13. **c.** Medical futility is an exception to the need for written proof of a DNR order and providing care. It is not involved with living wills or durable power of attorney for health care documents. It is unrelated to a health care proxy, which is the person named in a durable power of attorney for health care to make medical decisions.

14. **a.** A mentally incompetent person who is seriously injured falls under implied consent when a parent or guardian is not present. You should attempt to verify if there is a guardian present with the legal right to consent to treatment, but the priority here is to provide care to the patient. Enlisting law enforcement may be necessary to help notify or contact the guardian while you provide care. Trying to talk the patient into giving consent is inappropriate because his or her consent would be invalid.

15. **d.** Although it may vary by state, a minor usually is considered anyone younger than 18 years. In such cases, permission to give care must be obtained from a parent or guardian.

---

**Chapter 4: The Human Body**

**REVIEW OF CONCEPTS AND TERMS**

**Matching**


**Fill-in-the-Blank**

1. vital
2. circulatory
3. frontal, coronal
4. lateral
5. anatomical
6. Joints
7. ventilation
8. Arteries
9. autonomic
10. skin

**Short Answer**

1. The five major body cavities are the cranial, spinal, thoracic, abdominal and pelvic cavities.
2. The two main anatomical divisions of the nervous system are the central nervous system and the peripheral nervous system.
3. The skeleton is made up of six sections, including the skull, spinal column, thorax, pelvis, and upper and lower extremities.
4. The most common type of moveable joint in the body is the ball-and-socket joint.
5. The skin protects the body from injury and pathogens, regulates fluid balance, regulates body temperature, produces vitamin D and stores minerals.

**Labeling**

**A**

1. Pharynx
2. Larynx
3. Bronchi
4. Bronchioles

**B**

1. Left atrium
2. Left ventricle
3. Right atrium
4. Right ventricle
5. Aorta

**CASE STUDY**

**Scenario A**

1. **d.** The patient is in the Fowler’s position because he is lying on his back with his upper body elevated 45 to 60 degrees. In the supine position, the patient is lying face-up on his or her back. The prone position would indicate that the patient is lying face-down on his stomach. The anatomical position is the position used as the basis for all medical terms that refer to the body; it is used to describe the position when the patient stands with the body erect and arms down at the sides, palms facing forward.

2. **c.** The humerus is the bone in the upper arm. The radius and ulna are bones in the forearm. The femur is the bone in the upper lower extremity.

3. **b.** The ribs are part of the chest cavity, which is located in the trunk between the diaphragm and the neck, and contains the lungs and heart. The pelvic cavity is located in the pelvis and is the
SELF-ASSESSMENT

1. c. For a trauma patient or an unresponsive medical patient, the history will likely be performed after the physical exam. For a medical patient who is responsive, the history will likely be performed first.

2. b. When obtaining the history from a child, position yourself at or below the child's eye level to avoid being intimidating. Do not separate the child from the parent or guardian unless absolutely necessary. A lack of response from a child to questions does not always mean that the child is unable to respond. The child may be frightened of you or the situation and may not understand the question or may not be able to speak. You need to speak clearly and slowly and include the child as well as the parent or guardian in the questions.

3. c. The patient’s statement about drinking a glass of water is information related to “L”, the last oral intake. “S” refers to signs and symptoms, findings you can see, feel, hear or smell or what the patient tells you. “M” refers to medications including prescription and over-the-counter medications, herbal remedies and recreational drugs. “E” refers to events leading up to the incident, such as what the patient was doing before and at the time of the incident.

4. e, c, a, b, d, f. For a responsive medical patient, you perform a secondary assessment following these steps: assessing the patient's complaints, obtaining a SAMPLE history, performing a focused medical assessment, assessing baseline vital signs, performing components of the detailed physical exam and providing emergency care.

5. d. When conducting the physical exam, maintain the patient's privacy by conducting the exam in an area that cannot be seen by bystanders, if possible. To access an area to be examined, cut away rather than manipulate the patient’s clothing to remove it. Ask the patient questions about a particular area before examining it, and cover each area after you have examined it.

6. b. For a gunshot wound resulting in a fractured femur, the fractured femur would be assessed as part of the “O” of DOTS, which refers to open injuries. “D” refers to deformities, such as indentations, depressions, parts that have shifted away from their usual position or parts that are more or less rigid than normal. “T” refers to areas of tenderness even without visible injury. “S” refers to swelling involving an accumulation of blood, air or other fluid in the tissues below the skin.

7. a. When examining the head, the pupils should be equal in size, constrict to light and dilate on exposure to darkness. Clear fluid or blood in or around the ears, mouth and nose is abnormal and may indicate a serious head injury. The face should be symmetrical.

8. b. For an infant who is 6 to 12 months old, normal respiratory rates range between 20 to 30 breaths per minute.

9. d. When obtaining a patient’s blood pressure, ensure that the cuff covers about two-thirds of the patient’s upper arm and that the forearm is on a supported surface in front or to the side of the patient, not hanging down or raised above heart level. The cuff should be applied to the patient’s unclothed or lightly clothed arm to prevent inaccuracies. The bladder of the cuff should be positioned with the bladder over the brachial artery.

10. a. The systolic blood pressure reflects the force exerted against the arteries when the heart is contracting. The diastolic blood pressure reflects the force exerted against the arteries when the heart is between contractions. When the brachial artery is occluded with compression, the sound of the pulse stops; the systolic pressure occurs when the pulse returns with release of air from the bulb. The last sound heard with the release of air from the bulb is identified as the diastolic pressure.

11. b. The formula for the average blood pressure for a child is 90 + (2 × the age of the child in years). Using this formula for this child, you would calculate the child’s blood pressure to be 100 mmHg (90 + [2 × 5]) = 100.

12. d. An ongoing assessment is completed to identify and treat any changes in the patient's condition in a timely manner and to monitor the effectiveness of interventions or care provided. The purpose of the primary assessment is to identify any life-threatening conditions. The secondary assessment is performed to locate and further assess the signs and symptoms of an injury or illness, including assessing the patient’s complaints, obtaining a SAMPLE history, performing a focused medical assessment, assessing baseline vital signs, performing components of the detailed physical exam, providing emergency care and considering the need for advanced life support backup and transport.

13. a, b. When examining the abdomen, ask the patient if he is having any pain in the abdomen and look for any discoloration, open wounds, distention, scars or protruding organs. In addition, look at the abdomen for any pulsating
and if none is present, apply slight pressure to each of the abdominal quadrants, avoiding any areas where the patient has indicated pain. Ask the patient to shrug his shoulders when examining the chest. Push in on the sides of the hips when examining the pelvis. Inspect for a protruding jugular vein when examining the neck.

14. **c.** When performing a secondary assessment for a responsive medical patient, first assess the patient’s complaints, then obtain a SAMPLE history, perform a focused medical assessment, assess baseline vital signs, perform components of the detailed physical exam and finally, provide emergency care.

15. **b, c.** The normal pulse rate for school-age children (6 to 10 years) ranges from 70 to 110 bpm; therefore, a pulse rate of 75 bpm or 90 bpm would be considered normal. A pulse rate of 60 bpm is normal for adolescents or adults. A pulse rate of 140 bpm is normal for newborns and infants.

**SELF-ASSESSMENT: ENRICHMENT**

**Pulse Oximetry**

1. **c.** A pulse oximetry reading between 91 to 94 percent indicates mild hypoxia. Readings between 95 to 100 percent are considered normal. A reading of 89 percent suggests moderate hypoxia.

2. **c.** Pulse oximetry should be taken and recorded with vital signs for stable patients at least every 15 minutes and reassessed and recorded every 5 minutes for unstable patients.

3. **a, c, d.** Factors that may reduce the reliability of the pulse oximetry reading may include shock, excessive patient movement, fingernail polish, carbon monoxide poisoning and hypothermia or other cold-related illness.

4. **b.** Although the finger is the typical site used to obtain a pulse oximetry reading, the earlobe is a recommended alternative site that can be used. The elbow or lip is not used.

**Chapter 9: Communication and Documentation**

**REVIEW OF CONCEPTS AND TERMS**

**Matching**

1. **D:** 2. **E;** 3. **A; 4. B; 5. C

**Short Answer**

1. Documentation is the final element of emergency care.

2. The four key components of radio communication for an EMS system are the base station, mobile radios, portable radios and repeaters.

3. When communicating with medical control, you should provide the following information: who you are, patient characteristics, the patient’s mental status, SAMPLE history, vital signs and results of your physical exam, any care you provided and the patient’s response to the care, and your questions.

4. The four sections of the prehospital care report (PCR) are the run data, patient data, check boxes and patient narrative.

5. The run data section contains administrative information, including the time that the incident was reported, when the unit was notified, when the unit arrived and left the scene, when the unit arrived at its destination and when the transfer of care was made. It also includes information about the EMS unit number, names of the EMS crew members and their levels of certification and the address to which the unit was dispatched.

**CASE STUDY**

**Scenario A**

1. **c.** The communications center or dispatch is responsible for taking basic information from callers and dispatching the appropriate personnel. Medical control refers to directions given to EMRs by a physician when EMRs are providing care at the scene of an emergency or en-route to the receiving facility, most likely a hospital, where the patient will be transported. Other EMS personnel may arrive on the scene in response to the call, but they would not be the ones providing the initial information to the EMR.

2. **d.** When using a radio communication system, you should keep transmissions brief, organized
Readings of 1000 psi and 500 psi indicate that the cylinder still has oxygen available for administration.

3. **a. b. c.** When working with oxygen systems, check the pressure regulator to ensure that the cylinder is not empty, handle the cylinder carefully because it is under high pressure and should not be dropped, do not lubricate any part of the oxygen system to prevent explosion, check to make sure that the pin index corresponds to the oxygen tank and hand-tighten the screw until the regulator is snug.

