

**TRAUMA LIFE SUPPORT – ADVANCED EXAMINATION  
(TLS – A)**

1. In patients with compromised airways, definitive control of the airway is achieved by
  - a. Endotracheal Intubation
  - b. Chin-Lift
  - c. Jaw-Thrust
  - d. Oropharyngeal airway (oral airway)
  
2. ABC refers to
  - a. airway, breathing, circulation
  - b. the sequence of initial resuscitation management
  - c. both a and b
  - d. none of the above
  
3. A compromised airway may occur due to
  - a. blockage of the airway
  - b. neck injury
  - c. a and b
  - d. other
  
4. Hypothermia in the ED can be treated with
  - a. crystalloid fluids at 102.2 degrees F
  - b. a warmed treatment area
  - c. microwaved fluids
  - d. a and b
  
5. Definitive hemorrhage control refers to
  - a. volume resuscitation only
  - b. possible surgery, stabilizing of the pelvis, and angioembolization
  - c. constant volume resuscitation
  - d. none of the above
  
6. Rates of fluid administration are measured by
  - a. vein diameter
  - b. length and the diameter of catheter
  - c. both a and b
  - d. catheter size is irrelevant

7. Oxygenation concentrations can be best improved by
  - a. oxygen reservoir facial mask with a minimum flow rate of 11 L/min.
  - b. nasal catheter
  - c. nasal cannula
  - d. nonrebreather mask
  
8. Pulse oximetry measured at which saturation level is a strong indicator of adequate peripheral arterial oxygenation? **TABLE-2-2, page 39**
  - a. 50%
  - b. 60%
  - c. 70%
  - d. 95%
  
9. Pulse oximetry is less reliable in trauma patients with
  - a. carbon monoxide poisoning
  - b. anemia
  - c. hypothermia
  - d. all of the above
  
10. Bag-mask ventilation is more effectively administered by
  - a. two people
  - b. one person
  - c. the three-person technique
  - d. none of the above
  
11. The most common cause of shock in trauma patients is
  - a. isolated brain injuries
  - b. hemorrhage
  - c. infection
  - d. cancer
  
12. The cardiac output system is determined by **FIGURE 3-1, p 57**
  - a. heart rate
  - b. stroke volume
  - c. multiplying the heart rate by the stroke volume
  - d. Starling's law

13. The administration of appropriate fluid resuscitation solution can
  - a. help reverse a state of shock
  - b. prevent progressive cellular damage
  - c. prevent additional tissue swelling
  - d. all of the above
  
14. Examples of the types of warmed isotonic electrolyte solution used in initial fluid therapy are
  - a. lactated Ringer's
  - b. normal saline
  - c. a and b
  - d. neither a or b
  
15. The 3 for 1 rule is a general guideline that refers to what in fluid dosage
  - a. replacing each 1mL of blood loss with 3mL of crystalloid fluid
  - b. mechanical fluid resuscitation
  - c. restoration of organ perfusion
  - d. replacing 3mL of blood loss with 1mL of crystalloid fluid
  
16. Gastric dilation is particularly common in which trauma patients
  - a. people with lower extremity injuries
  - b. children
  - c. women who are pregnant
  - d. the elderly
  
17. The vital signs in patients who have a rapid response to initial fluid resuscitation
  - a. return to normal
  - b. remain abnormal
  - c. neither a or b
  - d. remain hemodynamically unstable
  
18. Blood preparation for a patient categorized with a transient response is **TABLE 3-2, p 65**
  - a. emergency blood release
  - b. type-specific
  - c. cross-matched and typed
  - d. none of the above

19. Metabolic acidosis can result from
- continued hemorrhage
  - lack of tissue perfusion
  - a and b
  - none of the above
20. Tachypnea causes
- respiratory alkalosis
  - acidosis
  - persistent acidosis
  - ongoing blood loss
21. Patients categorized with minimal or no response to initial fluid resuscitation probably **TABLE 3-2, p 65**
- have severe blood loss greater than 40%
  - need more blood and fluid
  - need surgical intervention
  - all of the above
22. In the case of severe blood loss, if type-specific blood is unavailable, then this type of blood is indicated
- AB
  - O
  - A
  - B
23. The sequence for conducting an abdominal exam is as follows:
- inspection, auscultation, percussion, palpation
  - percussion, palpation, auscultation, inspection
  - palpation, percussion, inspection, auscultation
  - inspection, percussion, palpation, auscultation
24. Pertinent questions in patient history due to a vehicle crash are
- who caused the accident
  - speed of the vehicles, use of restraints, and airbag deployment
  - type of impact
  - b and c

