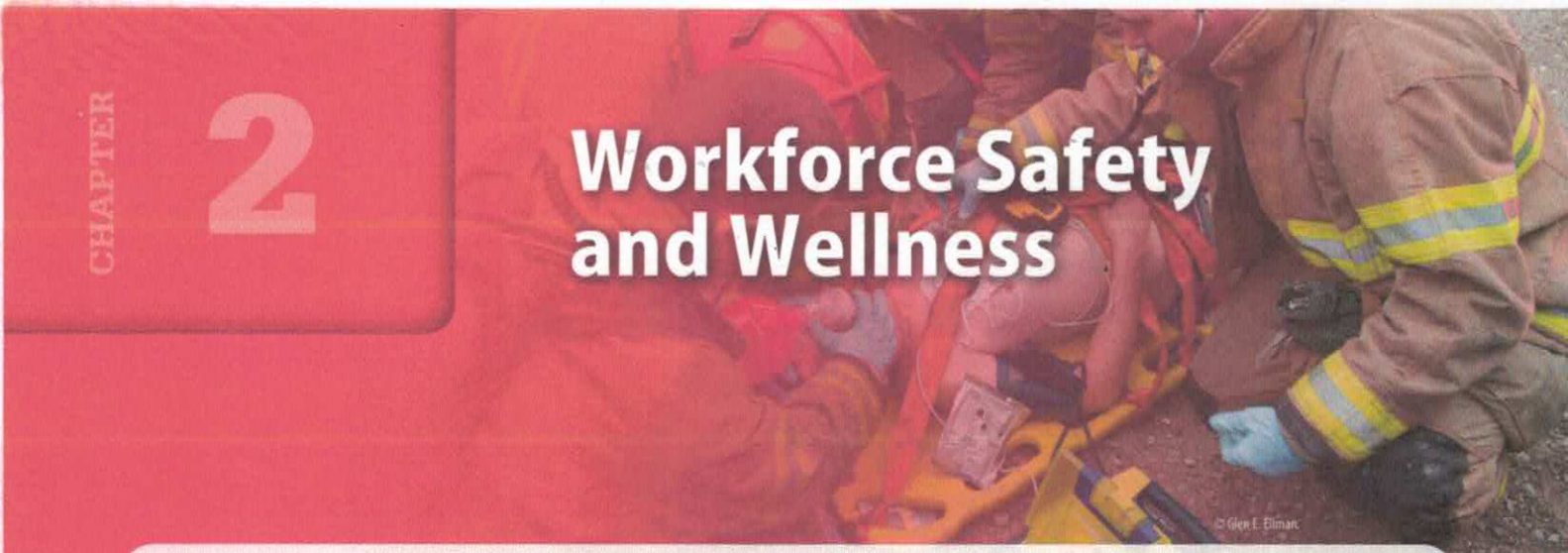
CHAPTER 2

Workforce Safety and Wellness



National EMS Education Standard Competencies

Medicine

Applies fundamental knowledge to provide basic emergency care transportation based on assessment findings for an acutely ill patient.

Infectious Diseases

Awareness of

- How to decontaminate equipment after treating a patient (pp 48–50)

Assessment and management of

- How to decontaminate the ambulance and equipment after treating a patient (pp 48–50)

Preparatory

Applies fundamental knowledge of the emergency medical services (EMS) system, safety/well-being of the emergency medical technician (EMT), medical/legal, and ethical issues to the provision of emergency care.

Workforce Safety and Wellness

- Standard safety precautions (pp 42–47)
- Personal protective equipment (pp 43–47)
- Stress management (pp 35–36, 67–70)
  - Dealing with death and dying (pp 65–67)
- Prevention of response-related injuries (pp 38, 52–58)
- Prevention of work-related injuries (pp 38, 52–58)
- Lifting and moving patients (p 38)
- Disease transmission (pp 40–42)
- Wellness principles (pp 35–40)

Knowledge Objectives

1. State the steps that contribute to wellness and their importance in managing stress. (pp 35–40)
2. Define infectious disease and communicable disease. (p 40)
3. Describe the routes of disease transmission. (pp 41–42)
4. Describe the routes of transmission and the steps to prevent and/ or deal with an exposure to hepatitis, tuberculosis, and HIV/AIDS. (pp 41–48)
5. Know the standard precautions used in treating patients to prevent infection. (pp 42–47)
6. Describe the steps to take for personal protection from airborne and bloodborne pathogens. (pp 42–47)
7. Explain proper handwashing techniques. (pp 43–44)
8. List the ways immunity to infectious diseases is acquired. (pp 50–51)
9. Explain postexposure management of exposure to patient blood or body fluids, including completing a postexposure report. (p 52)
10. Describe the steps necessary to determine scene safety and to prevent work-related injuries at the scene. (pp 52–58)
11. Describe the different types of protective clothing worn to prevent injury. (pp 58–61)
12. Explain the care of critically ill and injured patients. (pp 61–64)
13. Describe issues concerning care of the dying patient, death, and the grieving process of family members. (pp 65–67)
14. Know the physiologic, physical, and psychological responses to stress. (pp 67–69)
15. Describe posttraumatic stress disorder (PTSD) and steps that can be taken, including critical incident stress management, to decrease the likelihood that PTSD will develop. (pp 69–70)
16. Identify the emotional aspects of emergency care. (pp 69–70)
17. Recognize the stress inherent in many situations, such as mass-casualty scenes. (pp 70–71)
18. Recognize the possibility of violent situations and the steps to take to deal with them. (pp 72–73)
19. Describe how to recognize behavioral emergencies. (pp 73–74)
20. Discuss workplace issues such as cultural diversity, sexual harassment, and substance abuse. (pp 74–76)

Skills Objectives

1. Demonstrate how to properly remove gloves. (p 45, Skill Drill 2-1)
2. Demonstrate the steps necessary to take to manage a potential exposure situation. (p 49, Skill Drill 2-2)

Introduction

There is an ancient proverb, "Physician, heal thyself." As health care providers, physicians need to look after themselves—in all respects—so that they can minister to others. An ill physician is in no position to render care as he or she was trained to do. That dictum applies to all health care providers and goes well beyond just physical issues.

Your personal safety must always be foremost in your mind. If that is threatened, you will not ultimately be able to care for the patient.

As part of your training, you will learn how to recognize possible hazards to your health, safety, and well-being and how to protect yourself from them. These hazards vary greatly, ranging from personal neglect to environmental and human-made threats. You will learn how to cope with the mental and physical stress that result from caring for the sick and injured. Death and dying issues challenge you to deal with the realities of your own mortality and the emotions of the survivors.

Your emotional well-being and the patient's are intertwined, especially in high-stress rescues. This chapter discusses both caring for the well-being of the patient and caring for yourself.

General Health and Wellness

Wellness goes well beyond prevention of disease. Rather, it is a state of complete mental, physical, and social well-being. As a health care provider, you should model a lifestyle of health and wellness. This state of wellness must occur both at work, with protection from communicable disease and scene hazards, and at home by eating a balanced and healthy diet, participating in physical exercise, getting enough sleep, refraining from the use of tobacco, drugs, and excessive alcohol, and taking time to relax and enjoy life.

As an EMT, you will be called upon to work in less than ideal circumstances and situations. This may result in both acute and cumulative stress. Remember, your role as an EMT is to be prepared, anticipate needed resources, control the scene, and care for the patient. Once you arrive, the emergency is in the hands of a competent professional. The calm manner in which you approach the scene will help to calm the patient, family members, and bystanders.

Wellness and Stress Management

Anyone can respond to sudden physical stress for a short time. However, if stress is prolonged, and especially if physical action is not a permitted response, the body can quickly be drained of its reserves. This can leave you depleted of key nutrients, weakened, and more susceptible to illness.

Management of Acute Stress

Stress is defined as any event, thought, or action perceived as a threat. Even people who are completely healthy may be constantly dealing with stress. Though it is an undeniable and unavoidable part of life, understanding how stress affects you physiologically, physically, and psychologically can help you control your reactions and minimize the effects of stress.

Your job is to remain professional at all times. Regardless of how stressful the situation, you must focus on the following, in this order:

1. Personal safety
2. Scene safety, including safety of others
3. Patient care

YOU are the Provider PART 1

You have been working a regular EMS shift—24 hours on and 48 hours off—since you became a certified EMT less than 6 months ago. You receive a call at 0720 hours to 788 East Radcliffe for an unconscious child who is not breathing. You and your paramedic partner respond to the scene; an emergency medical responder (EMR) unit is dispatched at the same time. This is your first call involving a critically ill child.

1. How can you psychologically prepare yourself for this call?

Although stressful situations may test your limits, you must focus on patient care while ensuring a safe and secure scene. Utilize the help of others, including your partner, police, a supervisor, other additional personnel, or even bystanders, to help manage crisis situations. Stay calm while allowing patients to express their feelings. You may be inclined to express your personal opinion but it is your duty to remain professional and focused on patient care.

