

# Abdomen Injuries

## Chapter Review

The following exercises provide an opportunity to test your knowledge of this chapter.

### Matching

Match each of the items in the left column to the appropriate injury in the right column.

For each of the patients described here, given the mechanism of injury (MOI) and the clinical findings, indicate which injury from the righthand column he or she is *most* likely to have suffered. (*Note:* A patient may have sustained more than one of the injuries listed.)

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| <p>_____ 1. A 15-year-old girl who was kicked in the left side by a horse. She is conscious and alert. Her pulse is rapid. She has a bruise over the left 10th rib in the anterior axillary line and has severe tenderness at that point.</p> <p>_____ 2. A 50-year-old man was a passenger in a car that slammed into a wall. He was wearing a lap seat belt. He complains of shortness of breath and abdominal pain. He winces when he coughs. His vital signs are: pulse 92 beats/min and regular, respirations 36 breaths/min and shallow, and blood pressure 120/80 mm Hg.</p> <p>_____ 3. An 18-year-old man shot in the right upper quadrant by his girlfriend wielding a .38 special at a distance of about 10 feet. The patient is conscious. He has cold, sweaty skin and a weak, rapid pulse. There is an entrance wound in the right upper quadrant, about 2 fingerbreadths below the costal margin in the midclavicular line. The exit wound is near the left buttock.</p> <p>_____ 4. A 60-year-old man struck by a car as he was crossing the street. The patient presents with gross hematuria, suprapubic pain and tenderness, difficulty voiding, and abdominal distention, guarding, and rebound tenderness.</p> <p>_____ 5. A 42-year-old construction worker is extricated from underneath a pile of concrete blocks that caved in on top of him. He is unconscious with cold and clammy skin. His pulse is very weak. There are no bruises on the chest, which moves symmetrically with respiration. The abdomen is not rigid, but there seems to be a fullness in the center of the lower quadrant. The pelvis is unstable.</p> <p>_____ 6. Your team is assessing a conscious, alert 18-year-old man who was involved in a high-speed car crash versus bridge abutment. The patient was unrestrained. The patient has an odor of ethyl alcohol; he is currently complaint free. While you are evaluating the patient, you note ecchymosis of the flanks.</p> <p>_____ 7. It's another weekend night and another stabbing. On arrival you have a conscious, alert male patient. He is lying on the ground with what appears to be exposed abdominal contents.</p> | <p><b>A.</b> Diaphragm injury</p> <p><b>B.</b> Ruptured spleen</p> <p><b>C.</b> Liver laceration</p> <p><b>D.</b> Torn or ruptured bladder</p> <p><b>E.</b> Retroperitoneal injuries</p> <p><b>F.</b> Cullen's sign</p> <p><b>G.</b> Evisceration</p> |
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- \_\_\_\_\_ 8. A patient is struck by falling debris. He was struck on the lower left quadrant and is found to be in profound shock. His lower left quadrant has point tenderness and is rigid.
- \_\_\_\_\_ 9. Your patient is a victim of blunt trauma; he is anxious and short of breath. He appears to have associated thoracic, abdominal, head, and extremity injuries.
- \_\_\_\_\_ 10. A woman fell from a height while hiking. You are assessing the patient and recognize that she has Kehr's sign. What injury should you anticipate?

### Multiple Choice

Read each item carefully, and then select the best response.