4. **c.** According to the Food and Drug Administration (FDA), emergency oxygen units are available without a prescription for first aid provided that they contain at least a 15-minute oxygen supply and that they are designed to deliver a preset flow rate of at least 6 LPM. Filling and refilling of empty or spent cylinders is strictly controlled by state and local regulations. Local protocols must always be followed.

5. **a. b. c. d.** A fixed-flow-rate system comes with the delivery device, regulator and cylinder already connected to each other. Therefore, to operate a fixed-flow-rate system, simply turn it on according to the manufacturer’s instructions, check that oxygen is flowing and place the delivery device on the patient. Opening the cylinder valve for 1 second, attaching the regulator and opening the cylinder counterclockwise are important steps associated with a variable-flow-rate system.

6. **a.** A nasal cannula provides the lowest concentration of oxygen which ranges from 24 to 44 percent. A resuscitation mask delivers approximately 25 to 55 percent oxygen. A non-rebreather mask and BVM deliver an oxygen concentration of 90 percent or more.

7. **b.** To deliver a flow rate of 6 LPM to a nonbreathing patient, a resuscitation mask would be most appropriate to use because this device can provide oxygen at a flow rate of 6 to 15 LPM. A BVM is designed for flow rates of 15 LPM or more and can be used with breathing and nonbreathing patients. A nasal cannula can administer flow rates of 1 to 6 LPM, but this device is used for patients who are breathing. A non-rebreather mask is used with flow rates of 10 to 15 LPM for patients who are breathing.

8. **d.** An oxygen cylinder contains 100 percent oxygen.

9. **b.** A non-rebreather mask consists of a face mask with an attached oxygen reservoir bag and a one-way valve between the mask and bag to prevent the patient’s exhaled air from mixing with oxygen in the reservoir bag. The reservoir bag should be about two-thirds full so that it does not deflate when the patient inhales. The patient inhales oxygen from the bag and exhaled air escapes through flutter valves on the side of the mask. A nasal cannula should not be used if the patient has a nasal injury.

10. **e.** Flow rates with a nasal cannula above 6 LPM are not commonly used because of the tendency to quickly dry out mucous membranes and cause nosebleeds and headaches.

11. **b. d.** A resuscitation mask and BVM are used to deliver emergency oxygen to patients who are not breathing. They also can be used for patients who are breathing. A nasal cannula and non-rebreather mask are used for patients who are breathing.

12. **c.** When using a variable-flow-rate system, begin by examining the cylinder to be certain that it is labeled “oxygen.” Next remove the protective covering over the tank and remove the O-ring gasket if it is not built into the tank. Then open the cylinder for 1 second while it is pointed away from you. Next, examine the pressure regulator to be sure that it is labeled “oxygen,” check to see that the pin index corresponds to an oxygen tank, attach the pressure regulator to the cylinder, hand tighten the screw until the regulator is snug and finally open the cylinder one full turn and listen for leaks.

13. **c.** For a patient receiving emergency oxygen with a BVM who has a respiratory rate over 30 breaths per minute, you should squeeze the bag on every second breath. If the patient’s respiratory rate is less than 10 breaths per minute, squeeze the bag between each breath to supply the patient with additional oxygen.

14. **a. d.** When administering emergency oxygen, follow specific safety guidelines. These include not using oxygen around flames or sparks because it is flammable and causes fire to burn more quickly and rapidly; checking to make sure that oxygen is flowing before putting the delivery device on the patient; not using grease, oil or petroleum products to lubricate or clean the regulator because these could cause an explosion; not dragging or rolling cylinders; and not carrying a cylinder by the valve or regulator.

15. **b.** To use the blow-by technique, you, a parent or guardian holds the mask about 2 inches from the child’s face, waving it slowly from side-to-side as if you are playing a game, thus allowing oxygen to pass over the face and be inhaled.
2. The only treatment for carbon monoxide poisoning at the scene is administering emergency oxygen. Blood sample testing would most likely be done at the receiving facility. There is no antidote for carbon monoxide poisoning and there is no need to clean the skin because the poison is inhaled.

3. a, b, c. Cyanide poisoning is generally thought of as a weapon used in terrorism or wartime. However, cyanide is found naturally in some everyday foods, such as apricot pits; in other products, such as cigarettes; and as byproducts of production, such as plastic manufacturing. Cyanide is also used in some production processes, such as making paper and textiles, developing photographs, cleaning metal and in rodent poisons.

4. b. Hydrogen cyanide can enter the body through inhalation or ingestion or by being absorbed into the skin or eyes. It is not injected.

5. c. The most likely signs and symptoms in someone who has suffered cyanide toxicity include altered mental status, abnormal pupil dilation, low respiratory rate, low systolic blood pressure with increased heart rate, metabolic acidosis (increased plasma acidity) and a large increase in lactate levels in the plasma.

Chapter 16: Environmental Emergencies

REVIEW OF CONCEPTS AND TERMS

Crossword Puzzle

ANAPHYLAXIS

Y

D P

E O

HYPOThERMIA

Y H

A A

O

BAROtrauma

L

METABOLISM

I T

OS

ANTIVENIN

ETE

ELECTROLYTES

Short Answer

1. The body is cooled by radiation, convection, conduction, evaporation and respiration.
2. **b.** Before extricating a patient, it is crucial to first stabilize the equipment and turn it off. Digging a trench would be appropriate for someone trapped by a tractor. Ensuring ready access to an SCBA would be appropriate for rescuing a patient in a silo or manure storage. The reverse feature never should be used.

3. **a, b, c, d, f.** Required Level B equipment would include an SCBA, hooded chemical-resistant clothing, special gloves, boots with covers and a hard hat.

4. **d.** It is most important to size-up the scene and to wait to enter until it has been secured. Identifying the hazard, determining the number of victims and calling in specialized teams also are appropriate measures but not as important as sizing up the scene.
lining of the uterus. From there, an embryo develops. After about 8 weeks, the embryo is called a fetus. Quickening, or movement of the fetus, occurs during the second trimester.

3. **c.** During the third trimester, the mother gains the most weight as the fetus grows most rapidly. Morning sickness and placental development occur during the first trimester. Fetal movement typically is felt during the second trimester.

4. **b.** After delivery of the baby, the placenta usually separates from the wall of the uterus and exits from the birth canal, which normally occurs within 30 minutes after the delivery of the baby.

5. **c.** You can help the expectant mother cope with the discomfort and pain of labor by staying calm, firm and confident and by offering encouragement. Doing so can help reduce her fear and apprehension which, in turn, will aid in reducing her pain and discomfort. Telling the woman that she has to learn to endure the discomfort is not supportive and will only add to her fear and apprehension. You should begin by reassuring her that you are there to help. Explain what to expect as labor progresses. Suggest specific physical activities that she can do to relax, such as regulating her breathing. Ask her to breathe slowly and deeply in through the nose and out through the mouth. Ask her to focus on one object in the room while regulating her breathing.

6. **a.** Once crowning takes place, you should place a hand on the top of the baby's head and apply light pressure to allow the head to emerge slowly, not forcefully. At this point, you should tell the expectant mother to stop pushing and to concentrate on her breathing techniques. Next, check to see if the umbilical cord is looped around the baby's neck. If it is, gently slip it over the baby's head. If you cannot slip it over the head, slip it over the baby's shoulders as they emerge. The baby can slide through the loop. You then guide one shoulder out at a time without pulling on the baby.

7. **b.** When using the APGAR scoring system, the baby is assigned a number from 0 to 2 for each part of the assessment. The highest score given to each area therefore would be 2.

8. **d.** If a newborn has not made any sounds, you would stimulate a cry reflex by flicking your fingers on the soles of the feet or gently rubbing the newborn's back. Slapping the newborn's back and placing the newborn with the head lower than his or her chest would not be effective in stimulating the newborn. Suctioning the mouth and nose would help to remove secretions but would not necessarily stimulate the newborn.

9. **b.** Resuscitation of a newborn begins immediately if respirations fall to less than 30 respirations per minute or the newborn is gasping or not breathing, if the pulse is less than 100 bpm or if cyanosis (bluish skin) around the chest and abdomen persists after administering emergency oxygen.

10. **a.** About 85 percent of miscarriages or spontaneous abortions occur during the first 12 weeks of pregnancy. A miscarriage or spontaneous abortion refers to the loss of a fetus due to natural causes before about 20 weeks of pregnancy. A stillbirth or fetal death is the term for the death of a baby before delivery but after 20 weeks gestation.

11. **d.** With an ectopic pregnancy, the fertilized egg most commonly implants in one of the fallopian tubes; less commonly, it implants in the abdomen, ovary or cervix.

12. **b.** Delivery is considered imminent when the mother reports a strong urge to push; contractions are intense, occurring every 2 minutes or less and lasting 60 to 90 seconds; the woman's abdomen is very tight and hard; the mother reports a feeling of the infant's head moving down the birth canal or has a sensation like an urge to defecate; and crowning occurs. A sudden gush of fluid from the vagina, indicating that the amniotic sac has ruptured, often signals the onset of labor.

13. **a.** A newborn with an APGAR score between 1 and 3 points is severely depressed and requires emergency oxygen with BVM ventilations and CPR. A score of 4 to 6 indicates a moderately depressed newborn who requires stimulation and oxygen. A score of 7 to 10 indicates an active, vigorous newborn that is ready to receive routine care.

14. **a.** When positioning the newborn, place the newborn on his or her side with the head slightly lower than the trunk to allow secretions to drain. Newborns lose heat quickly, so it is important to dry them thoroughly and wrap them in a clean, warm towel or blanket. The nasal passages and mouth need to be clear; therefore, you would clear or suction the mouth before the nose until the airway is clear.

