ATLS Practice Test 3
Questions

1. Which one of the following is the recommended method for initially treating frostbite?
   a. vasodilators
   b. anticoagulants
   c. warm (40°C) water
   d. padding and elevation
   e. application of heat from a hair dryer

2. A 6-year-old boy is struck by an automobile and brought to the emergency department. He is lethargic, but withdraws purposefully from painful stimuli. His blood pressure is 90 mm Hg systolic, heart rate is 140 beats per minute, and his respiratory rate is 36 breaths per minute. The preferred route of venous access in this patient is:
   a. percutaneous femoral vein cannulation.
   b. cutdown on the saphenous vein at the ankle.
   c. intraosseous catheter placement in the proximal tibia.
   d. percutaneous peripheral veins in the upper extremities.
   e. central venous access via the subclavian or internal jugular vein.

3. Which one of the following physical findings suggests a cause of hypotension **other than** spinal cord injury?
   a. priapism.
   b. bradycardia.
   c. diaphragmatic breathing.
   d. presence of normal deep tendon reflexes in upper and lower extremities.
   e. ability to flex forearms but inability to extend them.

4. A young man sustains a gunshot wound to the abdomen and is brought promptly to the emergency department by prehospital personnel. His skin is cool and diaphoretic, and he is confused. His pulse is thready and his femoral pulse is only weakly palpable. The definitive treatment in managing this patient is to:
   a. administer O-negative blood.
   b. apply external warming devices.
   c. control internal hemorrhage operatively.
   d. apply a pneumatic antishock garment (PASG).
   e. infuse large volumes of intravenous crystalloid solution.

5. Regarding shock in the child, which of the following is **FALSE**?
   a. Vital signs are age-related.
   b. Children have greater physiologic reserves than do adults.
   c. Tachycardia is the primary physiologic response to hypovolemia.
   d. The absolute volume of blood loss required to produce shock is the same as in adults.
   e. An initial fluid bolus for resuscitation should approximate 20 mL/kg of Ringer's lactate.

6. A 33-year-old man is struck by a car traveling at 56 kph (35 mph). He has an obvious fracture of the left tibia near the knee, pain in the pelvic area, and severe dyspnea. His heart rate is 182 beats per minute, and his respiratory rate is 48 breaths per minute with no breath sounds heard in the left chest. A tension pneumothorax is relieved by immediate needle decompression and tube thoracostomy. Subsequently, his heart rate decreases to 144 beats per minute, his respiratory rate decreases to 36 breaths per minute, and his blood pressure is 81/53 mm Hg. Warmed blood products are being administered intravenously. The next priority should be to:
   a. perform external fixation of the pelvis.
   b. obtain abdominal and pelvic CT scans.
   c. perform arterial embolization of the pelvic vessels.
   d. perform FAST.
   e. perform a urethrogram and cystogram.

7. A 42-year-old man, injured in a motor vehicle crash, suffers a closed head injury, multiple palpable left rib fractures, and bilateral femur fractures. He is intubated orotracheally without difficulty. Initially, his ventilations are easily performed with a bag device. However, it becomes more difficult to ventilate the patient over the next 5 minutes, and his oxygen saturation decreases from 98% to 89%. The most appropriate next step is to:
   a. obtain a chest X-ray.
   b. decrease the tidal volume.
   c. decrease PEEP.
   d. increase the rate of assisted ventilations.
   e. perform needle decompression of the left chest.

8. A young man sustains a gun shot wound to the mid-abdomen. He is brought promptly to the emergency department by prehospital personnel. His skin is cool and diaphoretic, and his systolic blood pressure is 58 mm Hg. Warmed crystalloid fluids are initiated without improvement in his vital signs. The next, most appropriate, step is to perform:
   a. a laparotomy.
   b. an abdominal CT scan.
   c. diagnostic laparoscopy.
   d. abdominal ultrasonography.
   e. massive transfusion.

9. The primary indication for transferring a patient to a higher level trauma center is:
   a. unavailability of a surgeon or operating room staff.
   b. multiple system injuries, including severe head injury.
   c. resource limitations as determined by the transferring doctor.
   d. resource limitations as determined by the hospital administration.
   e. widened mediastinum on chest x-ray following blunt thoracic trauma.

