Which of the following signs would you expect to see in the early stages of shock?

A: Thready pulses
B: Hypotension
C: Unconsciousness
D: Restlessness

The correct answer is D;

Reason:

In the early stages of shock, decreased perfusion to the brain causes the patient to become restless and anxious. As shock progresses, the pulse becomes thready (weak), signifying a falling blood pressure (hypotension), and the patient eventually loses consciousness. It is critical to recognize the early signs of shock and initiate immediate care and rapid transport. You should not rely on the blood pressure as an indicator of perfusion in any patient; by the time hypotension manifests, the patient's compensatory mechanisms have failed and he or she is in decompensated shock.

A man was struck in the side of the head with a steel pipe. Blood-tinged fluid is draining from the ear and bruising appears behind the ear. The MOST appropriate treatment for this patient includes:

A: controlling the drainage from the ear and immobilizing the entire spine.
B: applying high-flow oxygen and packing the ear with sterile gauze pads.
C: elevating the lower extremities and providing immediate transport.
D: immobilizing the spine, administering oxygen, and monitoring for vomiting.

The correct answer is D;

Reason:

Patients with significant head injury should be treated by applying high-flow oxygen, assisting ventilations as needed, immobilizing the entire spine, and transporting promptly. Closely monitor the patient for vomiting and be prepared to suction the airway. Elevation of the foot of the spine board may cause more blood to engorge the brain and may increase intracranial pressure (ICP). You should never attempt to control bleeding or fluid drainage from the ears of a patient with a head injury because this too may result in increased ICP. If a patient with an isolated head injury begins showing signs of shock (i.e., tachycardia, diaphoresis, tachypnea, hypotension), you should assume that he or she has internal bleeding from another injury and treat accordingly (i.e., elevation of the foot-end of the backboard, preventing body heat loss).

During your assessment of a patient with a gunshot wound to the chest, you note that his skin is pale. This finding is the result of:

A: decreased blood flow to the skin.
B: peripheral dilation of the vasculature.
C: a critically low blood pressure.
D: a significantly elevated heart rate.
The correct answer is A;

Reason:

When the body attempts to compensate for shock, peripheral vasoconstriction shunts blood away from the skin to the more vital organs in the body such as the brain, heart, lungs, and kidneys. When there is minimal or no peripheral blood flow, the skin assumes a pale appearance. By contrast, when peripheral circulation increases (ie, vasodilation), the skin assumes a red (flushed) appearance. Pallor does not necessarily indicate hypotension. Tachycardia is a compensatory response of the nervous system in an attempt to increase cardiac output and maintain blood pressure.

A 30-year-old man sustained partial-thickness burns to the anterior chest and both anterior arms. Based on the Rule of Nines, what percentage of his body surface area has been burned?

A: 27%
B: 18%
C: 9%
D: 36%
The correct answer is B;

Reason:

According to the adult Rule of Nines, the anterior trunk (chest and abdomen) accounts for 18% of the total body surface area (TBSA) and each entire arm accounts for 9%. Therefore, the anterior chest, which is one half of the trunk, would account for 9% of the TBSA, and both anterior arms (4.5% each) would account for 9% TBSA, for a total of 18% TBSA burned.

Following a head injury, a young female is semiconscious and is bleeding from the nose and left ear. You should:

A: control the bleeding from her nose by pinching her nostrils closed.
B: cover her ear and nose with a loose gauze pad to collect the blood.
C: place a pressure dressing over her ear to prevent blood loss.
D: insert a nasal airway to keep her tongue from blocking the airway.
The correct answer is B;

Reason:

Blood draining from the ears or nose following a head injury may contain cerebrospinal fluid (CSF) and indicates a skull fracture. In these cases, do NOT attempt to stop the flow of blood. Applying excessive pressure may force the blood leaking from the ears or nose to collect within the cranium, which could increase the pressure on the brain and cause permanent damage.
Loosely cover the ears or nose with a sterile gauze pad to collect the blood and help keep contaminants out (patients with a skull fracture and CSF leakage are at risk for meningitis). The nasopharyngeal (nasal) airway is contraindicated in patients with a possible skull fracture, especially if blood is draining from the nose. The airway adjunct may inadvertently enter the cranial vault through the fracture.

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A 44-year-old male experienced burns to his anterior trunk and both arms. He is conscious and alert, but is in extreme pain. Assessment of the burns reveals reddening and blisters. This patient has ________________ burns that cover _____ of his total body surface area.

A: second-degree, 45%
B: full-thickness, 18%
C: first-degree, 27%
D: partial-thickness, 36%
The correct answer is D;

Reason:

Partial-thickness (second-degree) burns damage the epidermis and part of the dermis, and are characterized by blistering and severe pain. Areas of superficial (first-degree) burns, which cause reddening of the skin, commonly surround a partial-thickness burn. The anterior trunk (chest and abdomen) accounts for 18% of the total body surface area (TBSA) and each entire arm accounts for 9%. Therefore, this patient has partial-thickness burns that cover 36% of his TBSA. Full-thickness (third-degree) burns are characterized by charred or white, leathery skin. Because the entire dermis, including the nerves, is destroyed, full-thickness burns are usually painless. The surrounding areas of partial-thickness burns, however, are very painful.

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Appropriate care for an amputated body part includes all of the following, EXCEPT:

A: wrapping it in a sterile dressing and placing it in a plastic bag.
B: laying the wrapped body part on a bed of ice.
C: keeping the part cool, but not allowing it to freeze.
D: placing it directly on ice to prevent tissue damage.
The correct answer is D;

Reason:

Appropriate care for an amputated body part includes wrapping the part in a sterile dressing and placing it in a plastic bag. Follow your local protocols regarding how to preserve amputated parts. In some areas, dry sterile dressings are recommended for wrapping amputated parts; in other areas, dressings moistened with sterile saline are recommended. Put the bag in a container filled with ice. Lay the wrapped part on a bed of ice; do not pack it in ice or place it in direct contact with ice. The goal is to keep the part cool without letting it freeze or develop frostbite. Freezing may cause cellular and tissue damage, which decreases the chance of successful reattachment.
You arrive at a residence where you find a man lying unresponsive in his front yard. There were no witnesses to the event. In assessing this man, you should assume that he:

A: is having a heart attack.
B: has sustained an injury.
C: is having a diabetic reaction.
D: has a heat-related emergency.

The correct answer is B;

Reason:

In the absence of any witnesses, you should assume that any patient who is found unresponsive has an injury until ruled out at the hospital. Apply spinal motion restriction precautions as needed. Do not be so hasty to label your patient as a "medical" or "trauma" patient. Many patients have injuries and medical conditions at the same time. For example, a patient can be driving his or her vehicle, experience a heart attack, and run off the road and strike a tree.

Which of the following is the MOST reliable indicator of a fracture to a spinal vertebra?

A: Lack of pain at the site of the injury
B: Decreased movement on one side of the body
C: Palpable pain at the site of the injury
D: Decreased grip strength in the upper extremities

The correct answer is C;

Reason:

Of the options listed, the presence of palpable pain (specifically, point tenderness directly over the injury site), is the most reliable indicator of an underlying vertebral fracture. In fact, point tenderness, second only to gross deformity, is the most reliable indicator of an underlying fracture to any bone.

A patient presents with a swollen, painful deformity to the lateral bone of the left forearm. You should recognize that he has injured his:

A: ulna.
B: humerus.
C: radius.
D: clavicle.

The correct answer is C;
Recalling the body in the anatomic position, the radius is the lateral (thumb side) bone of the forearm and the ulna is the medial (pinky side) bone. The humerus is the long bone of the upper arm and the clavicle is the collarbone, which extends from the sternum laterally to the shoulder.

A 23-year-old unrestrained female struck the steering wheel with her chest when her passenger car collided with a tree at a high rate of speed. Your assessment reveals that she is conscious, but has signs of shock and an irregular pulse. The MOST appropriate treatment for this patient includes:

A: high-flow oxygen, summoning a paramedic unit to the scene to assess her cardiac rhythm, a cervical collar, and transport as soon as possible.
B: applying an AED in case she develops cardiac arrest, high-flow oxygen, full spinal precautions, and rapid transport.
C: insertion of an oral airway, assisted ventilations with a bag-mask device, full spinal precautions, and rapid transport.
D: high-flow oxygen or assisted ventilations as needed, full spinal precautions, blankets to keep her warm, and rapid transport.

The correct answer is D;

Reason:

The cause of this patient's shock may be a myocardial contusion, or bruising of the heart muscle. Blunt trauma to the chest can injure the heart, making it unable to maintain adequate blood pressure. In a myocardial contusion, the pulse is often irregular, but dangerous rhythms (eg, V-Fib, V-Tach) are relatively uncommon. There is no special diagnostic test at this time, and there is no prehospital treatment for the condition. Therefore, waiting at the scene for a paramedic unit would only waste time. Apply high-flow oxygen, assist ventilations if the patient is breathing inadequately (eg, slow or fast respirations, shallow breathing [reduced tidal volume]), treat the patient for shock (eg, cover her with blankets, elevate her lower extremities [if local protocol permits]), and transport rapidly. Because of the mechanism of injury, full spinal precautions should be taken. The patient is conscious and likely has an intact gag reflex; therefore, an oral airway is contraindicated. The AED is only applied to patients who are in cardiac arrest.

Firefighters have rescued a man from his burning house. He is conscious and alert, but is experiencing significant respiratory distress. He has a brassy cough and singed nasal hairs. The MOST immediate threat to this patient's life is:

A: airway swelling.
B: severe infection.
C: hypothermia.
D: severe burns.

The correct answer is A;
Reason:

Because of the patient's signs and symptoms, your must immediate concern should be the potential for swelling and closure of the upper airway; be prepared to assist the patient's ventilations. Signs of upper airway burns include respiratory distress, singed facial and/or nasal hairs, a brassy cough, difficulty breathing, and coughing up sooty sputum. Infection, the burns themselves, and hypothermia should concern you; however, airway problems pose the most immediate life threat.

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A 40-year-old man was hit in the nose during a fight. He has bruising under his left eye and a nosebleed. After taking standard precautions, you should:

A: place a chemical icepack over his nose.
B: apply direct pressure by pinching his nostrils together.
C: ensure that he is sitting up and leaning forward.
D: determine if he has any visual disturbances.

The correct answer is C;

Reason:

During a nosebleed (epistaxis), much of the blood may pass down the throat into the stomach as the patient swallows; this is especially true if the patient is lying supine. Blood is a gastric irritant; a person who swallows a large amount of blood may become nauseated and vomit, which increases the risk of aspiration. Therefore, your first action should be to ensure that the patient is sitting up and leaning forward. This will prevent blood from draining down the back of the throat. Next, apply direct pressure by pinching the fleshy part of the nostrils together; you or the patient may do this. Placing a chemical icepack over the nose may further help control the bleeding by constricting the nasal vasculature. After controlling the nosebleed, continue your assessment, which includes assessing for facial deformities and visual disturbances.