25. The need for resuscitative thoracotomy in the ED should be made with a surgeon.
- true
  - only when there is blunt trauma
  - only if the patient has no pulse
  - only when there is no myocardial electrical activity (PEA)
26. Lethal pulmonary contusion is
- not sudden
  - a common chest injury
  - a and b
  - none of the above
27. Possible signs of a tracheobronchial tree injury are
- tension pneumothorax and a mediastinal shift
  - Subcutaneous emphysema
  - the coughing up blood
  - all of the above
28. Myocardial contusion is diagnosed
- by FAST
  - inspection of the myocardium
  - through an ECG
  - all of the above
29. Esophageal rupture is treated by
- thoractomy
  - draining the pleural space and mediastinum
  - a and b
  - none of the above
30. Secondary survey is usually needed to identify potentially life-threatening thoracic injuries such as
- simple pneumothorax
  - pulmonary contusion
  - traumatic aortic disruption
  - all of the above

31. Secondary identification of life-threatening thoracic injury involves
- a thorough physical exam
  - chest x-ray, ECG
  - pulse oximetry, ABG measurements
  - all of the above
32. For a penetrating abdominal trauma the advantage of a computed tomography scan is
- early diagnosis
  - detection of injuries to the diaphragm
  - speed
  - diagnosing certain pelvic organ and retroperitoneal injury
33. Two rapid adjunct studies in identifying abdominal hemorrhage are **TABLE 5-2, p. 119**
- FAST and DPL
  - AP chest x-ray and DPL
  - CT and FAST
  - CT and AP chest X-ray
34. Laparotomy is indicated with
- Fascial penetration with intraperitoneal bleeding
  - peritonitis
  - a and b
  - a negative FAST and DPL
35. The main organs affected by blunt pelvic and abdominal trauma are
- pancreas, and small bowel
  - hip bones
  - the liver, kidneys, and spleen
  - the duodenum and the diaphragm
36. X-ray abnormalities that indicate tears in the diaphragm are
- elevated hemidiaphragm
  - hemothorax
  - neither a or b
  - a and b

37. Pancreatic trauma can be determined by
- double-contrast CT
  - normal serum amylase
  - patient history
  - a repeated double-contrast CT
38. Lateral compression (closed) injuries occur in \_\_\_\_\_ % of pelvic fractures  
**FIGURE 5-7, 5-8 5-9, p122**
- 15-20%
  - 60-70%
  - 5-15%
  - 90%
39. AP (anterior-posterior) pelvic injuries can be the result of
- falls over 12 feet
  - shear force
  - lateral compression
  - none of the above
40. The Monro-Kellie Doctrine describes **FIGURE 6-3, p 135**
- the relationship between intracranial volume and pressure
  - CSF
  - GCS score
  - the foramina of Monro
41. Normal ICP resting status is approximately **FIGURE 6-3, p 135**
- 20mm Hg
  - 10mm Hg
  - 1mm Hg
  - 60mm Hg
42. The Glasgow Coma Scale assesses **TABLE 6-2, p 138**
- eye, motor and verbal responses
  - mechanism of brain injury
  - types of intracranial lesions
  - morphology

43. A brain injury with a GCS score of 3-8 is classified as **TABLE 6-1, p137**
- a. moderate
  - b. minor
  - c. severe
  - d. very minor
44. Signs of a skull fracture may include
- a. CSF leakage from the ears or nose
  - b. Ecchymosis
  - c. Seventh or eighth nerve dysfunction
  - d. All of the above
45. Minor brain injury is defined by a GCS score of **TABLE 6-1, p 137**
- a. 9-12
  - b. 13-15
  - c. 3-8
  - d. 1-5
46. Minor Traumatic Brain Injury (MTBI)
- a. is a concussion
  - b. does not indicate need for a secondary survey
  - c. includes disorientation, amnesia and loss of consciousness
  - d. patients tend to deteriorate
47. Patients with an MTBI require a CT head scan when
- a. they are greater than age 65
  - b. their GCS score drops below 15 two hours post injury
  - c. they have multiple episodes of vomiting
  - d. any of the above
48. Mannitol to reduce elevated ICP is normally given in a \_\_\_\_\_ solution
- a. 20%
  - b. 25%
  - c. 30%
  - d. 35%