15. **c.** The most common complication of childbirth is persistent vaginal bleeding, known as postpartum hemorrhage. Other, less common complications include prolapsed umbilical cord, breech birth and premature birth.
corrosives, radioactive materials, compressed gases, oxidizers and flammable solids and liquids, fertilizers, insecticides and pesticides. It also can include various waste products from numerous manufacturers that may be considered toxic or hazardous.

2. **b.** The degree to which a substance is poisonous refers to its toxicity. Flammability refers to the degree to which a substance may ignite. Reactivity refers to the degree to which a substance may react when exposed to other substances. Radioactivity refers to the degree to which a substance gives off radiation.

3. **c.** In preparation for a worst-case scenario developing at a HAZMAT incident, a clear chain of command must be established first. A single command officer then should be assigned to maintain control of the situation and make decisions at every stage of the rescue. Next, a system of communication that is accessible and familiar to all rescuers should be established. Finally, a receiving facility should be established that is as close as possible to the scene, is able to receive and handle the number of patients and is able to continue the required decontamination processes.

4. **d.** The shipping papers list the names, associated dangers and four-digit identification numbers of the substances. The MSDS are provided by the manufacturer and identify the substance, physical properties and any associated hazards for a given material, such as fire, explosion and health hazards.

5. **a.** With a HAZMAT incident, a clear chain of command is established with one command officer being assigned to maintain control of the situation and make decisions at every stage of the rescue. The rescue team must be aware of who is in command and when decision-making powers are transferred to another officer. The system of communication is one that is accessible and familiar to all rescuers.

6. **b.** The presence of odors such as bitter almonds, peaches, mustard, freshly cut grass, garlic or pungent or sweet odors suggest terrorism. Clues that a HAZMAT incident might involve terrorism include an incident in a well-populated area with numerous people experiencing an unidentifiable illness and animals in the area that are dead or incapacitated.

7. **d.** In the warm zone, complete decontamination takes place and life-saving emergency care, such as airway management and immobilization, occurs. In the hot zone, rescue, treatment for any life-threatening conditions and initial decontamination occur.

8. **a, b, c, e.** When radiation is suspected, you should immediately put on proper PPE; don an SCBA and protective clothing and seal off all openings with duct tape. Double gloves and two pairs of paper shoe covers under heavy rubber boots should be worn.

9. **b.** The longer the time, the closer the distance and the more materials to which you are exposed, the worse the situation and the more protection will be required to decrease your risk of exposure. The use of increased protective equipment would decrease your exposure risk.

10. **d.** The support zone also is called the cold zone, which is the outer perimeter. The hot zone, also called the exclusion zone, is the area where the most danger exists. The contamination reduction or warm zone is immediately outside of the hot zone.

11. **d.** In your role as an EMR who is the first on the scene of a possible HAZMAT incident, you would follow three steps: recognition, identification and determination. As the last step, you would determine if the material is responsible for the injuries or the damage at the scene. During recognition, you would acknowledge the presence of a HAZMAT and demonstrate awareness that the material could be harmful to the health of others. During identification, you would establish the material’s specific identity and characteristics.

12. **a, b, c, e.** A patient may be contaminated via several routes, including topical (through the skin), respiratory (inhaled), gastrointestinal (ingested) or parenteral (intramuscular [IM], intravenous [IV] or subcutaneous [sub-Q]).

13. **b.** Initial, or “gross” decontamination, is performed as the person enters the warm zone. Any immediate life-threatening conditions are addressed during this stage. Soap and copious amounts of water are used and any clothing, equipment and tools must be left in the hot zone. Dilution refers to the method of reducing the concentration of a contaminant to a safe level. Absorption is the process of using material that will absorb and hold contaminants, such as corrosive and liquid chemicals. Neutralization involves chemically altering a substance to render it harmless or make it less harmful.
the detailed physical exam and finally, provide emergency care.

38. **d.** When using a radio communication system, you should keep transmissions brief, organized and to the point, omitting courtesy terms like “please” and “thank you.” You also should use emergency medical frequencies only for EMS communication, speak slowly with your lips 2 to 3 inches from the microphone, and use “affirmative” and “negative” rather than “yes” and “no.”

39. **a.** Before doing anything, unless it is a life-threatening situation, introduce yourself to the patient. Tell the patient what your role is and what you will do. When speaking to an injured or ill person, speak slowly and clearly, and avoid using medical terms, such as “fracture.” Instead, use words that are easily understandable. When addressing older adults, call them by their first names only when invited to do so. Such an action shows respect. In addition, have the patient tell you about the problem. The husband may instinctively want to talk about his wife, but having the patient tell you what happened allows you to observe her ability to communicate as well as her LOC and mental status.

40. **c.** As you interview a patient or bystanders, try to let the person you are interviewing do most of the talking and do not interrupt. Be sure to word questions so that you do not provide false assurance or reassurance. Avoid giving advice or asking leading or biased questions. Avoid asking “why” questions, which can be perceived as judgmental.

41. **b.** Although the run data section of the prehospital care report (PCR) serves as a legal document, acts as an educational tool and allows billing, its primary function is to ensure quality care.

42. **a.** The patient narrative provides a description of the assessment and care provided and it must include the SAMPLE history. The run data contains administrative information, the patient data section includes all background information on the patient and the check boxes section contains information about the patient’s condition, including vital signs, chief complaint, LOC, appearance and respirations.

43. **d.** To facilitate communication, make eye contact to show that you are interested in what the patient is saying. Additionally, minimize distractions to promote clear communication, ensure adequate lighting and get down to the patient’s eye level to avoid the patient feeling threatened.

44. **a.** Asking the daughter to tell you what happened is an open-ended question, which allows the daughter to provide as much information as possible about the situation. Telling her that her father will be fine provides false reassurance. Asking her why he was not using his cane and telling her that he needs to be watched more carefully are judgmental statements.

45. **c.** Patient data includes background information on the patient, such as legal name, age, home address, and billing and insurance information. The check boxes section includes information about the patient’s condition, such as level of alertness, vital signs, appearance and respiratory rate. The run data section contains administrative information, such as the time that the unit arrived on the scene and the unit’s number.

46. **b.** When receiving medical direction, use the echo method, that is, repeat the order word for word to ensure that you have heard and understood the order. The terms “affirmative” and “negative” should be used in any situation involving radio communication, not just communications with medical control. Asking medical control to repeat the order again would be appropriate if you did not understand the original order or if you repeated the order incorrectly back to medical control. Telling medical control that you understand would be inappropriate.
1. **b.** Diabetes involves a problem with regulation of blood glucose levels in that the body produces little or no insulin or does not use the insulin produced. Fluid volume is regulated by the kidneys. The electrical activity of the brain is regulated by the neurons (nerve cells). Regulation of oxygen levels typically involves the lungs.

2. **c.** Hypoglycemia refers to a low blood glucose level. Since the patient is conscious, you should give her something with sugar in it, such as glucose paste, milk and most fruit juices or a non-diet soft drink, which contain sufficient amounts of sugar to help restore the blood glucose level. Insulin administration would be inappropriate because it would lower her blood glucose level even more. There is no need to place the patient in a supine (face-up) position because she is alert and conscious. She is talking, which indicates that her airway is open. Only if the patient becomes unconscious or shows signs of airway obstruction would you need to open her airway.

3. **a.** Based on the description from bystanders, the patient is experiencing a generalized seizure, also called a tonic-clonic or grand mal seizure, as evidenced by reports of his body shaking all over. Although rhythmic jerking of the head and limbs may occur, a febrile seizure usually occurs in children and is associated with a rapid increase in body temperature. With a simple partial seizure, the patient usually remains conscious and there is involuntary muscular contraction in one area of the body. Some people cannot speak or move but remember everything that occurred. With a complex partial seizure, the patient experiences a blank stare followed by random movements such as lip smacking or chewing. The patient appears dazed and movements are clumsy.

4. **c.** Status epilepticus is an epileptic seizure that lasts longer than 5 minutes without any signs of slowing down. It is a true medical emergency.

5. **d.** When the normal functions of the brain are disrupted by injury, disease, fever, infection, metabolic disturbances or conditions causing a decreased oxygen level, a seizure may occur. Hypotension results from low blood pressure levels. Disrupted blood flow to the brain results in a stroke. An elevated insulin level results in hypoglycemia.

6. **c.** Protecting the patient from injury and managing the airway are your priorities when caring for a patient having a seizure. Preventing tongue biting would not be necessary because people having seizures rarely bite the tongue or cheeks with enough force to cause any significant bleeding. An open airway is a priority; however, you should not place anything in the mouth to prevent this type of injury. Foreign bodies in the mouth may cause airway obstruction. Following, not during, the seizure, you should position the patient on the side, if possible, so that fluids (saliva, blood, vomit) can drain from the mouth. You should never put fingers into the mouth of an actively seizing patient to clear the airway. After the seizure, you need to provide maximum privacy because the patient may feel embarrassed and self-conscious.

7. **c.** The patient will usually recover from a seizure in a few minutes. If you discover that the patient has a history of medically controlled seizures, there may be no further need for medical attention; however, in cases of pregnancy, known diabetes or seizures occurring in the water, more advanced medical care should be provided.

8. **c.** Since the patient is hypoglycemic and unconscious, you need to summon more advanced medical personnel immediately. Fruit juice, non-diet soda or glucose tablets are used only if the patient is conscious and can ingest them. After giving either of these, you then would recheck the blood glucose level (BGL) in 15 minutes.

9. **b.** Signs and symptoms associated with a stroke typically include facial drooping or drooling, trouble walking and numbness of the face, arm(s) or leg(s). Speech often is affected, and the patient may complain of a sudden, severe headache.