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A 44-year-old man has a traumatic leg amputation just below the knee. He is unresponsive; breathing rapidly and shallowly; and has pale, cool, clammy skin. He is lying in a large pool of blood and the wound is bleeding profusely. To control this bleeding, you should:

A: apply an icepack to the wound to constrict the vessels and stop the bleeding.
B: apply a pressure dressing and elevate the injured extremity at least 12 inches.
C: locate the femoral artery and apply pressure to it until the bleeding stops.
D: cover the wound with a trauma dressing and apply a proximal tourniquet.

The correct answer is D;

Reason:

In most cases, external bleeding can be controlled with direct pressure and a securely placed pressure dressing. However, if this is unsuccessful, you should apply a proximal tourniquet
immediately or the patient will bleed to death. The patient in this scenario has clearly lost a lot of blood; he is unresponsive and has obvious signs of shock. Of the options listed, covering the wound with a trauma dressing (while applying direct pressure) and then applying a proximal tourniquet will be the most effective means of controlling this severe hemorrhage. Evidence has shown that locating and applying adequate pressure to an arterial pressure point is often difficult and time-consuming; the patient in this scenario does not have that kind of time!

A 30-year-old woman has an open deformity to her left leg and is in severe pain. She is conscious and alert, has a patent airway, and is breathing adequately. Your primary concern should be:

A: administering high-flow oxygen.
B: covering the wound to prevent infection.
C: assessing pulses distal to the injury.
D: controlling any external bleeding.

The correct answer is D;

Reason:

Initial care for any open injury involves controlling external bleeding. Further care involves manually stabilizing the injury site; applying a sterile dressing to keep gross contaminants from entering the wound; assessing distal perfusion (eg, a pulse), motor, and sensory functions; and stabilizing the injury with an appropriate splint. The patient in this scenario is conscious, alert, has a patent airway, and is breathing adequately. Depending on other assessment findings, oxygen may be indicated. Your primary concern, however, should be to ensure that all external bleeding has been controlled.

Prior to your arrival at the scene, a young female was removed from the water after being submerged for an unknown period of time. You should manage her airway appropriately while considering the possibility of:

A: internal bleeding.
B: airway obstruction.
C: spinal injury.
D: hyperthermia.

The correct answer is C;

Reason:

When caring for a patient with a submersion injury (ie, near-drowning), you should consider the possibility of a spinal injury. Many water-related incidents occur when a patient dives into shallow water and strikes his or her head. Water can be aspirated into the lungs, but will not cause an obstruction of the upper airway. Another common finding in patients with a submersion injury is hypothermia. Although it is possible for the patient to have internal bleeding at the same
time, especially if he or she experienced a traumatic injury before the submersion, spinal injuries are more common.

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An elderly woman, who was removed from her burning house by firefighters, has full-thickness burns to approximately 50% of her body. Appropriate treatment for this patient should include:

A: covering the burns with dry, sterile dressings and preventing further loss of body heat.
B: applying moist, sterile dressings to the burned areas and preventing hypothermia.
C: peeling burned clothing from the skin and removing all rings, necklaces, and bracelets.
D: cooling the burns with sterile saline and covering them with dry, sterile burn pads.

The correct answer is A;

Reason:

After moving the patient to safety, stopping the burning process, and supporting the ABCs, full-thickness burns should be cared for by applying dry, sterile dressings or burn pads and preventing hypothermia. Cooling full-thickness burns (ie, applying moist dressings, pouring saline or water on the burn) should be avoided as this increases the risks of hypothermia and infection. Rings, necklaces, and other potentially constrictive devices should be removed in the event that severe swelling occurs. If portions of clothing are adhered to the skin, they should be cut around, not peeled from the skin, in order to prevent further soft-tissue damage.

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A 45-year-old male was stabbed in the left anterior chest. He is conscious, but restless. His skin is cool and clammy, his blood pressure is 90/60 mm Hg, his respirations are rapid and shallow, and his heart rate is 120 beats/min and weak. Further assessment reveals that his breath sounds are clear and equal bilaterally and his jugular veins are distended. In addition to giving him high-flow oxygen, you should:

A: suspect that the patient has a tension pneumothorax and notify the trauma center as soon as possible.
B: cover the stab wound with an occlusive dressing, support ventilation as needed, and transport rapidly.
C: perform a detailed physical exam at the scene to ensure that you locate and treat less obvious injuries.
D: control the bleeding from the stab wound with a sterile porous dressing and reassess his vital signs.

The correct answer is B;

Reason:

Your patient has signs of a pericardial tamponade, a condition usually caused by penetrating chest trauma. In a pericardial tamponade, blood collects in the pericardial sac; this prevents the heart from filling during the diastolic phase, causing a decrease in cardiac output and blood pressure. Signs of a pericardial tamponade include muffled or distant heart tones (difficult to assess in the field); a rapid, weak pulse; hypotension; jugular venous distention; and a
narrowing pulse pressure (difference between the systolic and diastolic blood pressures). A tension pneumothorax is unlikely in this patient; his breath sounds are clear and equal bilaterally. Treatment for a pericardial tamponade includes ensuring adequate oxygenation and ventilation, covering the chest wound with an occlusive dressing (cover all open chest wounds with an occlusive dressing), controlling any external bleeding, and transporting rapidly. Pericardial tamponade is a life-threatening condition that requires definitive treatment at the hospital.

During your assessment of a patient who experienced blunt facial trauma, you note the presence of a hyphema. This indicates:

A: an orbital blowout fracture.
B: a fracture of the nasal bone.
C: that the pupils are unequal.
D: direct trauma to the eyeball.

The correct answer is D;

Reason:

Some patients with blunt trauma to the eyeball (globe) may present with a hyphema, or bleeding into the anterior chamber of the eye, that obscures a portion of or the entire iris. This condition may seriously impair vision and should be considered a sight-threatening emergency. A fracture of the orbital floor (blowout fracture) is characterized by double vision and an inability of the patient to move his or her eyes above the midline (paralysis of an upward gaze) following blunt facial trauma. In an orbital blowout fracture, fragments of fractured bone can entrap some of the muscles that control eye movement. Anisocoria is the term used to describe unequal pupils. Unequal pupils following head trauma indicates increased intracranial pressure.

Following penetrating trauma to the abdomen, a 50-year-old woman has a large laceration with a loop of protruding bowel. How should you manage this injury?

A: Apply a dry, sterile dressing covered by an occlusive dressing.
B: Carefully replace the bowel and apply an occlusive dressing.
C: Apply a moist, sterile dressing covered by a dry, sterile dressing.
D: Apply a tight pressure dressing to control any external bleeding.

The correct answer is C;

Reason:

Management of an open abdominal wound with an eviscerated bowel includes controlling any external bleeding, covering the exposed bowel with a moist, sterile dressing, and covering that with a dry, sterile dressing. Applying a dry dressing directly to the exposed bowel will cause the bowel to dry. You must never replace the exposed bowel into the abdominal cavity or apply pressure to the wound. Doing so significantly increases the patient’s risk for infection as well as further trauma.
When assessing and treating a patient with a gunshot wound, you should routinely:

A: determine why the patient was shot.
B: apply ice directly to the wound.
C: look for the presence of an exit wound.
D: evaluate the pulses proximal to the wound.

The correct answer is C;

Reason:

When assessing a patient who sustained a gunshot wound, you should routinely look for an exit wound, which may be difficult to find. Exit wounds can be a source of continued bleeding, both externally and internally. They may or may not follow the same path as the entrance wound. This is why it is important to conduct a thorough examination of the patient. Ice can be applied to the wound, but only after the wound has been covered by a sterile dressing. Determining why the patient was shot is the responsibility of law enforcement, not the EMT. If the wound is close to an extremity, pulse, motor, and sensory function should be assessed distal to the wound.

When caring for a critically injured patient, it is MOST appropriate to perform your secondary assessment:

A: while you are en route to the hospital.
B: after all life threats have been ruled out.
C: immediately following the primary assessment.
D: immediately after taking baseline vital signs.

The correct answer is A;

Reason:

The secondary assessment is a detailed exam of the patient; it focuses on detecting and correcting injuries or conditions that were not grossly obvious during the primary assessment. Because the secondary assessment can be time-consuming, it should be performed en route to the hospital if your patient is critically ill or injured. The only actions that you should perform at the scene of a critically ill or injured patient are the primary assessment, correction of immediate life-threats (eg, problems with the ABCs), and spinal precautions if necessary. The quicker you begin transport of a critically ill or injured patient, the quicker the patient will receive definitive care at the hospital. In some patients, you may not have time to perform a secondary assessment; this is especially true with critically ill or injured patients who have ongoing problems with airway, breathing, or circulation.

During transport of a patient with a head injury, which of the following will provide you with the MOST information regarding the patient's condition?
A: Pupil size  
B: Blood pressure  
C: Mental status  
D: Heart rate  
The correct answer is C;

Reason:
The patient's mental status provides you with the most information regarding overall perfusion status, especially when monitoring a patient with a head injury. Frequent neurologic assessments, which includes assessing the patient's pupils, are critical in determining if the patient's condition is improving or deteriorating. Vital signs should be monitored according to the patient's condition, at least every 5 minutes if he or she is unstable and at least every 15 minutes if he or she is stable.

When assessing distal circulation in a patient with a swollen deformed femur, you should:

A: touch his foot with a blunt object.  
B: assess the pulse behind the knee.  
C: ask the patient to wiggle his toes.  
D: palpate for a dorsalis pedis pulse.  
The correct answer is D;

Reason:
Care for a musculoskeletal injury includes assessing distal circulatory, sensory, and motor functions before and after applying a splint. In the case of a femur injury, the dorsalis pedis (pedal) pulse, located on top of the foot, is the most distal pulse relative to the injury. If a pedal pulse can be palpated, circulation distal to the injury is present. The popliteal pulse is located behind the knee; it is proximal to the pedal pulse. Touching the patient's foot and asking him if he can feel it and asking him to wiggle his toes are assessing sensory and motor functions, respectively, not circulatory function.

When caring for a trauma patient with signs of intraabdominal bleeding, it is MOST important for the EMT to:

A: perform an in-depth abdominal assessment.  
B: transport rapidly to an appropriate medical facility.  
C: apply and inflate the pneumatic antishock garment.  
D: auscultate bowel sounds for at least 2 minutes.  
The correct answer is B;

Reason:
Your priority for a trauma patient with signs of intraabdominal bleeding (eg, abdominal rigidity, distention), or any internal bleeding for that matter, is to rapidly transport to an appropriate medical facility, such as a trauma center. It does not matter where the source of the bleeding is; it does matter that you cannot control the bleeding in the field. The patient requires surgery. An in-depth abdominal assessment is not required to determine the presence of intraabdominal bleeding, and auscultating bowel sounds is impractical and will provide you with little, if any, additional information. The PASG is indicated only for use as a splint to stabilize pelvic or bilateral femur fractures; it should not be applied to patients with abdominal, chest, or head trauma.

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A young man fell and landed on his outstretched hand, resulting in pain and deformity to the left midshaft forearm. Distal circulation should be assessed at which of the following pulse locations?

A: Popliteal  
B: Brachial  
C: Radial  
D: Pedal

The correct answer is C;

Reason:

The radius and ulna are the bones of the forearm. The radial pulse can be palpated on the lateral aspect (thumb side) of the wrist and is the most distal pulse site relative to the injury. The brachial pulse is located on the medial aspect of the upper arm. The popliteal pulse is located behind the knee. The pedal (dorsalis pedis) pulse is located on top of the foot.