49. Spinal cord injuries above the T1 result in
- paraplegia
  - quadriplegia
  - voluntary toe flexion
  - anal wink
50. Examples of incomplete spinal cord injury are
- any sensation or voluntary movement
  - sacral reflexes
  - toe flexion
  - a and c
51. How long should a patient be immobilized when a spine or spinal cord injury is suspected?
- Until the patient recovers
  - Until an x-ray is taken to identify a possible fracture
  - After sedatives
  - Immediately upon reaching the ER
52. Continuous immobilization of the cervical spine includes use of
- backboards
  - a semi-rigid cervical collar
  - bolstering materials, tape and straps
  - all of the above
53. Visible signs of a pelvic fracture with potential hemorrhage are
- bruising and swelling that increases in the perineum
  - ongoing bruising in the scrotal region
  - a and b
  - only a
54. Pelvic hemorrhage and instability can be temporarily controlled with
- internal traction
  - external counterpressure
  - a and b
  - neither a or b

55. Major arterial injury can be initially managed with
- direct pressure
  - fluid resuscitation
  - arteriography
  - a and b
56. Crush syndrome can lead to
- acute renal failure
  - disseminated intravascular coagulation (DIC)
  - a and b
  - none of the above
57. Injuries that threaten a limb include
- open wounds near joints
  - traumatic amputation
  - vascular injury
  - any of the above
58. Open wounds and fractures should initially be considered
- connected
  - unrelated
  - uninfected
  - infected and unrelated
59. Joint injuries are
- usually life-threatening
  - usually limb-threatening
  - revealed by x-ray
  - none of the above
60. Some early clinical signs of thermal airway inhalation injury are
- burns to the face head or neck
  - carboxyhemoglobin levels over 10%
  - hoarseness
  - all of the above

61. A full-thickness burn is a
- third-degree burn
  - a first degree burn
  - cosmetic injury only
  - shallow burn
62. The Rule of Nines is used to estimate
- the size and depth of burns
  - CO poisoning
  - inhalation
  - allergies
63. Burns covering either the front or back of the trunk represent \_\_\_\_\_% body surface.  
**FIGURE 9-1, p214**
- 1%
  - 18%
  - 4.5%
  - 2%
64. Partial thickness burns usually appear
- dry and leathery
  - blistered
  - wet
  - b and c
65. Patients with HbCO levels between 40%- 60%
- have carbon monoxide (CO) poisoning
  - are at high risk for coma or death
  - a and b
  - do not have carbon monoxide poisoning
66. CO exposed patients should get 100% oxygen flow through nonrebreather mask because
- CO affinity for hemoglobin is 240 times greater than that of oxygen and has a half-life of 4 hours if the patient is breathing only room air.
  - oxyhemoglobin dissociation curve is to the right
  - CO affinity is 240 times greater for oxygen
  - nonrebreather masks are recyclable

67. A reliable measurement of circulating blood volume in patients with burns is
- hourly blood-pressure measurements
  - hourly urinary output
  - an ECG
  - vital signs
68. The general urinary output goal per hour in adult burn patients is about
- 0.5 to 1.0 mL urine per kg of body weight
  - at least 1.0mL
  - less than 0.5mL
  - 2-4mL
69. The fluid resuscitation guideline for burn victims is
- 2-4 mL Ringer's lactate solution within the first 24 hours of injury
  - 2 -4 mL Ringer's lactate solution from the start of fluid resuscitation
  - 2-4 mL Ringer's lactate solution every eight hours
  - none of the above
70. Fluid resuscitation requirements \_\_\_\_\_
- depend on age and body weight
  - depend on patient response
  - a and b
  - do not vary
71. Normal urinary output in infants measures
- 0.5 mL/kg/hr
  - 2 mL/kg/hr
  - 1 mL/kg/hr
  - none of the above
72. During a pediatric needle and tube thoracostomy procedure
- small chest tubes should be used
  - 14-18 gauge over-the-needle catheters are recommended
  - a tunneling technique is best for tube placement
  - a and c

