abdominal and Gastrointestinal Disorders

Anatomy, presentations, and management of shock associated with abdominal emergencies:

ÉGastrointestinal bleeding (pp 604, 612)

Anatomy, physiology, pathophysiology, assessment, and management of:

ÉAcute and chronic gastrointestinal hemorrhage (pp 604, 608, 612)

ÉPeritonitis (pp 601, 602, 610, 612)

ÉUlcerative diseases (pp 603, 612)

Genitourinary/Renal

ÉBlood pressure assessment in hemodialysis patients

Anatomy, physiology, pathophysiology, assessment, and management of:

ÉComplications related to:

Renal dialysis (pp 612, 613)

Urinary catheter management (not insertion) (p 613)

ÉKidney stones (p 606)

Knowledge Objectives

1. Understand the basic anatomy and physiology of the gastrointestinal, genital, and urinary systems. (pp 599, 601)
2. Define the term "acute abdomen." (p 602)
3. Describe pathologic conditions of the gastrointestinal, genital, and urinary systems. (pp 601, 607)

4. Explain the concept of referred pain. (pp 602-603)
5. Understand that abdominal pain can arise from other body systems. (pp 602-603)
6. List the most common abdominal emergencies, with the most common locations of direct and referred pain. (p 603)
7. Identify the signs and symptoms, and common causes, of an acute abdomen. (pp 601-607)
8. Explain the procedures to follow for patient assessment of gastrointestinal and urologic emergencies. (pp 607-612)
9. Describe the emergency medical care of the patient with gastrointestinal or urologic emergencies. (p 612)
10. Describe the procedures to follow in managing the patient with shock associated with abdominal emergencies. (p 612)
11. Explain the procedures to follow in the assessment and management of acute and chronic gastrointestinal hemorrhage, peritonitis, and ulcerative diseases. (p 612)
12. Understand the principles of kidney dialysis. (pp 612-613)

Skills Objectives

1. Demonstrate the assessment of a patient's abdomen. (pp 610-611)

Lecture

I. Introduction

A. Abdominal pain is a common complaint.

1. The cause of abdominal pain is often difficult to identify.

B. As an EMT:

1. You *do not* need to determine the exact cause of abdominal pain.
2. You *should* be able to recognize a life-threatening problem and act swiftly in response.
3. The patient in pain is probably anxious, requiring your skills of rapid assessment and emotional support.

II. Anatomy and Physiology

A. Abdominal cavity

1. Contains solid and hollow organs that make up:
 - a. Gastrointestinal system
 - b. Genital system
 - c. Urinary system
2. Solid organs include:
 - a. Liver
 - b. Spleen

- c. Pancreas
 - d. Kidneys
 - e. Ovaries in women
3. Injury to a solid organ can cause shock and bleeding.
4. Hollow organs include:
- a. Gallbladder
 - b. Stomach
 - c. Small intestine
 - d. Large intestine
 - e. Urinary bladder
5. If there is a breach into a hollow organ, the contents will leak and contaminate the abdominal cavity.

B. Gastrointestinal system

1. Responsible for digestion process
2. Digestion begins when food is put into the mouth and chewed.
 - a. Salivary glands secrete saliva and begin to break food down.
 - b. Food is then swallowed.
 - c. Food travels down the esophagus to the stomach.
3. The stomach is the main organ of the digestive system.
 - a. Gastric juices break down food.
4. The liver assists in digestion.
 - a. Secretes bile
 - i. Aids in digestion of fats
 - b. Filters toxic substances produced by digestion
 - c. Creates glucose stores
 - d. Produces substances necessary for blood clotting and immune function
5. The gallbladder is a reservoir for bile.
6. Food then travels to the small intestine, consisting of three sections:
 - a. Duodenum
 - i. Digestive juices from the pancreas and liver mix together.
 - ii. Pancreas secretes enzymes that break down starches, fats, and proteins.
 - (a) The pancreas also releases amylase.
 - (1) Responsible for breaking down starches into sugar
 - (b) Bicarbonate is also produced in the pancreas.
 - (1) Neutralizes stomach acid in duodenum
 - (c) Insulin is also produced in the pancreas.
 - (1) Regulates amount of glucose in the bloodstream
 - b. Jejunum
 - i. Plays a major role in absorption of digestive products
 - ii. Does much of the work in the small intestine
 - c. Ileum
 - i. Soluble molecules are absorbed into the blood.
 - ii. Proteins, fats, and starches are reduced to amino acids, fatty acids, and simple sugars.
7. Colon (large intestine)
 - a. Food not broken down and used moves into colon as waste product.
 - b. Movement called peristalsis moves the waste matter through the intestines.

