

TRANSITION SERIES

TOPICS FOR THE

ADVANCED
EMT

CHAPTER 38

Abdominal Trauma

Objectives

- Review speculated incidences of abdominal trauma and internal bleeding.
- Review types of abdominal organs.
- Discuss assessment findings consistent with abdominal trauma.
- Define current treatment recommendations.



Introduction

- Abdominal trauma will occasionally present itself in such a way that the Advanced EMT can form a reliable field impression, other times not.
- Regardless, even if the Advanced EMT is not sure what is going on, he must always know what to do.

Epidemiology

- Trauma is the leading cause of death from the age of 1 to 44.
- When considering internal bleeding and multisystem trauma, blunt abdominal trauma is consistently among the leading causes.

Pathophysiology

- Types of abdominal organs
 - Hollow organs
 - Tend to spill contents with trauma.
 - Solid organs
 - Can bleed heavily if lacerated or fractured.

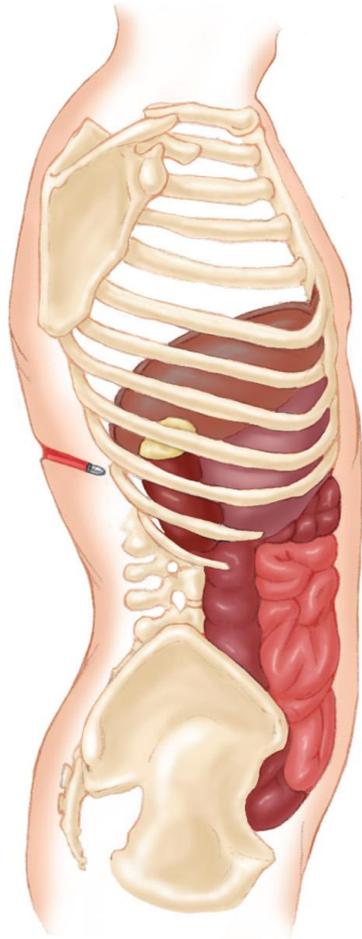
Pathophysiology (cont'd)

- Types of abdominal organs
 - Vascular organs
 - Several large blood vessels in the abdomen.
 - Trauma can cause massive hidden blood loss.

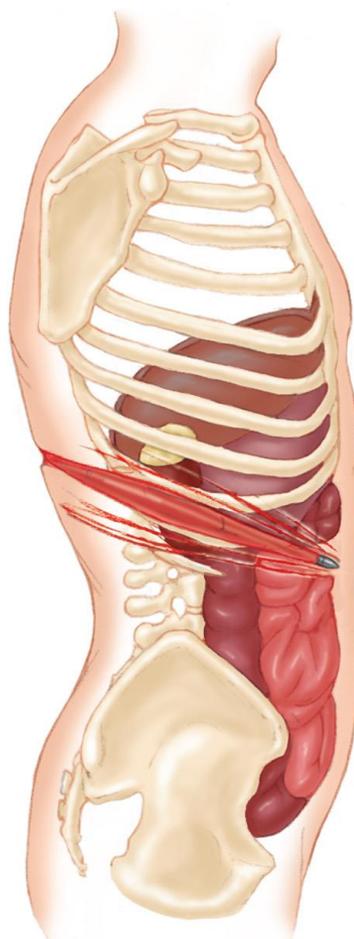
Pathophysiology (cont'd)

- Trauma to the abdomen
 - Direct force injury
 - Compression injury
 - Shearing/Deceleration injury

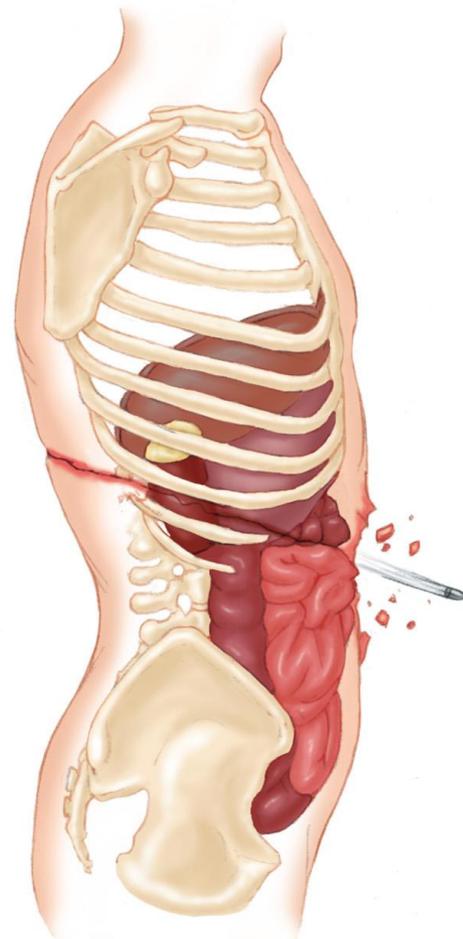
Bullets cause damage in two ways: from the bullet itself (A and C) and from cavitation, which is the temporary cavity caused by the pressure wave (B).



