ATLS: Pretests

1. Thoracic trauma. Chest tube insertion.

A 22 year old man is hypotensive and tachycardic after a shotgun wound to the left shoulder. His blood after initial IV fluid resuscitation, a closed tube thoracostomy is performed for decreased left breath sounds

a) reexamine the chest
b) perform an aortogram
c) obtain a CT scan of the chest
d) obtain arterial blood gas analyses
e) perform tranesohageal echocardiography

answer: a.

info: chest tube insertion, p. 108.

2. Musculoskeletal trauma. Extremity trauma.

A construction worker falls two stories from a building and sustains bilateral calcaneal fractures. In the emergency department, he is alert, vital signs are normal, and he is complaining of severe pain in both heels and his lower back. Lower extremity pulses are strong and there is no other deformity. The suspected diagnosis is most likely to be confirmed by

a) angiography
b) compartment pressures
c) retrograde urethrogram
d) Doppler-ultrasound studies
e) complete spine x-ray series

answer: e.

3. Trauma in women.

During the third trimester of pregnancy, all of the following changes occur normally EXCEPT a

a) decrease in PaCO2
b) decrease in leukocyte count
c) reduced gastric emptying rate
d) diminished residual lung volume
e) diminished elvic ligament tension

answer: b.

info: p. 261.

4. Head Trauma.

In managing the head injured patient, the most important initial step is to

a) secure the airway
b) obtain c-spine film
c) support circulation
c) control scalp hemorrhage
e) determine the GCS score

answer: a.

info: p. 154.

5. Shock.

A previously healthy, 70kg (154 pound) man suffers an estimated acute blood loss of 2 liters. Which one of the following statements applies to this patient?

a) his pulse pressure will be widened
b) his urinary output will be at the lower limits of normal
c) he will have tachycardia, but no change in his systolic blood pressure
d) his systolic blood pressure will be decreased with a narrowed pulse ressure (true)
e) his systolic blood pressure will be maintained with an elevated diastolic pressure

answer: d.

info: p. 61.

6. Trauma in Women.

The physiologic hypervolemia of pregnancy has clinical significance in the management of the severely injured, gravid woman by

a) reducing the need for blood transfusion
b) increasing the risk of pulmonary edema
c) complicating the management of closed head injury
d) reducing the volume of crystalloid required for resuscitation
e) increasing the volume of blood loss to
produce maternal hypotension

answer: e.

info: p. 261.

7. Thermal Injuries. Injury Due to Burn and Cold.

The best guide for adequate fluid resuscitation of the burn patient is

a) adequate urinary output
b) reversal of systemic acidosis
c) normalization of the heart rate
d) a normal central venous pressure
e) 4mL/kg/percent body burn/24 hours

answer: a.

info: p. 216-217.

8. Shock.

Establishing a diagnosis of shock must include

a) hypoxemia
b) acidosis
c) hypotension
d) increased vascular resistance
e) evidence of inadequate organ perfusion

answer: e.
info: p. 58.

9. Musculoskeletal trauma. Extremity Trauma.

A 7 year old boy is brought to the emergency department by his parents several minutes after he fell through a window. He is bleeding profusely from a 6-cm wound of his medial right thigh. Immediate management of the wound should consist of

a) application of a tourniquet
b) direct pressure on the wound
c) packing the wound with gauze
d) direct pressure on the femoral artery at the groin
e) debridement of devitalized tissue

answer: b

info: p. 79.

10. Head injury.

For the patient with severe traumatic brain injury, profound hypocarbia should be avoided to prevent

a) respiratory alkalosis
b) metabolic acidosis
c) cerebral vasoconstriction with diminished perfusion
d) neurogenic pulmonary edema

e) shift of the oxyhemoglobin dissociation curve

answer: c

info: p. 136, 137.