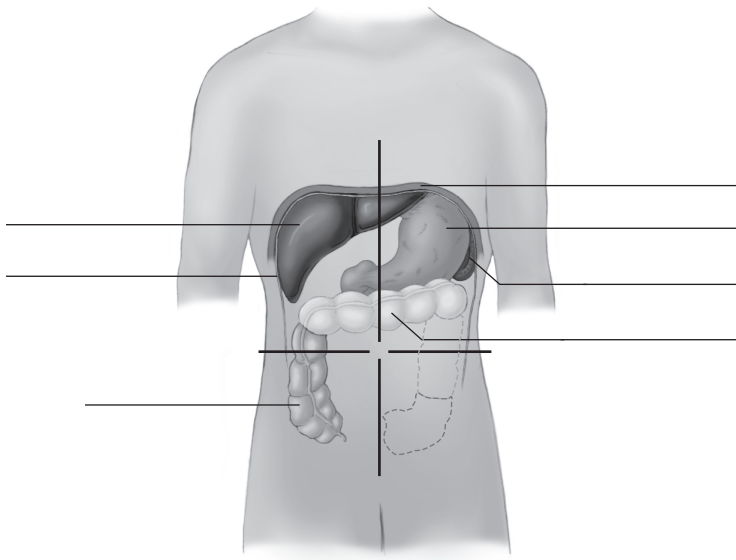
- \_\_\_\_\_ 1. The focused history and physical exam of abdominal injuries includes all of the following, EXCEPT:
- A. inspect.
  - B. palpate.
  - C. percussion.
  - D. vital signs.
- \_\_\_\_\_ 2. Patients who have suffered penetrating abdominal trauma should be treated by:
- A. removing the penetrating object to facilitate immobilization and transport.
  - B. avoiding direct pressure in older patients with more flaccid abdominal walls.
  - C. replacing protruding abdominal contents prior to transport.
  - D. stabilizing and transporting in the position found.
- \_\_\_\_\_ 3. Patients with "open book" pelvic fractures are generally:
- A. categorized as stable to the pathophysiology of the injury.
  - B. injured as the result of a side impact.
  - C. injured as the result of an anteroposterior compression from a head-on collision.
  - D. found with entrance and exit wounds.
- \_\_\_\_\_ 4. Hollow organs are less likely to be injured, *unless*:
- A. they are empty.
  - B. the mechanism of injury (MOI) is a motor vehicle crash.
  - C. they are full.
  - D. the patient is a pregnant woman.
- \_\_\_\_\_ 5. There are numerous types of blast injuries. These include a/an:
- A. miscellaneous injury.
  - B. primary blast injury.
  - C. secondary blast injury.
  - D. all of the above.
- \_\_\_\_\_ 6. Because of the nature of abdominal trauma in patients, which of the following is required?
- A. Ensuring an open airway
  - B. Securing the cervical spine
  - C. Administering analgesics
  - D. Establishing IV access
- \_\_\_\_\_ 7. Injuries to the retroperitoneal space may include injuries to all of the following, EXCEPT the:
- A. rectum.
  - B. ureters.
  - C. reproductive organs.
  - D. liver.
- \_\_\_\_\_ 8. Crushing injuries may be caused by:
- A. crushing of abdominal contents by the abdominal wall and the spinal column.
  - B. the dashboard of a car.
  - C. the hood of the car.
  - D. all of the above.

- \_\_\_\_\_ 9. In penetrating trauma, it is helpful to:
- A. identify the type of weapon used.
  - B. explore the wound to detect the path of destruction.
  - C. cleanse the wound site to prevent life-threatening infection.
  - D. remove all exposed foreign bodies.
- \_\_\_\_\_ 10. The initial assessment for abdominal injuries should include the following EXCEPT:
- A. road rash.
  - B. bruising.
  - C. swelling.
  - D. epistaxis.

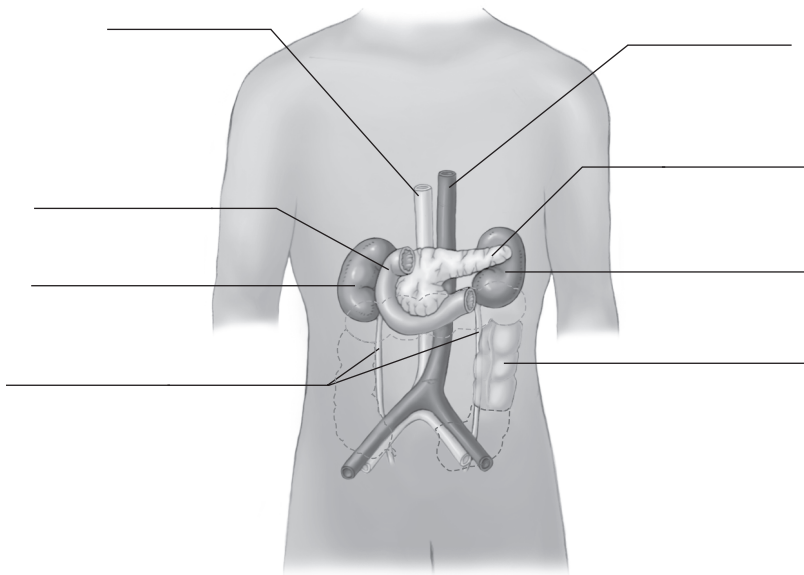
### Labeling

Label the following diagrams with the correct terms.