A

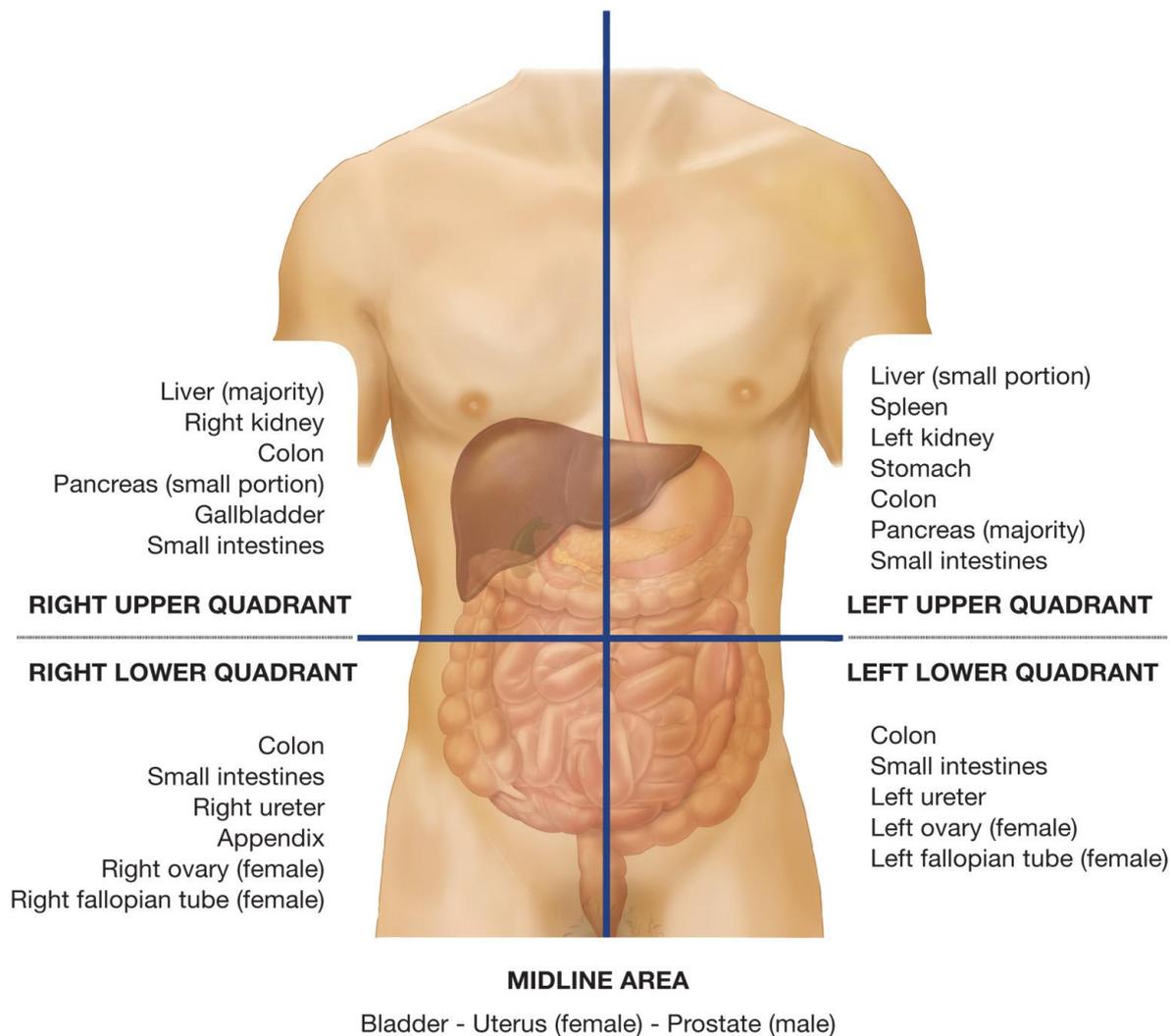


B



C

The four quadrants of the abdomen



Assessment Findings

- Depending on the quadrant injured and the organs involved:
 - Abdominal pain
 - Ecchymosis around the naval or flanks
 - Abdominal guarding, distention, masses
 - Findings of hypovolemic shock

