Injuries to the Chest, Abdomen, and Pelvis

♦ KNOWLEDGE OBJECTIVES

1. Explain why injuries to the chest, abdomen, and pelvis can be fatal.
2. List the five steps of care for these injuries.
3. List five signs or symptoms of chest injury.
4. Describe the care for rib fractures.
5. Describe the care for a sucking chest wound.
6. List nine signs or symptoms of serious abdominal and pelvic injury.
7. Describe the care for open and closed abdominal and pelvic injuries.
8. Describe the care for injuries to the genitals.
9. Define the key terms for this chapter.

♦ SKILL OBJECTIVES

After reading this chapter and completing the class activities, you should be able to

1. Make appropriate decisions about care when given an example of an emergency in which chest, abdominal, or pelvic injuries have occurred.
♦ OUTLINE

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♦ KEY POINTS

Signs and Symptoms of Chest Injury
♦ Difficulty breathing.
♦ Severe pain.
♦ Obvious deformity.
♦ Discoloured skin.
♦ Coughing up blood.

Care for Serious Chest Injury
♦ Position the casualty to aid breathing.
♦ If the ribs are broken, immobilize area.
♦ For flail chest, use bulky dressings to stabilise area.
♦ Cover a sucking chest wound.
♦ Summon more advanced medical personnel.

Signs and Symptoms of Serious Abdominal Injury
♦ Severe pain.
♦ Bruising.
♦ External bleeding.
♦ Nausea and vomiting.
♦ Pale, moist skin.
♦ Weakness.
♦ Thirst.
♦ Pain, tenderness, rigid abdomen.
♦ Organs protruding from abdomen.

Care for Serious Abdominal Injury

Open Wound
♦ Position the casualty on his or her back.
♦ Do not put pressure on protruding organs or try to put them back inside.
♦ Remove clothing around the wound.
♦ Cover the wound loosely with moist, clean dressing.
♦ Cover the dressing with plastic wrap.
♦ Cover with folded towel to maintain warmth.
♦ Maintain normal body temperature.
♦ Administer oxygen, if available.
♦ Summon more advanced medical personnel.
Closed Wound:
♦ Position the casualty on his or her back.
♦ Bend knees slightly.
♦ Administer oxygen, if available.
♦ Minimize shock.
♦ Summon more advanced medical personnel.

Signs and Symptoms of Serious Pelvic Injury
♦ Severe pain.
♦ Bruising.
♦ External bleeding.
♦ Nausea/vomiting.
♦ Pale, moist skin.
♦ Weakness.
♦ Thirst.
♦ Pain, tenderness/rigid abdomen.
♦ Organs protruding from abdomen.
♦ Loss of sensation/movement in the legs.

Care for Serious Pelvic Injury
♦ Minimize movement.
♦ Control bleeding.
♦ Administer oxygen, if available.
♦ Minimize shock.
♦ Summon more advanced medical personnel.

Care For Open Wound to Genitalia
♦ Cover the wound with sterile dressing.
♦ Control bleeding.
♦ LEARNING ACTIVITIES

Matching

Match each term with its definition. Write its letter on the line in front of the definition.

Terms

a. Abdomen
b. Chest
c. Pelvis
d. Sternum
e. Flail chest
f. Rib cage
g. Sucking chest wound

Definitions

1. _____ An injury involving fractured ribs that do not move normally with the rest of the chest during breathing
2. _____ Lower part of the trunk containing the bladder and female reproductive organs
3. _____ Upper part of the trunk containing the heart and lungs
4. _____ Long, flat bone connected to the ribs
5. _____ The 12 pairs of ribs, the sternum, and the spine
6. _____ Middle part of the trunk containing the stomach, liver, and spleen
7. _____ An injury in which the thoracic cavity is punctured, allowing air to pass in and out freely

Short Answer

Read each statement or question and write the correct answer in the space provided.