10. **b.** When responding to an emergency call related to abdominal pain, you need to assume that the pain is serious since the patient and/or family members were concerned enough to seek emergency medical attention. Abdominal pain is felt between the chest and groin, which commonly is referred to as the stomach region or belly. There are many organs in the abdomen, so when a patient is suffering from abdominal pain, it can originate from any one of them. Abdominal pain can be difficult to pinpoint since the pain may start from somewhere else and could be a result of any number of generalized infections, including the flu or strep throat. The intensity of abdominal pain does not always reflect the seriousness of the condition.

11. **d.** Patients on dialysis can experience several types of complications, including uremia (accumulation of urinary waste products in the
blood), fluid overload (reduction in the body’s ability to excrete fluid through urine), anemia (hemoglobin deficiency), hypertension, hyperkalemia (excess potassium in the blood) and coronary artery disease. Emergencies also can occur as complications of the dialysis itself, including hypotension, disequilibrium syndrome, hemorrhage, equipment malfunction (e.g., introducing an air embolus or other foreign body into the circulatory system) or complications from being temporarily removed from medications. More specifically, after dialysis, patients may have hypovolemia (reduced blood volume) and exhibit cold, clammy skin; poor skin turgor (elasticity); tachycardia; and hypotension. When dialysis is delayed, patients may experience hypervolemia (increased blood volume) and may have abnormal lung sounds, such as crackles; generalized edema; hypertension; or jugular venous distension.

12. **c.** Alcohol is classified as a depressant because it affects the central nervous system (CNS) by decreasing physical and mental activity. Caffeine, cocaine and amphetamines are classified as stimulants. Lysergic acid diethylamide (LSD), phenacyclidine (PCP), mescaline and peyote are classified as hallucinogens. Morphine, heroin and codeine are examples of narcotics.

13. **c.** Codeine is a natural opium derivative and is classified as a narcotic. Alcohol, benzodiazepines and barbiturates are considered depressants. LSD, PCP and mescaline are classified as hallucinogens. Cannabis products include marijuana, tetrahydro-cannabinol (THC) and hashish.

14. **c.** The severity of a poisoning depends on the type and amount of the substance, the time that has elapsed since the poison entered the body, and the patient’s age, size, weight and medical conditions. The patient’s sex would have no impact on the severity of the poisoning.

15. **d.** In 2007, Poison Control Centers (PCCs) received more than 2.4 million calls about people who had come into contact with a poison. About 90 percent (2.1 million) of these poisonings took place in the home, and 50 percent (1.1 million) involved children younger than 6 years. Poisoning deaths in children younger than age 6 represented less than 3 percent of the total deaths from poisoning, whereas the 20- to 59-year-old age group represented about 73 percent of all deaths from poisoning. Due in part to child-resistant packaging and preventive actions by parents and caregivers, there has been a decline in child poisonings. At the same time, there has been an increase in adult poisoning deaths, which is linked to an increase in both suicides and drug-related poisonings.

16. **b.** Lead is a primary source of chemical food poisoning. Botulism, E. coli and Salmonella are causes of bacterial food poisoning.

17. **a.** The symptoms of food poisoning, which can begin between 1 and 48 hours after eating contaminated food, include nausea, vomiting, abdominal pain, diarrhea, fever and dehydration. Severe cases of food poisoning can result in shock or death, particularly in children, the elderly and those with an impaired immune system. Excessive eye burning would most likely be seen with chemicals or poisons coming in contact with the eyes. Disorientation and seizures would be unlikely unless the patient developed severe food poisoning leading to extreme dehydration and shock.

18. **c.** Poisons that result from an insect sting enter the body by injection. Absorbed poisons enter the body through the skin or mucous membranes in the eyes, mouth and nose. Inhaled poisons enter the body when the person breathes in poisonous gases or fumes. Ingested poisons are poisons that are swallowed.

19. **c.** Chloroform is an example of a common inhaled poison. Poison ivy is an example of an absorbed poison. Contaminated water is an example of an ingested poison. Snake venom is an example of an injected poison.

20. **a.** When providing care to a patient with suspected substance abuse, it is most important to identify potential life-threatening conditions and intervene accordingly. Many of the signs and symptoms of substance abuse mimic other conditions, so you may not be able to determine that a patient has overdosed on a substance. Although it would be helpful to know the identity of the substance, care focuses on the abnormal behavior exhibited by the patient. If a patient becomes agitated or makes the scene unsafe in any way, you should retreat until the scene is safe. Restraints are used only as a last resort. Administering emergency oxygen would be appropriate if the patient was experiencing difficulty breathing.

21. **c.** Mood changes and a flushed face suggest hallucinogen abuse. A telltale sign of cannabis use is red, bloodshot eyes. Drowsiness would be seen with inhalant abuse and depressants.

22. **a.** When caring for a patient with substance misuse, always summon more advanced medical personnel. In addition, keep the patient’s airway...
clear, and calm and reassure the patient. Applying several heavy blankets would be inappropriate because these probably would cause the patient to become overheated. Rather, you should take measures to prevent chilling and overheating. You should attempt to find out what substance was taken, how much was taken and when it was taken.

23. **c, d.** A patient who abuses cocaine may show signs and symptoms of stimulant abuse. These would include tachycardia (increased pulse), hypertension, rapid breathing, excitement, restlessness and irritability. Patients who abuse depressants may show signs and symptoms that include drowsiness, confusion, slurred speech, slow heart and breathing rates, and poor coordination. Mood changes, flushing and hallucinations would suggest hallucinogen or designer drug abuse.

24. **a.** Contributing factors for substance abuse include the lack of traditional family structure; peer pressure; widespread availability of substances; media glamorization of substances, especially alcohol and tobacco; and low self-esteem.

25. **b.** Due to the weather and the patient’s complaints, the most likely condition suspected would be frostbite. Although hypothermia is a possibility, it would be manifested by more generalized signs and symptoms. The patient’s signs and symptoms do not suggest stroke, which would be noted by weakness of the face, arm or leg, possible speech difficulties and continued changes in the patient’s LOC. The signs and symptoms do not reflect a generalized seizure, where the patient would be exhibiting rhythmic jerking, tonic-clonic muscular contractions.

26. **c.** The bite of a coral snake leaves a semicircular mark. The bite of other venomous snakes leaves one or two distinct puncture wounds, which may or may not bleed.

27. **c.** When providing care to a patient with frostbite, avoid breaking any blisters to prevent further damage and possible infection. Gently warm the affected area by soaking it in warm—not hot—water (100°–105° F or 37.7°–40.5° C) until normal color returns and the body part feels warm. Loosely bandage the area with dry, sterile dressings. If the patient’s fingers or toes are frostbitten, place dry, sterile gauze between them to keep them separated. If there is damage is to the feet, do not allow the patient to walk.

28. **d.** Appropriate measures to prevent heat-related illnesses include wearing light-colored clothing to reflect the sun’s rays; exercising for brief periods and then taking frequent rests, preferably in a cool, shaded area; avoiding exercising and activities during the hottest part of the day (usually late morning to early afternoon); drinking at least six, 8-ounce glasses of fluid daily; and avoiding beverages that contain caffeine and alcohol.

29. **a.** Early signs and symptoms of dehydration include excessive thirst, fatigue, weakness, headache, irritability, nausea, dizziness, and dry lips and mouth. Sunken eyes, a rapid pulse and decreased perspiration indicate worsening dehydration.

30. **a.** With high humidity, the body is less able to cool down through sweating. Evaporation decreases as the relative humidity increases because the air contains excessive moisture. If the temperature is high, the body is not as able to lower its temperature through radiation. Conduction and convection may or may not be affected.

31. **d.** Of the individuals listed, the 80-year-old patient with diabetes and heart disease would have the greatest risk for a heat-related illness because of age and the presence of two pre-existing health conditions (diabetes and heart disease). Each of the other individuals has only one risk factor, such as use of diuretics, working outside or caffeine intake.

32. **d.** Heavy sweating is associated with heat exhaustion. Heat stroke would be suggested by flushed or red skin that is either dry or moist; rapid, weak pulse; shallow breathing; low blood pressure; decreasing LOC; body temperature above 104° F; and lack of sweating.

33. **b.** When providing care to a patient with hypothermia, your initial priority is to move the patient into a warmer environment. You then would perform a primary assessment, call for more advanced medical personnel, remove any wet clothing and dry the patient, and begin to rewarm the patient slowly.

34. **a.** A localized skin rash would be more indicative of a localized allergic reaction than anaphylaxis. Anaphylaxis is a generalized, severe allergic reaction often manifested by difficulty breathing; wheezing or shortness of breath; chest or throat tightness; facial, neck or tongue swelling; weakness; dizziness or confusion; low blood pressure; and shock.
35. **b.** When working on a water rescue, you must consider your own safety before all else. Other considerations then would include the condition of the water and the patient and the resources that are available.

36. **d.** Someone who is conscious (responsive) and has no spinal injury should be removed from the water. A patient who is unresponsive, lying face-down in the water or has a neck injury should be cared for in the water.

37. **b.** A victim of sexual assault experiences physical as well as emotional trauma; therefore, it would be essential to treat the patient with sensitivity. Although it would be important to gain as much information as possible, this would need to be done with tact and sensitivity. The patient’s clothing should be removed only to provide care and efforts should be made to ensure that any evidence on the clothing is preserved. You should not clean the patient because doing so may destroy evidence.

38. **d.** Common signs and symptoms of rape include an unresponsive, dazed state; intense pain from assault and penetration; psychological and physical shock and paralysis; possible bleeding or body fluid discharge; torn or removed clothing; and nausea, vomiting, gagging or urination.

39. **a.** Bipolar disorder is characterized by a person swinging from the extreme lows of depression to the highs of mania. Schizophrenia is a severe, chronic mental illness in which the patient hears voices or feels that his or her thoughts are being controlled by others. Clinical depression is a chronic illness involving persistent feelings of being useless along with a loss of interest in regular activities, feelings of hopelessness or guilt and unexplained sadness. A panic attack is an anxiety disorder in which the patient experiences an out-of-control feeling often accompanied by difficulty breathing and heart palpitations.

