

## Assessment and Emergency Care of Abdominal Injuries

### Scene Size-up

#### Scene Safety

Review dispatch data en route to the call. Ensure scene safety and safe access to the patient. Be aware of potential violence or the possibility of a crime scene. Follow standard precautions, putting on a minimum of gloves and eye protection. Determine the number of patients. Assess the need for additional resources such as law enforcement, ALS, or additional ambulances. The mechanism of injury may suggest the injury extent and type; consider the possibility that the patient may have internal bleeding.

#### Mechanism of Injury (MOI)/ Nature of Illness (NOI)

Determine the MOI. Observe the scene and look for indicators that will assist you with this. The nature of the problem may not be readily apparent until more information is gathered. Observe the surroundings. Pediatric patients may have hidden internal injuries. Blunt force to the abdomen from bicycle handlebars is a common MOI in pediatric patients. Carefully review the mechanism of injury; could the mechanism result in an abdominal or genitourinary injury? If penetration is the MOI, inspect for cleanliness of the wound and whether the edges are smooth or jagged. Consider spinal immobilization in any trauma patient with a significant MOI.

### Primary Assessment

#### Form a General Impression

A rapid scan of the patient will help you identify and manage life threats. Determine the priority of care based on the general impression and the MOI. Assess the patient's level of consciousness using the AVPU scale. If the patient is able to communicate, obtain the chief complaint, the type of injury that occurred, and when it occurred. Closed abdominal injuries may be more severe than they appear.

#### Airway and Breathing

Ensure that the airway is clear and patent. If a spinal injury is suspected, have a team member hold the patient's head still and remind the patient not to move. Patients may feel nauseous and vomit; ensure the airway is clear through suction and by turning the patient to one side. Quickly assess the patient for adequate breathing. Abdominal pain or distention may prevent adequate inhalation. When the patient has guarded respirations that decrease the effectiveness of his or her breathing, provide supplemental oxygen with a nonbreathing mask. If the patient's level of consciousness is decreased and respirations are shallow, consider using a bag-mask device. Use airway adjuncts as necessary to ensure a patent airway and assist with breathing.

#### Circulation

Abdominal injuries may cause internal bleeding leading to shock; be alert for signs and symptoms. Evaluate the patient's pulse and skin color, temperature, and condition to determine the stage of shock. If you suspect shock, provide oxygen, position the patient in a modified shock position, and keep the patient warm. Wounds should be covered and bleeding controlled as quickly as possible.

#### Transport Decision

Abdominal injuries require rapid assessment and quick transport to a trauma center. Do not delay transport to perform a lengthy assessment. A delay may result in unnecessary and dangerous progression of shock. Patients with abdominal injuries should be evaluated at the highest level of trauma center available.

**NOTE:** The order of the steps in this section differs depending on whether the patient is conscious or unconscious. The following order is for a conscious patient. For an unconscious patient, perform a primary assessment, perform a full-body scan, obtain vital signs, and obtain the past medical history from a family member, bystander, or emergency medical identification device.

## Assessment and Emergency Care of Abdominal Injuries, continued

### History Taking

#### Investigate Chief Complaint

Once you have identified and treated life threats, investigate the chief complaint and gather a history. Identify associated symptoms and pertinent negatives. Note the patient's position and movement. Ask SAMPLE questions, focusing on the events surrounding the incident and the MOI. Ask OPQRST questions. SAMPLE can also be obtained from family, bystanders, and medical alert tags if the patient is not able to provide the information. Specifically ask about nausea, vomiting, diarrhea, blood in the urine (hematuria), and tarry stools (melena).

### Secondary Assessment

#### Physical Examinations

If the patient has a significant MOI, perform a full-body scan. Begin with the head, using DCAP-BTLS to identify hidden and potentially life-threatening injuries. If the MOI suggests an isolated injury to the abdomen, focus your physical examination on the injured area only. Remove or loosen clothes to expose the injured area. Provide privacy as needed or wait until you are in the back of the ambulance. A patient without suspected spinal injury should be allowed to stay in a position of comfort. For patients with spinal injury, place padding under the patient's knees to help alleviate tension on the abdominal wall. Examine the entire abdomen including all posterior, anterior, and lateral surfaces for entrance and exit wounds. Auscultate the bowel. Use DCAP-BTLS. Palpate the abdomen, beginning with the quadrant farthest from the injured site. Inspect and palpate the kidneys. Ruptured or lacerated hollow organs will cause diffuse pain with guarding, and the patient will react to sudden jarring movements.