1. List the four steps for covering and protecting a section of intestine protruding from an abdominal wound.
   1. ____________________________
   2. ____________________________
   3. ____________________________
   4. ____________________________

2. List six general steps of care for all serious injuries to the chest, abdomen, and pelvis.
   1. ____________________________
   2. ____________________________
   3. ____________________________
   4. ____________________________
   5. ____________________________
   6. ____________________________

3. List at least four signs and symptoms of abdominal and pelvic injury.
   1. ____________________________
   2. ____________________________
   3. ____________________________
   4. ____________________________
4. List at least four signs and symptoms of chest injury.
   1. ____________________________
   2. ____________________________
   3. ____________________________
   4. ____________________________

♦ CASE STUDIES

Read the case studies and answer the questions that follow.

Case 14.1

You are called to the scene of an industrial incident. A worker was injured when the compressed gas cylinder she was testing exploded. She is lying on the floor gasping for breath, and her lips look bluish. The left side of the front of her shirt is torn and soaked with blood. As she tries to speak to you, she coughs up blood.

1. As you assess the casualty, you hear a gurgling sound from the left side of the rib cage each time she gasps for breath. You would immediately suspect that she has sustained a
   a. Flail chest.
   b. Fractured sternum.
   c. Sucking chest wound.
   d. Penetrating abdominal wound.

2. T F Your immediate care for this injury is to immobilize the injured area of the rib cage to make it easier for the casualty to breathe.

3. Which of the following would you use to cover the injury on the left side of the chest?
   a. Gauze pad
   b. Triangular bandage
   c. Universal dressing
   d. Occlusive dressing

4. Describe how you would bandage the injury to the left side of the chest and what you want to accomplish by the bandaging.

Case 14.2

A teenage boy has been shot in the pelvic area. As you assess him, you find an entrance wound about 5 cm (2 inches) below the navel and no exit wound. He is conscious. He complains of severe abdominal pain and pain when he tries to move his left leg. His face is pale and damp with sweat. He tells you he has no difficulty or pain in breathing.

1. Which of the following structures would be most likely to have been injured by this gunshot?
   a. Liver
   b. Stomach
   c. Bladder
   d. Spleen

2. List three other injuries that are likely to result from this gunshot.
   1. ____________________________
   2. ____________________________
   3. ____________________________
3. T F Administration of oxygen, if possible, is part of your care for this casualty.

4. T F If you find significant bleeding from the entrance wound, you should cover the wound with a sterile dressing, and apply direct pressure.

♦ SELF-ASSESSMENT

Circle the letter of the best answer.

1. In which of the following injuries would you expect to see a small section of the chest wall collapse as the casualty inhales?
   a. Sucking chest wound
   b. Flail chest
   c. Fractured sternum
   d. Ruptured diaphragm

2. Which of these problems might you suspect was a fractured pelvis because the signs and symptoms are similar?
   a. Ruptured diaphragm
   b. Fractured femur
   c. Lower spine injury
   d. Fractured sternum

3. Blunt injury to the abdomen may result in fatal bleeding because of injury to the
   a. Lungs.
   b. Spleen.
   c. Trachea.
   d. All of the above.

4. In which position should you place the casualty of a closed abdominal injury?
   a. Lying flat on back with legs raised about 30 cm (12 inches)
   b. Lying on the side with legs drawn up toward the abdomen
   c. Lying on back with knees slightly bent and supported by a blanket
   d. Semisitting with knees slightly bent and supported by a blanket

5. An appropriate treatment for an uncomplicated rib fracture would be to
   a. Have the casualty lie on the back; place pillows or rolled-up blanket on the injured area.
   b. Let the casualty assume a comfortable position; tightly bind the chest to restrict movement.
   c. Ask the casualty to exhale forcefully; apply an encircling bandage at the end of the exhalation.
   d. Bind the casualty's arm to the chest on the injured side, and administer oxygen.
6. In caring for a casualty with a sucking chest wound, you should
   a. Use your bare hand to apply direct pressure.
   b. Tape a gauze dressing over the injury to keep air from passing in and out.
   c. Use a dressing that does not allow air to pass through it, such as a plastic bag.
   d. b and c.