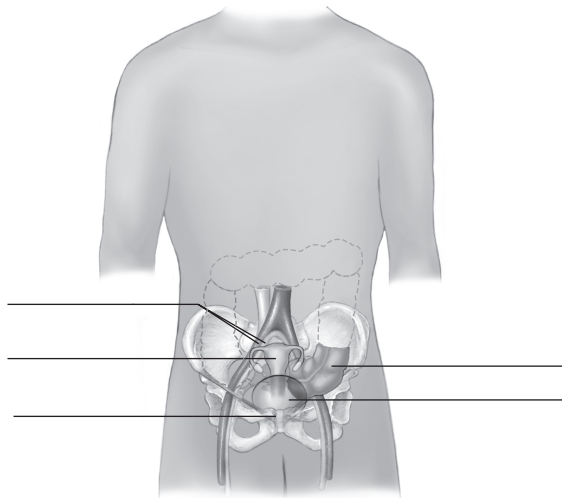
1. Label the organs in the peritoneum.



2. Label the organs in the retroperitoneal space.



3. Label the organs in the pelvis.



### Fill-in-the-Blank

Read each item carefully, and then complete the statement by filling in the missing word(s).

- \_\_\_\_\_ is a controversial treatment that can be used to stabilize the pelvis during rapid transports.
- Retroperitoneal bleeding can lead to ecchymosis of the flanks, commonly referred to as \_\_\_\_\_.
- Retroperitoneal bleeding can lead to ecchymosis around the umbilicus, commonly referred to as \_\_\_\_\_.
- Structures contained within the retroperitoneal cavity are the \_\_\_\_\_, \_\_\_\_\_, vascular structures, and part of the small intestine.
- The \_\_\_\_\_ detoxifies blood and produces bile.
- The stomach is an intraperitoneal \_\_\_\_\_ organ that lies in the left upper quadrant and epigastric region.

### Identify

In the following case studies, list the chief complaint, vital signs, and pertinent negatives.

- You receive a priority one response for a conscious and alert 54-year-old man involved in domestic violence. When you arrive, you are advised that the scene is safe and secured by law enforcement. The patient is denying any complaint. You notice that the patient's shirt is blood soaked and the police have placed a kitchen knife in an evidence bag. The patient is not very cooperative, and he appears ashen, diaphoretic, and slightly short of breath. After several minutes of prodding, the patient agrees to remove his shirt. The patient denies any previous medical history. You observe a half inch laceration above his umbilicus. The wound is not actively bleeding. He denies chest pain or other injuries. His vital signs are: pulse 120 beats/min and regular; skin ashen, cool, and diaphoretic; oxygen saturation of 90%; blood pressure 86/60 mm Hg; and sinus tachycardia on the ECG.
  - Chief Complaint

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**b. Vital Signs**

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**c. Pertinent Negatives**

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- 2.** Your unit is standing by at your local arena for indoor motocross. This is a high-speed motorcycle racing event, with numerous elevated jumps and turns. The riders are well protected by helmets and specialized outerwear. While watching, you observe a rider crash into a retaining wall. He initially appears unconscious. As you approach, the patient is alert and speaking clearly. He is attempting to stand and get back on his motorcycle. You quickly notice that bystanders are pointing to the patient's abdomen and you see what appears to be a small protrusion of abdominal contents from his left upper quadrant. It's obvious that the patient has an evisceration. You quickly assess ABCs and immobilize the patient. He has the following vital signs: pulse 100 beats/min and irregular; skin pale, warm, and dry; oxygen saturation of 97% on room air; blood pressure 160/90 mm Hg. After quickly treating the patient and initiating rapid transport you become suspicious because of the patient's vital signs. The patient states he has a history of atrial fibrillation and hypertension. He is currently denying chest pain.