There are many methods of handling stress. Some are positive and healthy; others are harmful and destructive. Some estimates indicate Americans consume more than 10,000 tons of aspirin per year (more than 27 tons per day), and doctors in the United States prescribe to their patients muscle relaxants, tranquilizers, and sedatives more than 90 million times per year. Although these medications have legitimate uses, they do nothing to combat stress that may cause the medical problems described previously.

The term stress management refers to the tactics that have been shown to alleviate or eliminate stress reactions. These strategies may involve changing a few habits, changing your attitude, and perseverance Table 2-1.

A clue to the management of stress comes from the fact that it is not the event itself but the individual's reaction to it that determines how much it will strain the body's resources.

Words of Wisdom

An overabundance of stress must concern you. If your gut feeling is that things are out of balance, you may be right.

The following sections provide some suggestions for how to prevent the effects of stress from adversely affecting you.

Nutrition

Your body's three sources of fuel—carbohydrates, fat, and protein—are consumed in increased quantities during stress, particularly if physical activity is involved. The quickest source of energy is glucose, taken from stored glycogen in the liver. However, this supply will last less than a day. Protein, drawn primarily from muscle, is a long-term source of fuel. Tissues can use fat for energy. The body also conserves water during periods of stress. To do so, it retains sodium by exchanging and losing potassium from the kidneys. Other nutrients that are susceptible to depletion are the vitamins and minerals that are not stored by the body in substantial quantities. These include water-soluble B and C vitamins and most minerals.

Table 2–1 Strategies to Manage Stress

- Minimize or eliminate stressors as much as possible.
- Change partners to avoid a negative or hostile personality.
- Change work hours.
- Change the work environment.
- Cut back on overtime.
- Change your attitude about the stressor.
- Talk about your feelings with people you trust.
- Seek professional counseling if needed.
- Do not obsess over frustrating situations that you are unable to change, such as relapsing alcoholics and nursing home transfers; focus on delivering high-quality care.
- Try to adopt a more relaxed, philosophical outlook.
- Expand your social support system beyond your coworkers.
- Develop friends and interests outside emergency services.
- Minimize the physical response to stress by using various techniques, including:
  - Periodic stretching or yoga
  - Slow, deep breathing
  - Regular physical exercise (150 min per week, including cardiovascular effort)
  - Progressive muscle relaxation
  - Meditation
  - Limit intake of caffeine, alcohol, and tobacco use

As an EMT, you have little control of what stressors you will face on any given day. Consequently, stress in one form or another is an unavoidable part of your life. As you would study for a test, dress properly for a day of snow skiing, or train for a sporting event, you should physically prepare your body for stress. Physical conditioning and proper nutrition are the two variables over which you have absolute control. Muscles will grow and retain protein only with sufficient activity. Bones will not passively accumulate calcium. In response to the physical stress of exercise, bones store calcium and become denser and stronger. Regular, well-balanced meals are essential to provide the nutrients that are necessary to keep your body fueled Figure 2-1. Vitamin-mineral preparations that provide a balanced mix of all the nutrients may be necessary to supplement a less than perfectly balanced diet.

To perform efficiently, you must eat nutritious food. Food is the fuel that makes the body run. The physical exertion and stress that are a part of your job require a high energy output. If you do not have a ready source of fuel, your performance may be less than satisfactory. This can be dangerous for you, your partner, and your patient. Therefore, it is important for you to learn about and follow the guidelines of good nutrition.

In general, you should limit your consumption of sugar, fats, sodium, and alcohol. Candy and soft drinks contain sugar. These foods are quickly absorbed and converted to fuel by the body. But simple sugars also stimulate the body's production of insulin, which reduces blood glucose levels. For some people, eating a lot of sugar can actually result in lower energy levels.

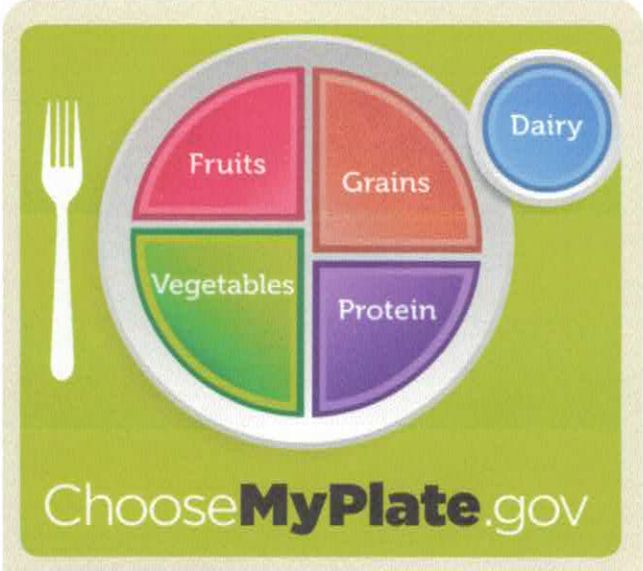


Figure 2-1 The USDA's MyPlate icon emphasizes healthy portions of vegetables, fruits, grains, proteins, and dairy.

Courtesy of the USDA Center for Nutrition Policy and Promotion.

Complex carbohydrates rank next to simple sugars in their ability to produce energy. Complex carbohydrates such as pasta, rice, and vegetables are among the safest, most reliable sources for long-term energy production. However, some carbohydrates take hours to be converted into usable body fuel.

Fats are also easily converted to energy, but eating too much fat can lead to obesity, cardiac disease, and other long-term health problems. The proteins in meat, fish, chicken, beans, and cheese take several hours to convert to energy. Consumption of fats should be limited to 10% of calories and should focus on monounsaturated and polyunsaturated fats while avoiding saturated fats or trans fats. It is also important to limit cholesterol intake and salt (sodium) intake.

Carry an individual supply of high-energy food to help you maintain your energy levels Figure 2-2. Eat several small meals throughout the day to keep your energy resources at constant high levels. However, remember, overeating may reduce your physical and mental performance. After a large meal, the blood that is needed for the digestive process is not available for other activities.

You must also maintain an adequate fluid intake Figure 2-3. Hydration is important for proper functioning. Fluids can be easily replenished by drinking any nonalcoholic, caffeine-free fluid. Water is generally the best fluid available because the body absorbs it faster than any other fluid. Avoid fluids that contain high levels of sugar. These can actually slow the rate of fluid absorption by the body and cause abdominal discomfort. One indication of adequate hydration is frequent urination. Infrequent urination or urine that has a deep yellow color indicates dehydration.

Figure 2-2 Carry a supply of high-energy food with you so you can maintain your energy levels.

© Monika Adamczyk/ShutterStock.

Exercise and Relaxation

Regular exercise will enhance the benefits of maintaining good nutrition and adequate hydration. When you are in good physical condition, you can handle job stress more easily. Regular exercise will increase your strength and endurance. To maintain good health,

you should engage in at least 30 minutes of physical activity at least 5 days per week. Exercise should be moderate or vigorous to have good health benefits. In other words, you should break a sweat Figure 2-4. You may also wish to practice relaxation techniques, meditation, and visual imagery.

Your exercise routine should involve aspects of cardiovascular endurance, muscular strength building, and muscle flexibility. Endurance will ensure your cardiovascular system is able to provide your muscles and brain with needed oxygen. Strength and flexibility building ensures the body is able to handle the requirements that you will place on it by lifting patients, performing cardiopulmonary resuscitation (CPR), and moving heavy equipment.

Remember, if you do not use it, you will lose it. Plan activities ahead of time and use strategies that make your sessions convenient. Is there a gym or exercise facility near your home or en your route to work? Is there a walking path or a football stadium with a running track accessible?

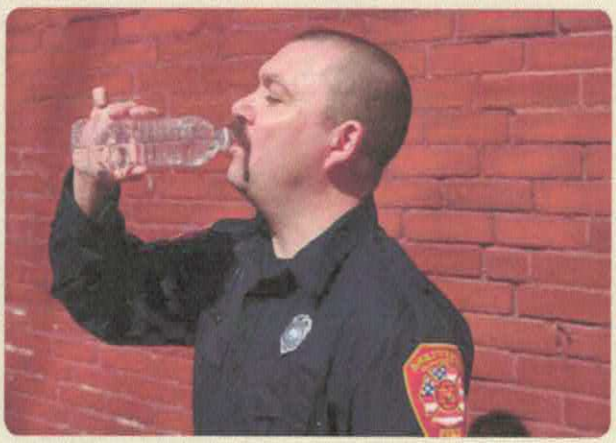


Figure 2-3 Maintain an adequate fluid intake by drinking plenty of water or other nonalcoholic, caffeine-free fluids.

Figure 2-4 A regular program of exercise will increase strength and endurance.