73. The preferred route of venous access in children is
- venous cutdown
  - a peripheral percutaneous route
  - external jugular vein
  - femoral vein
74. Compared to the adult brain the pediatric brain is anatomically
- different
  - identical
  - the same at age 2
  - the same at age 5
75. The GCS score for pediatric head trauma patients **TABLE 10-5, p 240**
- has a modified verbal score component
  - is exactly the same as in adults
  - includes factors such as crying and inconsolability
  - a and c
76. Children are at greater risk of
- impact seizures
  - secondary brain injury
  - hypothermia
  - all of the above
77. Brain injury outcomes in children is
- worse than in adults
  - better in children under 3
  - worse in children under 3 and better than in adults
  - none of the above
78. Delay in the restoration of normal pediatric circulating blood volume
- worsens initial injury
  - increases chances of a secondary brain injury
  - both a and b
  - none of the above

79. SCIWORA stands for
- Science World Atlas
  - Spinal Cord Injury Without Radiographic Abnormalities
  - Science World Association
  - Spinal Cord Injury With Radiographic Abnormalities
80. Examples of differences in pediatric spinal anatomy are
- facet joints are flat
  - normal growth can appear as a fracture in a spine x-ray
  - joints have greater flexibility
  - all of the above
81. Geriatric trauma patients experience
- more cervical spine injuries
  - more frequent subdural hematomas
  - a and b
  - neither a or b
82. Osteoarthritis can be a cause of \_\_\_\_\_ in elderly patients
- decreased brain weight
  - canal stenosis
  - visual acuity
  - demyelination
83. Hypothermia in geriatric patients may be caused by
- sepsis
  - endocrine disease
  - both a and c
  - none of the above
84. Dramatic changes to the skin in elderly patients can cause
- hypothermia
  - delays in wound healing
  - infection
  - all of the above

85. Elderly patients experience fractures most commonly in the
- a. long bones, wrist and hip
  - b. ankles
  - c. fingers
  - d. jaw
86. Treatment of elderly patients should include attention to
- a. nutrition
  - b. drug interactions
  - c. chronic diseases
  - d. all of the above
87. The uterus is intrapelvic until about the \_\_\_\_\_ week of gestation
- a. 3rd
  - b. 12<sup>th</sup>
  - c. 20<sup>th</sup>
  - d. 30<sup>th</sup>
88. By the 36<sup>th</sup> week fundal height reaches to the
- a. pelvis
  - b. costal margin
  - c. abdomen
  - d. normal position
89. During the second trimester of pregnancy abdominal trauma can cause
- a. amniotic fluid embolism
  - b. disseminated intravascular coagulation
  - c. both a and b
  - d. neither a or b
90. During pregnancy the bowel positioned cephalad into the \_\_\_\_\_
- a. upper abdomen
  - b. wall of the uterus
  - c. bladder
  - d. cervix

91. In the third trimester, maternal pelvic trauma increases the risk of
- fetal skull fracture
  - abruptio placentae
  - neither a or b
  - both a and b
92. Changes in blood volume and composition during pregnancy are
- increased blood volume, heart rate and cardiac output
  - increased White Blood Count
  - decreased blood pressure
  - all of the above
93. By late pregnancy \_\_\_\_\_ is a common condition
- hypocapnia (PaCO<sub>2</sub>, 30mm Hg)
  - reduced progesterone
  - decreased inspiratory capacity
  - lowered PaCO<sub>2</sub> levels
94. Peri-mortem cesarean section is more successful in cases of
- hypovolemic cardiac arrest
  - other causes of cardiac arrest
  - they are equally successful
  - none of the above
95. The placenta receives \_\_\_\_\_ percent of maternal cardiac output
- 20%
  - 10%
  - 30%
  - 40%
96. Criteria that can indicate need for an inter-hospital transfer
- head trauma or spinal cord injury
  - pulmonary contusion
  - severe burns
  - all of the above

97. Co-morbidity factors that may require inter-hospital transfer
- a. age
  - b. insulin-dependent diabetes
  - c. immune-suppression
  - d. all of the above
98. Factors to consider when determining the need for inter-hospital transfer
- a. time between injury and definitive care
  - b. level of care and resources available at local hospital
  - c. a and b
  - d. neither a or b
99. Documents that go with the patient during transfer are
- a. treatment record
  - b. any labs or films
  - c. both a and b
  - d. none
100. Transfer to a verified trauma center should not be delayed
- a. to obtain lengthy diagnostic studies
  - b. to give a tetanus shot
  - c. to dress wounds
  - d. all of the above