Assessment Findings (cont'd)

- Depending on the quadrant injured and the organs involved (continued):
 - Nausea, vomiting
 - Tenderness to palpation
 - External indications of trauma

Abdominal bruising is a sign of blunt trauma and probable internal bleeding.



Emergency Medical Care

- Spinal immobilization considerations
 - Traumatic incidents
- Airway considerations
 - Ensure open airway.
 - Maintain airway if needed.

Emergency Medical Care (cont'd)

- Breathing considerations
 - Abdominal injury may cause lung injury.
 - Use high-flow oxygen if breathing adequately.
 - PPV at either 8-10 or 10-12 (based on pulse).

Emergency Medical Care (cont'd)

- Circulatory considerations
 - Importance of pulse checks
 - If major bleed present (whether arterial or venous), control it as soon as possible.
- Transport with knees flexed if possible.
- Other considerations
 - Management of evisceration
 - Management of impaled object

Steps in dressing an open abdominal wound.



Cut away clothing from the wound.



Soak a dressing with sterile saline.



Place the moist dressing over the wound.



Apply an occlusive dressing over the moist dressing if local protocols recommend that you do so.





Case Study

- You are treating a female patient who was kicked in the abdomen by a horse while working on her farm. Bystanders stated she was knocked out, but as you approach, the patient looks responsive.

Case Study (cont'd)

- Scene Size-Up
 - Standard precautions taken.
 - Scene is safe.
 - Female patient 38-40 years old, 125 pounds.
 - Patient lying supine on ground.
 - No entry or egress problems.

Case Study (cont'd)

- Primary Assessment Findings
 - Patient responsive to loud verbal stimuli.
 - Airway appears open, patient able to speak.
 - Breathing is rapid but adequate, breath sounds present.

Case Study (cont'd)

- Primary Assessment Findings (continued)
 - Carotid and radial pulses present, but fast.
 - Peripheral skin is warm and diaphoretic.
 - No major external bleeds.
 - Patient complaining of RUQ abdominal pain.

Case Study (cont'd)

- Is this patient a high or low priority?
Why?
- What interventions should be provided
at this time?

Case Study (cont'd)

- What types of organs are present in the right upper quadrant?
- What kind of abdominal injury could she have, given the information known thus far?

Case Study (cont'd)

- Medical History
 - None
- Medications
 - None
- Allergies
 - None

Case Study (cont'd)

- Pertinent Secondary Assessment Findings
 - Pupils slightly dilated, but still reactive to light.
 - Airway patent and maintained by the patient.
 - Breathing is rapid, alveolar sounds present.
 - Central and peripheral pulse present.

Case Study (cont'd)

- Pertinent Secondary Assessment Findings (continued)
 - Skin cool and moist, RUQ abdominal pain with some guarding.
 - B/P 110/95, HR 110, RR 22.
 - SpO₂ 95% on room air, 99% on oxygen.

Case Study (cont'd)

- If this patient suddenly deteriorated, what would be your suspicion as to why?
- What organ do you think has been damaged from the horse kick?

Case Study (cont'd)

- Care provided:
 - Patient kept supine.
 - High-flow oxygen via NRB mask.
 - Full spinal immobilization done very carefully.

Case Study (cont'd)

- Care provided:
 - Patient packaged and taken to ambulance via wheeled cot.
 - Rapid transport to hospital initiated.
 - Intravenous fluid administration for shock based on local protocol.

Summary

- Abdominal injuries will many times go undiagnosed by the Advanced EMT due to the complexity of advanced diagnostics needed to make the decision. But this does not alleviate the need to care for them correctly.

Summary (cont'd)

- Repeated assessments while transporting will allow the Advanced EMT to detect any deterioration in the patient's condition.