Safe Lifting Practices. We have already discussed the physical requirements of being an EMT. Lifting 125 lb (57 kg) can be difficult if you do not exercise regularly. Lifting is one of the things you will do often, so safe lifting techniques are critical to your health and well-being. Back injuries are a common reason for on-the-job injuries within EMS. Chapter 8, *Lifting and Moving Patients*, discusses lifting and moving in depth. For your health and well-being, remember these tips:

- Preplan the move
- Bend your legs, not your waist
- Keep the weight close to your body
- Lift straight up using your legs, not your back

Sleep

Good productive sleep is as important as eating well and exercise in the maintenance of good health. Sleep should be regular and uninterrupted. The number of hours is not nearly as important as the quality of sleep. Unfortunately, you may not have the luxury of sleeping through the night. In lieu of a full night of sleep, cumulative sleep hours are very important, so taking short naps may help.

The signs that your sleep pattern is ineffective include:

- You fall asleep within seconds of lying down.
- You find yourself routinely fatigued within an hour or so after an EMS call. The excitement is over and now your adrenaline rush crashes.
- You are unable to make it through an entire day without severe fatigue.
- You are unable to concentrate on repetitive tasks such as driving or completing paperwork.

Actions you can take to improve your sleep include limiting your caffeine and alcohol intake and tobacco use. These agents have stimulating effects that can interrupt sleep. Since alcohol is both a stimulant and a depressant, routine or excessive use of alcohol can change sleep patterns, preventing deep sleep from occurring. Try to create as consistent a sleep cycle as possible. This may require naps. Many

EMS providers are able to change their sleep pattern into several sleep episodes throughout the day.

If you are unable to get 8 straight hours of sleep, three sleep episodes of 2 to 3 hours each can provide similar effects. Each sleep episode needs to be more than 1 hour in length to allow for deep sleep. Finally, do not forget the effects of exercise and sleep. Routine exercise will promote the needed fatigue to slip into a restful sleep.

Disease Prevention

Besides sleep, diet, exercise, hydration, and all the other things that make up a healthy lifestyle, you need to be aware of your hereditary factors. Consider what you might know about your immediate family's and your ancestors' health. Alzheimer disease, chemical addiction, cancer, cardiac illness, hypertension, migraines, mental illness, and stroke all feature prominent hereditary factors. The most common of all hereditary factors are heart disease and cancer.

Share this information with your personal physician. Your physician is bound by the same oath of confidentiality that you are. Work with him or her to set up a schedule for health assessments, building them into your routine physical check-ups. Your physician should be your ally in screening you for these diseases and in assessing your lifestyle as well as your hereditary factors.

Knowing your hereditary factors will help you adjust your lifestyle to help prevent disease. For example, if you have a history of diabetes in your family, exercise and diet are critical to your well-being. Maintaining a healthy weight and a consistent exercise routine will help minimize your risk of this disease developing.

Smoking and Tobacco. If you don't already smoke, please don't start! If you do, please stop! Not only does this habit fly in the face of everything that EMS stands for, it also produces many of the most horrible cardiovascular and lung disasters that you will confront during your career. In addition, it sets an awful example for the public—especially to people who have breathing disorders such as asthma. And it makes you look and smell like anything but a professional caregiver.

Are you a smoker who is trying to quit? Several strategies can help you. First, try to cultivate a relationship with a mentor who was once truly addicted to tobacco but who has successfully quit smoking. Use that person as a support, and draw on his or her advice and encouragement. There are also programs that attack a smoker's psychologic dependency. These programs may include instructions and audio that provide ongoing support. Other options include therapy, hypnotism, and acupuncture.

Talk to your primary care physician. Your physician should be familiar with more techniques. All of these solutions are cheaper than cigarettes and their associated health risks.

While cigarette use among adults has declined from 42% in 1965 to 18% in 2012, cigarettes remain the most common form of tobacco use in the United States. Use of other tobacco products, including smokeless tobacco (chewing tobacco and snuff), is still common and has actually increased over the past several years. All forms of tobacco are harmful and must be avoided.

In recent years, electronic cigarettes (e-cigarettes) have become a popular alternative to tobacco cigarettes. Also called electronic nicotine delivery systems (ENDS) or personal vaporizers (PVs), these devices simulate smoking tobacco by producing an aerosol made by vaporizing a flavored liquid solution. Though studies indicate that e-cigarettes are less dangerous than their tobacco counterparts, the extent of their danger has not yet been determined. Consequently, these devices should be avoided.

Alcohol Abuse. Acceptable alcohol consumption is considered to be one or two drinks per day (one for women, two for men). Definitions of excessive drinking are shown in Table 2-2. In most cases, people who drink excessively are not alcoholics or alcohol dependent.

According to the Centers for Disease Control and Prevention (CDC), excessive alcohol use causes

Table 2-2 Definitions of Excessive Drinking

	Binge Drinking	Heavy Drinking
Men	5 or more drinks during a single occasion	15 or more drinks per week
Women	4 or more drinks during a single occasion	8 or more drinks per week

Data From: Alcohol Use and Your Health. National Center for Chronic Disease Prevention and Health Promotion. Division of Population Health. Centers for Disease Control and Prevention. http://www.cdc.gov/alcohol/pdfs/alcoholyourhealth.pdf. Accessed 10/28/14.

approximately 88,000 deaths per year in the United States with an economic cost of more than $200 billion per year. Approximately 75% of the total cost of alcohol abuse is attributed to binge drinking.

Some studies have touted the health benefits related to alcohol, such as improved heart health from drinking red wine. The CDC notes that no one should start drinking or drink more frequently based on potential reported health benefits. While these benefits may exist, increased alcohol use may adversely impact other body systems, including the cardiovascular, hepatic, immune, and central nervous systems. Excessive alcohol use may also increase the risk of various cancers developing, including those of the mouth, throat, breast, esophagus, and liver.

Drug Use. Both prescription medications and illegal, or illicit, drugs may be abused or misused. Both are potentially dangerous and may lead to numerous additional health problems. According to the CDC, drug abuse costs the United States more than $190 billion annually in lost work productivity, health care, and crime.

Illicit drug use is both illegal and unhealthy, typically resulting in a snowball effect of bad outcomes. Many EMS agencies drug test their employees. Those who test positive for illegal drugs face suspension and/or dismissal. Needless to say, avoid all illegal drugs; take only those drugs prescribed for you personally by a physician, and take them only as directed. If any type of restricted schedule or narcotic drug is prescribed (usually while you are off duty), be sure to notify your employer of the situation.

Balancing Work, Family, and Health

As an EMT, you will often be called to assist the sick and injured any time of the day or night. Unfortunately, there is no rhyme or reason to the timing of illness, injury, or interfacility transfer. Volunteer EMTs may often be called away from family or friends during social activities. Shift workers may be required to be apart from loved ones for long periods of time. You should never let the job interfere excessively with your own needs. Find a balance between work and family; you owe it to yourself and to your family. It is important to make sure you have the time that you need to relax with family and friends.

It is also important to realize that coworkers, family, and friends often may not understand the stress caused by responding to EMS calls. As a result of a "bad call," you might not feel like going out to a movie or attending a planned family event. In these situations, help from a critical incident stress management team or information sessions conducted by your EMS unit's employee assistance program may assist you in resolving these issues.

When possible, rotate your schedule to give yourself time off. If your EMS system allows you to move from station to station, rotate to reduce or vary your call volume. Take vacations to lower stress and improve your physical health so you will be able to better respond the next time you are needed. If at any point you feel the stress of work is more than you can handle, seek help. You may want to discuss your stress informally with your family or coworkers. Help from more experienced team members can be invaluable. You may also wish to get help from peer counselors or other professionals. Seeking help does not make you weak in the eyes of others. Rather, it shows that you are in control of your life.

Infectious and Communicable Diseases

As an EMT, you will be called on to treat and transport patients with a variety of infectious or communicable diseases. An **infectious disease** is a medical condition caused by the growth and spread of small, harmful organisms within the body. A **communicable disease** is a disease that can be spread from one person or species to another. Immunizations, protective techniques, and simple handwashing can dramatically minimize the health care provider's risk of **infection**. When these protective measures are used, the risk of the health care provider contracting a serious disease is negligible.

Familiarize yourself with the following terminology related to infectious diseases. A **pathogen** is a microorganism that is capable of causing disease in a susceptible host. **Contamination** is the presence of infectious organisms or foreign bodies on or into objects such as dressings, water, food, needles, wounds, or a patient's body. **Exposure** is a situation in which a person has had contact with blood, body fluids, tissues, or airborne particles in a manner that may allow disease transmission to occur. **Personal protective equipment (PPE)** is protective equipment

Words of Wisdom

All communicable diseases are infectious, but not all infectious diseases are easily communicable. For example, hepatitis B is an infectious disease that is communicable. However, *Salmonella* is infectious, but not communicable.

that an individual wears to prevent exposure to a pathogen or a hazardous material.