#### Vital Signs

Obtain the patient's vital signs. Tachycardia or hypotension may indicate hypoperfusion. Reassess the patient's vital signs every 5 minutes to observe trends. Pay close attention to shifts in the vital signs.

### Reassessment

#### Interventions

Ensure a patent airway and provide oxygen as necessary. Stabilize and immobilize the spine as needed. Control external bleeding and treat for shock. Patients with a ruptured diaphragm may require positive-pressure ventilation to maintain adequate ventilation. Eviscerations and injured genitalia should be covered with a moist sterile dressing. Do not delay transport to complete nonlifefaving treatments. Complete these types of treatments en route to the hospital. Continuously observe and reassess the patient during transport so worsening conditions can be managed.

#### Communication and Documentation

Contact medical control/receiving hospital and communicate a thorough description of the MOI and the position the patient was found in using proper medical terminology. Document your assessment, trends in vital signs, results of the physical examination, and any pertinent negatives. Also document if you passed over any step of the physical examination. Document the scene observations you made on your arrival and be prepared to describe the scene for the trauma team. Refusals of medical aid or transport should be documented completely.

**NOTE:** Although the following steps are widely accepted, be sure to consult and follow your local protocols. Take appropriate standard precautions when treating all patients.

## Assessment and Emergency Care of Abdominal Injuries, continued

### Abdominal Trauma

#### Blunt Abdominal Injuries

Log roll the patient to a supine position on a backboard. If the patient vomits, turn him or her to one side and clear the mouth and throat of vomitus. Monitor the patient's vital signs for any indication of shock. If shock is present, administer high-flow supplemental oxygen via a nonrebreathing mask and treat for shock. Keep the patient warm. Provide prompt transport to the emergency department.

#### Penetrating Abdominal Injuries

The injuries from penetrating trauma may not be so obvious. Large amounts of external bleeding may not be present, yet there can be significant blood loss internally. Accurate assessment of a penetrating injury takes place in the operating room. Prehospital treatment consists of controlling any external bleeding, immobilizing the patient on a long spine board, treating for shock, and transporting the patient to the appropriate specialty center. If the penetrating object is still in place (impaled), stabilize the object in place.

#### Abdominal Evisceration

Never attempt to replace protruding organs. Cover the exposed organs with a moist, sterile dressing. If local protocol allows, cover the sterile dressing with an occlusive dressing. Maintain body temperature, treat for shock, and transport to the highest level trauma center available.

## Assessment and Emergency Care of Genitourinary System

### Scene Size-up

#### Scene Safety

Ensure scene safety. Follow standard precautions, putting on a minimum of gloves and eye protection. Control of blood and bloody contaminants can be difficult unless you are careful about what you touch and where. Determine the number of patients. Assess the need for additional resources.

#### Mechanism of Injury (MOI)/ Nature of Illness (NOI)

Determine the MOI. Observe the scene and look for indicators that will assist you with this. The patient may avoid discussing the injury to avoid undergoing a physical examination. The patient may provide an MOI that seems “less embarrassing” than the actual MOI. Maintain a professional demeanor, respect the patient’s privacy, and maintain the patient’s dignity to earn the patient’s trust.

### Primary Assessment

#### Form a General Impression

Important indicators will alert you to the seriousness of the patient’s condition. Perform a rapid scan of the patient. Is the patient awake and interacting with his or her surroundings, or lying still, making no sounds? Does the patient have any apparent life threats? What color is the patient’s skin? The general impression will help you develop an index of suspicion for serious injuries and determine how urgently the patient needs care.

#### Airway and Breathing

Ensure that the airway is clear and patent. Protect the patient from further spinal injury. Consider inserting an oropharyngeal airway or nasopharyngeal airway if the patient is unresponsive or has a significantly altered level of consciousness. Quickly assess for adequate breathing. Provide assisted ventilations using a bag-mask device as needed.