10. A 42-year-old man is trapped from the waist down beneath his overturned tractor for several hours before medical assistance arrives. He is awake and alert until just before arriving in the emergency department. He is now unconscious and responds only to painful stimuli by moaning. His pupils are 3 mm in diameter and symmetrically reactive to light. Prehospital personnel indicate that they have not seen the patient move either of his lower extremities. On examination in the emergency department, no movement of his lower extremities is detected, even in response to painful stimuli. The most likely cause for this finding is:
   a. an epidural hematoma.
   b. a pelvic fracture.
   c. central cord syndrome.
   d. intracerebral hemorrhage.
   e. bilateral compartment syndrome.

11. A 30-year-old man sustains a severely comminuted, open, distal right femur fracture in a motorcycle crash. The wound is actively bleeding. Normal sensation is present over the lateral aspect of the foot but decreased over the medial foot and great toe. Normal motion of the foot is observed. Dorsalis pedis and posterior tibial pulses are easily palpable on the left, but heard only by Doppler on the right. Immediate efforts to improve circulation to the injured extremity should involve:
   a. immediate angiography.
   b. tamponade of the wound with a pressure dressing.
   c. wound exploration and removal of bony fragments.
   d. realignment of the fracture segments with a traction splint.
   e. fasciotomy of all four compartments in the lower extremity.

12. An 18-year-old, unhelmeted motorcyclist is brought by ambulance to the emergency department following a crash. He had decreased level of consciousness at the scene, but then was alert and conversational during transportation. Now his GCS is only 11. Which of the following statements is **TRUE**?
   a. Cerebral perfusion is intact.
   b. Intravascular volume status is normal.
   c. The patient is in a postictal state.
   d. Intra-abdominal visceral injuries are unlikely.
   e. The patient probably has an acute epidural hematoma.

13. A 19-year-old man is brought to the emergency department after being struck in the face by a baseball. He is alert and speaking clearly. Primary survey reveals a patent airway, normal breath sounds bilaterally, and warm skin with brisk capillary refill. His heart rate is 48 beats per minute and his blood pressure is 108/64 mm Hg. He complains of severe nausea and pain around the left eye. Physical examination shows periorbital ecchymosis without laceration, minimal swelling, and marked pain with attempted upward gaze of the left eye. The left eye cannot elevate past the midline. Visual acuity is symmetric. Pupils are equal and reactive to light. There is no obvious globe rupture. He becomes increasingly nauseated when asked to look up. Which of the following is the most appropriate next management step?
    a. Administer antiemetics and observe for spontaneous resolution over twenty-four hours.
    b. Apply a pressure dressing and arrange outpatient ophthalmology follow-up.
    c. Urgent CT of the face then operative exploration and release of the entrapped extraocular muscle.
    d. Administer systemic corticosteroids and schedule surgical repair the next day.
    e. Perform bedside forced-duction testing for extraocular muscle entrapment.

14. Absence of breath sounds and dullness to percussion over the left hemithorax are findings best explained by:
    a. left hemothorax.
    b. cardiac contusion
    c. left simple pneumothorax
    d. left diaphragmatic rupture
    e. right tension pneumothorax.

15. A 23-year-old man is brought immediately to the emergency department from the hospital's parking lot where he was shot in the lower abdomen. Examination reveals a single bullet wound. He is breathing and has a thready pulse. However, he is unconscious and has no detectable blood pressure. Optimal immediate management is to:
    a. perform FAST or diagnostic peritoneal lavage.
    b. initiate infusion of packed red blood cells.
    c. insert a nasogastric tube and urinary catheter.
    d. transfer the patient to the operating room, while initiating fluid therapy.
    e. initiate fluid therapy to return his blood pressure to normotensive.

16. A teen-aged bicycle rider is hit by a truck traveling at high speed. In the emergency department, she is actively bleeding from open fractures of her legs, and has abrasions on her chest and abdominal wall. Her blood pressure is 80/50 mm Hg, heart rate is 140 beats per minute, respiratory rate is 8 breaths per minute, and GCS score is 6. Besides controlling hemorrhage from her legs, the first step in managing this patient is to:
    a. obtain a lateral cervical spine X-ray.
    b. insert a central venous pressure line.
    c. administer 2 liters of balanced blood products.
    d. perform endotracheal intubation and ventilation.
    e. apply a pneumatic antishock garment (PASG) and inflate the leg compartments.