Routes of Transmission

Whereas all infections result from an abnormal invasion of body spaces and tissues by germs, different germs use different means of attack, or mechanisms of transmission. **Transmission** is the way an infectious disease is spread. There are several ways infectious diseases can be transmitted: contact (direct or indirect), airborne, foodborne, and vector-borne (transmitted through insects or parasitic worms).

Contact transmission is the movement of an organism from one person to another through physical touch. There are two types of contact transmission: direct and indirect. **Direct contact** occurs when an organism is moved from one person to another through touching without any intermediary.

The scenario of a vehicle crash can help you understand how transmission occurs through direct contact. The driver of the vehicle has **hepatitis** B and is bleeding from an arm injury. The EMT caring for the patient is not wearing gloves and has a small unnoticed cut on his hand. As he touches the patient, the hepatitis B virus moves from the victim's wound into the EMT's body through the cut on his hand, thus infecting him Figure 2-5. This is an example of direct contact where blood is the vehicle. **Bloodborne pathogens** are microorganisms that are present in human blood and can cause disease in humans. Another example of direct contact is sexual transmission. Patients who are infected with the **human immunodeficiency virus (HIV)** can transfer the virus to their partners during sexual intercourse.

Figure 2-5 Finger infection resulting from not wearing gloves during contact with a patient.

Words of Wisdom

Fungi are small, plantlike organisms such as yeast. Fungi cause many common conditions such as athlete's foot and jock itch. Protozoa are single-cell animal-like microorganisms. Protozoa cause malaria. Helminths are worms such as roundworms, pinworms, and hookworms. These worms are parasites that can infect people and cause serious health problems.

Indirect contact involves the spread of infection from the patient with an infection to another person through an inanimate object. The object that transmits the infection is called a fomite. Using the same patient from the example above, the EMT wore gloves. As the EMT was caring for the patient, blood got onto the ambulance stretcher. If the stretcher is not properly cleaned afterward, the virus remains on the stretcher and can be transmitted to someone else days later.

Needlesticks are another example of how infection spreads through indirect contact. In this case, the virus moves from the patient to the needle to the health care provider. This route of transmission was common many years ago before the advent of safety equipment such as needleless IV systems.

Airborne transmission involves spreading an infectious agent through mechanisms such as droplets or dust. The common cold is moved from person to person by coughing and sneezing. Interestingly, when a person sneezes, the moisture from the airway moves forcefully and quickly through a narrow opening. If the moisture droplets are large, they travel short distances and can be involved in direct contact transmission. If the moisture droplets are very small, they are turned into an aerosol and can now float in the air for long distances. Sneezing actually can transmit disease through direct contact and airborne routes Figure 2-6.

Because of airborne transmission, it is unsanitary to use your hands to cover a cough or sneeze because the organisms travel onto your hands. If you then touch a telephone, doorknob, or a patient, the organisms will travel. Using a tissue when coughing or sneezing is better for controlling the spread of organisms, but you then have a piece of paper full of organisms. One of the best techniques to avoid contaminating your hands is to cough or sneeze into your arm. Since you do not touch objects with your inner arms, the risk of moving organisms to an object or person is reduced Figure 2-7. The organisms are trapped in the fabric and will eventually die.

Foodborne transmission involves the contamination of food or water with an organism that can cause disease. When food is prepared, it is important to ensure raw meats do not come into contact with other foods to prevent the spread of bacteria. It is also important that food is prepared and stored properly at all times to minimize the possibility of illness. Proper cleaning of food preparation surfaces before and after use also helps to decrease the likelihood of transmitting foodborne bacteria.

Vector-borne transmission involves the spread of infection by animals or insects that carry an organism from one person or place to another. The Black Death in Europe and Asia in the Middle Ages killed more than 25 million people. This bacterial disease was caused by infected fleas that live on rats. As the rats moved, so did their fleas, carrying the bubonic plague. Other vector-borne diseases include rabies and Lyme disease.

Figure 2-6 Coughing and sneezing create droplets and aerosols.

Risk Reduction and Prevention for Infectious and Communicable Diseases

Standard Precautions

The **Occupational Safety and Health Administration (OSHA)** develops and publishes guidelines concerning reducing hazards in the workplace. It is also responsible for enforcing these guidelines. OSHA requires all EMTs to be trained in handling bloodborne pathogens and in approaching the patient who may have an infectious or communicable disease. Training must be provided for issues including blood and body fluid precautions, airborne precautions, and contamination precautions.

Because health care workers are exposed to so many different kinds of infections, the **Centers for Disease Control and Prevention (CDC)** developed a set of **standard precautions** for health care workers to use in treating patients. Standard precautions are protective measures designed to prevent health care workers from coming into contact with objects, blood, body fluids, and other potential risks that could lead to exposure to germs. The CDC recommendation from 2007 is to assume that every person is potentially infected or can spread an organism that could be transmitted in the health care setting; therefore you must apply **infection control** procedures—procedures to reduce infection in patients and health care personnel. Table 2-3 summarizes the CDC recommendations. You must also notify your **designated officer** if you are exposed.

Figure 2-7 Coughing and sneezing techniques. **A.** Poor coughing and sneezing technique allows for spread of germs. **B.** Acceptable coughing and sneezing technique limits the spread of germs somewhat. **C.** Best coughing and sneezing technique minimizes the extent to which germs can spread.

Table 2-3 Standard Precautions for the Care of All Patients in All Health Care Settings, Centers for Disease Control and Prevention 2007

Component	Recommendations
Hand hygiene	▪ After touching blood, body fluids, secretions, excretions, or contaminated items ▪ Immediately after removing gloves ▪ Between patient contacts
Personal Protective Equipment (PPE)	
Gloves	▪ For touching blood, body fluids, secretions, excretions, or contaminated items ▪ For touching mucous membranes and nonintact skin
Gown	▪ During procedures and patient care activities when contact of the EMT's clothing/exposed skin to blood, body fluids, secretions, excretions, or contaminated items is anticipated
Mask, eye protection, face shield	▪ During procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Examples include suctioning or endotracheal intubation
Patient Care Environment	
Soiled patient care equipment	▪ Wear gloves ▪ Handle in a manner that prevents transfer of microorganisms to others and to the environment ▪ Hand hygiene
Environmental controls	▪ Have procedures for the routine care, cleaning, and disinfection of environmental surfaces ▪ Special attention to frequently touched surfaces within the ambulance (handrails, seats, cabinets, doors)
Textiles and laundry	▪ Handle in a manner that prevents transfer of microorganisms to others and to the environment
Needles and other sharp objects	▪ Do not recap, bend, break, or hand-manipulate used needles ▪ Use safety features when available (needleless IV systems) ▪ Place sharps in puncture-resistant containers
Special Circumstances	
Patient resuscitation	▪ Use mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions
Respiratory hygiene/cough etiquette	▪ Instruct symptomatic patients to cover mouth/nose when sneezing or coughing ▪ Use tissues and dispose in no-touch receptacle ▪ Perform hand hygiene after touching tissues ▪ Place surgical mask on patient/provider ▪ If mask cannot be used, maintain special separation (> 3 ft) if possible

Proper Hand Hygiene

Proper handwashing is the simplest yet most effective way to control disease transmission Figure 2-8. You should always wash your hands before and after contact with a patient, even if you wear gloves. The longer the germs remain with you, the greater the chance they will get through your barriers. Any breaks in the skin such as tiny cuts and abrasions are potential access points for pathogens. Although soap and water are not protective in all cases, in certain cases they

Figure 2-8 When washing hands, rub your hands together for at least 20 seconds to work up a lather. Pay particular attention to your fingernails, between fingers, and the back of the hands.

provide excellent protection against further transmission from your skin to others.

Rinse your hands using warm water. If running water is not available, you may use waterless handwashing substitutes Figure 2-9. These solutions can kill many potential bacterial infections. If you use a waterless substitute in the field, make sure you wash your hands using soap and water at the hospital. Finally, dry your hands with a paper towel, and use the paper towel to turn off the faucet.

Gloves

Gloves and eye protection are the minimum standard for all patient care if there is any possibility for exposure to blood or body fluids. Vinyl, nitrile, and latex gloves provide adequate protection. Your department may prefer one type of glove over the other, or you may have the freedom to choose yourself. You should evaluate each situation and choose the glove that works best. (Some patients are allergic to latex. If you suspect you are allergic, consult your supervisor for options.) Vinyl gloves may be best for situations with minimal patient contact or nonsterile procedures, and nitrile or latex gloves may be best for invasive procedures where sterility is required. Change gloves if they have been exposed to motor oil, gasoline, or any petroleum-based product. Do not use petroleum jelly with latex gloves. Wear double gloves if there is substantial bleeding. You may also wear double gloves if you will be exposed to large volumes of other body fluids. Be sure to change gloves as you move from patient to patient. For cleaning and disinfecting the unit, you should use heavy-duty utility gloves Figure 2-10. You should never use lightweight latex or vinyl gloves for cleaning.

