24

Abdominal Emergencies
<table>
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<th>OBJECTIVES</th>
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<tr>
<td>24.1 Define key terms introduced in this chapter. 13, 15, 18, 20–22</td>
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<td>24.2 Describe the location, structure, and function of the organs in the abdominal cavity. Slides 11–16</td>
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<td>24.3 Explain the origins and characteristics of visceral, parietal, and tearing pain. Slides 18, 21–22</td>
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OBJECTIVES

24.4 Associate areas of referred pain with the likely origins of the pain. Slide 21

24.5 Recognize the common signs and symptoms of abdominal conditions, including appendicitis, peritonitis, cholecystitis, pancreatitis, ulcers, abdominal aortic aneurysm, hernia, and renal colic. Slides 24–35

continued
OBJECTIVES

24.6 Discuss the type of abdominal pain that may indicate cardiac involvement. Slide 36

24.7 Discuss appropriate assessment and management of patients complaining of abdominal pain. Slides 38–47

continued
Elicit key information in the history of patients complaining of abdominal pain, including history specific to female patients. Slides 41–43
• **Slide 50** Abdominal Aortic Aneurysm Video
CORE CONCEPTS

- Understanding the nature of abdominal pain
- Becoming familiar with abdominal conditions that may cause pain or discomfort
- How to assess and care for patients with abdominal pain
Topics

• Abdominal Anatomy and Physiology
• Abdominal Pain or Discomfort
• Abdominal Conditions
• Assessment and Care of Abdominal Pain or Discomfort
Introduction

• Abdomen contains many organs, from several different body systems
• Can cause confusion when determining the cause of abdominal emergencies
• Thorough patient assessment key
• Specific diagnosis may not be necessary; treatment is the same for most conditions
Abdominal Anatomy and Physiology
Abdomen

• Region between diaphragm and pelvis
• Contains many organs and organ systems
  – Digestive
  – Reproductive
  – Endocrine
  – Regulatory
Organs of the Abdomen

**SOLID ORGANS**
- Spleen
- Liver
- Pancreas
- Kidneys

**HOLLOW ORGANS**
- Stomach
- Gallbladder
- Duodenum
- Large intestine
- Small intestine
- Bladder

continued
Organs of the Abdomen

- Peritoneum: thin membrane lining the abdominal cavity and covering each organ
- Parietal peritoneum lines abdominal cavity
- Visceral peritoneum covers each organ

continued
Organs of the Abdomen

- Most enclosed within parietal peritoneum
- A few lie in extra-peritoneal space (outside the peritoneum)
  - Kidneys, pancreas, part of aorta lie in retroperitoneal space, behind peritoneum
  - Bladder and part of rectum lie inferior to peritoneum
Peritoneal and Extraperitoneal Space

Cross Section of Torso Viewed from the Right

Organs within the retroperitoneal cavity:
- Kidney (and ureters)
- Pancreas
- Duodenum
- Abdominal aorta
- Inferior vena cava
- Fallopian tube (and ovaries)
- Sigmoid colon
- Uterus
- Rectum
- Urinary bladder

Organs within the peritoneal cavity:
- Spleen (seen behind the liver)
- Liver
- Gallbladder
- Stomach
- Transverse colon (and ascending and descending colons)
- Small bowel (intestine)

Boundary of peritoneal lining
Abdominal Quadrants

- Abdomen divided into “quadrants”
  - RUQ, LUQ, RLQ, LLQ
  - Epigastric region
Abdominal Pain or Discomfort
Visceral Pain

- Originates from the visceral peritoneum
- Fewer nerve endings allow for only diffuse sensations of pain
- Frequently described as “dull” or “achy”
Visceral Pain

- Colic (intermittent pain) may result from distention and/or contraction of hollow organs
- Persistent or constant pain often originates from solid organs
Parietal Pain

- Originates from the parietal peritoneum
- Many nerve endings allow for specific, efficient sensations of pain
- Frequently described as “sharp”
- Pain is often severe, constant, and localized to a specific area
Referred Pain