- c. Water is absorbed and stool is formed.
 - i. Passes through the rectum to the anus and is defecated
- 8. The spleen is located in the abdomen but has no digestive function.
 - a. Part of lymphatic system
 - i. Significant role in relation to red blood cells and immune system
 - ii. Assists in filtration of blood
 - iii. Aids in development of red blood cells
 - iv. Serves as blood reservoir
 - v. Produces antibodies

C. The genital system

- 1. Abdominal space also holds reproductive organs.
- 2. Male reproductive system consists of:
 - a. Testicles
 - b. Epididymis
 - c. Vasa deferentia
 - d. Seminal vesicles
 - e. Prostate gland
 - f. Penis
- 3. Female reproductive system consists of:
 - a. Ovaries
 - b. Fallopian tubes
 - c. Uterus
 - d. Cervix
 - e. Vagina

D. The urinary system

- 1. Controls discharge of waste materials filtered from blood by the kidneys
 - a. The kidneys are solid organs.
 - b. The ureters, bladder, and urethra are hollow organs.
- 2. Body contains two kidneys, one on each side.
 - a. Lie on posterior muscular wall of abdomen behind the peritoneum in the retroperitoneal space
 - b. Play an important role in the regulation of acidity and blood pressure
 - c. Rid body of toxic waste
 - d. Control balance of fluid and electrolytes
 - e. Blood flow is high in the kidneys.
- 3. Ureters join each kidney to the bladder.
 - a. Small, hollow, muscular tubes
 - b. Peristalsis, a wavelike contraction of smooth muscle, occurs, moving the urine to the bladder.
- 4. Bladder is located immediately behind pubic symphysis.
- 5. The bladder empties to the outside of the body through the urethra.
 - a. Male: Urethra passes from the anterior base of the bladder through the penis.
 - b. Female: Urethra opens at the front of the vagina.
- 6. Normal adult forms 1.5 to 2 L of urine per day.

III. Pathophysiology

A. The abdominal cavity is lined by a membrane called the peritoneum.

1. The peritoneum also covers the organs of the abdomen.
 - a. The parietal peritoneum lines the abdominal cavity.
 - b. The visceral peritoneum covers the organs.
2. The presence of foreign material (blood, pus, bile, pancreatic juice, amniotic fluid) can irritate the peritoneum, causing peritonitis.

B. Acute abdomen refers to the sudden onset of abdominal pain.

1. Often associated with severe, progressive problems requiring medical attention

C. Peritonitis (inflammation of peritoneum) typically causes ileus.

1. Ileus is paralysis of muscular contractions that normally propel material through the intestine.
 - a. The retained gas and feces cause abdominal distention.
 - i. The stomach can only empty itself by vomiting (emesis).
 - ii. Peritonitis is associated with nausea and vomiting.
 - iii. Also associated with loss of bodily fluid into abdominal cavity.
 - b. To gauge the degree of distention, simply look at the patient's abdomen.
 - c. Pulse and blood pressure may change significantly.
 - d. Look for signs of shock.
2. Diverticulitis
 - a. Inflammation of abnormal pockets at weak areas in the lining of colon
 - b. Left lower quadrant pain
 - c. Substantial elevation in temperature
3. Cholecystitis
 - a. Gallbladder inflammation
 - b. Right upper quadrant pain
 - c. Substantial elevation in temperature
4. Acute appendicitis
 - a. The patient's temperature may be within normal limits.

D. Abdominal pain

1. Two different types of nerves supply the peritoneum.
 - a. Abdominal pain can have different qualities.
2. Parietal peritoneum is supplied by the same nerves that supply the skin of the abdomen.
 - a. Can perceive pain, touch, pressure, heat, cold
 - i. Can easily identify and localize a point of irritation
3. The visceral peritoneum is supplied by the autonomic nervous system.
 - a. Nerves are far less able to localize sensation.
 - i. Patients will not be able to describe exactly where the pain is.
 - (a) Called referred pain

E. Common causes of acute abdomen:

1. Ulcers
 - a. Protective layer of mucus lining erodes, allowing acid to eat into organ.

- b. Peptic ulcers are usually the result of:
 - i. *Helicobacter pylori* infection
 - ii. Chronic use of nonsteroidal anti-inflammatory drugs
 - iii. Alcohol and smoking
- c. If the erosion is severe, it can lead to gastric bleeding.
- d. Peptic ulcers affect men and women equally but occur more frequently in geriatric population.
- e. Described as burning, gnawing pain usually in the upper abdomen that subsides or diminishes after eating
- f. Nausea, vomiting, belching, and heartburn are common symptoms.
- g. Some ulcers heal without intervention.