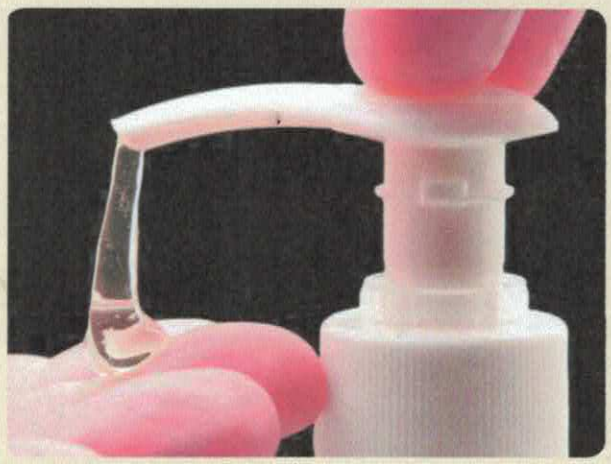


Figure 2-9 Use a waterless handwashing solution if running water is not available. Be sure to wash your hands with soap and water once you arrive at the hospital.

Figure 2-10 Use heavy-duty utility gloves to clean the unit. You should not use lightweight latex or vinyl gloves for cleaning.

Removing used latex or vinyl gloves requires a methodical technique to avoid contaminating yourself with the materials on the outside of the gloves. Skill Drill 2-1.

1. Begin by partially removing one glove. With your other gloved hand, pinch the first glove at the wrist—being certain to touch only the outside of the first glove—and start to roll it back off your hand, inside out. Leave the exterior of the fingers on that first glove exposed Step 1.

2. Use the gloved fingers to pinch the wrist of the second glove and begin to pull it off, rolling it inside out toward the fingertips as you did with the first glove Step 2.
3. Continue pulling off the second glove until you can pull the second hand free Step 3.
4. With your now-ungloved second hand, grasp the exposed inside of the first glove and pull it free of your first hand and over the now-loose second glove. Be sure that you touch only clean, interior surfaces with your ungloved hand Step 4.

Gloves are the most common type of personal protective equipment (PPE). In many EMS rescue operations, you must also protect your hands and wrists from injury. You may wear puncture-proof leather gloves, with latex gloves underneath. This combination will allow you free use of your hands with added protection from blood and body fluids. Remember that soiled latex or vinyl gloves are considered medical waste and must be properly disposed. Also remember many patients have life-threatening allergies to latex gloves. Leather gloves must be treated as contaminated material until they can be properly decontaminated.

Eye Protection and Face Shields

Eye protection is important in case blood splatters toward your eyes Figure 2-11. Blood splatters are a significant possibility in most trauma situations and many medical situations. Wearing goggles is your

Skill Drill 2-1 Proper Glove Removal Technique

Step 1

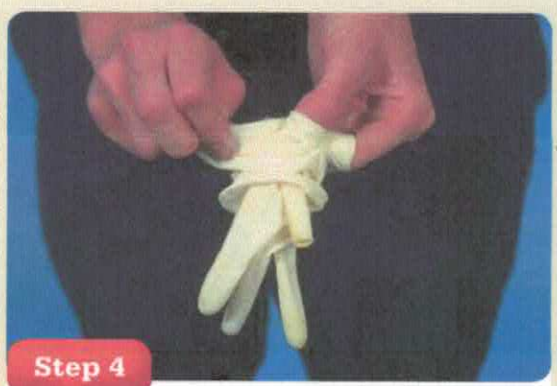
Partially remove the first glove by pinching at the wrist. Be careful to touch only the outside of the glove.

Step 2

Remove the second glove by pinching the exterior with your partially gloved hand.

Step 3

Pull the second glove inside out toward the fingertips.



Step 4

Grasp both gloves with your free hand, touching only the clean, interior surfaces.

best protection. Providers who wear prescription eyeglasses will also need additional protection for their eyes. Prescription eyeglasses offer little side protection. Contact lenses do not offer any added protection from splashing. Face shields will also provide good eye protection Figure 2-12.

Gowns

Occasionally, you may need to wear a gown. A gown provides protection from extensive blood splatter. Gowns may be worn in situations such as field delivery of a baby or major trauma. However, wearing a gown may not be practical in many situations. In fact, in some instances, a gown may pose a risk for injury. Your department will likely have a policy regarding gowns. Be sure you know your local policy. There are times when a change of uniform is preferred because trying to clean off contaminants is difficult and sometimes impossible without professional cleaning and disinfection or disposing of the uniform entirely.

Figure 2-11 Wear eye protection to prevent blood splatter into your eyes.

Figure 2-12 The surgical mask/face shield combination.

Masks, Respirators, and Barrier Devices

Wearing masks is a complex issue, especially in light of OSHA and CDC requirements regarding protection from tuberculosis. You should wear a standard surgical mask if blood or body fluid spatter is a possibility. If you suspect a patient has an airborne disease, you should place a surgical mask on the patient. However, if you suspect the patient has tuberculosis, place a surgical mask on the patient and a particulate air respirator, such as an N95 mask, on yourself Figure 2-13. If the patient needs oxygen, place a nonrebreathing mask instead of a surgical mask on the patient and set the oxygen flow rate at 10 to 15 L/min. Do not place a particulate respirator on the patient; it is unnecessary and uncomfortable. A simple surgical mask will reduce the risk of transmission of germs from the patient into the air. Use of a particulate respirator should comply with OSHA standards, which state facial hair, such as long sideburns or a mustache, will prevent a proper fit. Particulate respirators must be fit-tested to ensure their efficacy.

Although there are no documented cases of disease transmission to rescuers as a result of performing unprotected mouth-to-mouth resuscitation on a patient with an infection, you should use a pocket mask or bag-valve mask Figure 2-14. Mouth-to-mouth resuscitation is rarely necessary in a work situation.

Remember, outside surfaces of these devices are considered contaminated after they have been exposed to the patient. You must make sure gloves, masks, gowns, and all other PPE items that have been exposed to infectious processes or blood are properly disposed of according to local guidelines. If you

Figure 2-13 Wear a particulate respirator if you treat a patient you suspect has tuberculosis.

Figure 2-14 Barrier devices such as a pocket mask provide protection when providing mouth-to-mask ventilation.

are stuck by a needle, get blood or body fluids in your eye, or have significant body fluid contact with the patient, immediately report the incident to your supervisor.

Proper Disposal of Sharps

Be careful when handling needles, scalpels, and other sharp items. The spread of HIV and hepatitis in the health care setting can usually be traced back to careless handling of sharps.

- Do not recap, break, or bend needles. Even the most careful providers may expose themselves through an accidental needlestick.
- Dispose of all sharp items that have been in contact with human secretions in approved, closed, rigid containers Figure 2-15.

Employer Responsibilities

Your employer cannot guarantee a 100% risk-free environment. The risk of being exposed to a communicable disease is a hazard of your job. You have a right to know about diseases that may pose a risk to you. Remember,

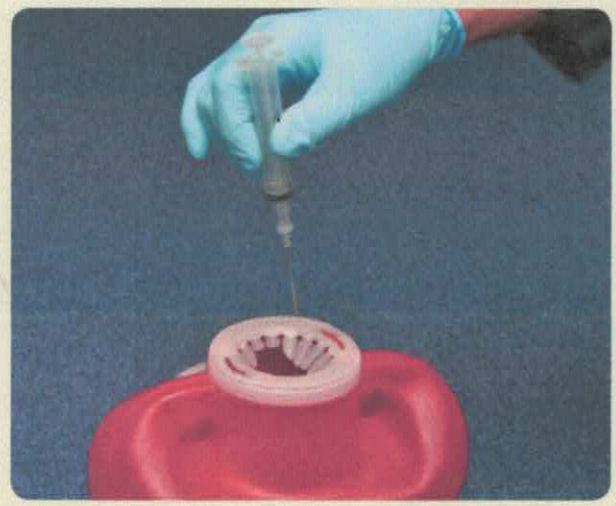


Figure 2-15 Properly dispose of sharps in a closed, rigid, marked container.

though, your risk for infection is not high; however, OSHA regulations, especially for private and federal agencies, require that all employees be offered a workplace environment that reduces the risk for exposure. Note, in some states that have their own OSHA plans, state and municipal employees must also be covered.

In addition to OSHA guidelines, other national guidelines and standards, including those from the CDC and National Fire Protection Agency (NFPA) Infection Control Standard 1581, address reducing the risk of exposure to bloodborne pathogens (disease-causing organisms) and airborne diseases. These agencies set a standard of care for all fire and EMS personnel and apply whether you are a full-time paid employee or a volunteer. It is your responsibility to know your department's infection control plan and to use it Table 2-4.

Establishing an Infection Control Routine

Infection control should be an important part of your daily routine. Follow the steps in Skill Drill 2-2 to manage potential exposure situations:

1. En route to the scene, make sure that PPE is out and available Step 1.
2. On arrival, make sure the scene is safe to enter, then perform a rapid scan of the patient, noting whether any blood or body fluids are present.
3. Select the proper PPE according to the tasks you are likely to perform. Typically gloves will be used for all patient contacts Step 2.