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Internal or external bleeding would be especially severe in a patient:

A: with hemophilia.  
B: who is hypotensive.  
C: with heart disease.  
D: who takes aspirin.

The correct answer is A;

Reason:

Hemophilia is a condition in which the patient lacks one or more of the blood’s clotting factors. There are several forms of hemophilia, most of which are hereditary and some of which are severe. Sometimes bleeding occurs spontaneously in patients with hemophilia. Because the patient’s blood does not clot, all injuries, no matter how minor they appear, are potentially serious. Aspirin does not destroy the blood’s clotting factors; it decreases the ability of platelets to stick together. Although this may cause prolonged bleeding time, the patient with hemophilia, who lacks key clotting factors, will bleed more severely. Many patients with heart disease take aspirin daily to prevent clot formation in a coronary artery. When blood pressure is low
(hypotension), the driving force of the blood through the blood vessels is reduced; as a result, bleeding tends to be less severe relative to patients with high blood pressure. Unfortunately, however, hypotension indicates decompensated shock.

You are assessing a young male who was stabbed in the right lower chest. He is semiconscious and has labored breathing, collapsed jugular veins, and absent breath sounds on the right side of his chest. This patient MOST likely has a:

A: pneumothorax.
B: hemothorax.
C: ruptured spleen.
D: liver laceration.
The correct answer is B;

Reason:

You should suspect a hemothorax if a patient with chest trauma presents with shock, especially if the injury was caused by penetrating trauma. Hemothorax occurs when blood collects in the pleural space and compresses the lung, resulting in shock and respiratory compromise. Other signs include collapsed jugular veins (due to low blood volume), labored breathing, and decreased or absent breath sounds on the side of the injury. A pneumothorax (air in the pleural space) is also associated with difficulty breathing and unilaterally decreased or absent breath sounds; however, the jugular veins are usually not collapsed. If excessive air accumulates within the pleural space, however, pressure will shift across the mediastinum and affect the uninjured lung (tension pneumothorax); if this occurs, the jugular veins may become engorged (distended). Splenic injury is unlikely; the patient's injury is on the right side and the spleen is on the left. A liver laceration can cause severe shock; however, it is not associated with unilaterally decreased breath sounds or labored breathing.

Which of the following actions is MOST important when immobilizing a patient with a suspected spinal injury?

A: Secure the patient’s head prior to immobilizing the torso.
B: A vest-style immobilization device should routinely be used.
C: Select and apply the appropriate size of extrication collar.
D: Check range of motion by asking the patient to move the head.
The correct answer is C;

Reason:

Although an extrication (cervical) collar is not the sole means of immobilizing the patient’s spine, it must be of the appropriate size in order to minimize flexion/extension of the patient’s neck. When immobilizing any patient, whether with a vest-style device or long spine board, the head is immobilized after the torso. Immobilizing the head first may cause potential cervical spine compromise as the torso is immobilized. Determining whether to use a vest-style immobilization...
device or a long spine board is based on the patient’s condition. Obviously, you should never ask a patient with a potential spinal injury to move his or her head around.

A football player complains of severe neck pain and tingling in his arms and legs after being tackled. He is conscious and alert, has a patent airway, and is breathing adequately. He is in a supine position and is still wearing his helmet, which is tight-fitting. The MOST appropriate treatment for this patient includes:

A: carefully removing his helmet, manually stabilizing his head, applying a cervical collar, administering high-flow oxygen, placing him onto a long backboard, and restricting spinal motion with straps and a lateral head stabilizer.
B: manually stabilizing his head, leaving his helmet on, applying a vest-style spinal immobilization device, placing him onto a long backboard, and restricting spinal motion with straps and a lateral head stabilizer.
C: manually stabilizing his head with his helmet still on, removing the face mask, administering high-flow oxygen, placing him onto a long backboard, and restricting spinal motion with straps and a lateral head stabilizer.
D: manually stabilizing his head, carefully removing his helmet, administering high-flow oxygen, applying a cervical collar, placing him onto a long backboard, and restricting spinal motion with straps and a lateral head stabilizer.

The correct answer is C;

Reason:

A helmet that fits well prevents the patient’s head from moving and should be left on, provided (1) there are no impending airway or breathing problems, (2) it does not interfere with your assessment and treatment of airway or ventilation problems, and (3) you can properly immobilize the spine. You should also leave the helmet on if there is any chance that removing it will further injure the patient. The mask on most sports helmets can be removed, without affecting helmet position or function, by using a trainer’s tool designed for cutting retaining clips or unscrewing the retaining clips for the face mask. Your patient has severe neck pain and tingling in his extremities; these are obvious signs of a spinal injury. However, he is conscious and alert, has a patent airway, and is breathing adequately. Thus, the safest approach is to remove the face mask as previously described, apply high-flow oxygen, and restrict spinal motion by securing him to a long backboard. A vest-style device is more suitable for seated patients; it is impractical to use on supine patients.

You are called to a local nightclub for an injured patient. Law enforcement personnel have secured the scene. Upon arrival, you see a young man who is lying on the ground screaming in pain; bright red blood is spurting from an apparent stab wound to his groin area. You should:

A: ensure an open airway.
B: prevent hypothermia.
C: apply 100% oxygen.
D: control the bleeding.
The correct answer is D;

Reason:

This patient's airway is obviously patent; he is screaming in pain. Blood spurting from the groin area indicates arterial bleeding from the femoral artery. If this bleeding is not controlled immediately, the patient will die. Oxygen and other shock treatment (ie, keeping him warm) should be initiated after this life-threatening bleeding is controlled. If you take the time to set up and administer oxygen prior to managing the bleeding, the patient will die. Base your treatment priorities on what will kill the patient first.

Which of the following assessment parameters is the MOST reliable when determining if a patient with a head injury is improving or deteriorating?

A: level of consciousness.
B: systolic blood pressure.
C: rate and depth of breathing.
D: pupillary reaction.
The correct answer is A;

Reason:

All of the options in this question are important parameters to monitor in a patient with a head injury. However, the single most reliable parameter is the patient's level of consciousness (LOC); a person's LOC indicates how the brain is functioning from a global perspective. It should be monitored frequently in order to determine whether the patient's condition is improving (ie, concussion), or deteriorating (ie, intracerebral hemorrhage). In general, level of consciousness serves as the most reliable indicator of perfusion.

A patient experienced blunt chest trauma and has asymmetrical chest wall movement. This MOST likely indicates:

A: accumulation of blood in both of the lungs.
B: decreased air movement into one lung.
C: shallow breathing secondary to severe pain.
D: several ribs broken in numerous places.
The correct answer is B;

Reason:

Asymmetrical chest wall movement, when one side of the chest moves less than the other, indicates decreased air movement into one lung (eg, pneumothorax, hemothorax). Bleeding into both lungs and shallow breathing due to severe pain would likely cause decreased movement to both sides of the chest. If more than two ribs are fractured in several places, a free-floating (flail) segment of fractured ribs is created. This flail segment (not necessarily an entire half of the
A woman stabbed her boyfriend in the cheek with a dinner fork during an argument. Police have the woman in custody. The patient still has the fork impaled in his cheek. He is conscious and alert, breathing adequately, and has blood in his oropharynx. You should:

A: suction his oropharynx, carefully cut the fork to make it shorter, control any external bleeding, and secure the fork in place.
B: carefully remove the fork, suction his oropharynx as needed, and pack the inside of his cheek with sterile gauze pads.
C: apply high-flow oxygen via a nonrebreathing mask, carefully remove the fork, and control any external bleeding.
D: suction his oropharynx, control any external bleeding, stabilize the fork in place, and protect it with bulky dressings.

The correct answer is D;

Reason:

An impaled object in the cheek should be removed if it interferes with your ability to manage the patient’s airway. In this case, however, the patient is breathing adequately and does not require aggressive airway care (e.g., ventilatory assistance). The most practical approach is to suction the blood from his oropharynx, which will prevent him from swallowing it, vomiting it, and aspirating it. Stabilize the fork in place and protect it with bulky dressings; removing an impaled object from the cheek in the opposite direction it entered may cause further soft tissue damage. Transport the patient in a sitting position and suction his oropharynx en route as needed. There is no reason to cut the fork to make it shorter; this will only unnecessarily manipulate it, potentially causing further soft tissue damage and increased bleeding.

A 21-year-old man partially amputated his right arm when the chainsaw he was using to trim trees slipped. You can feel a weak radial pulse and his arm is cool to the touch. Dark red blood is flowing heavily from the wound. You should:

A: apply bulky compression dressings to the wound and splint the extremity.
B: apply a tourniquet proximal to the injury and tighten it until the bleeding stops.
C: control the bleeding, manipulate the arm to improve circulation, and apply a splint.
D: carefully pack sterile dressings into the wound and fully splint the extremity.

The correct answer is A;

Reason:

When caring for a partially amputated extremity, control bleeding with bulky compression (pressure) dressings and splint the extremity to prevent further injury. If direct pressure does not immediately control the bleeding, however, a proximal tourniquet should be applied without delay. Never pack dressings into a wound; this may cause further damage and increases the
risk of infection. Although your patient's radial pulse is weak, it is present and indicates blood flow distal to the injury. Do not manipulate his arm; doing so may lacerate or compress an artery and compromise distal circulation.

A 42-year-old man was ejected from his car after it struck a bridge pillar at a high rate of speed. You find him in a prone position approximately 50 feet from his car. He is not moving and does not appear to be breathing. You should:

A: assess his breathing effort.
B: use the jaw-thrust maneuver.
C: administer high-flow oxygen.
D: manually stabilize his head.

The correct answer is D;

Reason:

When a trauma patient is found in a prone (face-down) position, especially if he or she is unresponsive, your first action should be to manually stabilize his or her head; this action is based on the assumption that he or she has a spinal injury. Next, log roll the patient to a supine position (while continuing to manually stabilize the head), open the airway with the jaw-thrust maneuver, clear the airway with suction if needed, and assess for breathing. It would be extremely difficult to adequately open the patient's airway while he or she is in a prone position. Depending on the patient's breathing effort, administer high-flow oxygen or ventilate using a bag-mask device.

The pneumatic antishock garment may be indicated for patients with:

A: blunt chest trauma and hypotension.
B: femur fractures and crackles in the lungs.
C: any severe injury above the nipple line.
D: pelvic instability and signs of shock.

The correct answer is D;

Reason:

For the most part, the pneumatic antishock garment (PASG) is no longer routinely used in EMS. However, it may be useful to stabilize pelvic fractures, especially if the patient has accompanying signs of shock. Commercial pelvic binders are now available for this purpose as well. In general, the PASG should not be used for patients with blunt or penetrating trauma to the head, chest, or abdomen. Under NO circumstances should the device be used on any patient with pulmonary edema, as evidenced by shortness of breath, crackles in the lungs, or a history of left-side congestive heart failure. Follow your local protocols regarding use of the PASG if your EMS system still carries them on the ambulance.
A 42-year-old man has a large knife impaled in the center of his chest. He is unresponsive, pulseless, and apneic. You should:

A: stabilize the knife with bulky dressings, begin CPR, and transport at once.
B: carefully remove the knife, control the bleeding, and begin CPR.
C: secure the knife in place with a bulky dressing and transport immediately.
D: carefully remove the knife, control the bleeding, and apply the AED.