Carbon dioxide is perhaps the most potent available modulator of cerebrovascular tone and thus cerebral blood flow (CBF). Hypercarbia and hypoxia are both potent cerebral vasodilators that result in increased cerebral blood flow and volume and, potentially, increased ICP; thus, they must be avoided. Orotracheal intubation allows for airway protection in patients who are severely obtunded and allows for better control of
oxygenation and ventilation.

11. Abdominal trauma.

A 25 year old man is brought to a hospital with a general surgeon after being involved in a motor vehicle crash. He has a GCS of 13 and complains of abdominal pain. His blood pressure was 80 mm Hg systolic by palpation on arrival at the hospital, but increases to 110/70 mm Hg with the administration of 2 liters of intravenous fluid. His heart rate remains 120 beats per minute. Computed tomography shows an aortic injury and splenic laceration with free abdominal fluid. His blood pressure falls to 70 mm Hg after CT. The next step is

a) contrast angiography
b) transfer to higher level trauma center
c) exploratory laparotomy
d) transfuse packed red blood cells
e) transesophageal echocardiography

answer: c.

info: p. 12.

12. Which one of the following statements regarding abdominal trauma in the pregnant patient is true?

a) the fetus is in jeopardy only with major abdominal trauma
b) leakage of amniotic fluid is an indication for hospital admission
c) indications for peritoneal lavage are different from those in the nonpregnant patient
d) penetration of an abdominal hollow viscus is more common in late than in early pregnancy
e) the secondary survey follows a different pattern from that of the nonpregnant patient

answer: b.

info: p. 265.

13. Thoracic trauma.

The first maneuver to improve oxygenation after chest injury is

a) intubate the patient
b) assess arterial blood gases
c) administer supplemental oxygen
d) ascertain the need for a chest tube
e) obtain a chest x-ray

answer: c.

14. Head trauma.

A 25 year old man, injured in a motor vehicular crash, is admitted to the emergency department. His pupils react sluggishly and his eyes open to painful stimuli. He does not follow commands, but he does moan periodically. His right arm is deformed and does not respond to painful stimulus; however, his left hand reaches purposefully toward the painful stimulus. Both legs are stiffly extended. His GCS Score is

a) 2
b) 4
c) 6
d) 9
e) 12

answer: d.

info: p. 138.

15. Trauma in Women.

A 20 year old woman, at 32 weeks gestation, is stabbed in the upper right chest. In the emergency department, her blood pressure is 80/60 mm Hg. She is gasping for breath, extremely anxious, and yelling for help. Breath sounds are diminished in the right chest. The most appropriate first step is to

a) perform tracheal intubation
b) insert an oropharyngeal airway
c) perform needle decompression of the right chest
d) manually displace the gravid uterus to the left side of the abdomen
e) initiate 2, large-caliber peripheral IV lines and crystalloid infusion

answer: c.

info: p. 87.

16. Initial assessment and management.

Which one of the following findings in an adult should prompt immediate management during the primary survey?

a) distended abdomen
b) glasgow coma scale score of 11
c) temperature of 36.5C (97.8F)
d) heart rate of 120 beats per minute
e) respiratory rate of 40 breaths per minute
e) respiratory rate of 40 breaths per minute

answer: e.

info: p. 79.

17. Thoracic trauma.

The most important, immediate step in the management of an open pneumothorax is

a) endotracheal intubation
b) operation to close the wound
c) placing a chest tube through the chest wound
d) placement of an occlusive dressing over the wound
e) initiation of 2, large-caliber IVs with crystalloid solution

answer: d.
info: p. 87.

18. Tetanus immunization.

The following are contraindications for tetanus toxoid administration

a) history of neurological reaction or severe hypersensitivity to the product
b) local side effects
c) muscular spasms
d) pregnancy
e) all of the above

answer: a.

info: p. 297.

19. Thoracic trauma.

A 56 year old man is thrown violently against the steering wheel of his truck during a motor vehicle crash. On arrival in the emergency department he is diaphoretic and complaining of chest pain. His blood pressure is 60/40 mm Hg and his respiratory rate is 40 breaths per minute.Which of the following best differentiates cardiac tamponade from tension pneumothorax as the cause of his hypotension?

a. tachycardia
b. pulse volume

c. breath sounds
d. pulse pressure
e. jugular venous pressure

answer: c.

info: p. 87.