17. An 8-year-old boy falls 4.5 meters (15 feet) from a tree and is brought to the emergency department by his family. His vital signs are normal, but he complains of left upper quadrant pain. An abdominal CT scan reveals a moderately severe laceration of the spleen. The receiving institution does not have 24-hour-a-day operating room capabilities. The most appropriate management of this patient would be to:
    a. type and crossmatch for blood.
    b. request consultation of a pediatrician.
    c. transfer the patient to a trauma center.
    d. admit the patient to the intensive care unit.
    e. prepare the patient for surgery the next day.

18. A 27-year-old man arrives at the emergency department after sustaining a single stab wound to the left anterior chest just medial to the nipple line. He is alert and speaking in full sentences. Initial assessment shows a patent airway, respiratory rate of 22 breaths per minute, oxygen saturation of 96 percent on room air, heart rate of 104 beats per minute, and blood pressure of 112/70 mm Hg. Breath sounds are equal bilaterally. There is a 2-centimeter penetrating wound without active external bleeding. Neck veins are not distended. Heart sounds are audible and not muffled. After completion of the primary survey, the patient remains stable. During the secondary survey, he reports increasing chest pressure and lightheadedness. Repeat vital signs show heart rate of 118 beats per minute and blood pressure of 94/58 mm Hg. Bedside cardiac ultrasound demonstrates a small but definite pericardial effusion with early right atrial diastolic collapse. Which of the following is the most appropriate next step in management?
    a. Administer intravenous crystalloid and repeat ultrasound in fifteen minutes.
    b. Perform immediate emergency department thoracotomy.
    c. Proceed to the operating room for urgent surgical exploration.
    d. Obtain contrast-enhanced computed tomography of the chest.
    e. Perform pericardiocentesis.

19. A 17-year-old helmeted motorcyclist is struck broadside by an automobile at an intersection. He is unconscious at the scene with a blood pressure of 140/90 mm Hg, heart rate of 90 beats per minute, and respiratory rate of 22 breaths per minute. His respirations are sonorous and deep. His GCS score is 6. Immobilization of the entire patient may include the use of all the following **EXCEPT**:
    a. air splints.
    b. bolstering devices.
    c. a long spine board.
    d. a scoop-style stretcher.
    e. a semi-rigid cervical collar.

20. Twenty-seven patients are seriously injured in an aircraft accident at a local airport. The basic principle of triage should be to:
    a. treat the most severely injured patients first.
    b. establish a field triage area directed by a doctor.
    c. rapidly transport all patients to the nearest appropriate hospital.
    d. treat the greatest number of patients in the shortest period of time.
    e. produce the greatest number of survivors based on available resources.

21. A 34-year-old woman is brought to the emergency department after a high-speed motor vehicle collision. On arrival, the primary survey is completed and reveals a patent airway, symmetric breath sounds, blood pressure of 122/76 mm Hg, heart rate of 96 beats per minute, and a Glasgow Coma Scale score of 15. There is no external hemorrhage. The team then proceeds to the secondary survey. During the head-to-toe examination, the patient reports vague abdominal discomfort and a dull ache in the left shoulder. There is no abdominal distension or guarding. Focused assessment with sonography for trauma is negative for free fluid. Chest radiograph shows no rib fractures, hemothorax, or pneumothorax. Pelvic radiograph is normal. While the secondary survey is ongoing, her heart rate gradually increases to 118 beats per minute, and her blood pressure decreases to 98/60 mm Hg. Which of the following is the most appropriate next step according to ATLS principles?
    a. Complete the secondary survey thoroughly.
    b. Administer intravenous opioid analgesia to reduce sympathetic tachycardia.
    c. Immediately repeat the primary survey with focused reassessment.
    d. Obtain contrast-enhanced computed tomography of the abdomen and pelvis.
    e. Obtain a 12-lead ECG.

22. A young woman sustains a severe head injury as the result of a motor vehicular crash. In the emergency department, her GCS score is 6. Her blood pressure is 140/90 mm Hg and her heart rate is 80 beats per minute. She is intubated and is being mechanically ventilated. Her pupils are 3 mm in size and equally reactive to light. There is no other apparent injury. The most important principle to follow in the early management of her head injury is to:
    a. administer an osmotic diuretic.
    b. prevent secondary brain injury.
    c. aggressively treat systemic hypertension.
    d. reduce metabolic requirements of the brain.
    e. distinguish between intracranial hematoma and cerebral edema.