2. Gallstones

- a. Gallbladder is storage pouch for digestive juices and waste from the liver.
- b. Gallstones may form, and if the blockage does not pass, it can lead to severe inflammation of the gallbladder, called cholecystitis.
 - i. Condition in which the wall of the gallbladder is inflamed
 - ii. Gallbladder can rupture in severe cases.
 - iii. Presents as a constant, severe pain in the right upper midabdominal region and may refer to the right upper back, flank, or shoulder
 - iv. Symptoms may appear 30 minutes after a fatty meal and at night.
 - (a) Symptoms include nausea, vomiting, indigestion, bloating, gas, and belching.

3. Pancreatitis

- a. Inflammation of the pancreas
 - i. Caused by obstructing gallstone, alcohol abuse, or other diseases
- b. Signs and symptoms:
 - i. Severe pain in upper left and right quadrants, often radiating to the back
 - ii. Nausea
 - iii. Vomiting
 - iv. Abdominal distention
 - v. Tenderness
- c. Sepsis or hemorrhage may occur.
 - i. Look for fever or tachycardia.

4. Appendicitis

- a. Inflammation or infection in the appendix
 - i. Can cause tissues to die, causing an abscess, peritonitis, or shock
 - ii. Pain is initially more generalized and dull.
 - (a) Pain later localizes to the right lower quadrant.
- b. Patient may complain of:
 - i. Nausea and vomiting
 - ii. Anorexia
 - iii. Fever
 - iv. Chills
 - v. Rebound tenderness
 - (a) Result of peritoneal irritation
 - (b) Assessed by pressing down gently and firmly on abdomen
 - (1) Patient will feel pain when the pressure is released.

5. Gastrointestinal hemorrhage

- a. Bleeding within the gastrointestinal tract

- b. Can be acute
 - i. May be shorter term and more severe
- c. Can be chronic
 - i. May be longer duration and less severe
- d. All complaints should be considered serious.
- e. Can occur in upper or lower gastrointestinal tract
 - i. Bleeding in upper gastrointestinal tract occurs from the esophagus to the upper small intestine.
 - ii. Lower gastrointestinal bleeding occurs between the upper part of the small intestine and the anus.

6. Esophagitis

- a. Occurs when the lining of the esophagus becomes inflamed by infection or acids from the stomach
- b. In worst cases, bleeding can occur from the capillary vessels within the esophageal lining or the main blood vessels.
- c. Patient may report pain in swallowing.
- d. Additional symptoms include:
 - i. Heartburn
 - ii. Nausea
 - iii. Vomiting
 - iv. Sores in the mouth

7. Esophageal varices

- a. Occurs when the amount of pressure within blood vessels surrounding the esophagus increases
 - i. When blood is blocked up in the portal vessels, vessels dilate, causing the capillary network of the esophagus to begin leaking.
- b. Initially, patient shows signs of liver disease:
 - i. Fatigue
 - ii. Weight loss
 - iii. Jaundice
 - iv. Anorexia
 - v. Edema in the abdomen
 - vi. Abdominal pain
 - vii. Nausea
 - viii. Vomiting
- c. Gradual disease process, can take years before patient feels discomfort
- d. Rupture of varices is far more sudden.
 - i. Sudden onset of discomfort in throat
 - ii. Severe difficulty swallowing
 - iii. Vomiting of bright red blood
 - iv. Hypotension
 - v. Signs of shock

8. Mallory-Weiss syndrome

- a. Junction between esophagus and stomach tears
 - i. Causes severe bleeding and possibly death
- b. Primary risk factors
 - i. Alcoholism
 - ii. Eating disorders
- c. Prevalent in older adults and older children

- d. Vomiting is the principal symptom.
- e. In extreme cases, patients may experience signs and symptoms of shock, upper abdominal pain, hematemesis, and melena.