#### Circulation

Quickly assess the pulse rate and quality; determine the skin condition, color, and temperature; and check the capillary refill time to determine the presence of circulatory problems or shock. Begin the steps to control visible bleeding. Significant bleeding is an immediate life threat and must be controlled quickly using appropriate methods.

#### Transport Decision

The patient should be taken to a trauma center for evaluation and treatment. Any injury to this system can prove to be life altering and often requires a medical specialist to provide specialized care.

**NOTE:** The order of the steps in this section differs depending on whether the patient is conscious or unconscious. The following order is for a conscious patient. For an unconscious patient, perform a primary assessment, perform a full-body scan, obtain vital signs, and obtain the past medical history from a family member, bystander, or emergency medical identification device.

## Assessment and Emergency Care of Genitourinary System, continued

### History Taking

#### Investigate Chief Complaint

Once you have identified and treated life threats, investigate the chief complaint and gather a history. Begin your interview by establishing why the patient called 9-1-1. Use the SAMPLE history to further elicit more facts and specifics about the chief complaint. Common associated complaints are nausea, vomiting, diarrhea, blood in the urine (hematuria), vomiting blood (hematemesis), or abnormal bowel and bladder habits such as an increase in frequency or the absence of the need to void.

### Secondary Assessment

#### Physical Examinations

When examining the patient, expose only what is needed. For a patient with an isolated injury and a limited MOI, focus on the isolated injury, the patient's complaint, and the body region affected. Identify wounds and control bleeding. Note the location and extent of the injury. For a patient with significant trauma, start with a full-body scan looking for DCAP-BTLS from head to toe. With genitourinary injuries, it is important to not focus only on one area of the body.

#### Vital Signs

Obtain the patient's vital signs. Reassess the vital signs to identify how quickly the patient's condition is changing. Signs such as tachycardia, tachypnea, low blood pressure, weak pulse, and cool, moist, and pale skin indicate hypoperfusion and imply the need for rapid treatment at the hospital.

### Reassessment

#### Interventions

Provide oxygen and maintain a patent airway. Attempt to control bleeding and treat for shock. Place the patient in a position of comfort and transport to the appropriate facility.

#### Communication and Documentation

Communicate early with the receiving facility so the staff can be adequately prepared and, if required, have a specialist en route to evaluate and treat the patient. Your documentation should be complete and thorough. Describe all injuries and the treatment given.

**NOTE:** Although the following steps are widely accepted, be sure to consult and follow your local protocols. Take appropriate standard precautions when treating all patients.

## Assessment and Emergency Care of Genitourinary System, continued

### Genitourinary Trauma

#### Kidney Injuries

Damage to the kidneys may not be obvious on inspection of the patient. You may or may not see bruises or lacerations on the overlying skin. You will see signs of shock if the injury is associated with significant blood loss. Another sign of kidney damage is blood in the urine (hematuria). Treat shock and associated injuries in the appropriate manner. Provide prompt transport to the hospital, monitoring the patient's vital signs carefully en route.

#### Urinary Bladder Injuries

Suspect a possible injury of the urinary bladder if you see blood at the urethral opening or physical signs of trauma on the lower abdomen, pelvis, or perineum. There may be blood at the tip of the penis or a stain on the patient's underwear. The presence of associated injuries or of shock will dictate the urgency of transport. In most instances, provide prompt transport, and monitor the patient's vital signs en route.

#### Genitalia Injuries

Soft-tissue injuries to the external genitalia should be treated like any other soft-tissue injury once all life threats have been assessed and managed. Female patients with external genitalia trauma should be questioned about the possibility of pregnancy. Use only external dressings, never place anything into the vagina.

Trauma to the abdomen or genitourinary area may produce injury to the female patient's uterus, fallopian tubes, and ovaries. Treat for shock because injuries to these organs may be hidden.

#### Rectal Bleeding

Rectal bleeding can be significant and lead to shock. Place dressings in the crease between the buttocks to manage bleeding. Contact medical control to determine the need for transport.

#### Sexual Assault

Follow local protocol for crime scene management and evidence preservation. If available, an EMT of the same sex as the patient should perform the assessment and treatment. Advise the patient not to change clothes, shower, drink, or eat. Maintain patient privacy at all times. Sexual assault victims may have serious multisystem trauma. Assessment and treatment should consist of managing life-threatening injuries. Do not examine the genitalia unless obvious bleeding must be managed.