40. **a.** Abdominal injuries would be the least likely cause of a behavioral emergency. Possible causes of behavioral emergencies include injury, primarily head injury; physical illness; adverse effects of prescribed medications; mental illness; noncompliance with prescribed psychiatric medications; and extreme emotional distress.

41. **b.** Excited delirium syndrome is characterized by high body temperature, increased body strength, insensitivity to pain and agitation.

42. **c.** Paranoia can be a side effect of any recreational drug use; however, it is particularly associated with the use of stimulants.

43. **d.** Your primary concern as an EMR is to treat any injuries or medical conditions arising from the violence or suicide attempt, and then transport the patient to a facility where he or she can receive medical and psychiatric treatment. If it is necessary to prevent the patient from harming you, him- or herself, or others, you may need to use medical restraints to transport the patient.

44. **a.** Asking the question, “You’re not a threat to yourself, are you?” implies the answer “no” regardless of what the patient is feeling. It makes the assumption that the patient is not a threat to him- or herself. Asking the patient how he or she is feeling, if he or she is thinking about hurting him- or herself, or if he or she has suffered any trauma recently provides direct specific information to help gain insight into the situation.

45. **c.** When sizing up the scene, identify and locate the patient before entering. You also need to identify exit or escape routes for your safety and clear the scene of any objects that could be used to injure the patient or others as soon as possible. You need to be aware that there may be more than one patient.
direct pressure with a gloved hand, elevating the body part above heart level and placing a sterile gauze pressure dressing over the wound.

13. a. Signs and symptoms of internal bleeding include bruising on the neck, chest, abdomen or side; nausea, vomiting or coughing up blood; patient guarding the area; rapid pulse or breathing; skin that is cool or moist or looks pale, ashen or bluish; excessive thirst; declining LOC; and a drop in blood pressure.

14. c. If you suspect a skull fracture, you should not try to stop the nosebleed because it may increase pressure in the brain. Instead cover the nostrils loosely with sterile gauze. Tilting the head forward slightly and pinching the nostrils firmly together would be appropriate to stop the nosebleed if no fracture was suspected. A patient with a nosebleed should never blow his nose.

15. c. A Level III trauma facility is found in smaller communities that do not have access to larger Level I or Level II medical centers. They can provide prompt assessment, resuscitation and emergency operations and arrange for transport to a Level I or II facility as required. A Level IV trauma setting often is a rural clinic in a remote area and generally offers patient care only until arrangement for transportation can be made. A Level I trauma facility must have the capability to deal with all levels and types of patient injury on a 24-hour basis. A Level II trauma facility is expected to be able to provide definitive care to patients, despite the type of patient injury; however, this type of facility sometimes may have to send a patient with more severe injuries to a Level I facility.

16. c. Capillary bleeding usually clots spontaneously. Arterial bleeding is bright red, spurts from the wound, will not clot easily and decreases in pressure as the patient’s blood pressure drops. Venous blood flows steadily.

17. d. An occlusive dressing does not allow air to pass through; it is used for sucking chest wounds and open abdominal wounds. Universal dressings or trauma dressings are used to cover very large wounds and multiple wounds in one body area. A roller bandage generally is wrapped around the body part, over a dressing, using overlapping turns until the dressing is completely covered. Elastic bandages are designed to keep continuous pressure on a body part.

18. b. If blood soaks through the bandage, apply additional dressings and another bandage directly on top of the soiled ones and reapply direct pressure. Do not remove the blood-soaked ones.

Elevating the body part would be appropriate if there is bleeding that is uncontrolled by direct pressure alone.

19. c. Immobilization restricts movement and subsequently blood flow. Blood clotting is not affected. Applying pressure to a pressure point compresses the artery. A hemostatic agent is a substance that removes moisture from blood and speeds up the process of clot formation.

20. b. For serious bleeding, apply strong direct pressure to the wound using fingertip pressure first. If the wound is large and fingertip pressure does not work, use hand pressure with gauze dressings to stop the bleeding. If direct pressure, elevation and immobilization do not control the bleeding, then apply pressure to a pressure point. Using the knuckles or thumb would be inappropriate.

21. b. To care for a nosebleed you should ensure that the conscious patient is sitting in an upright position; tilt the patient’s head and upper body forward slightly, if possible, to prevent swallowing or choking on the blood; and then pinch the patient’s nostrils together firmly for about 5 to 10 minutes to slow down the blood flow.

22. a. An amputation involves complete severing of a body part. An avulsion involves a portion of the skin and sometimes other soft tissue being partially or completely torn away. Impalement occurs when an object is embedded in an open wound. A laceration is a cut, usually from a sharp object, resulting in jagged or smooth edges.

23. d. The priority is to care for the patient and control the bleeding immediately. You should have your partner retrieve the severed body part and care for it. Direct pressure would be applied first to control the bleeding, followed by other measures, such as immobilizing and elevating the injured body part. Pain control, although important, would be appropriate once measures for controlling the bleeding are instituted.

24. b. If the body part is completely severed, once it has been found, you or another responder should wrap it in sterile gauze that has been moistened in sterile saline, if available. You then should place it in a plastic bag and label it with the patient’s name and the date and time when it was placed in the bag. It is important to keep the bag cool by placing it in a larger bag or a container of ice and water slurry (but not on ice alone and not on dry ice). The body part should never be placed directly into the water slurry. Transfer the bag to the EMS personnel transporting the patient to the hospital.
38. **d.** Assessing and treating a patient with a genital injury requires a calm and professional approach since it can be embarrassing not only for the patient, but also for you. Using a sensitive approach to the patient's situation, such as clearing onlookers from the scene, supplying a drape for privacy, removing only the clothing necessary to assess the injury and reassuring the patient, will help the process be less embarrassing. If possible, the patient should be treated by someone of the same gender.

39. **d.** Closed chest wounds generally are caused by blunt trauma. A fractured rib breaking through the skin, a knife wound or gunshot would result in an open chest wound.

40. **a.** Signs and symptoms of traumatic asphyxia include distended neck veins; subconjunctival hemorrhage; bluish discoloration of the head, tongue, lips, neck and shoulders; black eyes; and a rounded, moon-like facial appearance.

41. **b.** Patients with tension pneumothorax typically are in respiratory distress with reduced breath sounds or a complete absence of breath sounds. The injured side of the chest (in this case, the right side) produces abnormal breath sounds during percussion. Because the trachea is shifted away from the side of the injury and the space between the lungs, contents are shifted away from the affected side, resulting in a decreased return of blood to the heart. The patient will show signs of unstable blood pressure, such as abnormally low blood pressure (hypotension), which can quickly develop into complete cardiovascular collapse.

42. **c.** When applying an occlusive dressing, use a dressing that does not allow air to pass through. Secure it in place on all sides except for one, which should remain loose, preventing air from entering the wound during inhalation but allowing air to exit during exhalation. Sterile gauze would allow air to enter the wound and should not be used. If appropriate material is not available, you could use a folded cloth or, as a last resort, your gloved hand to seal the wound.

43. **c.** Protrusion of an abdominal organ through a wound is called evisceration. Flail chest is a serious chest injury in which multiple rib fractures result in a loose section of the ribs that does not move normally with the rest of the chest during breathing. Subcutaneous emphysema is the collection of air under the skin that has a crackling sound. An avulsion is an injury in which a portion of the skin and sometimes other soft tissue is partially or completely torn away.

44. **c.** Before applying a splint, you need to clean and bandage the laceration. Avoid any movement to the arm, including checking for range of motion or straightening the arm. Ice would be applied for swelling but only after cleaning and bandaging the laceration. Since there is a laceration that could indicate an open fracture, ice would be applied around the site.

45. **a.** A rigid splint extending from the elbow to the fingertips should be applied first. A sling and binder then can be applied to support the arm against the chest. Since there is an open wound, it would be inappropriate to use a circumferential air splint, extending from the elbow past the fingertips. A traction splint would be used for a fractured femur.

46. **c.** Injuries to the femur can be serious because of the risk of bleeding, which may be internal and go unnoticed. A broken femur causes significant pain and swelling. The deformity of the thigh usually is noticeable, and the muscle often contracts (shortens) with this type of break. The leg also may be turned inward or outward.

47. **b.** Although most isolated fractures are not considered critical or life threatening, if the femur or pelvis is fractured, the patient is at serious risk of excessive blood loss, shock and death. These two bones contain many blood vessels, and injury to either bone tends to cause heavy bleeding.

48. **a.** Some joints, such as the shoulder and fingers, are more prone to dislocation because they are relatively exposed and not as well protected by ligaments. Other joints, such as the elbow, knee and ankle, are less likely to become dislocated.

49. **b.** Soft splints can be created from folded blankets, towels and pillows. Rigid splints can be created from cardboard boxes, rolled-up magazines, an athlete’s shin guards or other items available at the scene.

50. **d.** The patient’s statement about having no feeling in the hand suggests that circulation to that area is compromised, requiring immediate action. Some pain is expected, but if the patient is complaining of severe pain or pain out of proportion to the visible injury, there is cause for concern. The ability to move the body part, such as the hand and fingers, indicates normal function. A feeling of warmth indicates adequate circulation. If the patient stated that his wrist felt cold, there would be cause for concern.

51. **a.** You would summon more advanced medical personnel if you suspect a fracture to an area other than a digit; if the injury involves severe
1. **c.** As time goes on, true labor contractions occur closer together, increase in duration, feel stronger and occur at regular intervals.