9. Gastroenteritis

- a. Infection combined with diarrhea, nausea, and vomiting
- b. Caused by bacterial or viral organisms
 - i. Enter the body through contaminated food or water
- c. Diarrhea is the principal symptom in both types.
- d. Patients may experience:
 - i. Large dumping-type diarrhea or frequent small liquid stools
 - ii. Diarrhea containing blood or pus
 - iii. Abdominal cramping
 - iv. Nausea
 - v. Vomiting
 - vi. Fever
 - vii. Anorexia

10. Diverticulitis

- a. First recognized around 1900 when the amount of processed foods eaten increased
- b. The consistency of stools became more solid, requiring more intestinal contractions, increasing pressure in colon.
- c. Bulges in the colonic walls result from increased intestinal contractions.
 - i. Fecal matter is caught in bulges, and bacteria form, causing inflammation and infection.
- d. Classic symptom is abdominal pain on the left side, lower abdomen.
- e. Signs include:
 - i. Fever
 - ii. Malaise
 - iii. Body aches
 - iv. Chills
 - v. Nausea
 - vi. Vomiting

11. Hemorrhoids

- a. Created by swelling and inflammation of blood vessels surrounding rectum
- b. May result from conditions that increase pressure on the rectum or irritation of the rectum
 - i. Increased pressure may be caused by pregnancy, straining a stool, and chronic constipation.
 - ii. Diarrhea can cause irritation.
- c. Present as bright red blood during defecation
 - i. Minimal bleeding and easy to control
- d. Patients may also experience itching and a small mass on the rectum.

F. Urinary system

- 1. Cystitis (bladder inflammation) is common, especially in women.
 - a. Also called urinary tract infection (UTI)
 - i. Caused by bacterial infection
 - ii. Patients usually have lower quadrant abdominal pain.
 - iii. May report an urgency and frequency in urination

- b. Can become a serious problem if infection spreads to the urethra or kidneys

G. Kidneys

1. Play a major role in maintaining homeostasis
 - a. Eliminate waste from the blood
2. When the kidneys fail, uremia results.
 - a. The waste product (urea) remains in the blood.
3. Kidney stones can grow over time and cause blockage.
 - a. Crystallized chemicals in the urine
 - b. Blockage can lead to swelling.
 - c. Pain is caused by the stone moving within the ureter.
 - d. Stone may pass on its own or be surgically removed.
4. Acute kidney failure
 - a. Sudden decrease in function
 - b. Occurs from hemorrhage, dehydration, trauma, shock, sepsis, heart failure, medications, drug abuse, and kidney stones.
 - c. Reversible with prompt diagnosis and treatment
5. Chronic kidney failure
 - a. Irreversible
 - b. Progressive, develops over months and years
 - c. Often caused by diabetes and hypertension.
 - d. Kidney tissue shrinks and function diminishes.
 - e. Eventually dialysis or transplant is required to remove waste from the bloodstream.
 - f. Symptoms include altered level of consciousness, seizure, coma, lethargy, nausea, headaches, cramps, and edema in the extremities and face.

H. Female reproductive organs

1. Gynecologic problems are a common cause of acute abdominal pain.
2. Lower quadrant pain may relate to the ovaries, fallopian tubes, or uterus.
3. Chapter 21 covers gynecologic emergencies in depth.

I. Other organ systems

1. The aorta lies immediately behind the peritoneum.
 - a. Weak areas can result in abdominal aortic aneurysm (AAA).
 - i. AAA is difficult to detect.
 - ii. A pulsating mass may be felt in the abdomen.
 - iii. Pain may be described as tearing.
 - iv. Use extreme caution when trying to assess or detect.
 - v. Development of an aneurysm is slow.
 - (a) If aneurysm tears or ruptures, massive hemorrhage may occur.
2. Pneumonia, especially in the lower lungs, can cause ileus and abdominal pain.
3. Hernias can occur.
 - a. A hernia is a protrusion of an organ or tissue through a hole or opening into a body cavity where it does not belong.
 - i. Hernias can occur as a result of the following:
 - (a) A congenital defect, such as around the umbilicus