7. How would you position the casualty of a suspected pelvic fracture?
   a. Roll the casualty to a position lying flat on his or her back.
   b. Keep the casualty in his or her original position.
   c. Move the casualty to a semisitting position unless doing so increases pain.
   d. Place the casualty on one side with knees flexed toward abdomen.

8. Which is the primary sign of a sucking chest wound?
   a. Progressively increasing shortness of breath and coughing
   b. A crackly sensation under the skin when the chest is touched
   c. The sound of air passing in and out of the wound during breathing
   d. A portion of the chest moving opposite to the rest of the chest during breathing

9. Which sign/symptom indicates possible serious abdominal injury?
   a. Tingling and numbness in the arms and legs
   b. Respiratory distress
   c. Impaired vision
   d. Pale, moist skin

10. In which position will a casualty of a simple rib fracture often rest?
    a. Lying flat on the back
    b. Lying flat on the stomach
    c. Sitting with the shoulders back and chest out
    d. Sitting with a hand or arm supporting the chest

11. In caring for a casualty with a sucking chest wound, you should
    a. Use your bare hand to apply direct pressure.
    b. Use a gauze pad to keep air from passing in and out.
    c. Use a dressing that does not allow air to pass through it, such as plastic wrap.
    d. b or c.
12. Appropriate care for a simple rib fracture would be to
   a. Have the casualty lie on the back, and place pillows or a rolled-up blanket on the injured area.
   b. Let the casualty assume a comfortable position, and tightly bind the chest to restrict movement.
   c. Ask the casualty to exhale forcefully, and apply an encircling bandage at the end of the exhalation.
   d. Let the casualty assume a comfortable position, and administer oxygen.

13. Which sign and symptom indicates possible serious abdominal injury?
   a. Tingling and numbness in the arms and legs.
   b. Respiratory distress.
   c. Impaired vision.
   d. Vomiting blood.

14. In caring for a casualty with a sucking chest wound, you should
   a. Use your bare hand to apply direct pressure.
   b. Cover the wound with a sterile dressing, and seal its edges with tape to keep air from passing in and out.
   c. Tape an occlusive dressing over the wound, leaving one corner loose.
   d. b and c.

15. Which of the following would be part of your care for a serious chest injury?
   a. Minimizing shock.
   b. Limiting the casualty's movement.
   c. Calling more advanced medical personnel.
   d. All of the above.

16. In which position should you place the casualty of a closed abdominal injury?
   a. Lying flat on back with legs raised about 12 inches.
   b. Lying on back with knees slightly bent and supported by a blanket.
   c. Lying on one side with legs drawn up toward the abdomen.
   d. Semi-sitting with knees slightly bent and supported by a blanket.
Answers to Exercises
Unit 14- Injuries to the Chest, Abdomen, and Pelvis

Matching:
1. e
2. c
3. b
4. d
5. f
6. a
7. g.

Short Answer:
1. Remove clothing from around the wound.; Apply a moist sterile dressing loosely over the wound.; Cover the dressing with plastic wrap, if available.; Cover dressings lightly with a folded towel to maintain warmth.
2. Control external bleeding.; Limit movement.; Minimize shock.; Administer oxygen.; Monitor vital signs.; Call for more advanced medical personnel.
3. Severe pain; bruising; external bleeding; nausea; vomiting (sometimes vomit containing blood); weakness; pale, moist skin; thirst; pain; tenderness, or a tight feeling in the abdomen; organs possibly protruding from the abdomen; with a pelvic injury, possible loss of sensation in legs or inability to move them.
4. Difficulty breathing; pain at the injury site; flushed, pale, or bluish discolouration of the skin; obvious deformity; coughing up blood.

Case Study 14.1:
1. c
2. F
3. d
4. Tape the occlusive dressing in place except for one corner.; Keep air from entering the wound but allow it to escape during exhalation.

Case Study 14.2:
1. c
2. Punctured intestines; damaged blood vessels and nerves; fractured pelvis.
3. T
4. F.

Self-Assessment:
1. b
2. c
3. b
4. c
5. d
6. c
7. b
8. c
9. d
10. d.
11. c.
12. d.
13. d.
14. c
15. d
16. d