2. **a.** The woman is experiencing contractions that are 5 minutes apart and lasting about 30 seconds and her water has broken. There is no evidence of crowning. Therefore, the woman is most likely in the first stage of labor, which begins with the first contraction and ends with the cervix being fully dilated. The second stage of labor begins when the cervix is completely dilated as the baby moves through the birth canal. During this stage, the mother will report feelings of enormous pressure and contractions that are more frequent and may last between 45 to 90 seconds. The third stage of labor begins with emergence of the baby’s body and includes separation and delivery of the placenta. The fourth stage of labor involves the initial recovery and stabilization of the mother after childbirth.

3. **c.** A prolapsed umbilical cord occurs when a loop of the umbilical cord protrudes from the vaginal opening while the baby still is in the birth canal. A breech birth is one in which the baby is delivered feet- or buttocks-first. A premature birth is one in which a baby is born before the end of 37 weeks of pregnancy. Meconium aspiration involves the baby’s inhalation of meconium-stained amniotic fluid (an indication that the baby experienced a period of oxygen deprivation), which can result in complications such as a blocked airway or respiratory distress, pneumonia and infection.

4. **a.** A breech birth is one in which the baby is delivered feet or buttocks first. It also may be an incomplete breech when the baby’s foot or feet, arm or shoulder appear first. The head typically is the part of the baby delivered first with a normal delivery.

5. **b.** During the third trimester, the mother gains the most weight because the fetus grows the most rapidly. Morning sickness and placental development occur during the first trimester. Fetal movement typically is felt during the second trimester.

6. **d.** You can help the expectant mother cope with the discomfort and pain of labor by staying calm, firm and confident and by offering encouragement. Doing so can help reduce her fear and apprehension which, in turn, will aid in reducing her pain and discomfort. Telling the woman that she has to learn to endure the discomfort is not supportive and will only add to her fear and apprehension. You should begin by reassuring her that you are there to help. Explain what to expect as labor progresses. Suggest specific physical activities that she can do to relax, such as regulating her breathing. Ask her to breathe slowly and deeply in through the nose and out through the mouth. Ask her to focus on one object in the room while regulating her breathing.

7. **a.** Once crowning takes place, you should place a hand on the top of the baby’s head and apply light pressure to allow the head to emerge slowly, not forcefully. At this point, you should tell the expectant mother to stop pushing and to concentrate on her breathing techniques. Next, check to see if the umbilical cord is looped around the baby’s neck. If it is, gently slip it over the baby’s head. If you cannot slip it over the head, slip it over the baby’s shoulders as they emerge. The baby can slide through the loop. You then guide one shoulder out at a time without pulling on the baby.

8. **d.** If a newborn has not made any sounds, you would stimulate a cry reflex by flicking your fingers on the soles of the feet or gently rubbing the newborn’s back. Bending the newborn’s feet firmly backward and placing the newborn in a head-down position would not be effective in stimulating the newborn. Suctioning the mouth and nose would help to remove secretions but would not necessarily stimulate the newborn.

9. **a.** Resuscitation of a newborn begins immediately if respirations fall to less than 30 respirations per minute or the newborn is gasping or not breathing, if the pulse is less than 100 beats per minute (bpm) or if cyanosis (bluish skin) around the chest and abdomen persists after administering emergency oxygen.

10. **c.** Delivery is considered imminent when the mother reports a strong urge to push; contractions are intense, occurring every 2 minutes or less and lasting 60 to 90 seconds; the woman's abdomen is very tight and hard; the mother reports a feeling of the infant's head moving down the birth canal or has a sensation like an urge to defecate; and crowning occurs. A sudden gush of fluid from the vagina, indicating that the amniotic sac has ruptured, often signals the onset of labor.

11. **a.** A score between 1 and 3 points indicates a severely depressed newborn who requires emergency oxygen with BVM ventilations and CPR. A newborn with an APGAR score of 4 to 6
A patient does not experience contamination by the neurologic route. Rather, he or she may have been contaminated via several possible routes, including topical (through the skin), respiratory (inhaled), gastrointestinal (ingested) or parenteral ([intramuscular IM], [intravenous IV] or [subcutaneous sub-Q]).

30. **c.** Initial, or “gross” decontamination, is performed as the person enters the warm zone. Any immediate life-threatening conditions are addressed during this stage. Soap and copious amounts of water are used, and any clothing, equipment and tools must be left in the hot zone. Dilution refers to the method of reducing the concentration of a contaminant to a safe level. Absorption is the process of using material that will absorb and hold contaminants, such as corrosive and liquid chemicals. Neutralization involves chemically altering a substance to render it harmless or make it less harmful.

31. **c.** Since fire personnel have arrived first, one of these individuals would assume the role of the **incident commander (IC).** Upon your arrival, you would identify yourself to the IC and report to the staging officer. The staging officer would then tell you where you are most needed. The IC would be responsible for determining the number of ambulances needed.

32. **b.** Patients who are ambulatory are tagged as green. Patients requiring immediate care are tagged red. Those who may be severely injured but a delay in their treatment will not decrease their chance of survival are tagged yellow. Patients who are obviously dead or have have mortal wounds are tagged black.

33. **b.** An emergency that involves children must be handled differently from the way you would an emergency with adults. The JumpSTART triage method should be used on anyone who appears to be a child, regardless of actual chronological age, but is not performed on infants younger than 12 months. The Smart Tag™, METTAG™ and START systems are used with adults.

34. **a.** The safety officer maintains scene safety by identifying potential dangers and taking action to prevent them from causing injury to all involved. The treatment officer sets up a treatment area and supervises medical care, ensuring triage order is maintained and changing the order if patients deteriorate and become eligible for a higher triage category. The triage officer supervises the initial triage, tagging and moving of patients to designated treatment areas. The staging officer releases and distributes resources as needed to the incident and works to avoid transportation gridlock.

35. **c.** Patients with burns involving flame; burns occurring in a confined space; burns covering more than one body part; burns to the head, neck, feet or genitals; partial-thickness or full-thickness burns in a child or an older adult; or burns resulting from chemicals, explosions or electricity are classified as needing immediate care. The category of minor or walking wounded would apply to ambulatory patients. The category of delayed would be used for patients with severe injuries for whom a delay in treatment would not reduce their chance of survival. The category of deceased/non-salvageable is used for patients who are obviously dead or who have mortal injuries.
36. **a.** The METTAG™ system uses symbols rather than words to identify patients. The START, Smart Tag™ and JumpSTART systems use words and colors to identify patient levels.

37. **c.** Although it is highly individualized, in general, a 50-year-old man involved in a factory explosion would have the least risk for a severe stress reaction. Those that have a greater risk for severe stress reactions include children who may react strongly and experience extreme fears of further harm, elderly patients and those who already have health problems.

38. **d.** After a *multiple casualty incident* (MCI), debriefing is a vital part of the process. It allows rescuers to go over their role in the MCI and the outcome allows for release of stress and learning opportunities for future events. Scheduling down time, having responders talk amongst themselves and setting clear expectations are appropriate measures to help reduce stress during the MCI.

39. **b.** To effectively manage an emergency situation involving an MCI and provide care, an incident command system (ICS) must be established. The ICS organizes who is responsible for overall direction, the roles of other participants and the resources required. Triage is one aspect involved in the ICS. The National Response Framework (NRF) is a guide to how the nation conducts an all-hazards response. The START system is a triage system.

40. **b.** The transportation officer is responsible for communicating with receiving hospitals and for assigning patients to ambulances, helicopters and buses for transport. The staging officer is responsible for establishing an area suitable to park multiple units in an organized fashion. The treatment officer is responsible for identifying a treatment area of sufficient space with adequate ingress and egress for ambulances.

41. **d.** When using the JumpSTART triage system, you would first assess the ambulatory status (the ability to get up and walk). With JumpSTART, the acronym ARPM is used to order the systems that need to be assessed: ambulatory status, respiratory status, perfusion status and mental status.

42. **a.** The report of an odor resembling “garlic, onions, or horseradish” suggests the presence of sulfur mustard. The odor of freshly cut hay suggests the presence of phosgene. Cyanide has an odor of bitter almonds. Tabun is odorless.

43. **c.** In a situation in which phosgene may be present, it is essential that you protect yourself by using a chemical protective mask with a charcoal canister. A HAZMAT suit or gown may or may not be necessary. Gloves would most likely be needed. A *high-efficiency particulate air* (HEPA) filter mask would be more appropriate for an emergency involving biological agents.

44. **b.** The site of a bomb blast is a crime scene and as an EMR, you must preserve evidence and avoid disturbing areas not directly involved in rescue activities, although your primary responsibility is to rescue living people and provide care for life-threatening injuries. Any fatalities should be left at the area where they are found with the surroundings undisturbed.

45. **d.** Biological disasters include epidemics, pandemics and outbreaks of communicable diseases; contamination of food or water supplies by pathogens such as E.coli; and the use of viruses, bacteria and other pathogens for bioterrorism. A nuclear explosion or chemical exposure would be a human-caused disaster. A tornado is a natural disaster.

46. **b.** The Federal Emergency Management Agency (FEMA) is ultimately responsible for coordinating the response to and recovery from disasters in the United States when the disaster is large enough to overwhelm the local and state resources. The NRF was developed and introduced by FEMA as a guide for all organizations involved in disaster management as to how to respond to disasters and emergencies. The National Incident Management System (NIMS) is a comprehensive national framework for managing incidents; it outlines the structures for response activities for command and management and provides a consistent, nationwide response at all levels. The ICS is a management system that allows effective incident management by bringing together facilities, equipment, personnel, procedures and communications within a single organizational structure so that everyone has an understanding of their roles and can respond effectively and efficiently.