Table 2-4 Components of an Infection Control Plan

Determination of Exposure Risk

- Determines who is at risk for ongoing contact with blood and other body fluids
- Creates a list of tasks that pose a risk for contact with blood or other body fluids
- Includes personal protective equipment (PPE) required by OSHA

Education and Training

- Explains why a qualified individual is required to answer questions about communicable diseases and infection control, rather than relying on packaged training materials
- Allows for an instructor able to train EMTs regarding bloodborne and airborne pathogens, such as hepatitis B and C, human immunodeficiency virus, syphilis, and tuberculosis
- Ensures the instructor provides appropriate education, which is the best means for dispelling many myths surrounding these issues

Hepatitis B Vaccine Program

- Describes the vaccine offered, its safety and efficacy, record keeping, and tracking
- Addresses the need for postvaccine antibody titers to identify patients who do not respond to the initial three-dose vaccination series

Personal Protective Equipment (PPE)

- Lists the PPE offered and why it was selected
- Lists how much equipment is available and where to obtain additional PPE
- States when each type of PPE is to be used for each risk procedure

Cleaning and Disinfection Practices

- Describes how to care for and maintain vehicles and equipment
- Identifies where and when cleaning should be performed, how it is to be done, what PPE to use, and what cleaning solution to use
- Addresses medical waste collection, storage, and disposal

Tuberculin Skin Testing/Fit Testing

- Addresses how often employees should undergo skin testing
- Addresses how often fit testing should be done to determine the proper size mask to protect the EMT from tuberculosis
- Addresses all issues dealing with particulate respirator masks

Postexposure Management

- Identifies who to notify when an exposure occurs, forms to be filled out, where to go for treatment, and what treatment to give

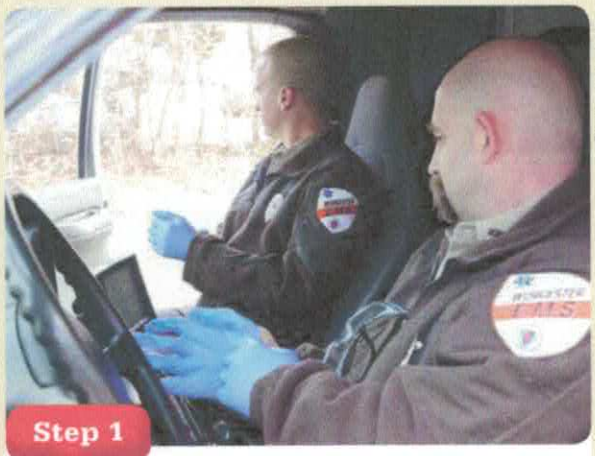
Compliance Monitoring

- Addresses how the service or department evaluates employee compliance with each aspect of the plan
- Ensures employees understand what they are to do and why it is important
- States that noncompliance should be documented
- Indicates what disciplinary action to take in the face of continued noncompliance

Record Keeping

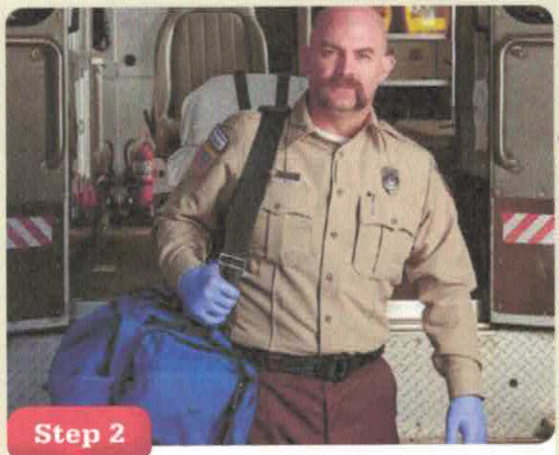
- Lists all records to keep, how confidentiality will be maintained, and how, when, and by whom records can be accessed

Skill Drill 2-2 Managing a Potential Exposure



Step 1

En route to the scene, make sure that PPE is out and available.



Step 2

On arrival, make sure the scene is safe to enter, then perform a rapid scan of the patient, noting whether any blood or body fluids are present. Select the proper PPE according to the tasks you are likely to perform. Typically, gloves will be used for all patient contacts.

4. Change gloves and wash hands between patients; don PPE as quickly as possible to minimize time spent before initiating care. Remove gloves and other gear after contact with the patient, unless you are in the patient compartment. Remember that good hand hygiene is always necessary.
5. Limit the number of people who are involved in patient care if there are multiple injuries and a substantial amount of blood at the scene.
6. If you or your partner is exposed while providing care, try to relieve one another as soon as possible so that you can seek care, including basic first aid care such as cleaning and dressing a wound. Notify the designated officer and report the incident. This will also help to maintain confidentiality for both the patient and for you.

Be sure to routinely clean the ambulance after each run and on a daily basis. Cleaning is an essential part of the prevention and control of communicable diseases, ensuring removal of surface organisms that may remain in the unit. You should clean your unit as quickly as possible so it can be returned to service. Address the high-contact areas, including surfaces that were in direct contact with the patient's blood or body fluids or surfaces that you touched while caring for the patient after having contact with the patient's blood or body fluids. More information about decontaminating the ambulance can be found in Chapter 37, *Transport Operations*.

Whenever possible, cleaning should be done at the hospital. If you clean the unit back at the station, make sure you have a designated area with good ventilation. Any medical waste should be put in a red biohazard bag and disposed of at the hospital whenever possible. Any contaminated equipment that is left with the patient at the hospital should be cleaned by hospital staff or put in a red bag for transport and cleaning at the station.

You can use a bleach and water solution at a 1:10 dilution to clean the unit. The solution you mix should not have a strong odor of bleach if mixed correctly. A hospital-approved disinfectant that is effective against *Mycobacterium tuberculosis* can also be used. Use the cleaning solution in a bucket or use a pistol-handled spray container. Do not use alcohol or aerosol spray products to clean the unit. Pay attention to disinfectant directions.

Bleach solutions and most disinfectant agents will require air drying to be effective. Do not routinely go back over sprayed surfaces and dry them. Allow the sprayed surfaces to air dry unless otherwise indicated in the product directions.

Figure 2-16
Contaminated linen and other wastes should be bagged appropriately and disposed of according to your local protocols.

Remove contaminated linen and place it into an appropriate bag for handling. Each hospital may have a different system for handling contaminated linen; you should learn hospital or department protocols Figure 2-16.

Any reusable medical equipment should be properly cleaned and sterilized per your department's standard operating procedures. Keep in mind that in hospitals entire departments are devoted to sterilizing medical instruments. Proper sterilization requires the right tools and the right skills, so always carefully follow your department's procedures.

Learn the regulations defining medical waste in your area. The disposal of infectious waste, such as needles, sharps, and heavily soiled dressings, may vary from hospital to hospital and from state to state.

Immunity

Even if germs do reach you, you are not necessarily at risk for infection. For example, you may be **immune**, or resistant, to those particular germs. Immunity is a major factor in determining which **hosts** (the organism or the individual that is attacked by the infecting agent) become ill from which germs Table 2-5. One way to gain immunity from many diseases today is to be immunized, or vaccinated, against them. Vaccinations have almost eliminated some childhood diseases, such as measles and polio.

Another way in which the body becomes immune to a disease is to recover from an infection from that germ. Afterward, the body's immune system recognizes and repels that germ when it shows up again. Once exposed, healthy people will develop lifelong immunity to many common pathogens. For example, a person who contracts and becomes infected with

YOU are the Provider PART 2

You arrive at the scene, enter the residence, and find two EMRs performing cardiopulmonary resuscitation (CPR) on the child, a 4-year-old girl. The child's mother tells you that when she went to wake up her daughter, she was unconscious and not breathing. She called 9-1-1 and started CPR. Your partner quickly assesses the child and asks you to open the jump kit.

Recording Time: 0 Minutes	
Appearance	Cyanotic; motionless
Level of consciousness	Unconscious and unresponsive
Airway	Small amount of vomitus in her mouth
Breathing	Absent
Circulation	Carotid pulse, absent; skin, cool and cyanotic

With CPR continuing, your partner prepares the cardiac monitor and asks you to suction the child's mouth and manage her airway. You quickly and effectively accomplish your assigned task, but notice that you are sweating profusely and can feel your heart racing.