- (b) A surgical wound that has failed to heal properly
- (c) A natural weakness in an area, such as in the groin
- b. Hernias may not always produce a noticeable mass or lump.
- c. Reducible hernias pose little risk and can be pushed back into the body cavity.
- d. Incarcerated hernias cannot be pushed back in and are compressed by surrounding body tissue.
- e. Strangulation of an incarcerated hernia is a serious medical emergency.
 - i. Blood supply is compromised by the compressed surrounding tissue.
- f. Serious hernia signs and symptoms:
 - i. A formerly reducible mass that is no longer reducible
 - ii. Pain at the hernia site
 - iii. Tenderness when the hernia is palpated
 - iv. Red or blue skin discoloration over the hernia

IV. Patient Assessment

A. Scene size-up

1. Scene safety
 - a. Ensure scene safety.
 - b. Use standard precautionary gloves and eye protection.
 - c. Consider donning a gown and covering your shoes with disposable protective covers.
2. Mechanism of injury/nature of illness
 - a. Acute abdomen can be the result of violence, such as blunt or penetrating trauma.
 - i. Always be vigilant.
 - ii. Chapter 28 discusses abdominal traumatic injuries.
 - b. A pale or sweating patient who reports tearing pain may have an AAA.
 - c. Gastrointestinal bleeding often has a characteristic odor.

B. Primary assessment

1. First priority to identify and treat life-threatening conditions.
 - a. Assess the patient's level of consciousness.
 - b. Assess the patient's airway, breathing, and circulation.
 - c. Patient will often have knees drawn up to ease pain of acute abdomen.
 - d. Consider necessary treatment and transportation options.
2. Form a general impression.
 - a. Ask patient about chief complaint.
 - b. Include AVPU assessment in general impression.
3. Airway and breathing
 - a. Abdominal pain may cause shallow, inadequate respirations.
4. Circulation
 - a. Ask patient about blood in vomit or black, tarry stools.
 - b. Pulse rate, quality, and skin condition may indicate shock.
 - c. Check pulses in both arms.
 - i. Difference in pulse strength may indicate aneurysm.
 - d. Shock may be caused by hypovolemia or be the result of infection.
 - i. If shock is present, interventions should include:

- (a) High-flow oxygen
- (b) Elevating patient's legs
- (c) Keeping patient warm

5. Transport decision

- a. Immediate if signs of significant illness
 - i. Pale, cool, diaphoretic skin
 - ii. Tachycardia
 - iii. Hypotension
 - iv. Altered level of consciousness
- b. Ensure that the ride is gentle, smooth, and steady.

C. History taking

- 1. Investigate chief complaint.
 - a. Often based on previous history of chronic medical problems
 - b. Consists of subjective and objective observations
- 2. SAMPLE history, addressing the following areas:
 - a. Nausea and vomiting
 - b. Changes in bowel habits
 - c. Urination
 - d. Weight loss
 - e. Belching or flatulence
 - f. Pain
 - g. Other signs or symptoms
 - h. Concurrent chest pain

D. Secondary assessment

- 1. Performed at the scene or in the back of the ambulance en route to the hospital.
 - a. Time may not permit a secondary assessment if you have to manage life threats identified during the primary assessment.
 - b. Positioning of the patient may give clues to the nature of illness.
 - i. A patient with appendicitis may draw up the right knee.
 - ii. A patient with pancreatitis may lie curled up on one side.
- 2. Physical examinations
 - a. Normal abdomen is soft and not tender to the touch.
 - b. Pain and tenderness are most common symptoms of an acute abdomen.
 - i. Localized pain may give clues to problem organ.
 - ii. Muscles of the abdominal wall may become rigid involuntarily.
 - (a) This boardlike muscle spasm is called guarding.
 - c. The following steps will help in the abdominal assessment.
 - i. Explain procedures to patient.
 - ii. Place patient in supine position with legs drawn up and flexed at the knees.
 - iii. Expose and visually assess abdomen.
 - iv. Ask the patient where the pain is most intense.
 - v. Palpate the abdomen very gently.
 - vi. Gently palpate all four regions of the abdomen to determine softness or guarding.
 - vii. Note whether the pain is localized or widespread.

- viii. Look for patient response after palpating.
- ix. Determine whether the patient exhibits rebound tenderness.
- x. Determine whether the patient can relax the abdominal wall on command.
- xi. Guarding and rigidity may be detected.

