

ATLS Practice Test 3

1. Signs and symptoms of airway compromise include all of the following except:
 - a. change in voice.
 - b. stridor.
 - c. decreased pulse pressure.
 - d. dyspnea and agitation.
 - e. tachypnea.

2. A 29-year-old female arrives in the emergency department after being involved in a motor vehicle crash. She is 30 weeks pregnant. She was restrained with a lap and shoulder belt, and an airbag deployed. Which one of the following statements best describes the risk of injury?
 - a. The deployment of the airbag increases the risk of fetal loss.
 - b. The use of seatbelts is associated with increased risk of maternal death,
 - c. The mechanism of injury suggests the need for emergency caesarean section due to the risk of impending abruptio placentae.
 - d. The risk of premature fetal delivery and death is reduced by the use of restraints.
 - e. The deployment of the airbag increases the risk of maternal abdominal injury.

3. Cardiac tamponade:
 - a. is definitively managed by needle pericardiocentesis
 - b. is most common with blunt thoracic trauma and anterior rib fractures
 - c. is easily diagnosed by discovery of Beck's triad in the emergency department
 - d. is indicated by Kussmaul breathing
 - e. requires surgical intervention

4. A 14-year-old female is brought to the emergency department after falling from a horse. She is immobilized on a long spine board with a hard collar and blocks. Cervical spine x-rays:
 - a. will show cervical spine injury in more than 20% of these patients.
 - b. will exclude cervical spine injury if no abnormalities are found on the x-rays.
 - c. are not needed if she is awake, alert, neurologically normal, and has no neck pain or midline tenderness.
 - d. should be performed before addressing potential breathing or circulatory problems.
 - e. may show atlanto-occipital dislocation if the Power's ratio is < 1 .

5. The **most specific** test to evaluate for injuries of solid abdominal organs is:
- abdominal x-rays
 - abdominal ultrasonography
 - diagnostic peritoneal lavage
 - frequent abdominal examinations
 - CT of abdomen and pelvis
6. A 40-year-old obese patient with a Glasgow Coma Scale score of 8 requires a CT Scan. Before transfer to the scanner, you should:
- give more sedative drugs.
 - insert a multi-lumen esophageal airway.
 - insert a definitive airway.
 - request a lateral cervical spine film.
 - insert a nasogastric tube.
7. A 23-year-old construction worker is brought to the emergency department after falling more than 9 meters (30 feet) from scaffolding. His vital signs are: heart rate 140, blood pressure 96/60 mm Hg, and respiratory rate 36. He is complaining bitterly of lower abdominal and lower limb pain, and has obvious deformity of both lower legs with bilateral open tibial fractures. Which one of the following statements concerning this patient is true?
- Pelvic injury can be ruled out based on the mechanism of injury.
 - Blood loss from the lower limbs is the most likely cause of his hypotension.
 - X-rays of the chest and pelvis are important adjuncts in his initial assessment.
 - Spinal cord injury is the most likely cause of his hypotension.
 - Aortic injury is the most likely cause of his tachycardia.
8. A 25-year-old female in the third trimester of pregnancy is brought to the emergency department following a high-speed motor vehicle crash. She is conscious and immobilized on a long spine board. Her respiratory rate is 24, heart rate is 120, and blood pressure is 70/50. The laboratory results show a PaCO₂ of 40 mm Hg. Which one of the following statements concerning this patient is true?
- Fetal assessment should take priority.
 - Log-rolling the patient to the right will decompress the vena cava.
 - Rh-immunoglobulin therapy should be immediately administered.
 - The patient likely has impending respiratory failure.
 - Vasopressors should be given to the patient.

9. The **most important** consequence of inadequate organ perfusion is:
- multiple organ failure
 - decreased base deficit
 - acute glomerulonephritis
 - increased cellular adenosine triphosphate (ATP) production
 - vasodilation
10. Hypertension following a head injury:
- should be treated to reduce intracranial pressure
 - may indicate imminent herniation from critically high intracranial pressure
 - indicates pre-existing hypertension
 - mandates prompt administration of mannitol
 - should prompt burr hole drainage of potential subdural hematomas
11. Initial treatment of frostbite injuries involves:
- application of dry heat.
 - rapid rewarming of the body part in circulating warm water.
 - debridement of hemorrhagic blisters.
 - early amputation to prevent septic complications.
 - massage of the affected area.
12. Which one of the following statements is true regarding a pregnant patient who presents following blunt trauma?
- Early gastric decompression is important.
 - A hemoglobin level of 10 g/dL (hematocrit 30) indicates recent blood loss.
 - The central venous pressure response to volume resuscitation is blunted in pregnant patients.
 - A lap belt is the best form of restraint due to the size of the gravid uterus.
 - A PaCO₂ of 40 mmHg (5.3 kPa) provides reassurance about the adequacy of respiratory function
13. Which of the following signs is **least reliable** for diagnosing esophageal intubation?
- symmetrical chest wall movement
 - end-tidal CO₂
 - bilateral breath sounds
 - oxygen saturation
 - chest x-ray demonstrating the ETT tip positioned above the carina