The correct answer is B;

Reason:

Generally, impaled objects should be stabilized in place and not removed; however, if they interfere with the patient's airway or your ability to perform CPR, they must be carefully removed. The knife in this patient is impaled in the center of his chest (the precordium), which is where chest compressions are performed. Carefully remove the knife, control any external bleeding, begin CPR, and transport immediately. The AED is not indicated for victims of traumatic cardiac arrest. Massive blood loss is the most common cause of traumatic cardiac arrest, not a cardiac dysrhythmia; therefore, the AED would be of little benefit.

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A 56-year-old man was the unrestrained driver of a small passenger car that rolled over twice after he rounded a corner too fast. He is unresponsive; has rapid, shallow respirations; and has a rapid, weak pulse. His left arm is completely amputated just below the elbow. As you and your partner are treating the patient, other responders are trying to find the amputated arm. Which of the following statements regarding this scenario is correct?

A: Your priority should be to recover the man's arm because a vascular surgeon may be able to successfully reattach it.
B: Quickly move the patient to the ambulance, continue treatment, and wait for the other responders to recover his arm.
C: You should transport the patient immediately, even if the other responders recover his arm before you depart the scene.
D: If the patient's arm has not been recovered by the time you are ready to transport, you should transport without delay.

The correct answer is D;

Reason:

Life takes priority over limb. The patient is in shock, which may be complicated by a head injury; therefore, he requires rapid transport to a trauma center. Although efforts should be made to recover an amputated body part, this must not delay transport of a critically injured patient. If the arm has not been recovered by the time you are ready to transport, you must transport without delay. If his arm is located after you depart the scene, it can be transported separately. If his arm is recovered before you depart the scene, however, you should take it with you; surgeons may be able to successfully reattach it. Care for the amputated part in accordance with your local protocols.

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Which of the following sets of vital signs is MOST suggestive of increased intracranial pressure in a patient who has experienced a traumatic brain injury?

A: BP, 176/98 mm Hg; pulse, 50 beats/min; respirations, 10 breaths/min  
B: BP, 92/60 mm Hg; pulse, 120 beats/min; respirations, 24 breaths/min  
C: BP, 84/42 mm Hg; pulse, 60 beats/min; respirations, 32 breaths/min  
D: BP, 160/72 mm Hg; pulse, 100 beats/min; respirations, 12 breaths/min  
The correct answer is A;

Reason:

The body responds to a significant traumatic brain injury by shunting more oxygenated blood to the injured brain; it does this by increasing systemic blood pressure. In response to an increase in blood pressure, the pulse rate decreases. Pressure on the brain stem often causes an irregular breathing pattern that is either slow or fast. Therefore, patients with increased intracranial pressure present with hypertension, bradycardia, and irregular respirations that are fast or slow (Cushing’s triad). Vital signs representative of shock (eg, hypotension, tachycardia) are not common in patients with an isolated head injury and increased intracranial pressure. If the patient with a seemingly isolated head injury is hypotensive and tachycardic, look for other injuries; internal or external bleeding is likely occurring elsewhere.

Which of the following questions is of LEAST pertinence initially when assessing a responsive 40-year-old woman who fell from a standing position?

A: Can you move your hands and feet?  
B: Have you fallen before?  
C: Did you hit your head?  
D: Did you faint before you fell?  
The correct answer is B;

Reason:

Your physical exam of a patient who fell should focus on determining if the patient is injured and what happened prior to the fall. Did the patient simply trip and fall or experience a syncopal episode (fainting) and then fall? If the patient fainted and then fell, you should suspect both a medical problem (caused the fall) and a traumatic injury (resulted from the fall). When assessing a patient who fell, do not be so quick to label him or her as a trauma patient before performing a thorough assessment; an underlying medical problem (eg, stroke, hypoglycemia, cardiac event) may have caused the fall. Determining if the patient has fallen before, which may help to establish a pattern, is pertinent and should be established. However, your initial priority should be to determine why the patient fell and whether or not the fall caused an injury.

A 19-year-old female has a closed, swollen deformity to her left forearm. You are unable to palpate a radial pulse and the skin distal to the injury is cold and pale. Several attempts to
contact medical control have failed and you are approximately 45 miles away from the closest hospital. You should:

A: make one attempt to restore distal circulation by applying gentle manual traction in line with the long axis of the limb.
B: apply an air splint to her forearm, keep her arm below the level of her heart, place an icepack over the injury, and transport.
C: begin transport at once, gently manipulate her arm en route until distal circulation is restored, and apply an air splint.
D: splint her entire arm with rigid board splints, elevate the limb above the level of her heart, and transport immediately.

The correct answer is A;

Reason:

Cold, pale skin and an absent distal pulse indicates that blood flow distal to the injury is compromised. You should notify medical control, who will likely direct you to attempt to restore distal circulation. However, if you are unable to contact medical control and your transport time will be lengthy, you should make ONE attempt to restore distal circulation by applying gentle manual traction in line with the long axis of the limb. Be careful, as excessive manipulation can worsen the vascular problem. If you are unsuccessful after one attempt, splint the limb in the most comfortable position for the patient and transport at once. If distal circulation is restored, splint the limb in whatever position allows the strongest distal pulse. You should elevate the limb above the level of the heart to help minimize swelling. An icepack may also help reduce pain and swelling.

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Initial treatment for a patient with external blood loss depends upon:

A: whether or not hypotension is present.
B: his or her signs and symptoms.
C: the amount of estimated blood loss.
D: his or her past medical history.

The correct answer is B;

Reason:

It can be difficult to estimate the amount of external blood loss. This is because blood looks different on different surfaces, such as when it is absorbed by clothing or when it has been diluted with water. If possible, you should attempt to estimate the amount of external blood loss; however, the patient’s presentation (signs and symptoms) will ultimately direct your treatment. Do not wait to begin treatment until the patient’s blood pressure falls. Hypotension following bleeding, internal or external, indicates decompensated shock. Your goal is to recognize shock in its earliest stages (eg, restlessness, anxiety, tachycardia, tachypnea) and begin immediate treatment. Information regarding the patient’s past medical history and current medications should be obtained, and may lead you to alter your treatment in some cases. However, it does not direct your initial treatment.
A 22-year-old female fell on her knee and is in severe pain. Her knee is flexed and severely deformed. Her leg is cold to the touch and you are unable to palpate a distal pulse. You should:

A: manually stabilize her injury and contact medical control for further stabilization instructions.
B: apply gentle longitudinal traction as you straighten her leg and then apply a traction splint.
C: carefully straighten her leg until you restore a distal pulse and then apply padded board splints.
D: place a pillow behind her knee and stabilize the injury by applying padded board splints.

The correct answer is A;

Reason:

A dislocated knee occurs when the proximal end of the tibia completely displaces from its juncture with the distal femur. In some cases, the popliteal artery behind the knee may be compressed, resulting in compromised distal blood flow. Signs of this include absent distal pulses and a pale extremity that is cool or cold. Manually stabilize the knee and assess for distal pulses. If distal pulses are absent, contact medical control immediately for further stabilization instructions. Medical control may instruct you to make ONE attempt to realign the knee to reduce compression of the popliteal artery and restore distal circulation. If you are unable to restore distal circulation or medical control advises you not to manipulate the injury, splint the knee in the position it was found and transport promptly. Traction splints are contraindicated in any injury to or near the knee.

A 22-year-old female woman was shot by her husband. Law enforcement is at the scene and has the husband in custody. The patient is conscious, but extremely restless, and is pale and diaphoretic. As your partner administers high-flow oxygen, you should:

A: compare her carotid and radial pulses.
B: take her BP to detect hypotension.
C: look for and control any bleeding.
D: keep her warm by applying blankets.

The correct answer is C;

Reason:

The primary assessment of any patient includes ensuring a patent airway, assessing breathing adequacy, administering high-flow oxygen or assisting ventilations, assessing circulation, and controlling all active bleeding. You and your partner must work as a team; as your partner administers high-flow oxygen, you should be looking for her gunshot wound(s) and ensuring that all bleeding is controlled. After the primary assessment and management, begin treating her for shock (eg, applying a blanket, elevating her lower extremities [if local protocol permits]) and perform a rapid head-to-toe assessment to search for other injuries that may not have been
obvious during the primary assessment. Assess the patient's vital signs after all life-threatening injuries or conditions have been identified and corrected.

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A high-school student was splashed in the eyes with a strong acid chemical during a lab experiment. He is in severe pain and is unable to open his eyes. You should:

A: flush both eyes with sterile water for no more than 5 minutes.
B: cover both of his eyes with sterile gauze and transport at once.
C: continuously flush his eyes with saline for at least 20 minutes.
D: force his eyes open and assess for the presence of severe burns.

The correct answer is C;

Reason:

Chemical burns to the eyes, usually caused by acid or alkaline solutions, require immediate emergency care. This consists of flushing the eyes with water or a sterile saline irrigation solution. Forcing the eyes open for the expressed purpose of assessing for burns is impractical and wastes time. You may have to force the eyes open, however, in order to effectively irrigate. If sterile water is not available, use any clean water. Irrigate the eyes for at least 5 minutes. If the burn was caused by an alkali or strong acid, you should irrigate the eyes continuously for 20 minutes. If irrigation can be carried out effectively in the ambulance, it should be done during transport to save time. Strong acids and alkaline solutions can penetrate deeply, requiring prolonged irrigation. After you have completed irrigation, cover the eyes with clean, dry dressings.

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A 40-year-old man has burns to the entire head, anterior chest, and both anterior upper extremities. Using the adult Rule of Nines, what percentage of his total body surface area has been burned?

A: 45%
B: 27%
C: 36%
D: 18%

The correct answer is B;

Reason:

Using the adult Rule of Nines, the head accounts for 9% of the total body surface area (TBSA), the anterior chest for 9% (the entire anterior trunk [chest and abdomen] accounts for 18%), and the anterior upper extremities for 4.5% each (each entire upper extremity is 9% of the TBSA). On the basis of this, the patient has sustained 27% TBSA burns.

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In contrast to an incision, a laceration:
A: is a superficial injury.
B: bleeds more severely.
C: is a jagged cut.
D: usually involves an artery.
The correct answer is C;

Reason:

A laceration is a jagged cut caused by a sharp object or a blunt force that tears the tissue, whereas an incision is a sharp, smooth cut. The depth of the injury can vary; it can extend through the skin and subcutaneous tissue or into the underlying muscles and adjacent nerves and blood vessels. Lacerations and incisions can involve arteries, veins, or both, potentially resulting in severe bleeding.

Which of the following BEST describes the mechanism of injury?