20. Pediatric trauma. Trauma in extremes of age.

Bronchial intubation of the right or left mainstem bronchus can easily occur during infant endotracheal intubation because

a) the trachea is relatively short
b) the distance from the lips to the larynx is relatively short
c) the use of tubes without cuffs allows the tube to slip distally
d) the mainstem bronchi are less angulated in their relation to the trachea
e) so little friction exists between the endotracheal tube and the wall of the trachea

answer: a.

info: p. 228.

21. Thoracic trauma.

A 23 year old man sustains 4 stab wounds to the upper right chest during an altercation and is brought by ambulance to a hospital that has full surgical capabilities. His wounds are all above the nipple. He is endotracheally intubated, closed tube thoracostomy is performed, and 2 liters of crystalloid solution are infused through 2 large-caliber IVs. His blood pressure now is 60/0 mmHg, heart rate is 160 beats per minute, and respiratory rate is 14 breaths per minute (ventilated with 100% O2). 1500cc of blood has drained from the right chest. The most appropriate next step in managing this patient is to
a) perform FAST
b) obtain a CT of the chest
c) perform an angiography
d) urgently transfer the patient to the operating room
e) immediately transfer the patient to a trauma center

answer: d.

info: p. 90-91.

22. Airway and ventilatory management.

A 39 year old man is admitted to the emergency department after an automobile collision. He is cyanotic, has insufficient respiratory effort, and has a GCS score of 6. His full beard makes it difficult to fit the oxygen facemask to his face. The most appropriate next step is to

a) perform a surgical cricothyroidotomy
b) attempt nasotracheal intubation
b) attempt nasotracheal intubation
c) ventilate him with a bag-mask device until c-spine injury can be excluded
d) attempt orotracheal intubation using 2 people and inline stabilization of the cervical spine.
e) ventilate the patient with a bag-mask device until his beard can be shaved for better mask fit.

answer: d.

info: p. 33.

23. Spine and Spinal Cord Trauma.

A patient is brought to the emergency department 20 minutes after a motor vehicle crash. He is conscious and there is no obvious external trauma. He arrives at the hospital completely immobilized on a long spine board. His blood pressure is 60/40 mmHg and his heart rate is 70 beats per minute. His skin is warm. Which one of the following statements is true?

a) vasoactive medications have no role in the patient's management
b) the hypotension should be managed with volume resuscitation alone
c) flexion and extension views of the c-spine should be performed early
d) occult abdominal visceral injuries can be excluded as a cause of hypotension
e) flaccidity of the lower extremities and loss of deep tendon reflexes are expected

answer: c.

info: p. 167; 161.

24. Thermal injuries.

Which one of the following is the recommended method for initialy treating frostbite?

a) moist heat
b) early amputation
c) padding and elevation
c) padding and elevation
d) vasodilators and heparin
e) topical application of silver sulfadiazine

answer: a

info: p. 220.

25. Musculoskeletal trauma. Extremity trauma.

A 32 year old man's right leg is trapped beneath his overturned car for nearly 2 hours before he is extricated. On arrival in the emergency departmnet, his right lower extremity is cool,

mottled, insensate, and motionless. Despite normal vital signs, pulses cannot be palpated below the femoral vessel and the muscles of the lower extremity are firm and hard. During the initial management of this patient, which of the following is most likely to improve the chances for limb salvage?

a) applying skeletal traction
b) administering anticoagulant drugs
c) administering thrombolytic therapy
d) perform right lower extremity fasciotomy
e) immediately transferring the patient to a trauma center

answer: d.

info: p. 196-197.