14. A 6-month-old infant, being held in her mother's arms, is ejected on impact from a vehicle that is struck head-on by an oncoming car traveling at 64 kph (40 mph). The infant arrives in the emergency department with multiple facial injuries, is lethargic, and is in severe respiratory distress. Respiratory support is not effective using a bag-mask device, and her oxygen saturation is falling. Repeated attempts at orotracheal intubation are unsuccessful. The **most appropriate** procedure to perform next is:
- administer heliox and racemic epinephrine
 - perform nasotracheal intubation
 - perform surgical cricothyroidotomy
 - repeat orotracheal intubation
 - perform needle cricothyroidotomy with jet insufflation
15. A 28-year-old male is brought to the emergency department. He was involved in a fight in which he was beaten with a wooden stick. His chest shows multiple severe bruises. His airway is clear, respiratory rate is 22, heart rate is 126, and systolic blood pressure is 90 mm Hg. Which of the following should be performed during the primary survey?
- Glasgow Coma Score
 - tetanus toxoid administration
 - cervical spine x-ray
 - blood alcohol-level
 - rectal exam
16. Which one of the following injuries is addressed in the secondary survey?
- forearm fracture
 - mid-thigh amputation
 - open fracture with bleeding
 - unstable pelvic fracture
 - bilateral femur fractures with obvious deformity
17. A 30-year-old male is stabbed in the right chest. On arrival in the emergency department, he is very short of breath. His heart rate is 120 and blood pressure is 80/50 mm Hg. His neck veins are flat. On auscultation of the chest, there is diminished air entry on the right side, and there is dullness posteriorly on percussion. These findings are most consistent with:
- tension pneumothorax
 - pericardial tamponade
 - hypovolemia from liver injury
 - hemothorax
 - spinal cord injury

18. A specific aspect of the treatment of thermal injuries is:
- chemical burns require the immediate removal of clothing.
 - patients who sustain thermal injury are at lower risk for hypothermia.
 - patients with circumferential truncal burns need prompt fasciotomies.
 - electrical burns are associated with extensive skin necrosis.
 - the Parkland formula should be used to determine adequacy of resuscitation.
19. A 15-year-old male is brought to the emergency department after being involved in a motor vehicle crash. He is unconscious and was intubated at the scene by emergency medical personnel. Upon arrival at the emergency department, the patient's oxygen saturation is 92%, heart rate is 96, and blood pressure is 150/85 mm Hg. Breath sounds are decreased on the left side of the thorax. The next step is:
- immediate needle cricothyroidotomy
 - immediate needle thoracentesis
 - chest tube insertion
 - reassess the position of the endotracheal tube
 - obtain a chest x-ray
20. Which one of the following statements is true?
- Elevated intracranial pressure will not affect cerebral perfusion.
 - Cerebrospinal fluid cannot be displaced from the cranial vault.
 - Cerebral blood flow is increased when the P_{aCO_2} is below 30 mm Hg.
 - Autoregulation of cerebral blood flow normally occurs between mean arterial pressures of 50 to 150 mm Hg.
 - Hypotonic fluids should be used to limit brain edema in patients with severe head injury.
21. A 30-year-old male presents with a stab wound to the abdomen. Blood pressure is 85/60 mm Hg, heart rate is 130, respiratory rate is 25, and Glasgow Coma Scale score is 14. Neck veins are flat, and chest examination is clear with bilateral breath sounds. Optimal resuscitation should include:
- transfusion of fresh frozen plasma and platelets.
 - 500 mL of hypertonic saline and transfusion of packed red blood cells.
 - resuscitation with crystalloid and packed red blood cells until base excess is normal.
 - preparation for laparotomy while initiating fluid resuscitation.
 - fluid resuscitation and angioembolization.