47. **a.** Emergency support function (ESF) #1, transportation, is involved in damage and impact assessment, movement restrictions, transportation safety, restoration/recovery of transportation infrastructure, and aviation/airspace management and control. ESF #2, communications, is involved in coordination with telecommunications and information technology industries; restoration and repair of telecommunications infrastructure; protection, restoration and sustainment of cyber and information technology resources; and oversight of communications within the federal incident management and response structures. ESF #5,
53. emergency management, is involved in the coordination of incident management and response efforts, issuance of mission assignments, resource and human capital, incident action planning and financial management. ESF #8, public health and medical services, is involved in public health, medical and mental health services and mass fatality management.

48. **c.** Atropine is an antidote for nerve agent toxicity. Hydriocobalamin, sodium nitrite and sodium thiosulfate are antidotes for cyanide poisoning.

49. **b.** Although most biological agents are not highly contagious, a few are, so it is essential to isolate the patient, protect yourself with the proper PPE and use standard infection control procedures including a HEPA filter mask and gloves. Antibiotics may be used to treat bacterial illnesses but not to treat illness caused by a virus. Antidotes are not used with biological agents. Decontamination is used for radiological/nuclear exposure.

50. **c.** Acute radiation syndrome follows a predictable pattern that unfolds over several days or weeks after substantial exposure or a catastrophic event. Specific symptoms of concern, especially following a 2- to 3-week period with nausea and vomiting, are thermal burn-like skin lesions without documented heat exposure, a tendency to bleed (nosebleed, gingival [gum] bleeding, bruising) and hair loss. Symptom clusters, as delayed effects after radiation exposure, include headache, fatigue, weakness, partial and full thickness skin damage, hair loss, ulceration, anorexia, nausea, vomiting, diarrhea, reduced levels of white blood cells, bruising and infections.

51. **a.** The auto-injector is administered into the mid-outter thigh. It is not given in the upper arm, buttocks or abdomen.

52. **d.** A distressed swimmer may be too tired to get to shore or to the side of the pool but is able to stay afloat and breathe and may be calling for help. The person may be floating, treading water or clinging to an object or a line for support. Someone who is trying to swim but making little or no forward progress may be in distress. A patient who is motionless and floating face-up or face-down indicates a passive drowning victim. A patient struggling to keep his mouth and nose above water indicates an active drowning victim.

53. **a.** If a person falls through the ice, it is your responsibility as a rescuer to immediately call for an ice rescue team. You should not go onto the ice to attempt a rescue because the ice may be too thin to support you. Once you have summoned the specialized team, you need to continue talking to the patient to help calm him. If possible, you should use reaching or throwing assists to rescue the patient, but you should not go into the icy water.

54. **b.** There is no water in the silo, so the patient is not at risk for drowning. Below-ground areas, such as vaults, sewers, wells or cisterns, can contain water and pose a drowning risk. Silos used to store agricultural materials are often designed to limit oxygen and, therefore, present the hazard of poisonous gases caused by fermentation. The danger of engulfment by the contained product in the silo also is a possibility. Low oxygen levels in these spaces pose a significant risk, as do poisonous gases, such as carbon monoxide, hydrogen sulfide and carbon dioxide.

55. **c.** After a short distance, teams should rotate positions, changing sides and positions after each progression. Teams then should alternate, giving each team a chance to rest. This will ensure a safe rescue, without anyone becoming exhausted and unable to complete the evacuation. Time and efficiency are key, so stopping to rest would be inappropriate. Switching hands would be ineffective in preventing you from tiring. Getting a replacement would be appropriate only as a last resort if, for some reason, you were unable to continue.

56. **a.** The most appropriate method would be to attempt a reaching assist by lying down at the side of the pool and reaching out to her using your arm or leg or an object such as a pole, tree branch or towel. If this is not possible, you could attempt a throwing assist. A wading assist would not be appropriate because the water in the deep end would most likely be over your head. Your first goal is to stay safe, so rushing or jumping into the water would put you at risk for drowning, too.

57. **c.** A passive drowning victim is not moving and is floating face-up or face-down on or near the surface of the water or may be submerged. A distressed swimmer may be floating, treading water or clinging to an object or a line for support. An active drowning victim is vertical in the water, typically with his or her arms at the sides, pressing down in an attempt to keep the mouth and nose above water to breathe.

58. **d.** The HAZMAT EMS Response Unit would be used for situations involving weapons of mass destruction (WMDs) and HAZMAT incidents to provide EMS care to patients in the warm zone (i.e., the area immediately outside of the hot zone,
9. **b.** The elbow would be superior to the wrist but inferior to the head, neck and shoulders.

10. **d.** The clothes drag is done with the EMR moving backward. The firefighter’s drag, firefighter’s carry and pack-strap carry are done moving forward. None of the moving techniques involve the EMR moving to the right or left.

11. **d.** A paramedic, the highest level of training for an emergency medical services (EMS) responder, has more in-depth training than an advanced emergency medical technician (AEMT), emergency medical technician (EMT), or EMR. Lifeguards, athletic trainers and camp leaders may be EMRs.

12. **c.** The first priority would be to ensure the safety of the scene, which might entail summoning more advanced medical personnel to assist with the scene. Once the scene is safe, then gaining access to the patient and providing care would be important. Recording your actions is important but not the priority at this time.

13. **d.** When removing disposable gloves, you should pinch the palm side of the first glove near the wrist and carefully pull the glove so that it is inside out. While holding this glove in the palm of the gloved hand, you would slip two fingers under the glove at the wrist of the remaining gloved hand, pulling it off, inside out, so that the first glove ends up inside the glove just removed. At no time during the removal should bare skin come in contact with the outside of either glove.

14. **a.** When dealing with the family of a patient who has died suddenly, it is most important for you to listen empathetically and remain calm and nonjudgmental; allow them to express their rage, anger and despair; speak in a gentle tone of voice; and avoid giving false reassurance.

15. **b.** An EMR needs to be flexible, maintain a caring and professional attitude by showing compassion and providing reassurance. An EMR also needs to be able to control his or her fears and keep his or her knowledge and skills up to date.

16. **d.** Direct contact transmission occurs when infected blood or body fluid from one person enters another person’s body, such as infected blood or body fluid entering the other person’s body through a cut in the skin. Touching a soiled work surface would be an example of indirect contact transmission. Inhalation of air and particles from a person’s sneeze is an example of droplet transmission. Being bitten by an infected mosquito is an example of vector-borne transmission.

17. **c.** To perform chest compressions on an infant, use two or three fingers placed on the center of the chest just below the nipple line. The heel of the hand is used to perform chest compressions on an adult or a child. The fist or thumbs are not used for chest compressions.

18. **d.** Although it may vary by state, a minor usually is considered anyone younger than 18 years. In such cases, permission to give care must be obtained from a parent or guardian.

19. **c.** Breathing and return of a pulse indicate signs of life; therefore, you would stop CPR (compressions and ventilations) and continue to monitor the patient, ensuring that his or her airway remains open. It would be inappropriate to cancel the call for more advanced medical personnel. The patient still may require additional care and should be transported to a medical facility for evaluation. Although an automated external defibrillator (AED) would analyze the rhythm, there is no need to use it at this time since the patient has a pulse.

20. **b.** The ribs are part of the chest cavity, which is located in the trunk between the diaphragm and the neck and contains the lungs and heart. The pelvic cavity is located in the pelvis and is the lowest part of the trunk, containing the bladder, rectum and internal female reproductive organs. The abdominal cavity is located in the trunk below the ribs, between the diaphragm and the pelvis. It contains the organs of digestion and excretion, including the liver, gallbladder, spleen, pancreas, kidneys, stomach and intestines. The cranial cavity is located in the head and contains the brain.

21. **a.** Persistent chest pain that spreads to the jaw and neck and is accompanied by difficulty breathing suggests a heart attack. Angina normally is a transient condition in which the patient experiences chest pain but the pain does not spread and is relieved by medicine and/or rest.

22. **c.** Platelets are a solid component of blood used by the body to form blood clots when there is bleeding. Red blood cells carry oxygen to the cells of the body and take carbon dioxide away. White blood cells are part of the body’s immune system and help to defend the body against infection. Plasma is the straw-colored or clear liquid component of the blood that carries the blood cells and nutrients to the tissues, as well as waste products away from the tissues to the organs involved in excretion.
23. d. To perform the squat lift, you should stand with your weaker leg slightly forward, keeping the foot on the weaker side flat on the ground throughout the lift sequence. You should lead with your head, lifting your upper body before your hips.

24. d. In the out-of-hospital setting, unless you are provided with written documentation (or unless your state laws and regulations allow acceptance of oral verification [which most states’ laws do not]) or if there is any doubt as to whether a Do Not Resuscitate (DNR) order is valid or in effect, care should proceed as it would in the absence of a DNR order. However, in this case, the spouse has shown you a valid written DNR order and as such, you should honor the spouse’s statement and the patient’s wishes. You need to be aware of the DNR laws in your state. It would be important to notify medical direction to inform them of the situation, but not to inquire about how to proceed. Calling the physician for verification would not be appropriate at this time.

25. c. After a shock is delivered, a period of time is programmed into the device to allow for CPR until the next rhythm analysis begins. You should not wait for the device to re-analyze the rhythm because valuable time would be lost. If at any time you notice obvious signs of life, stop CPR, monitor the patient’s condition and leave the patient in a face-up position while maintaining an open airway.

26. a. Indications that breathing is adequate include lack of nasal flaring. A deviated trachea, muscles between the ribs pulling in on inhalation, pursed lips breathing, and tripod positioning (sitting upright and leaning forward) indicate inadequate breathing.

27. b. Tendons attach muscle to bone. Strong tough bands called ligaments hold the bones of a joint together. The patella is the kneecap. The coccyx is the tailbone.