3. Vital signs

- a. High respiratory rate with a normal pulse rate and blood pressure may indicate improper ventilations.
- b. High respiratory rate and pulse rate with signs of shock may indicate septic or hypovolemic shock.
- c. Monitoring devices
 - i. Pulse oximetry
 - ii. Noninvasive blood pressure devices

E. Reassessment

1. Because it is often difficult to determine the cause of abdominal pain, frequent reassessment is important.
 - a. Has the patient's level of consciousness changed?
 - b. Has the patient become more anxious?
 - c. Have the skin signs begun to change?
 - d. Has the pain gotten better or worse?
 - e. Has bleeding become worse or better?
 - f. Is current treatment improving the patient's condition?
 - g. Has an already identified problem gotten better?
 - h. Has an already identified problem gotten worse?
 - i. What is the nature of any newly identified problems?
2. Assess interventions, including treatment for shock and providing emotional support.
 - a. Transport in the most comfortable position for the patient.
 - i. Most patients will want to be on their side with knees flexed.
 - b. Consider ALS support.
3. Communication and documentation
 - a. Communicate with the receiving hospital early to allow the hospital staff to recruit the resources necessary to treat your patient upon arrival.
 - b. Carefully document your findings in your patient care report.

V. Emergency Medical Care

A. Although you cannot treat the causes of acute abdomen, you can take steps to provide comfort and lessen the effects of shock.

1. Treat the patient for shock even when obvious signs of shock are not apparent.

B. Position patients who are vomiting to maintain a patent airway.

1. Contain the vomitus to prevent spread of infections (use a biohazard bag).

C. Wear gloves, eye protection, and a gown.

D. When the patient has been released to hospital staff, clean the ambulance and equipment.

E. Wash your hands even though you were wearing gloves.

F. Providing low-flow oxygen often decreases nausea.

G. Elevate the patient's leg to facilitate blood flow.

VI. Kidney Dialysis

A. In chronic cases of kidney failure, dialysis is the only definitive treatment.

1. Dialysis filters the blood, cleanses it of toxins, and returns it to the body.
 - a. Dialysis eliminates waste, normalizes blood chemistry, and reduces excess fluid.
2. If a patient misses a dialysis treatment, weakness and pulmonary edema can be the first in a series of conditions that become progressively more serious.
3. Some services transport patients to and from dialysis centers.
4. A dialysis machine functions much like normal kidneys do.
 - a. Patients undergoing long-term hemodialysis have a shunt that connects a vein and an artery, allowing blood flow from the body to the dialysis machine.
 - b. Peritoneal dialysis allows large amounts of dialysis fluid to be infused into the abdominal cavity.
 - i. Fluid stays in the cavity for 1 to 2 hours.
 - ii. Carries a high risk of peritonitis.
5. Adverse effects of dialysis include:
 - a. Hypotension
 - b. Muscle cramps
 - c. Nausea and vomiting
 - d. Hemorrhage from the access site
 - e. Infection at the access site
6. Many dialysis patients also have urinary catheters.
 - a. Catheters can often be a site of infection.

VII. Summary

- A. Acute abdomen is a term used to describe the sudden onset of abdominal pain that is not caused by a traumatic injury.**
- B. The pain, tenderness, and abdominal distention associated with an acute abdomen may be signs of peritonitis.**
- C. In addition to abdominal disease or injury, problems in the gastrointestinal, genital, and urinary systems may also cause peritonitis.**
- D. Signs and symptoms of acute abdomen include pain, nausea, vomiting, and a tense, distended abdomen.**
- E. Pain is common directly over the inflamed area of the peritoneum, or it may be referred to another part of the body.**
- F. Do not give the patient with an acute abdomen anything by mouth.**
- G. A patient in shock or with any life-threatening condition should be transported without delay. Call for ALS assistance if the patient's condition deteriorates during transport.**

Post-Lecture

Unit Assessment

1. What is the overall function of the spleen?
2. What is the medical term referring to a sudden onset of abdominal pain?
3. List five signs and symptoms of an acute abdomen.
4. What is the phenomenon of perceiving pain at a distant point of the body?
5. What is appendicitis and how will it present in a patient during an EMS call?
6. In which condition does the junction between the esophagus and the stomach tear, causing severe bleeding and potentially death?
7. Explain the differences between acute kidney (renal) failure and chronic kidney failure.
8. What are the three main causes of a hernia?
9. As an EMT in the field, list three questions in the history-taking portion of your interview that you would ask a patient with gastrointestinal/urologic type symptoms?
10. What do muscle spasms of the abdomen cause?

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Knowledge Objectives

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