- Perception of pain in skin or muscles at distant locations
  - Abdomen has many nerves from different parts of the nervous system
  - Nerve pathways overlap as they return to the spinal cord
  - Pain sensation is transmitted from one system to another
Tearing Pain

• Originates in the aorta
• Separation of layers of this large blood vessel caused by aneurysm
• Retroperitoneal location of aorta causes pain to be referred to back
Abdominal Conditions
Appendicitis

• Infection of appendix
• Appendectomy is usually indicated
• Signs and symptoms
  – Persistent RLQ pain
  – Pain often initially referred to umbilical region
  – Rupture of appendix
    • Sudden, severe increase in pain
    • Contents released into abdomen causes severe peritonitis
Peritonitis

• Irritation of peritoneum, usually caused by foreign material in peritoneal space
• Parietal peritoneum is sensitive, especially to acidic substances
• Irritation causes involuntary contraction of abdominal muscles
• Signs and symptoms
  – Abdominal pain and rigidity
Cholecystitis

• Inflammation of the gallbladder
• Often caused by blockage of its outlet by gall stones (cholecystolithiasis)
• Symptoms often worsened by ingestion of fatty foods
• Signs and symptoms
  – Sharp RUQ or epigastric pain
  – Pain often referred to shoulder
Pancreatitis

- Inflammation of the pancreas
- Common with chronic alcohol abuse
- Signs and symptoms
  - Epigastric pain
  - Often referred to back or shoulder
Gastrointestinal (GI) Bleeding

- Hemorrhage within the lumen of the GI tract
- May be minor to severe
- Blood eventually exits (mouth or rectum)
- Often painless
- Gastric ulcers (holes in GI system from highly acidic gastric juices) can cause severe pain and peritonitis

continued
Gastrointestinal (GI) Bleeding

• Signs and symptoms
  – Dark-colored stool (maroon to black), often “tarry” (Melena)
  – Frank blood from rectum (hemorrhoid)
  – Vomiting “coffee ground” appearing blood
  – Vomiting frank blood
  – Pain: absent to severe
Abdominal Aortic Aneurysm (AAA)

- Weakening of inner wall of the aorta
- Tears and separates from outer layers (dissection)
- Weakened vessel bulges, may continue to grow
- May eventually rupture
Abdominal Aortic Aneurysm (AAA)

• Signs and symptoms
  – Progressive (often “tearing”) abdominal pain
  – Frequently radiates to back (lumbar)
  – Palpable abdominal mass, possibly pulsating
  – Possible inequality in pedal pulses

continued
Abdominal Aortic Aneurysm (AAA)

• Signs and symptoms
  – Sudden, severe increase in pain may indicate rupture
    • High aortic pressure causes rapid internal bleeding
    • Sudden progression of shock
    • Likely exsanguination (fatal hemorrhage)
Hernia

- Hole in the abdominal wall, allowing tissue or parts of organs (commonly intestines) to protrude under skin
- May be precipitated by heavy lifting
- May cause strangulation of tissue or bowel obstruction
- May require surgical repair

continued
Hernia

• Signs and symptoms
  – Sudden onset of abdominal pain, often following exertion
  – Palpable mass or lump on abdominal wall or crease of groin (inguinal hernia)
Renal Colic

- Severe pain caused by kidney stones traveling down the ureter
- Signs and symptoms
  - Severe, cramping, intermittent pain in flank or back
  - Frequently referred to groin
  - Nausea, vomiting
Cardiac Involvement

- Pain of myocardial infarction can produce
  - Nausea or vomiting
  - Epigastric pain
  - Indigestion
- Always consider the possibility of a cardiac emergency as a cause of abdominal symptoms
Assessment and Care of Abdominal Pain or Discomfort
Assessment and Care of Abdominal Pain or Discomfort

- Many potential causes of abdominal pain
- Role of EMT is not to diagnose
- Focus efforts
  - Perform thorough history and physical exam
  - Identify serious or life-threatening conditions
Scene Size-Up