**a. Chief Complaint**

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**b. Vital Signs**

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**c. Pertinent Negatives**

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**Ambulance Calls**

The following case scenarios provide an opportunity to explore the concerns associated with patient management and paramedic care. Read each scenario, and then answer each question.

- 1.** You are called to the scene of an interstate collision in which an apparently intoxicated 25-year-old driver plowed his car into a bridge abutment at high speed. The front end of his vehicle is accordioned against the bridge. As you approach the disabled vehicle, your keen powers of observation enable you to perceive that the patient is conscious (he is screaming obscenities at a police officer). Describe the steps in evaluating this patient for possible abdominal injuries. In particular, what issues will you be looking for?

**a.** \_\_\_\_\_

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b. \_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

d. \_\_\_\_\_

\_\_\_\_\_

2. A 20-year-old man was the unrestrained driver of a car that was struck from the passenger side by another vehicle. The crash caused the empty bucket seat beside him to be jammed into his right side. On your arrival at the collision, you find the patient conscious, but anxious and restless. His skin color is ashen, cool, and diaphoretic. Patient has a delayed capillary refill greater than 2 seconds. His vital signs are a pulse of 140 beats/min and thready, respirations 40 breaths/min and shallow, and blood pressure 72/40 mm Hg. There is a bruise over the right lower ribs. A large portion of the small bowel is eviscerated through an avulsion in the right side of the abdomen. The right elbow appears to be fractured. List the injuries and your priorities in managing this case.

Injuries:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

Priorities:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_

f. \_\_\_\_\_

g. \_\_\_\_\_

3. During the usual Saturday night festivities at the local Knife & Gun Club, a 16-year-old boy is stabbed with a hunting knife in the left lower quadrant of the abdomen. When you arrive, you find him lying on the ground moaning. The knife is still embedded up to its hilt in the patient's abdomen. His skin is pale, warm, and moist. Vital signs are pulse of 100 beats/min, respirations 32 breaths/min, and blood pressure 100/80 mm Hg. List the steps you would take in managing this case.

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

24.6 SECTION 4 Trauma

**True/False**

If you believe the statement to be more true than false, write the letter "T" in the space provided. If you believe the statement to be more false than true, write the letter "F."

- \_\_\_\_\_ 1. Hollow organs are less likely to cause life-threatening injuries.
- \_\_\_\_\_ 2. Patients who suffer ruptured spleens in a traumatic event will likely have that organ removed during life-saving surgery.
- \_\_\_\_\_ 3. Cullen's sign is best described as ecchymosis around the umbilicus.
- \_\_\_\_\_ 4. Treatment of impaled abdominal objects includes removal of the object to allow for proper immobilization and transport.
- \_\_\_\_\_ 5. The leading cause of morbidity and mortality in all age groups is blunt abdominal trauma.
- \_\_\_\_\_ 6. The diaphragm plays a large role in the mechanical process of breathing.
- \_\_\_\_\_ 7. Penetrating trauma to the pelvis rarely causes life-threatening hemorrhage.
- \_\_\_\_\_ 8. PASG/MAST may cause an increase in bleeding by putting pressure on pelvic vessels.

**Fill-in-the-Table**

Fill in the missing parts of the table.

- 1. List the hollow and solid organs of the abdominal cavity.

Hollow Organs	Solid Organs
1.	1.
2.	2.
3.	3.
4.	4.
5.	
6.	
7.	

**Short Answer**

Complete this section with short written answers using the space provided.

- 1. Which of the abdominal organs is most likely to be injured in association with:
  - a. Rapid deceleration in a motor vehicle crash or a fall from a height: Liver, \_\_\_\_\_, intestines, and spleen
  - b. Right-sided chest trauma as well as abdominal trauma: \_\_\_\_\_
  - c. Fracture of the pelvis: \_\_\_\_\_
  - d. Stab wound to the right upper quadrant: \_\_\_\_\_