22. Initial resuscitation in adult trauma patients should:
- be with 1-2 liters of crystalloid, monitoring the patient's response.
 - use crystalloid to normalize blood pressure.
 - use permissive hypotension in patients with head injury.
 - be with a non-blood colloid solution.
 - be a minimum of 2 liters of crystalloid in all trauma patients prior to administering blood.
23. A 25-year-old male is brought to the emergency department following a bar fight. He has an altered level of consciousness, opens his eyes on command, moans without forming discernible words, and localizes to painful stimuli. Which one of the following statements concerning this patient is true?
- Mandatory intubation to protect his airway is required.
 - His Glasgow Coma Scale suggests a severe head injury.
 - His level of consciousness can be solely attributed to elevated blood alcohol.
 - CT Scanning is an important part of neurological assessment.
 - A 2 L fluid bolus is indicated.
24. Which one of the following statements is true regarding access in pediatric resuscitation?
- Intraosseous access should only be considered after five percutaneous attempts.
 - Cut-down at the ankle is the preferred initial access technique.
 - Internal jugular cannulation is the next preferred option when percutaneous venous access fails.
 - Intraosseous cannulation should be the first choice for access.
 - Blood transfusion can be delivered through intraosseous access.
25. A 35-year-old female sustains multiple injuries in a motor vehicle crash and is transported to a small hospital in full spinal protection. She has a GCS score of 4 and is being mechanically ventilated. Intravenous access is established and warmed crystalloid is infused. She remains hemodynamically normal and full spinal protection is maintained. Preparations are made to transfer her to another facility for definitive neurosurgical care. Prior to transport, which of the following tests or treatments is mandatory?
- FAST exam
 - Chest x-ray
 - lateral cervical spine x-ray
 - administration of methylprednisolone
 - computerized tomography of the abdomen

26. A 23-year-old male is stabbed below the right nipple. He is alert, and his oxygen saturation is 98%. Chest tube was placed for treatment of a hemopneumothorax. Blood pressure is 90/60 mm Hg after administration of 1 L of crystalloid solution. What is the next step in treatment?
- Place a left-sided chest tube.
 - Re-examine the chest.
 - Insert central venous catheter.
 - Perform CT scan of the abdomen and pelvis.
 - Prepare for urgent thoracotomy.
27. A 22-year-old male is assaulted in a bar. A semi-rigid cervical collar is applied, and he is immobilized on a spine board. On initial examination, his vital signs are normal, and his Glasgow Coma Scale score is 15. Which of the following is an indication for CT in this patient with possible minor traumatic brain injury?
- presence of hemotympanum
 - blood alcohol concentration of 0.16% (160 mg/100 ml)
 - presence of an isolated 10 cm scalp laceration
 - presence of a mandibular fracture
 - history of assault
28. Supraglottic airway devices:
- are equivalent to endotracheal intubation.
 - require neck extension for proper placement.
 - are preferable to endotracheal intubation in a patient who cannot lie flat.
 - are of value as part of a difficult or failed intubation plan.
 - provide one form of definitive airway.
29. A 70-year-old male suffers blunt chest trauma after being struck by a car. On presentation, his Glasgow Coma Scale score is 15, blood pressure is 145/90 mm Hg, heart rate is 72, respiratory rate is 24, and oxygen saturation on 5 L is 91%. Chest x-ray demonstrates multiple right-sided rib fractures. ECG demonstrates normal sinus rhythm with no conduction abnormalities. Management should include:
- placement of a 22-French, right-sided chest tube.
 - serial troponins and cardiac monitoring.
 - thoracic splinting, taping, and immobilization.
 - monitored intravenous analgesia.
 - bronchoscopy to exclude tracheobronchial injury.