28. d. Only personnel who must approach the helicopter should be permitted within the landing zone and only after the pilot has signaled that it is safe to approach. The cessation of tail rotor movement (which is dangerous), the medical crew exiting the aircraft and the helicopter coming to a stop are not appropriate indications that it is safe to approach the aircraft. Typically, you should allow the medical crew from the aircraft to approach you instead to prevent possible injury.

29. c. If a patient is conscious and has an obstructed airway, back blows, abdominal thrusts and chest thrusts have been proven to be effective in clearing an obstructed airway. Finger sweeps are used only on unconscious patients and only when you can see foreign matter in the patient’s mouth.

30. b. Since the patient is trapped under plywood and a scaffold, a pneumatic tool most likely would be used to lift the plywood and scaffold off of the patient. Ropes may be helpful in pulling the material off of the patient, but this pulling action could lead to further injury. Pliers or a shovel would not be helpful in this situation.

31. c. Information about a patient is considered private and confidential and is not shared with others except in certain cases, such as providing information to more advanced medical personnel who will take over care, for mandatory reporting or in certain legal circumstance.

32. b. The most basic level of EMS training is the EMR. The paramedic is the most advanced level of training.

33. d. If the pads risk touching each other, you should use an anterior/posterior pad placement with one pad placed in the middle of the child’s chest and the other placed on the child’s back, between the shoulder blades. Both pads must be used, should remain intact and should not touch each other.

34. a. Complex access methods include a ratcheting cable and tool cutter. Simple access methods include trying to open each door or the windows or having the patient unlock the doors or roll down the windows. Breaking the window glass would be inappropriate because it could cause injury to yourself and the patient.

35. b. When ventilations are too great or too forceful, air may enter the stomach, causing gastric distention. A blotchy skin discoloration, called mottling, indicates inadequate oxygenation, often caused by shock; it does not result from forceful ventilations. A neck injury would not occur with forceful ventilations; however, the patient may have a neck injury, depending on the mechanism of the injury. Failure of the chest to rise indicates that the airway is not open.

36. c. As with any conventional vehicle, removing the ignition key and disconnecting the battery will disable a hybrid’s high-voltage controller. However, some models may remain “live” for up to 10 minutes after the vehicle is shut off or disabled. Thus, a hybrid vehicle can remain silent and still be operational if the collision is
appropriate personnel for a response. Phase 3, en-route to the scene, involves getting to the scene. Phase 4, arrival at the scene and patient contact, involves approaching the scene, sizing up the scene and the situation, and ultimately beginning patient care.

60. c. Multiple sclerosis is a chronic disease that destroys the coating on the nerve cells in the brain and spinal cord interfering with the nerves' ability to communicate with each other. Its symptoms usually appear and disappear over a period of years. Muscular dystrophy is a group of genetic disorders in which patients experience progressive weakness and degeneration of the muscles, primarily skeletal muscles. In later stages of the disease, patients often develop respiratory problems requiring assisted ventilation.

61. d. During attempts to relieve the baby's airway obstruction, you would position the infant's head lower than the chest to facilitate drainage of air and fluid and passage of the obstruction.

62. b. When assessing this patient, speak slowly, clearly and calmly and allow sufficient time to ensure that the patient understands what you are saying. You also should speak to the patient at his eye level and turn on the lights to make it easier for you to see the patient. Although the wife can provide valuable information, you should not focus solely on her. Involve the patient and be sure to clearly explain what you are doing.

63. c. A nasal cannula provides the lowest concentration of oxygen, which ranges from 24 to 44 percent. A resuscitation mask delivers approximately 25 to 55 percent oxygen. A non-rebreather mask and BVM deliver an oxygen concentration of 90 percent or more.

64. b. While performing CPR when transporting a patient, you need to be secure and supported. You should spread your feet to shoulder width to maintain a secure stance and bend your knees to lower your center of gravity. Using the stretcher for balance would be inappropriate. If possible, have someone help you by holding onto your belt to stabilize you. In addition, you should ask the driver to call out if any bumpy areas or severe turns are coming up so that you can brace yourself.

65. b. To verify oxygen flow, listen for a hissing sound and feel for oxygen flow through the delivery device. The flowmeter dial should not change but should remain at the rate that is set. A pressure gauge reading below 200 pounds per square inch (psi) indicates that the cylinder needs to be replaced. The O-ring should be present to ensure a tight seal between the regulator and the tank.

66. d. When performing abdominal thrusts on an adult, stand behind the patient and make a fist with one hand, placing the thumb side of the fist against the middle of the patient's abdomen, just above the navel. Next grab the fist with your other hand and give quick, upward thrusts. You could kneel behind the patient if the patient was a child, depending on his or her size.

67. b. Penetrating injury occurs when the patient is hit by or falls onto something that penetrates or cuts through the skin, causing an open wound and bleeding. Blunt trauma occurs when someone falls against or is struck by an object with no sharp edges or points, often resulting in closed wounds, such as a contusion or a hematoma.

68. c. Unless you have received special training in handling hazardous materials (HAZMATs) and have the necessary equipment to do so without danger, you should not attempt to be a hero. Rather, you should stay clear of the scene, well away from the area or in the designated cold zone. Stay out of low areas where vapors and liquids may collect and stay upwind and uphill of the scene. It is common for responding ambulance crews approaching the scene to recognize a HAZMAT placard and immediately move to a safe area and summon more advanced help.

69. a. The term, “hard of hearing” is used to describe a person whose hearing is somewhat impaired but who still can rely on his or her hearing for communication. Deafness describes someone who is unable to hear well enough to rely on hearing as a means of communication. There are two types: conductive, which occurs when there is a problem with the outer or middle ear, and sensorineural, which is due to a problem with the inner ear and possibly the nerve that goes from the ear to the brain.

70. d. The first step is to ensure your personal safety. Once this is done, then you need to ensure the patient’s safety. Next, you would determine the mechanism of injury (MOI) and decide what additional resources are needed to keep you and the patient safe or to provide care.

71. b. In a young child, even a minor infection can result in a rather high fever, which often is defined as a temperature higher than 103°F. If a fever is present, call for more advanced medical help at once. Your care for a child with a high fever is to gently cool the child. Never rush
129. **d.** Full-thickness burns are painless, with no sensation to touch; are pearly white or charred; and also are dry and may appear leathery. Superficial partial-thickness burns are painful and reddened and blanch (turn white) when touched. Deep partial-thickness burns may or may not be painful or blanch when touched, but the hair usually is gone. Superficial burns have a painful, red area with no blisters and turn white when touched; often, the skin appears moist.

130. **a.** Based on the patient’s status, apply an occlusive dressing to the sucking chest wound because if this is not addressed, the patient’s status will deteriorate quickly. Once this is completed, institute measures to control the bleeding, assess for signs and symptoms of shock and administer emergency oxygen if available. Ventilations would be used if the patient’s respiratory status continues to deteriorate and her respiratory rate drops or she goes into respiratory arrest.

131. **b.** Withdrawal refers to the condition produced when a person stops using or abusing a substance to which he or she is addicted. Dependency refers to the desire to continually use the substance in order to function normally. Tolerance refers to the increase in substance amount and frequency to obtain the desired effect. Overdose refers to the use of an excessive amount of the substance.

132. **b.** Genital injuries, regardless of their location, typically are extremely painful. They can be open or closed wounds, and the severity of bleeding varies. Injuries to the penis usually occur as a result of an accident or assault. Straddle injury, sexual assault and childbirth are the most common situations associated with female genital injuries.

133. **c.** The priority is to get the patient out of the cold. Once the patient is removed from the cold, handle the area gently because rough handling can damage the body part. You should never rub the affected area since this can cause skin damage. The scenario does not suggest any dangers other than the cold environment, so scene safety is not a problem. Reorienting the patient would be appropriate if the patient was confused, and this would be done once you get the patient out of the cold.

134. **d.** In the hot zone, rescue, treatment for any life-threatening conditions and initial decontamination occur. In the warm zone, complete decontamination takes place and lifesaving emergency care, such as airway management and immobilization, occurs.

135. **c.** Traumatic asphyxia can result from injuries that often are caused by a strong crushing mechanism or by situations in which patients have been pinned under a heavy object. A patient shot in the chest, one with broken ribs from a fall and one with a sucking chest wound have the least risk for developing traumatic asphyxia.

136. **b.** The first priority with any snake bite is to wash the wound. You would need to keep the injured area still and lower than the heart. Apply an elastic roller bandage. Checking for infection would be done at a later time. Ice is not used with snake bites.

137. **c.** Although identifying the weapon, assessing the patients and following appropriate protocols are important, the top priority is to ensure your own safety. Without this, the other actions would be futile.

138. **d.** Any evidence that you collect while treating the patient for injuries should be isolated, and each piece of evidence needs to be bagged individually in a paper bag to prevent cross-contamination. Plastic bags do not allow air movement and cause the DNA to deteriorate due to moisture build up. You need to follow local protocols and give the evidence to the police as soon as possible.

139. **c.** Excited delirium syndrome is characterized by high body temperatures, increased body strength, insensitivity to pain and agitation.

140. **b.** When performing manual stabilization, call for more advanced medical personnel first and then place your hands on both sides of the patient’s head. Next, gently position the patient’s head in line with the body and support it in that position. Then maintain an open airway, control any external bleeding and keep the patient from getting chilled or overheated.

141. **c.** When establishing rapport, you should speak directly to the patient, maintain eye contact and tell the patient who you are and that you are there to help. Telling the patient to calm down would be inappropriate because the statement can be interpreted as threatening. You should not touch the patient without permission.

142. **a.** A *transient ischemic attack* (TIA), often referred to as a “mini-stroke,” is a temporary episode that, like a stroke, is caused by reduced blood flow to a part of the brain. Unlike a stroke, the signs and symptoms of a TIA (which are similar to a stroke) disappear within a few minutes or hours of its onset. If symptoms persist after 24 hours, the event is not considered a TIA but a