26. Head trauma.

A patient arrives in the emergency department after being beaten about the head and face with a wooden club. He is comatose and has a palpable depressed skull fracture. His face is swollen and ecchymotic. He has gurgling respirations and vomitus on his face and clothing. The most appropriate step after clothing. The most appropriate step after providing supplemental oxygen and elevating his jaw is to

a) requires a CT scan
b) insert a gastric tube
c) suction the oropharynx
d) obtain a lateral cervical spine x-ray
e) ventilate the patient with a bag-mask

answer: c

27. Thoracic trauma. Transfer to Definitive Care.

A 22 year old man sustains a gunshot wound to the left chest and is transported to a small community hospital at which surgical capabilities are not available. In the emergency department, a chest tube is inserted and 700mL of blood is evacuated. The trauma center accepts the patient in transfer. Just before the patient is placed in the ambulance for transfer, his blood pressure decreases to 80/68 mmHg and his heart rate increases to 136 beats per minute. The next step should be to

a) clamp the chest tube
b) cancel the patient's transfer
c) perform an emergency department thoracotomy
d) repeat the primary survey and proceed with transfer
e) delay the transfer until the referring doctor can contact a thoracic surgeon

answer: c.

info: p. 270 - 274.

28. Head trauma.

A 64 year old man, involved in a high-speed car crash, is resuscitated initially in a small hospital with limited resources. He has a closed head injury with a GCS score of 13. He has a widened mediastinum on chest x-ray with fractures of left ribs 2 through 4, but no pneumothorax. After infusing 2 liters of crystalloid solution, his blood pressure is 100/74 mmHg, heart rate is 110 beats per minute, and respiratory rate is 18 breaths per minute. He has gross hematuria and a pelvic fracture. You decide to transfer this patient to a facility capable of providing a higher level of care. The facility is 128 km (80 miles) away. Before transfer, you should first

a) intubate the patient
b) perform diagnostic peritoneal lavage
c) apply the pneumatic antishock garment
d) call the receiving hospital and speak to the surgeon on call
e) discuss the advisability of transfer with the patient's family

answer: c.
info: p. 123.

29. Shock.

Hemorrhage of 20% of the patient's blood volume is associated usually with

a) oliguria
b) confusion
c) hypotension
d) tachycardia
e) blood transfusion requirement

answer: d.

info: p. 61.

30. Intraosseous fluid resuscitation.

Which one of the following statements concerning intraosseous infusion is true?

a) only crystalloid solutions may be safely infused through the needle
b) aspiration of bone marrow confirms appropriate positioning of the needle
c) intraosseous infusion is the preferred route for volume resuscitation in small children
d) intraosseous infusion may be utilized indefinitely
e) swelling in the soft tissues around the intraosseous site is not a reason to discontinue infusion

answer: b.

the info: p.236.

31. Head injury.

A young woman sustains a severe head injury as the result of a motor vehicle crash. In the emergency department, her GCS is 6. Her blood pressure is 140/90 mmHg and her heart rate is 80 beats per minute. She is intubated and mechanically ventilated. Her pupils are 3mm 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) avoid hypotension
b) administer an osmotic diuretic
c) aggressively treat systemic hypertension
d) reduce metabolic requirements of the brain
e) distinguish between intracranial hematoma
e) distinguish between intracranial hematoma and cerebral edema

answer: a.

info: p. 142, 143, 145.

32. Thoracic trauma.

A 33 year old woman is involved in a head-on motor vehicle crash. It took 30 minutes to extricate her from the car. Upon arrival in the emergency department, her heart rate is 120 beats per minute, BP is 90/70 mmHg, respiratory rate is 16 breaths per minute, and her GCS score is 15. Examination reveals bilaterally equal breath sounds, anterior chest wall ecchymosis, and distended neck veins. Her abdomen is flat, soft, and not tender. Her pelvis is stable. Palpable distal pulses are found in all 4 extremities. Of the following, the most likely diagnosis is

a) hemorrhagic shock
b) cardiac tamponade
c) massive hemothorax
d) tension pneumothorax
e) diaphragmatic rupture

answer: b.

info: p. 91-92.