A: Your concern for potentially serious injuries
B: The product of mass, force of gravity, and height
C: The energy of an object in motion
D: The way in which traumatic injuries occur
The correct answer is D;

Reason:

The mechanism of injury (MOI) is the way in which traumatic injuries occur; it describes the forces (or energy transmission) acting on the body that cause injury. Index of suspicion is your concern for potentially serious underlying and unseen (occult) injuries. A significant MOI (e.g., fall from a significant height, ejection from a motor vehicle) should increase your index of suspicion for serious injuries. The energy of an object in motion is called kinetic injury. Potential injury is the product of mass (weight), force of gravity, and height; it is mostly associated with the energy of falling objects.

You are dispatched to the scene of a motorcycle crash. Upon arrival, you find the patient lying facedown approximately 25 feet from his bike. He is not wearing a helmet and is moaning. You should:

A: log roll him to a supine position.
B: evaluate the status of his airway.
C: apply a cervical collar.
D: stabilize his head manually.
The correct answer is D;

Reason:
The mechanism of injury for this patient was significant. In his present position (prone), you cannot effectively assess his airway. Therefore, your first action should be to manually stabilize his head. Then, you must log roll him into a supine position, keeping his head in an in-line position. If possible, log roll him directly onto a long backboard. After the patient is supine, assess the status of his airway, assess his breathing adequacy, administer high-flow oxygen or begin assisted ventilations if needed, and continue with your primary assessment. Apply a cervical collar as soon as possible, but assess his posterior neck first.

Which of the following patients would be MOST in need of a rapid head-to-toe assessment?

A: A responsive 22-year-old man with a small caliber gunshot wound to the abdomen
B: A responsive 25-year-old woman who fell 9 feet from a roof and landed on her side
C: A 60-year-old man who fell from a standing position and has small abrasions on his cheek
D: A 43-year-old woman with a unilaterally swollen, painful deformity of the midshaft femur

The correct answer is A;

Reason:

A rapid head-to-toe assessment (rapid body scan) is indicated for any patient with abnormal findings in the primary assessment or when the mechanism of injury warrants it. Significant mechanisms of injury include falls in the adult of greater than 15 feet (or three times the patient’s height); penetrating injuries to the head, neck, chest, or abdomen; and multiple long bone fractures, among others.

Damaged small blood vessels beneath the skin following blunt trauma causes:

A: mottling.
B: ecchymosis.
C: hematoma.
D: cyanosis.

The correct answer is B;

Reason:

When small blood vessels beneath the skin are damaged, blood seeps into the soft tissues. This manifests as a bruise, also referred to as ecchymosis. A hematoma develops when larger blood vessels are ruptured and the internal bleeding forms a “lump.” Cyanosis is a blue or purple discoloration of the skin and signifies a low content of oxygen in the blood. Mottling occurs when the skin takes on a blotched, purple appearance and is a sign of shock (hypoperfusion).
A patient with a spinal injury may still be able to use his or her diaphragm to breathe, but would lose control of the intercostal muscles, if the spinal cord is injured:

A: above the C3 level.
B: below the C5 level.
C: between C1 and C2.
D: above the C5 level.
The correct answer is B;

Reason:

The nerves that supply the diaphragm (the phrenic nerves) exit the spinal cord at C3, C4, and C5. A patient whose spinal cord is injured below the C5 level will lose the ability to move his or her intercostal muscles (the muscles in between the ribs), but the diaphragm will still contract. The patient may still be able to breathe because the phrenic nerves remain intact. Patients with spinal cord injuries at C3 or above often lose their ability to breathe entirely. Remember this: C3, 4, and 5 keep the diaphragm alive.

Despite direct pressure, a large laceration continues to spurt large amounts of bright red blood. You should:

A: elevate the extremity and apply a tight pressure dressing.
B: apply pressure to the pulse point that is proximal to the injury.
C: apply a tourniquet proximal to the injury until the bleeding stops.
D: place additional dressings on the wound until the bleeding stops.
The correct answer is C;

Reason:

You must control any and all external bleeding as soon as possible. In the case of arterial bleeding (ie, bright red blood is spurting from the wound), the patient will bleed to death if immediate action is not taken. In most cases, direct pressure will effectively control external bleeding. However, if the wound continues to bleed profusely despite direct pressure, you should apply a tourniquet proximal to the injury and tighten it until the bleeding stops. Packing additional dressings on a severe external hemorrhage will only cause the patient to continue to bleed externally into the dressings. Locating and applying adequate pressure to a proximal arterial pressure point is often difficult and time-consuming.

You are performing a secondary assessment on a severely injured patient while en route to a trauma center. During the assessment, you note that the patient's respiratory rate has increased. You should:

A: immediately notify the receiving facility.
B: repeat the primary assessment and treat as needed.
C: assess his oxygen saturation with a pulse oximeter.
D: count the number of respirations per minute.
The correct answer is B;

Reason:

Any time a patient's condition deteriorates, such as your patient whose respirations have increased, you should immediately repeat the primary assessment and adjust your treatment accordingly. For example, a patient who initially had adequate breathing may now require assisted ventilation. After stabilizing the patient's condition, reassess his or her vital signs, including oxygen saturation, and notify the receiving facility.

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In addition to high-flow oxygen, the MOST appropriate treatment for a patient with widespread full-thickness burns should include:

A: moist; sterile dressings; burn ointment; and rapid transport.
B: dry, sterile dressings; warmth; and rapid transport.
C: moist; sterile dressings; warmth; and rapid transport.
D: dry; sterile dressings; burn ointment; and rapid transport.
The correct answer is B;

Reason:

Treatment of a patient with full-thickness burns includes high-flow oxygen (or assisted ventilations if needed); dry, sterile dressings; thermal management (keep the patient warm); and providing rapid transport. Moist, sterile dressings should not be applied to full-thickness burns as this increases the risks of hypothermia and infection. Do not apply ointments, creams, or any other substance to the burn; this will only have to be removed at the hospital and may also increase the risk for infection.

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A soft-tissue injury that results in a flap of torn skin is called a/an:

A: laceration.
B: abrasion.
C: incision.
The correct answer is D;

Reason:

An avulsion is a soft-tissue injury in which a portion of the skin is torn away, leaving a flap of skin. A laceration is a jagged soft-tissue injury that can be caused by glass or other sharp objects. An abrasion is the scraping away of the epidermis, causing oozing of serous fluid from the capillary bed. Road rash is a classic example of an abrasion. An incision is similar to a laceration, but has smooth edges. Scalpels or knives are examples of instruments that would make an incision.
Following blunt trauma to the chest, a 33-year-old male has shallow, painful breathing. On assessment, you note that an area to the left side of his chest collapses during inhalation and bulges during exhalation. These are signs of a/an:

A: flail chest.
B: isolated rib fracture.
C: pulmonary contusion.
D: pneumothorax.

The correct answer is A;

Reason:

If two or more ribs are fractured in two or more places or if the sternum is fractured along with several ribs, a segment of chest wall may be detached from the rest of the thoracic cage. This injury is called a flail chest. In a flail chest, the detached portion of the chest wall moves opposite of normal. It moves in during inhalation and out during exhalation (paradoxical motion). Isolated (single) rib fractures are not associated with paradoxical motion because they are usually only fractured in one place. In a pneumothorax, the patient's respirations are often labored; in severe cases, an entire side of the chest may not move at all (asymmetrical chest movement). A pulmonary contusion (bruising of the lung tissue) does not cause paradoxical chest motion unless associated with a flail chest.

Rapid extrication of a patient from an automobile should be performed by:

A: maintaining support of the head, grasping the patient by the clothing, and rapidly removing the patient from the car.
B: applying a cervical collar, sliding a long spine board under the patient's buttocks, and removing the patient from the car.
C: applying a cervical collar and removing the patient from the car using the direct carry method.
D: applying a vest-style extrication device and sliding the patient out of the car onto a long spine board for full immobilization.

The correct answer is B;

Reason:

Unless there is an immediate threat to your or the patient's life, you should perform a rapid extrication by applying a cervical collar, sliding a long spine board under the patient's buttocks, turning and placing the patient on the board, and removing the patient from the automobile. You must be careful to control the cervical spine at all times during extrication. A vest-style extrication device would not be appropriate for a rapid extrication because it takes too long to correctly apply; it is better suited for stable patients with neck and/or back pain. An emergency move involves removing the patient from the automobile without any immobilization equipment.
Following blunt injury to the anterior torso, a patient is coughing up bright red blood. You should be MOST suspicious of:

A: bleeding within the lungs.
B: intraabdominal bleeding.
C: severe myocardial damage.
D: gastrointestinal bleeding.

The correct answer is A;

Reason:

Hemoptysis (coughing up blood) is a finding that suggests injury to or bleeding within the lungs. Vomiting of bright or dark red blood (hematemesis) suggests gastrointestinal bleeding. Intraabdominal bleeding presents with signs of shock as well as a rigid, bruised, or distended abdomen. Damage to the myocardium typically does not cause hemoptysis unless it is associated with lung injury.

When applying a vest-style spinal immobilization device to a patient with traumatic neck pain, you should:

A: ask the patient to fully exhale as you secure the torso.
B: gently flex the head forward as you position the device.
C: immobilize the head prior to securing the torso straps.
D: secure the torso section prior to immobilizing the head.

The correct answer is D;

Reason:

When you apply a vest-style immobilization device such as a KED, you must immobilize the patient’s head after the torso is adequately secured. If you immobilize the head first, the cervical spine may be unnecessarily manipulated as you secure the torso. Prior to securing the torso straps, you should ask the patient to inhale as much as possible so that when the straps are secured, enough space is allowed for the patient to breathe adequately. After full immobilization, the patient’s spine should be completely in-line, from the head to the pelvis. During the entire immobilization procedure, the patient’s head must be maintained in a neutral in-line position.

A gang member was cut on the left side of the neck during a fight and is bleeding heavily from the wound. His airway is patent and his breathing is adequate. You should immediately:

A: apply a tight pressure dressing and secure it in place with tape.
B: apply high-flow oxygen via a nonrebreathing mask at 15 L/min.
C: cover the wound with an occlusive dressing and apply direct pressure.
D: perform a head-to-toe assessment to find and treat other injuries.

The correct answer is C;
Reason:

Neck lacerations are extremely dangerous and can result in severe bleeding and shock, air embolism, or both. If a jugular vein is lacerated, air can be sucked into the wound, enter the circulatory system, and cause a pulmonary embolism. You should immediately apply an occlusive dressing to the wound (prevents entrainment of air), place a bulky dressing over the occlusive dressing, and apply direct pressure. Your patient has a patent airway and is breathing adequately; although high-flow oxygen is important and should be given as soon as possible, it does not take priority over bleeding control for this particular patient. After treating all airway, breathing, and circulation problems, perform a head-to-toe assessment (if indicated) and prepare for rapid transport.

If a passenger strikes his or her head on the windshield during a motor-vehicle crash:

A: you will always see a starburst fracture of the windshield at the location where the patient struck his or her head.
B: the anterior part of the brain sustains a compression injury, while the posterior part sustains a stretching injury.
C: he or she will likely experience a hyperflexion injury, resulting in fractures of the vertebrae in the cervical spine.
D: the posterior portion of the brain will receive the initial impact, resulting in severe intracerebral hemorrhage.