2. What is stress? How does it manifest?
3. What phase of the stress response are you experiencing right now?

Table 2-5 Immunity to Infectious Diseases

Type of Immunity	Characteristics	Examples	Comments
Lifelong	The illness will not recur.	Measles Mumps Polio Rubella Hepatitis A Hepatitis B	Infection or vaccination provides long-term immunity from getting a new infection. A live vaccine is required only for measles.
Partial	The person who has recovered from a first infection is unlikely to get a new infection from another person but may develop illness from germs that lie dormant from the initial infection.	Chickenpox Tuberculosis	Infection provides lifelong immunity to the patient from acquiring a new infection, but the original illness may recur, or it may recur in a different way. In the case of chickenpox, which is caused by the herpes zoster virus, an infection may recur years later in the form of shingles.
None	Exposure confers no protection from reinfection. The infection may wear down the patient's resistance.	Gonorrhea Syphilis Human immunodeficiency virus (HIV) infection	No vaccine is available. Repeated infections are common. For example, there is effective immediate treatment for gonorrhea, and the germs may be eradicated; however, reinfection is likely if the high-risk practices continue (eg, unprotected sex). For syphilis, the lack of immunity allows the germs to continue to cause damage within the host.

the hepatitis A virus may be ill for several weeks, but because immunity will develop, the person will not get the illness again; however, sometimes, the immunity is only partial. Partial immunity protects against new infections. But germs that remain in the body from the first illness may still be able to cause the same disease again when the body is stressed or has some impairment in its immune system. For example, tuberculosis can cause a mild, unnoticeable infection before the body builds up a partial immunity. If the infection is never treated, the infection may be reactivated when immunity is weakened; however, these people are protected against a new infection from another person.

Humans seem unable to mount an effective immune response to some infections, such as HIV, which is an infection with the human immunodeficiency virus that can progress to acquired immunodeficiency syndrome (AIDS).

Although hepatitis A immunization is not required by OSHA, you may wish to be vaccinated as a preventive measure. Hepatitis A vaccination is not necessary if you have had hepatitis A in the past. All these vaccines are effective and rarely cause side effects.

Remember, germs that cause no symptoms in one person may cause serious illness in another.

Immunizations

As an EMT, you are at risk for acquiring an infectious or communicable disease. Using basic protective measures can minimize the risk. You are responsible for protecting yourself, so take an active role in achieving that goal.

Prevention begins by maintaining your personal health. Annual health examinations should be required for all EMS personnel. A history of all your childhood infectious diseases should be recorded and kept on file. Childhood infectious diseases include chickenpox, mumps, measles, rubella, and whooping cough. You must be immunized against these diseases unless you already had the disease or have been previously vaccinated against it.

OSHA has developed requirements for protection from occupational exposure to bloodborne pathogens and needlesticks. Each employer whose employees may reasonably be expected to come in contact with blood or other potentially infectious materials must develop an infection control plan designed to minimize occupational exposure. As part of these requirements, employers are required to offer the hepatitis B vaccine at no cost to employees with risk of occupational exposure. Employees who decline the vaccine must sign a waiver indicating their refusal

to take the vaccine and may later decide to take the vaccine at the employer's expense. Further, the CDC recommends the following immunizations for health care workers:

- Hepatitis B (as required by OSHA)
- Influenza (yearly)
- Measles, mumps, and rubella (MMR) (typically a one-time vaccination)
- Varicella (chickenpox) vaccine or having had chickenpox
- Tetanus, diphtheria, pertussis (Tdap) (every 10 years)

Most of these vaccinations are given to infants and children as part of their routine series of immunizations. It is imperative that you keep all these vaccinations up to date to help protect you as well as your family and patients. Health care workers who are routinely exposed to meningitis (often those who work in an institutional setting) should receive one dose of meningococcal vaccine.

Another vaccine being investigated is *Staphylococcus aureus*. This vaccine is not currently on the CDC list of recommended vaccines, but may be included soon. You should also have a skin test for tuberculosis before you begin working as an EMT. The purpose of this test is to identify anyone who has been exposed to tuberculosis in the past. Testing should be repeated yearly.

If you know you will be transporting a patient who has a communicable disease, you have a definite advantage. This is when information in your health record will be valuable. If you have already had the disease or been vaccinated, you are not at risk. However, you will not always know whether a patient has a communicable disease. Therefore, you should always follow standard precautions if there is the possibility of exposure to blood or other body fluids.

General Postexposure Management

The likelihood of you becoming infected during routine patient care is low. In the event that you are exposed to blood or other body substances despite all of your precautions, there are still preventative measures that you can take to protect your health. If you are exposed to a patient's blood or bodily fluids, first turn over patient care to another EMS provider. When it is safe to do so, clean the exposed area with soap and water. If your eyes were exposed, rinse them with water for at least 20 minutes as soon as possible.

Next, activate your department's infection control plan. This usually involves contacting a supervisor or your department's infection control officer to assist you. This person will help you to navigate the post-exposure protocols.

You will need to be screened to determine if there was a significant exposure to possible blood-borne pathogens. Just because you were exposed to a patient's blood or body fluids does not mean that there is a risk of infection. Typically, you will need a follow-up evaluation by a physician to determine if a significant exposure occurred. If the exposure was significant, blood may be drawn from both you and the patient to determine if any infectious agents were present.

You will have to complete an exposure report. Questions in the report may include: When did the event happen? What were you doing when you were exposed? What did you do after you were exposed? Completing this paperwork will help relay critical information to the right people, resulting in help for you and possibly new protocols to help prevent another incident in the future.

Time is important! If you are exposed, let your supervisor or infection control officer know immediately. Some diseases will act quickly whereas others may lay dormant for a long time. The best way to reduce your risk of contracting a work-related disease is through early activation of your department's infection control plan.

Words of Wisdom

You should be aware of the procedures you are required to follow if you are involved in an exposure during your clinical or field experience. If you don't know, ask your instructor.

Scene Safety

The personal safety of all those involved in an emergency situation is very important. In fact, it is so important that it is best you internalize the steps necessary to preserve personal safety so your actions become automatic. A scene that appears safe initially can develop into a hazardous situation at any moment. Take care to notice any suspicious person or activity at the scene, as your first priority is your own safety. A second accident at the scene or an injury to

you or your partner creates more problems. Delays in emergency medical care for patients increase the burden on other EMTs and may result in unnecessary injury or death.

You should begin protecting yourself as soon as you are dispatched. Before you leave the scene, begin preparing yourself mentally and physically. Make sure you wear seat belts (including both the lap belt and shoulder harness) en route to the scene. Also make sure to wear seat belts and shoulder harnesses at all times during transport unless patient care makes it impossible Figure 2-17. Don the appropriate PPE prior to departing the ambulance. Many EMS units have mandatory seat belt policies for the driver at all times, for all EMTs during transit to the scene, and for anyone who is riding with a patient.

Safety Tips

An important safety measure is to always wear seat belts in the ambulance, including when you are en route to the scene and during transport.

Protecting yourself at the scene is also very important. A second accident may damage the ambulance and may result in injury to you, your partner, or additional injury to the patient. The scene must be well marked Figure 2-18. If law enforcement has not already done so, you should make sure the proper warning devices are placed at a sufficient distance from the scene. This will alert motorists coming from both directions that a crash has occurred. When you must work in a traffic lane, park a heavy vehicle such as a fire engine (if available) in a position that blocks traffic in the lane where you are working. Park the ambulance at a safe but convenient distance from the scene. Before attempting to access patients who are trapped in a vehicle, check the vehicle's stability. Then take any necessary measures to secure it. Do not rock or push on a vehicle to find out whether it will move. This can overturn the vehicle or send it crashing into a ditch. If you are uncertain about the safety of a crash scene, wait for appropriately trained personnel to arrive before approaching.

When working at night, you must have plenty of light. Poor lighting increases the risk of injury to both you and the patient. It also results in poor emergency medical care. Wearing reflective emblems or clothing will help to make you more visible at night and decrease your risk of injury Figure 2-19.

Scene Hazards

In the course of your career as an EMT, you will be exposed to many hazards. Some situations will be life threatening. In these cases, you must be properly protected, or you must take steps to avoid the hazard completely.

Hazardous Materials

Your safety is the most important consideration at a hazardous materials incident. On your arrival, you should look at the scene and try to read any labels,

Figure 2-17 Wear seat belts and shoulder harnesses whenever you are riding in the ambulance, including when you are responding on a call.

Figure 2-18 Make sure the crash scene is well marked to prevent a second crash that may damage the ambulance or result in injury to you, your partner, or the patient.

Figure 2-19 The ANSI (American National Standards Institute) and ISEA (International Safety Equipment Association) require EMS personnel to wear reflective vests or clothing that meet Class 2 or 3 standards on roadways. You can also wear emblems or clothing to help make you more visible at night and improve your safety in the dark.

placards, and identification numbers from a distance, perhaps using binoculars. Placards are used on transportation vehicles and buildings, and labels are used on individual packages containing hazardous materials. The placards or labels are colored and diamond-shaped Figure 2-20. You should never approach any object marked with a placard or label. Remember, some hazardous materials may not be properly marked.

A specially trained and equipped hazardous materials team will be called to the scene to handle disposal of materials and removal of patients. You should not begin caring for patients until they have been moved away from the scene and are decontaminated or the scene is safe for you to enter.