23. To establish a diagnosis of shock:
    a. systolic blood pressure must be below 90 mm Hg.
    b. the presence of a closed head injury should be excluded
    c. acidosis should be present by arterial blood gas analysis
    d. the patient must fail to respond to intravenous fluid infusion.
    e. clinical evidence of inadequate organ perfusion must be present.

24. A 32-year-old man is brought to the hospital unconscious with severe facial injuries and noisy respirations after an automobile collision. In the emergency department, he has no apparent injury to the anterior aspect of his neck. He suddenly becomes apneic, and attempted ventilation with a face mask is unsuccessful. Examination of his mouth reveals a large hematoma of the pharynx with loss of normal anatomic landmarks. Initial management of his airway should consist of:
    a. inserting an oropharyngeal airway.
    b. inserting a nasopharyngeal airway.
    c. performing a surgical cricothyroidotomy.
    d. performing fiberoptic-guided nasotracheal intubation.
    e. performing orotracheal intubation after obtaining a lateral C-spine X-ray.

25. A 25-year-old woman is brought to the emergency department after a motor vehicle crash. She was initially lucid at the scene and then developed a dilated pupil and contralateral extremity weakness. In the emergency department, she is unconscious and has a GCS score of 6. The initial management step for this patient should be to:
    a. obtain a CT scan of the head.
    b. administer decadron 20 mg IV.
    c. perform endotracheal intubation.
    d. administer mannitol 1 g/kg IV.
    e. perform an emergency bone flap craniotomy on the side of the dilated pupil.

26. A contraindication to nasogastric intubation is the presence of a:
    a. gastric perforation.
    b. diaphragmatic rupture.
    c. open depressed skull fracture.
    d. fracture of the cervical spine.
    e. fracture of the cribriform plate.

27. A 47-year-old man is brought to the emergency department after a rollover motor vehicle collision with prolonged extrication. On arrival, he is alert and oriented. Primary survey reveals a patent airway, equal breath sounds, heart rate of 102 beats per minute, blood pressure of 118/74 mm Hg, and warm extremities. There is no external hemorrhage. The abdomen is soft with mild diffuse tenderness but no guarding or rigidity. A faint linear ecchymosis is noted across the lower abdomen consistent with a seat belt mark. During the secondary survey, contrast-enhanced computed tomography of the abdomen and pelvis is obtained. It demonstrates a small amount of free intraperitoneal fluid, focal thickening of a segment of jejunum, subtle mesenteric fat stranding, and a small focus of extraluminal air adjacent to the bowel wall. There is no solid organ injury. Over the next two hours, the patient remains normotensive but develops increasing abdominal pain and a rising heart rate to 118 beats per minute. Which of the following is the most appropriate management step?

a. Continue serial abdominal examinations and repeat imaging over the next 24 hours.
b. Administer broad-spectrum intravenous antibiotics and observe in the intensive care unit.
c. Proceed with exploratory laparotomy.
d. Perform diagnostic peritoneal lavage to confirm hollow viscus injury.
e. Small bowel follow-through with water-soluble contrast.

28. **Immediate** chest tube insertion is indicated for which of the following conditions?
a. Pneumothorax of any kind
b. Pneumomediastinum
c. Massive hemothorax
d. Diaphragmatic rupture
e. Subcutaneous emphysema

29. Cardiac tamponade after trauma:
a. is seldom life-threatening.
b. can be excluded by an upright, AP chest X-ray.
c. can be confused with a tension pneumothorax.
d. causes a fall in systolic pressure of >15 mm Hg with expiration.
e. most commonly occurs after blunt injury to the anterior chest wall.

30. A 22-year-old man is brought to the hospital after crashing his motorcycle into a telephone pole. He is unconscious and in profound shock. He has no open wounds or obvious fractures. The cause of his shock is **MOST LIKELY** caused by:
a. a subdural hematoma.
b. an epidural hematoma.
c. a transected lumbar spinal cord.
d. a basilar skull fracture.
e. hemorrhage into the chest or abdomen.