33. Abdominal trauma.

A hemodynamically normal 10 year old girl is admitted to the Pediatric Intensive Care Unit (PICU) for observation after a Grade III (moderately severe) splenic injury has been confirmed by computed tomography (CT). Which of the following mandates prompt celiotomy (laparotomy)?

a) A serum amylase of 200
b) A leukocyte count of 14,000
c) extraperitoneal bladder rupture
d) free intraperitoneal air demonstrated on follow-up CT
e) a fall in the hemoglobin level from 12 g/dL to 8 g/dL over 24 hours

answer: e.

info: p. 121.

34. Spine and spinal cord trauma.

A 40 year old woman restrained driver is transported to the emergency department in full spinal immobilization. She is hemodynamically normal and found to be paraplegic at the level of T10. Neurologic examination also determines that there is loss of pain and temperature sensation with preservation of proprioception and vibration. These findings are consistent with the diagnosis of

a) central cord syndrome
b) spinal shock syndrome
c) anterior cord syndrome
d) complete cord syndrome
e) Brown-Sequard syndrome

answer: c.

info: p. 163.

35. Spine and spinal cord injury.

A trauma patient presents to your emergency department with inspiratory stridor and a suspected c-spine injury. Oxygen saturation is 88% on high-flow oxygen via a nonrebreathing mask. The most appropriate next step is to:

a) apply cervical traction
b) perform immediate tracheostomy
c) insert bilateral thoracostomy tubes
d) maintain 100% oxygen and obtain immediate c- spine x-rays
e) inline immobilization and establish a definitive airway

answer: e.

info: p. 27-28.

36. Thermal injury. Injury due to burn and cold.

When applying the Rule of Nines to infants,

a) it is not reliable
b) the body is proportionally larger in infants than in adults
c) the head is proportionally larger in infants than in adults
d) the legs are proportionally larger in infants
e) the arms are proportionally larger in infants

answer: c.

info: p. 223.

37. Abdominal trauma.

A 60 year old man sustains a stab wound to the right posterior flank. Witnesses state the weapon was a small knife. His heart rate is 90 beats per minute, blood pressure is 128/72 mmHg, and respiratory rate is 24 breaths per minute. The most appropriate action to take at this time is to perform

a) colonoscopy
b) barium enema
c) an intravenous pyelogram
d) serial physical examination
e) suture repair the wound and outpatient follow up

answer: d.

38. Trauma in Women.

Which of the following situations requires Rh immunoglobulin administration to an injured woman?

a) negative pregnancy test, Rh negative, and torso trauma
b) positive pregnancy test, Rh positive, and has torso trauma
c) positive pregnancy test, Rh negative, and has torso trauma
d) positive pregnancy test, Rh positive, and has an isolated wrist fracture
e) positive pregnancy test, Rh negative, and has an isolated wrist fracture

answer is: c.

info: p. 265.

39. Thoracic trauma.

A 22 year old female athlete stabbed in her left chest at the third interspace in the anterior axillary line. On admission to the emergency department and 15 minutes after the incident, she is awake and alert. Her heart rate is 100 beats per minute, blood pressure 80/60 mmHg, and respiratory rate 20 breaths per minute. A x-ray reveals a large left hemothorax. A left chest tube is placed with an immediate return 1600 mL of blood. The next management step for this patient is perform:

a) thoracoscopy
b) an arch aortogram
c) insert a second left chest tube
d) prepare for an exploratory thoracotomy
e) chest CT

answer: d.

info: p. 90-91.

40. Pediatric trauma.

A 6 year old boy walking across the street is struck by the front bumper of a sports utility vehicle traveling at 32 kph (20 mph). Which one of the following statements is true?

a) a flail chest is probable
b) symptomatic cardiac contusion is expected
c) pulmonary contusion may be present in the absence of rib fractures
d) transection of the thoracic aorta more likely than in an adult patient
e) rib fractures are commonly found in children with this mechanism of injury

answer: c.

info: p. 237.