The correct answer is B;

Reason:

Although the presence of a starburst fracture on the windshield is a good indicator that the patient impacted the windshield with his or her head, it is not always present or grossly obvious, especially if the windshield is broken in multiple places. As the passenger’s head strikes the windshield, the brain continues its forward movement until it collides with the inside of the skull. Direct injury to the anterior part of the brain results in compression injuries. Indirect injury occurs to the posterior part of the brain due to stretching or tearing. This is an example of a coup-contracoup injury. Although hyperflexion injuries of the neck can occur when the head impacts the windshield, hyperextension injuries are more common.

Priority treatment for a large avulsion includes:

A: immobilizing the injured area.
B: cleaning the wound.
C: assessing distal circulation.
D: controlling any bleeding.

The correct answer is D;

Reason:
Immediate treatment for any soft-tissue injury begins with controlling any external bleeding. Once the bleeding is controlled, distal circulation, motor, and sensory functions should be assessed, the wound dressed and bandaged, and then distal circulation, motor, and sensory functions reassessed. The injured area can be immobilized as well to prevent further injury and to help reduce bleeding. Generally, open wounds are not cleaned in the field unless they are grossly contaminated with large debris.

A 22-year-old man was stabbed in the chest with a large knife. The patient is pulseless and apneic, and the knife is impaled in the center of his chest. Treatment should include:

A: stabilizing the knife, starting CPR, and providing rapid transport.
B: stabilizing the knife, applying an occlusive dressing, and providing rapid transport.
C: removing the knife, applying an occlusive dressing, and providing rapid transport.
D: removing the knife, starting CPR, and providing rapid transport.

The correct answer is D;

Reason:

There are two indications for removing an impaled object: when the object is causing airway compromise and when the object interferes with your ability to perform CPR. A knife impaled in the center of the chest, which is where chest compressions are performed, in a patient who is in cardiac arrest must be carefully removed. Quickly cover the wound to control any bleeding (an occlusive dressing covered by a sterile dressing is preferred) and begin CPR immediately.

Factors that affect a person’s ability to compensate for internal or external blood loss include all of the following, EXCEPT:

A: advanced age.
B: blood-thinning medications.
C: high cholesterol in the blood.
D: the rate of blood loss.

The correct answer is C;

Reason:

Numerous factors affect a person’s ability to compensate for blood loss. The compensatory responses of tachycardia and peripheral vasoconstriction decrease as a person ages, thus older patients are less able to compensate as effectively as younger patients. The ability to compensate for blood loss is also related to how rapidly blood loss occurs. A normal, healthy adult can comfortably donate 1 unit (500 mL) of blood during a period of 10 to 20 minutes and adapts well to this decrease in blood volume. However, if a similar blood loss occurs in a much shorter period, the person’s compensatory mechanisms may be overwhelmed, resulting in hypovolemic shock. Patients who take blood-thinning medications (eg, warfarin [Coumadin]) bleed longer than those not taking such medications; in these patients, bleeding from an
otherwise minor injury can be significant. There is no known correlation between high cholesterol and a person’s ability to compensate for blood loss.

Displaced fractures of the proximal femur are characterized by:

A: lengthening and internal rotation of the leg.
B: shortening and external rotation of the leg.
C: hip joint extension and external leg rotation.
D: a flexed hip joint and inward thigh rotation.

The correct answer is B;

Reason:

Fractures of the proximal (upper) part of the femur are especially common in older people, particularly those with osteoporosis, but may also occur as a result of high-energy trauma in younger patients. Although they are usually called hip fractures, they rarely involve the hip joint. Instead, the break goes through the neck of the femur, the middle region, or across the proximal shaft. Patients with displaced fractures of the proximal femur display a very characteristic deformity. They lie with the leg externally rotated, and the injured leg is usually shorter than the uninjured leg. If the fracture is not displaced, this deformity is not present. A flexed hip joint and internal rotation of the thigh are characteristic of a posterior hip dislocation. With the less common anterior hip dislocation, the limb is in the opposite position, extended straight out, externally rotated, and pointing away from the midline of the body.

Which of the following injury mechanisms is associated with hangings?

A: Distraction
B: Axial loading
C: Hyperextension
D: Subluxation

The correct answer is A;

Reason:

Injury to the cervical spine following a hanging occurs via distraction, or stretching, of the vertebrae and spinal cord. A subluxation is a partial or incomplete dislocation; it is an injury, not an injury mechanism. Injuries related to hyperextension mechanisms are common in patients who strike their head on the windshield during a motor-vehicle crash. Axial loading is a mechanism of injury in which the spinal column is compressed vertically. Injuries caused by axial loading include cervical spine injuries after diving head first into shallow water and lumbar spine injuries after a fall from a significant height in which the patient lands feet first.
A young male has a large laceration to his lateral neck, directly over his jugular vein. His airway is patent and his breathing is adequate. Your MOST immediate priority should be to:

A: apply high-flow oxygen via a nonrebreathing mask.
B: obtain vital signs to determine if he is hypotensive.
C: keep air out of the wound and control the bleeding.
D: perform a rapid assessment to detect other injuries.

The correct answer is C;

Reason:

Jugular vein lacerations pose two immediate life threats: entrainment of air into the wound (which may cause a fatal air embolism) and severe external bleeding. The patient’s airway is patent and his breathing is adequate; therefore, your most immediate priority is to apply an occlusive dressing directly over the wound, which will keep air from entering the venous circulation, and then cover the occlusive dressing with bulky dressings to control the external bleeding. Apply high-flow oxygen via a nonrebreathing mask (your partner can do this as you are treating the neck wound). The need to perform a rapid head-to-toe assessment is based on the presence of a significant mechanism of injury (MOI). If a significant MOI is present, the rapid assessment is performed only after problems with airway, breathing, and circulation have been addressed. Vital signs are typically obtained after the rapid assessment, although they can be obtained by another EMT as you perform the rapid assessment.

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In which of the following situations would external bleeding be the MOST difficult to control?

A: Scalp laceration, BP of 130/70 mm Hg
B: Femoral artery laceration, BP of 140/90 mm Hg
C: Jugular vein laceration, BP of 104/60 mm Hg
D: Carotid artery laceration, BP of 70/50 mm Hg

The correct answer is B;

Reason:

In general, the larger the size and type (eg, artery versus vein) of blood vessel injured, and the higher the patient’s blood pressure, the more difficult the external bleeding will be to control. Of the choices listed, bleeding from a lacerated femoral artery (large, high-pressure vessel) in a patient with a blood pressure of 140/90 mm Hg (the highest BP listed) would be the most difficult to control. As a patient’s blood pressure begins to fall, the driving force of blood in the arteries decreases and the bleeding becomes easier to control. Unfortunately, however, the patient is usually in decompensated shock at this point. The scalp contains many small blood vessels and tends to bleed heavily; however, direct pressure usually controls the bleeding with relative ease, regardless of the patient's blood pressure.

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You respond to a shooting at a local bar. Law enforcement is present and the scene has been secured. Your patient is a young male, who is sitting against the wall screaming in pain. Bright red blood is spurting from a wound near his groin. You should:

A: transport the patient at once.
B: ensure an open airway.
C: apply pressure to the wound.
D: administer high-flow oxygen.

The correct answer is C;

Reason:

You must first address problems that pose the most immediate threat to life. The injury to the groin area most likely is an arterial bleed from the femoral artery; this bleeding must be controlled immediately or the patient will bleed to death. Because the patient is screaming in pain, it is clear that his airway is patent. After the bleeding has been controlled, administer high-flow oxygen, treat the patient for shock, and transport without delay.

The presence of subcutaneous emphysema following blunt trauma to the anterior neck should make you MOST suspicious for a:

A: pneumothorax.
B: ruptured esophagus.
C: fractured larynx.
D: carotid artery injury.

The correct answer is C;

Reason:

Crushing or blunt trauma to the anterior neck can injure the trachea or larynx. Once the cartilages of the upper airway and larynx are fractured, they do not spring back to their normal position. Such a fracture can lead to loss of voice, airway obstruction, and leakage of air into the soft tissues of the neck. Air leakage into the soft tissues is called subcutaneous emphysema. Subcutaneous emphysema may also be observed in patients with a tension pneumothorax, although it is typically located in the chest. Esophageal rupture would likely present with difficulty swallowing (dysphagia) and vomiting blood (hematemesis). You should suspect injury to a carotid artery or jugular vein if you observe a rapidly expanding hematoma to the neck following blunt trauma.

Upon discovering an open chest wound, you should:

A: quickly cover the wound with a porous trauma dressing.
B: immediately reassess the patient's ventilatory status.
C: begin assisted ventilation and prepare for transport.
D: prevent air from entering the open wound.
The correct answer is D;

Reason:

Immediately upon discovering an open chest wound (ie, sucking chest wound), you must take immediate action to prevent air from entering the wound. This is most effectively accomplished by applying an occlusive dressing or similar material to the wound. A porous (non-occlusive) trauma dressing will not prevent air from entering the wound. Tape three sides of the occlusive dressing and closely monitor the patient. If worsened respiratory distress and signs of shock are noted, a tension pneumothorax is probably developing, and you must release pressure from the pleural space by lifting up the unsecured portion of the occlusive dressing.

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A 23-year-old male was struck across the face with a baseball bat. His eyes are swollen shut, he has massive facial bruising and deformities, and has blood in his mouth. Your MOST immediate concern should be:

A: spinal trauma.
B: permanent vision loss.
C: intracranial bleeding.
D: airway compromise.
The correct answer is D;

Reason:

Few things will kill a patient quicker than a compromised (nonpatent) airway. Blood in a patient’s mouth must be removed immediately. It may be aspirated into the lungs or, if clotted, obstruct the airway. Spinal trauma, intracranial bleeding, and vision loss are all possible in a patient with blunt trauma to the face; however, airway compromise is the most immediate life threat. Remember, treat what will kill your patient first.

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A patient with a closed head injury opens his eyes in response to pain, is mumbling words that you cannot understand, and pushes your hand away when you apply a painful stimulus. His Glasgow Coma Scale (GCS) score is:

A: 8
B: 6
C: 7
D: 9
The correct answer is D;

Reason:

The Glasgow Coma Scale (GCS) is a valuable tool used when assessing patients with a neurological injury. It assesses three parameters: eye opening, verbal response, and motor response. A minimum score on the GCS is 3 and a maximum score is 15. A patient who opens
his or her eyes in response to pain would receive a score of 2. Mumbling speech, moaning, or incomprehensible words equate to a score of 2 for verbal response. Localization of a painful stimulus, such as pushing your hand away from the source of pain, equates to a score of 5. Therefore, the patient has a GCS score of 9. It is important to note that a patient's GCS score should be reassessed frequently. Review the entire GCS in your EMT text and commit it to memory.

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During your rapid assessment of a critically-injured patient, you should assess the chest for:

A: crepitus and distention.
B: distention and guarding.
C: rigidity and guarding.
D: symmetry and pain.
The correct answer is D;

Reason:

When assessing the chest during the assessment, you should check for symmetry (equal rise of the chest), assess for pain upon palpation, and the presence of equal breath sounds bilaterally. Crepitus also should be noted if present, but not purposely elicited. Rigidity, guarding, and distention should be assessed for when evaluating the abdomen. Because of the ribcage, the chest is rigid by nature.