30. A 15-year-old male presents following a motorcycle crash. Initial examination reveals normal vital signs. There is a large bruise over his epigastrium that extends to the left flank. He has no other apparent injuries. A CT scan of the abdomen demonstrates a ruptured spleen surrounded by a large hematoma and fluid in the pelvis. The next step in this patient's management is:
- splenic artery embolization.
 - pneumococcal vaccine.
 - transfer to a pediatrician.
 - urgent laparotomy.
 - surgical consultation.
31. A 30-year-old female is brought to the emergency department after being injured in a motor vehicle crash. Her initial blood pressure is 90/60 mm Hg, and her heart rate is 122 beats per minute. She responds to the rapid infusion of 1 liter of crystalloid Solution with a rise in her blood pressure to 118/88 mm Hg and a decrease in her heart rate to 90 beats per minute. Her pressure then suddenly decreases to 96/66 mm Hg. The **least likely** cause of her hemodynamic change is:
- traumatic brain injury.
 - ongoing blood loss.
 - blunt cardiac injury.
 - inadequate resuscitation.
 - tension pneumothorax.
32. Limb-threatening extremity injuries:
- require a tourniquet.
 - are characterized by the presence of ischemic or crushed tissue.
 - should be definitively managed by application of a traction splint.
 - are rarely present without an open wound.
 - indicate a different order of priorities for the patient's initial assessment and resuscitation.
33. The first priority in the management of a long bone fracture is:
- reduction of pain.
 - prevention of infection in case of an open fracture.
 - prevention of further soft tissue injury.
 - control of hemorrhage.
 - improve long-term function.

34. Which one of the following statements regarding genitourinary injuries is true?
- a. Urethral injuries are associated with pelvic fractures.
 - b. All patients with microscopic hematuria require evaluation of the genitourinary tract.
 - c. Patients presenting with gross hematuria and shock will have a major renal injury as the source of hemorrhage.
 - d. Intraperitoneal bladder injuries are usually managed definitively with a urinary catheter.
 - e. Urinary catheters should be placed in all patients with pelvic fractures during the primary survey.
35. A 21-year-old male athlete is involved in a motorcycle crash. When he arrives in the emergency department, he shouts that he cannot move his legs. On physical examination, there are no abnormalities of the chest, abdomen, or pelvis. The patient has no sensation in his legs and cannot move them, but his arms are moving. The patient's respiratory rate is 22, heart rate is 88, and blood pressure is 80/60 mm Hg. He is pale and sweaty. What is the most likely cause of his condition?
- a. neurogenic shock
 - b. cardiac tamponade
 - c. myocardial contusion
 - d. hyperthermia
 - e. abdominal hemorrhage
36. A 27-year-old male presents following a motorcycle crash. He complains of the inability to move or feel his legs. His blood pressure is 80/50 mm Hg, heart rate is 70, respiratory rate is 18, and Glasgow Coma Scale score is 15. Oxygen Saturation is 99% on 21 nasal prongs. Chest x-ray, pelvic X-ray, and FAST are normal. Extremities are normal. His management should be:
- a. 2L of IV crystalloid and two units of pRBCs (packed red blood cells).
 - b. 2 L of IV crystalloid, mannitol, and IV steroids.
 - c. 1 unit of albumin and compression stockings.
 - d. vasopressors and laparotomy.
 - e. 2 L of crystalloid and vasopressors if BP does not respond.

37. Which one of the following physical findings does not suggest spinal cord injury as the cause of hypotension?
- priapism
 - bradycardia
 - distended neck veins
 - diaphragmatic breathing
 - ability to flex forearms but inability to extend them
38. Lateral cervical spine films:
- must be performed in the primary survey.
 - can exclude any significant spinal injury.
 - should be combined with clinical exam, AP and odontoid, or CT.
 - are indicated in all trauma patients.
 - require the following films: oblique views, AP, odontoid, and flexion and extension views prior to spinal clearance in trauma patients.
39. A 30-year-old male is brought to the hospital after falling 6 meters (20 feet). Inspection reveals an obvious flail chest on the right. The patient is tachypneic. Breath sounds are present and symmetrical. There is no significant hyperresonance or dullness. Arterial blood gases obtained while the patient receives oxygen by face mask are: Pao₂ of 45 mm Hg (6 kPa), PaCO₂ of 28 mm Hg (3.7 kPa), and pH of 7.47. The component of injury that is most likely responsible for the abnormalities in the patient's blood gases is:
- hypoventilation.
 - hypovolemia.
 - small pneumothorax.
 - pulmonary contusion.
 - flail chest.
40. An 82-year-old male falls down five stairs and presents to the emergency department. All of the following are true statements regarding his condition compared to a younger patient with similar mechanism, except?
- He is more likely to have had a contracted circulatory Volume prior to his injury.
 - His risk of cervical spine injury is increased due to degeneration, stenosis, and loss of disk compressibility.
 - Intracranial hemorrhage will become symptomatic more quickly.
 - His risk of occult fractures is increased.
 - His risk of bleeding may be increased.