- Protect self from blood-borne pathogens
- Be aware of odors
- Determine if patient’s condition is medical, trauma, or both
Primary Assessment

• General impression
• ABC’s
• Level of consciousness

All patients with abdominal pain should be given OXYGEN immediately.
History of the Present Illness

- **O**: “When did it begin? What were you doing?”
- **P**: “What makes it better or worse? Movement? Position?”
- **Q**: “Describe your discomfort.”
- **R**: “Point to its location. Does it radiate or move?”
- **S**: “How bad is the pain on a scale of 1–10?”
- **T**: “Do you have pain all the time? Is it intermittent? Has it changed?”

*continued*
History of the Present Illness

- Female patients
  - “Where in your cycle are you?”
  - “Is your period late?”
  - “Are you experiencing vaginal bleeding?”
  - “Is your flow normal?”
  - “Have you experienced this pain before?”
  - “Is it possible you are pregnant?”
  - “Are you using birth control?”
Past Medical History

- **S**: Symptoms
- **A**: Allergies
- **M**: Medications
- **P**: Pertinent past history
- **L**: Last oral intake
- **E**: Events leading to emergency
Geriatric Note: Assessment

- Decreased ability to perceive pain
- More serious causes of abdominal pain
- More likely to be life-threatening
- May be complicated by medications
Physical Exam

• Inspection
  – Distention
  – Discoloration
  – Protrusions

• Palpation (use fingertips; painful area last)
  – Rigidity
  – Pain
  – Guarding
Vital Signs

• Baseline, then every 5 minutes
  – Pulse
  – Blood pressure
  – Respirations
  – Skin condition, color, temperature
  – Mental status
Patient Care

• Maintain airway
  – Be prepared to suction
• Administer oxygen
  – 15 LPM via NRB
• Position of comfort
  – LLR for airway protection
• Transport to appropriate facility
Think About It

• An 89-year-old female with a history of diabetes, hypertension, and gallstones is complaining of nausea and dizziness about 20 minutes after eating.
Think About It

• What are the concerns with this patient?
• Is this an abdominal emergency, a diabetic emergency, or a cardiac emergency?
• How will you know?
• What will your treatment be?
Abdominal Aortic Aneurysm Video

Click [here](#) to view a video on the subject of abdominal aortic aneurysm.
Chapter Review
Chapter Review

• Abdominal complaints must be treated as serious emergencies requiring transport.
• Diagnosis is difficult; your responsibility is to assess the patient and report findings.
• Assessment should include thorough history, physical exam, and vital signs.

continued
Chapter Review

• Quickly identify life-threatening emergencies: aneurysms, internal bleeding, shock.
• Care consists of airway management, oxygen, positioning, transport.
• Use standard precautions, including disinfecting equipment.
Remember

• Abdominal organs provide a variety of important functions to the body.
• The abdomen can be divided into four quadrants, with reference to the midline and umbilicus.
• Classifications of pain can help identify specific abdominal dysfunctions.

continued
Remember

• Assessment and management always take a higher priority than determining the exact cause of abdominal pain.
• Knowledge of the characteristics of specific abdominal disorders can aid differential diagnosis when assessing a patient with abdominal pain.
Remember

• Care for a patient with abdominal pain should include treatment of immediate life threats, administration of oxygen, placing patient in a position of comfort, and appropriate transport.
Questions to Consider

• What are five signs and symptoms of abdominal distress?
• Describe the difference between visceral and parietal pain. Describe a condition that may be responsible for each.
Questions to Consider

• What is the emergency care for a patient experiencing abdominal pain or distress?
• Name the four abdominal quadrants. How are the quadrants determined?
You are called to a patient with abdominal pain. He describes the pain as severe and says it has been “on and off” over the past several days, becoming severe within the last hour.
Critical Thinking

• What additional questions would you ask the patient?
• In what position would he likely be most comfortable?
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