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Which of the following indicates that a patient is in decompensated shock?

A: Diaphoresis and pallor
B: Tachycardia and tachypnea
C: Restlessness and anxiety
D: Falling blood pressure
The correct answer is D;

Reason:

During shock, the compensatory mechanisms of the body attempt to maintain the blood pressure. This is accomplished by increases in heart rate, shunting of blood from the skin to more vital organs, and increasing the respiratory rate to increase the oxygen content of the blood. Once these compensatory mechanisms fail, the blood pressure will fall (hypotension). Hypotension signifies a state of decompensated shock. You must not rely on the patient's blood pressure as an indicator of overall perfusion. Restlessness, anxiety, tachycardia, tachypnea, and cool clammy skin (diaphoresis) are earlier signs of shock and do not necessarily indicate a decompensated state.

============================================================================
A young male has trauma to multiple body systems after he fell approximately 35 feet. He is semiconscious, has an unstable chest wall, numerous long bone fractures, and a large hematoma to his head. He will have the GREATEST chance for survival if you:

A: rapidly transport him to a trauma center.
B: request an ALS ambulance.
C: keep him warm and elevate his legs.
D: give him high-flow oxygen early.

The correct answer is A;

Reason:

When caring for a patient with major trauma, rapid transport to a trauma center is essential and will afford the patient the best chance for survival. This is especially true if the patient has trauma to multiple body systems. Definitive care cannot be provided in the field; this requires resources and personnel at the hospital. Oxygen administration and shock management (eg, applying blankets, elevating the legs) may help prevent the patient's condition from deteriorating, and although these are important, they are not definitive interventions. In certain situations, it would be prudent to request ALS personnel at the scene (eg, lengthy extrication, unavoidable scene delay); however, in the absence of such extenuating circumstances, it is clearly more important to transport without delay. En route to the trauma center, consider a rendezvous with an ALS unit if it is possible and will not delay transport.

A 33-year-old male struck a parked car with his motorcycle and was ejected from the motorcycle. He was not wearing a helmet. He is unresponsive, has a depressed area to his forehead, bilaterally deformed femurs, and widespread abrasions with capillary bleeding. Which of the following statements regarding this patient is false?

A: Internal hemorrhage cannot be controlled in the field and requires prompt surgical intervention.
B: You must stop the bleeding from his abrasions immediately or he will die from hypovolemic shock.
C: You should suspect that the patient has a skull fracture and increased intracranial pressure.
D: Femur fractures are a common injury when a motorcyclist is ejected from his or her motorcycle.

The correct answer is B;

Reason:

The patient’s abrasions (road rash) and capillary bleeding are the least of his problems. Capillary bleeding, blood that oozes from the capillary beds, is the least severe type of external bleeding and will not kill your patient. Wasting time at the scene to cover his abrasions, however, will delay definitive care at a trauma center; this may kill him! The patient likely has a depressed skull fracture, and the fact that he is unresponsive indicates a traumatic brain injury with increased intracranial pressure. When a motorcyclist is ejected from his or her motorcycle, the femurs typically strike the handlebars, resulting in unilateral or bilateral fractures. You cannot
control internal hemorrhage in the field, regardless of your level of training. Internal bleeding requires surgical intervention; therefore, you must transport the patient without delay.

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Shock following major trauma is MOST often the result of:

A: long bone fractures.
B: spinal injury.
C: head injury.
D: hemorrhage.

The correct answer is D;

Reason:

Shock following major trauma is usually caused by hemorrhage (bleeding), which can be external and obvious (gross), internal and hidden (occult), or both. Trauma to the chest and/or abdomen and multiple long bone fractures are common causes of hemorrhage that result in shock. An isolated head injury usually does not cause shock; it causes increased intracranial pressure. If the patient with a seemingly isolated head injury has signs of shock, look for other injuries. Major trauma may also be associated with spinal injury. If the spinal cord is injured, the patient may develop shock because the nerves that control the diameter of the blood vessels are damaged, resulting in widespread vasodilation (neurogenic shock).

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Which of the following mechanisms of injury would necessitate performing a rapid head-to-toe assessment?

A: A stable patient involved in a motor-vehicle crash, whose passenger was killed
B: An impaled object in the patient’s lower extremity with minimal venous bleeding
C: Amputation of three toes from the patient’s left foot with controlled bleeding
D: A 5 foot, 9 inch tall adult who fell 12 feet from a roof and landed on his side

The correct answer is A;

Reason:

Significant mechanisms of injury include, among others, falls of greater than 15 feet (or three times the patient’s height), penetrating injuries to the trunk and head, high-speed motor vehicle crashes, rollover motor vehicle crashes, ejection from a motor vehicle, and motor vehicle crashes in which another person in the same passenger compartment was killed. In cases such as this, you must assume that the same violent forces that killed the passenger were sustained by the patient, regardless of whether the patient is stable or not.

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Despite direct pressure, a large laceration to the medial aspect of the arm continues to bleed profusely. You should:
A: locate and apply pressure to the brachial artery.
B: pack the inside of the laceration with sterile gauze.
C: quickly apply a tourniquet proximal to the injury.
D: continue direct pressure and elevate the extremity.

The correct answer is C;

Reason:

In most cases, external bleeding can be controlled with direct pressure. However, if a wound continues to bleed profusely despite direct pressure, a proximal tourniquet should be applied without delay. If the external bleeding is that severe, elevating the extremity would be of little help. You should not pack anything inside an open wound. Evidence has shown that locating and applying adequate pressure to an arterial pressure point is difficult and time-consuming. If not promptly controlled, severe external bleeding will result in hemorrhagic shock and death.

During a soccer game, a 20-year-old man collided shoulder-to-shoulder with another player. He has pain and a noticeable anterior bulge to the left shoulder. Which of the following is the MOST effective method of immobilizing this injury?

A: A sling to support the left arm and swathes to maintain downward traction
B: An air-inflatable splint with the left arm immobilized in the flexed position
C: A sling to support the left arm and swathes to secure the arm to the body
D: A long board splint with the left arm immobilized in the extended position

The correct answer is C;

Reason:

Injuries to the shoulder are most effectively immobilized with the use of a sling and swathe. The sling will provide support and relieve pain to the shoulder, and the swathe will secure the arm to the body. The purpose of the swathe is not to facilitate traction. Patients with dislocated or fractured shoulders will not allow you to extend their arm, so any attempt to immobilize the injury in such a fashion will not be possible and could worsen the injury.

An unresponsive patient with multi-systems trauma has slow, shallow breathing; weak radial pulses; and severe bleeding from a lower extremity wound. You should direct your partner to:

A: radio for a paramedic ambulance to respond to the scene.
B: apply oxygen via nonrebreathing mask while you control the bleeding.
C: prepare the long spine board and straps for rapid spinal immobilization.
D: assist the patient's ventilations while you control the bleeding.

The correct answer is D;

Reason:
The goal of the primary assessment is to rapidly identify and correct all life-threatening injuries or conditions. In the case of this patient, as your partner maintains in-line cervical spine control, he or she should assist the patient’s ventilations. An unresponsive patient with slow, shallow breathing is not breathing adequately and should be treated with ventilatory assistance, not a nonrebreathing mask. As your partner is managing the patient's airway and providing ventilatory assistance, you should apply direct pressure (or a tourniquet, if needed) to the extremity wound to control the bleeding. It is important for you and your partner to work together so that all life-threats can be corrected as soon as possible. Most EMS systems work with two-person crews and do not have the luxury of a third EMT. If the police or fire department is on the scene, you can ask them to gather equipment for you. The request for an ALS ambulance is based on factors such as the patient’s condition and transport time to the closest appropriate hospital.

After stopping the burning process, emergency care for a 68-year-old male with partial- and full-thickness burns to his chest and upper extremities includes all of the following, EXCEPT:

A: flushing the burns with cool water for 10 minutes.
B: preparing to assist the patient’s ventilations.
C: avoiding the use of burn ointments or antiseptics.
D: covering the burns with dry, sterile dressings.

The correct answer is A;

Reason:

Unless the patient is on fire, do not apply water to a full-thickness (third-degree) burn, especially if the patient is already prone to hypothermia and infection (ie, older adults, small children). Cover the burns with dry, sterile dressings or a sterile burn sheet. The use of burn creams, ointments, or antiseptics should be avoided; these increase the risk of infection and will only need to be removed at the hospital. Apply high-flow oxygen, treat any associated injuries, and rapidly transport the patient. If the patient is breathing inadequately (eg, fast or slow rate, shallow breathing [reduced tidal volume]), assist ventilations with a bag-mask device.

A young male has an open abdominal wound through which a small loop of bowel is protruding. There is minimal bleeding. The BEST way to treat his injury is to:

A: cover the wound with a dry sterile trauma dressing and tightly secure it in place by circumferentially wrapping roller gauze around the abdomen.
B: apply dry sterile gauze pads to the wound and then keep them continuously moist by pouring sterile saline or water on them throughout transport.
C: apply a sterile trauma dressing moistened with sterile saline directly to the wound and secure the moist dressing in place with a dry sterile dressing.
D: gently clean the exposed loop of bowel with warm sterile saline, carefully replace it back into the wound, and cover it with a dry sterile dressing.

The correct answer is C;

Reason:
An abdominal evisceration occurs when a loop of bowel, an organ, or fat protrudes through an open abdominal injury. Never try to replace an organ that is protruding from an open abdominal wound, whether it is a small fold of peritoneum or nearly all of the intestines; this significantly increases the risk of infection. Instead, cover it with sterile gauze pads or a sterile trauma dressing moistened with sterile saline and secure the moist dressing in place with a dry sterile dressing. Some EMS protocols call for an occlusive dressing over the organs, secured by trauma dressings. Do not apply excessive pressure when dressing and bandaging the wound; this may force the protruding organ or loop of bowel back into the abdominal cavity.

Basic shock treatment includes:

A: applying oxygen, elevating the lower extremities per protocol, and providing warmth.
B: applying and inflating the PASG, applying oxygen, and thermal management.
C: elevating the lower extremities, applying and inflating the PASG, and applying oxygen.
D: applying oxygen, elevating the upper body, and taking measures to prevent hypothermia.

The correct answer is A;

Reason:

Basic shock treatment, which should be initiated as soon as possible, includes applying high-flow oxygen, elevating the lower extremities 6 to 12 inches (if dictated by your local protocols), and providing warmth. The pneumatic antishock garment (PASG) has been largely abandoned for shock treatment. The theory behind the PASG is that it shunts blood from the lower extremities to the vital organs of the body; however, further research and evidence has shown that this is not the case. The PASG is still used by some EMS systems, but for the purpose of stabilizing pelvic fractures and bilateral femur fractures. Elevation of the upper body in a patient with shock will decrease, not increase, blood flow to the brain.

During the rapid head-to-toe assessment of a patient with multiple injuries, you expose the chest and find an open wound with blood bubbling from it. You should:

A: place a porous dressing over the wound.
B: apply high-flow supplemental oxygen.
C: prevent air from entering the wound.
D: stop your assessment and transport.