31. Which one of the following statements is **FALSE** concerning Rh isoimmunization in the pregnant trauma patient?
a. It occurs in blunt or penetrating abdominal trauma.
b. Minor degrees of fetomaternal hemorrhage can cause it.
c. A negative Kleihauer-Betke test excludes Rh isoimmunization.
d. This is not a problem in the traumatized Rh-positive pregnant patient.
e. Initiation of Rh immunoglobulin therapy does not require proof of fetomaternal hemorrhage.

32. All of the following signs on the chest x-ray of a blunt injury victim may suggest aortic rupture **EXCEPT**:
    a. mediastinal emphysema.
    b. presence of a "pleural cap."
    c. obliteration of the aortic knob.
    d. deviation of the trachea to the right.
    e. depression of the left mainstem bronchus.

33. Early central venous pressure monitoring during fluid resuscitation in the emergency department has the greatest utility in a:
    a. patient with a splenic laceration.
    b. patient with an inhalation injury.
    c. 6-year-old child with a pelvic fracture.
    d. patient with a severe cardiac contusion.
    e. 24-year-old man with a massive hemothorax.

34. A cross-table lateral X-ray of the cervical spine:
    a. must precede endotracheal intubation.
    b. excludes serious cervical spine injury.
    c. is an essential part of the primary survey.
    d. is not necessary for unconscious patients with penetrating cervical injuries.
    e. is unacceptable unless all 7 cervical vertebrae and the C-7 to T-1 relationship are visualized.

35. A 24-year-old man sustains multiple fractured ribs bilaterally as a result of being crushed in a press at a plywood factory. Examination in the emergency department reveals a flail segment of the patient's thorax. Airway is not compromised, breath sounds are equal bilaterally, and vital sounds are stable. Primary resuscitation includes high-flow oxygen administration via a nonrebreathing mask, and initiation of Ringer's lactate solution. The patient exhibits progressive confusion, cyanosis, and tachypnea. Management at this time should consist of:
    a. intravenous sedation.
    b. external stabilization of the chest wall.
    c. increasing the FIO_2 in the inspired gas.
    d. intercostal nerve blocks for pain relief.
    e. endotracheal intubation and mechanical ventilation.

36. Which one of the following statements regarding patients with thoracic spine injuries is **TRUE**?
    a. Log-rolling may be destabilizing to fractures from T12 to L1.
    b. Adequate immobilization can be accomplished with the scoop stretcher.
    c. Spinal cord injury below T-10 usually spares bowel and bladder function.
    d. Hyperflexion fractures in the upper thoracic spine are inherently unstable.
    e. These patients rarely present with neurogenic shock in association with cord injury.

37. During resuscitation, which one of the following is the most reliable as a guide to volume replacement?
    a. heart rate
    b. hematocrit
    c. blood pressure
    d. urinary output
    e. jugular venous pressure

38. A 24-year-old woman passenger in an automobile strikes the wind screen with her face during a head-on collision. In the emergency department, she is talking and has marked facial edema and crepitus. The highest priority should be given to:
    a. lateral C-spine X-ray.
    b. upper airway protection.
    c. carotid pulse assessment.
    d. management of blood loss.
    e. determination of associated injuries.

39. The driver of a single vehicle crash is orotracheally intubated in the field by prehospital personnel after they identify a closed head injury and determine that the patient is unable to protect his airway. In the emergency department, the patient demonstrates decorticate posturing bilaterally. He is being ventilated with a bag-valve device, but his breath sounds are absent in the left hemithorax. His blood pressure is 160/88 mm Hg, heart rate is 70 beats per minute, and the pulse oximeter displays a hemoglobin oxygen saturation of 96%. The next step in assessing and managing this patient should be to:
    a. determine the arterial blood gases.
    b. obtain a lateral cervical spine X-ray.
    c. assess placement of the endotracheal tube.
    d. perform needle decompression of the left chest.
    e. insert a thoracostomy tube in the left hemithorax.

40. The response to catecholamines in an injured, hypovolemic pregnant woman can be expected to result in:
    a. placental abruption.
    b. fetal hypoxia and distress.
    c. maternal dysrhythmias.
    d. improved uterine blood flow.
    e. increased maternal renal blood flow.