The correct answer is C;

Reason:

A sucking chest wound (open pneumothorax) is a life-threatening condition that must be corrected immediately upon discovery. You must take immediate action to prevent air from entering the wound or the patient's condition may continue to deteriorate. Cover a sucking chest wound with an occlusive (non-porous) dressing and secure it on three sides. This will prevent air
from entering the pleural space during inhalation. It is important to note, however, that when you cover the wound, you have converted it from an open pneumothorax to a closed pneumothorax. Therefore, you must closely monitor the patient; if signs of a tension pneumothorax develop (ie, worsened respiratory distress, cyanosis, signs of shock), lift the unsecured corner of the dressing to allow air to escape from the pleural space.

During a soccer game, an 18-year-old woman injured her knee. Her knee is in a flexed position and is obviously deformed. You should:

A: assess circulatory function distal to her injury.
B: immobilize the knee in the position in which it was found.
C: manually stabilize the leg above and below the knee.
D: straighten the knee to facilitate immobilization.

The correct answer is C;

Reason:

Treatment for any musculoskeletal injury begins by providing manual stabilization above and below the injury (in this case, the distal femur and proximal tibia); this will prevent further injury. Distal circulatory (pulse), sensory, and motor functions should then be assessed. After manually stabilizing the injury and assessing distal circulatory, sensory, and motor functions, you should appropriately splint the injury. Reassess distal circulatory, sensory, and motor functions after the splint has been applied. Because of the vascularity of the knee, as well as the presence of major nerves in that area, you should not straighten an injured knee. Joint injuries should be immobilized in the position found. If there is no distal pulse and transport will be delayed, medical control may authorize you to make one attempt to gently manipulate the joint in order to restore a pulse.

A 19-year-old male was assaulted and has trauma to multiple body systems. After performing your primary assessment and treating any immediate life-threatening injuries, you should:

A: fully immobilize his spine and transport.
B: obtain a full set of baseline vital signs.
C: transport at once and intercept with ALS.
D: perform a rapid head-to-toe assessment.

The correct answer is D;

Reason:

After treating all life-threatening conditions found in the primary assessment, you should perform a rapid head-to-toe assessment (rapid body scan) to look for and treat other life threats. In many cases, patients with trauma to multiple body systems have other life-threatening injuries that are not readily apparent during the primary assessment. You should obtain baseline vital signs as soon as possible; however, this should not delay or interrupt your primary or rapid head-to-toe assessments. After performing the primary and rapid head-to-toe assessments, fully immobilize
the patient's spine and transport to an appropriate hospital. Consider an advanced life support (ALS) intercept, as long as it does not cause a significant delay in transport.

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In which of the following circumstances would external bleeding be the LEAST difficult to control?

A: Lacerated jugular vein; BP of 100/60 mm Hg
B: Lacerated femoral vein; BP of 70/40 mm Hg
C: Lacerated brachial artery; BP of 140/90 mm Hg
D: Lacerated carotid artery; BP of 90/50 mm Hg

The correct answer is B;

Reason:

It is generally less difficult to control external bleeding from a lacerated vein rather than an artery. Unlike arteries, veins are under low pressure. Furthermore, the presence of a low blood pressure (hypotension), which causes less pressure against the vascular wall, would make external bleeding that much easier to control.

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Patients with significant closed head injuries often have pupillary abnormalities and:

A: hypertension.
B: tachycardia.
C: paralysis.
D: paresthesia.

The correct answer is A;

Reason:

Closed head injuries can cause a variety of signs and symptoms. In addition to pupillary abnormalities (ie, unequal pupils, sluggishly reactive pupils), a classic finding that indicates a significant increase in intracranial pressure is called Cushing’s triad, a trio of findings that includes hypertension; bradycardia; and abnormal breathing, which can vary from slow and irregular to rapid and deep.

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General care for an amputated body part includes:

A: immersing the amputated part in ice cold water to prevent further damage.
B: wrapping the amputated part in a moist, sterile dressing and keeping it warm.
C: wrapping the amputated part in a moist, sterile dressing and placing it on ice.
D: thoroughly cleaning the amputated part and wrapping it in a sterile dressing.

The correct answer is C;
Reason:

General care for an amputated body part includes wrapping the part in a moist, sterile dressing and keeping it cool. Placing the wrapped part in a plastic bag and putting it on ice can accomplish this. The amputated part must never be placed directly on ice because this may cause cell and tissue damage. Attempting to clean the amputated part or immersing it directly in water can also cause further cell and tissue damage.

Which of the following is MOST indicative of decompensated shock in a trauma patient with internal bleeding?

A: Restlessness  
B: Clammy skin  
C: Hypotension  
D: Tachycardia

The correct answer is C;

Reason:

In compensated shock, the body is able to maintain blood pressure, usually above 90 to 100 mm Hg, through the physiologic responses of tachycardia and shunting of blood from the skin to the vital organs of the body. Signs of compensated shock include restlessness; pallor; tachycardia; tachypnea; and cool, clammy (diaphoretic) skin. If the signs of compensated shock are not recognized and treatment is delayed, the body’s compensatory mechanisms will fail and blood pressure will fall (hypotension). At this point, the patient is said to be in decompensated shock. Do not wait for a trauma patient's blood pressure to fall before initiating treatment; it may be too late.

A 21-year-old male was bitten on the left forearm by a dog. He is conscious and alert and denies any other injuries. An animal control officer is at the scene and has contained the dog. Your assessment of the patient's arm reveals a large avulsion with a peeled back flap of skin. Distal circulation is adequate and the patient is able to feel and move his fingers. In addition to bleeding control, you should:

A: irrigate the wound for at least 15 minutes.  
B: replace the avulsed flap to its original position.  
C: perform a rapid head-to-toe assessment.  
D: apply oxygen via a nonrebreathing mask.

The correct answer is B;

Reason:

An avulsion is an injury that separates various layers of soft tissue, usually between the subcutaneous layer and fascia, so that they become completely detached or hang as a flap. The patient's injury is isolated and not life-threatening; therefore, a rapid head-to-toe assessment is
not indicated. Unless your protocols specify otherwise, oxygen is usually not necessary for patients with isolated, non-life-threatening soft tissue injuries. If the avulsed tissue is hanging from a small piece of skin, circulation through the flap may be at risk. If you can, replace the avulsed flap to its original position, as long as it is not visibly contaminated with dirt and/or other foreign materials, and then cover the wound with a dry sterile dressing. Unless the wound is grossly contaminated with dirt or debris, irrigation is usually deferred until the patient is evaluated by a physician. Furthermore, flushing an open wound may force dirt or other debris into the wound, increasing the risk of infection.

An adult patient opens his eyes in response to a painful stimulus, moans when you ask him questions, and pulls his arm away when you palpate it. What is his Glasgow Coma Scale (GCS) score?

A: 8  
B: 9  
C: 7  
D: 6  
The correct answer is A;

Reason:

The Glasgow Coma Score (GCS) assesses three neurologic parameters: eye opening, verbal response, and motor response. Your patient's GCS score is 8. For eye opening, he receives 2 points for opening his eyes in response to pain. For verbal response, he receives 2 points for moaning or making unintelligible sounds. For motor response, he receives 4 points for withdrawing to pain. The GCS is a valuable neurologic assessment tool; it should be reassessed frequently in seriously injured patients—especially patients with a head injury.

A 33-year-old factory worker was pinned between two pieces of machinery. When you arrive at the scene, you find him lying supine on the ground complaining of severe pain to his pelvis. He is restless, diaphoretic, and tachycardic. After performing a rapid head-to-toe assessment, you should:

A: carefully log roll him to check his back.  
B: perform a detailed secondary exam.  
C: prepare for immediate transport.  
D: palpate his pelvis to assess for crepitus.  
The correct answer is C;

Reason:

Based on the mechanism of injury and the presence of signs of shock (eg, restlessness, tachycardia, diaphoresis), you should suspect that the patient has a fractured pelvis and is bleeding internally. Therefore, after completing your primary assessment and initiating shock treatment (eg, high-flow oxygen, applying blankets), you should perform a rapid head-to-toe
assessment to assess for other injuries and then prepare for immediate transport. Spinal precautions should be considered. Do not log roll the patient; doing so compresses the pelvis and may cause further injury. You should also avoid palpating his pelvis; this will only cause further pain and may cause further injury. Palpation of the pelvis is performed to assess its stability, not to elicit crepitus. A detailed secondary exam of a critically injured patient at the scene is not appropriate; it takes too long to perform and should be done en route to the hospital if time permits.

Which of the following is MOST indicative of compensated shock in an adult?

A: Weak carotid pulse, cool skin, increased respiratory rate
B: Restless, diaphoresis, tachypnea, BP of 104/64 mm Hg
C: Unresponsive, pallor, absent radial pulses, tachypnea
D: Confusion, mottling, tachycardia, BP of 88/60 mm Hg

The correct answer is B;

Reason:

In compensated shock, the nervous system is mounting a physiologic response to an underlying illness or injury in order to maintain perfusion to vital organs such as the brain, heart, and kidneys. The patient with compensated shock is restless or anxious, has poor peripheral perfusion (eg, pallor, diaphoresis), tachycardia, and increased respirations (tachypnea). However, his or her blood pressure is maintained, usually above 90 to 100 mm Hg. In decompensated shock, the body’s compensatory mechanisms fail, blood pressure begins to fall, and perfusion to vital organs decreases. Other signs of decompensated shock include a decreased level of consciousness, absent peripheral pulses (radial), and weak central pulses (carotid, femoral).

If a vehicle strikes a tree at 60 MPH, the unrestrained driver would likely experience the MOST severe injuries during the:

A: second collision.
B: fourth collision.
C: third collision.
D: first collision.

The correct answer is C;

Reason:

Motor-vehicle crashes typically consist of three separate collisions. Understanding the events that occur during each collision will help you remain alert for certain types of injury patterns. During the first collision, the vehicle strikes another object. Damage to the car is perhaps the most dramatic part of the collision, but it does not directly affect patient care. It does, however, provide information about the severity of the collision; thus, it has an indirect effect on patient care. During the second collision, the passenger collides with the interior of the vehicle. Just like
the obvious damage to the exterior of the car, the injuries that result are often dramatic and usually apparent during your primary assessment. During the third collision, the occupant's internal organs collide with the solid structures of the body. Although the injuries that occur during the third collision may not be as obvious as those that occur during the second collision, they are often the most life-threatening.

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During which part of your assessment would you MOST likely discover a small caliber gunshot wound to the back with minimal bleeding?

A: Detailed secondary assessment
B: General impression
C: Primary assessment
D: Rapid head-to-toe assessment

The correct answer is D;

Reason:

During both the general impression and the primary assessment, you should assess for major bleeding. If there is no obvious bleeding, you should continue your assessment as usual. It is during the rapid head-to-toe assessment, when log rolling the patient to assess the posterior (back), that you would most likely find a small caliber gunshot wound, especially if there is little or no bleeding. A secondary assessment should be performed, and focuses primarily on the patient's chief complaint; however, this may not be practical on a critically ill or injured patient. If a secondary assessment is performed on a critically ill or injured patient, it should occur en route to the hospital. All bleeding should have been controlled long before performing a secondary assessment.