The US Department of Transportation (DOT) Emergency Response Guidebook isan important resource when dealing with a hazardous materials incident Figure 2-21. It lists common hazardous materials and the proper procedures for scene control and the emergency care of patients. Some state and local government agencies may also have information about hazardous materials commonly present in their areas. A copy of the guidebook and other information relevant to your area should be available in your unit or at the dispatch center; you can also download a copy at the US DOT Pipeline and Hazardous Materials Safety Administration website. With these references, you should be able to begin proper emergency management as soon as the hazardous material is identified. Do not go into an area and risk exposure to yourself or your partner.

Safety Tips

There are all kinds of things that can injure you when you are caring for patients. Your best protection against being injured is to carefully size up the scene and constantly check for potential hazards. Don't be foolish and blindly rush in before conducting a proper assessment.

The following are general guidelines you should follow when dealing with scenes involving hazardous materials:

- Do not enter the scene if there is evidence of hazardous materials.
- Remain upwind and uphill of the scene.
- Keep your distance. This may mean retreating if you become aware of the true nature of the situation.
- Quickly contact dispatch.
- Request additional resources.
- Do not enter the scene until instructed to by trained hazardous materials responders.

Electricity

Electrical shock can be produced by human-made sources (power lines) or natural sources (lightning). No matter what the source, you must evaluate the risk to you and your patient before you begin patient care.

Power Lines. Do not touch downed power lines. Dealing with power lines is beyond the scope of EMT training. You should mark off a danger zone around the downed lines. Energized, or live, power lines, especially high-voltage lines, behave in unpredictable ways. You need in-depth training to operate the equipment that is used in an electrical emergency. The equipment has specific storage needs and requires careful cleaning. Dirt or other contaminants can make this equipment useless or dangerous.

At the scene of a motor vehicle crash aboveground and below-grade power lines may become hazards. Disrupted overhead wires are usually a visible hazard. You must be very careful even if you do not see sparks coming from the lines. Visible sparks are not always present in charged wires. The area around downed power lines is always a danger zone.

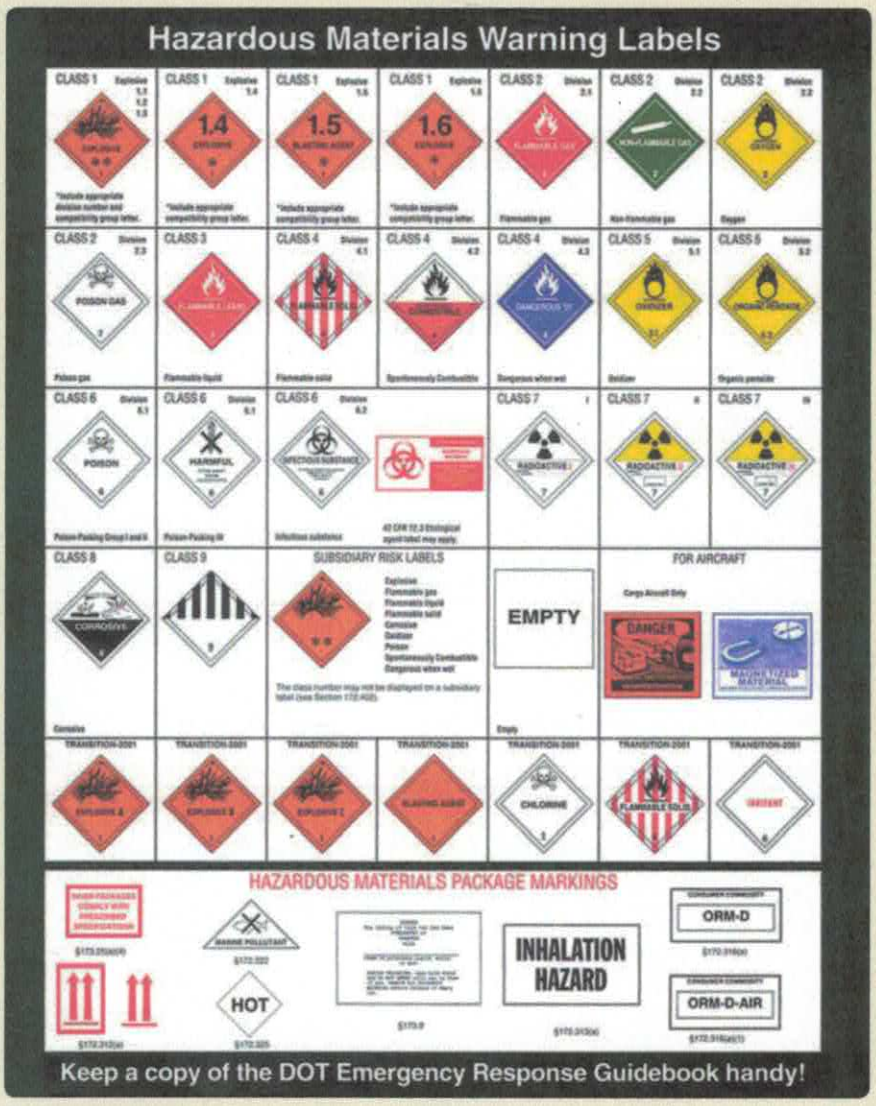


Figure 2-20 Hazardous materials safety placards and labels are colored and diamond-shaped.

Courtesy of the U.S. Department of Transportation.

If you must enter this type of situation, be sure to wear the proper protective equipment according to the type of incident. A helmet and turnout gear Figure 2-22 are typically required, but you cannot count on turnout gear for protection from electrical hazards. Other protective equipment may be needed.

Lightning. Lightning is a complex natural phenomenon. It is unwise to think that lightning never strikes in the same place twice. If the right conditions remain, a repeat strike in the same area can occur.

Lightning is a threat in two ways: through a direct hit and through ground current. After the lightning bolt strikes, the current drains along the earth, following the most conductive pathway. Although you should avoid high ground to avoid a direct strike, to avoid being injured by a ground current, stay away from drainage ditches, moist areas, small depressions, and wet ropes. If you are involved in a rescue operation, you may need to delay rescue until the storm passes. Recognize the warning signs just before a lightning strike. As your surroundings become charged, you may feel a slight tingling sensation on your skin, or your hair may even stand on end. In this situation, a strike may be imminent. Move immediately to the lowest possible area.

If you are caught in an open area, make yourself the smallest possible target for a direct hit or for ground current. To avoid being hit by the initial strike, stay away from projections from the ground, such as a single tree. Drop all equipment, particularly metal objects, that project above your body. Avoid fences and other metal objects. These structures can transmit current from the initial strike over a long distance. Position yourself in a low crouch. This position

This danger zone extends well beyond the immediate accident scene.

Use the utility poles as landmarks for establishing the perimeter of the danger zone. The danger zone must be a restricted area. Remember, the safety zone is one span of the power pole's distance. Only emergency personnel, equipment, and vehicles are allowed inside this area. Do not approach downed wires or touch anything that downed wires are in contact with until qualified personnel have concluded that no risk of electrical injury exists. This may mean you are unable to access a severely injured victim of a motor vehicle crash even though you can see and talk to him or her.

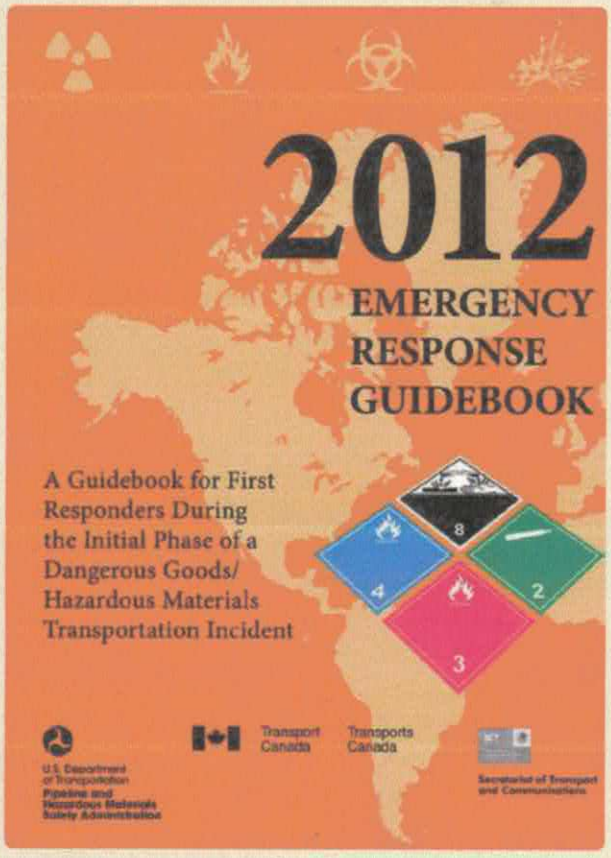


Figure 2-21 The DOT *Emergency Response Guidebook* lists many hazardous materials and the proper procedures for scene control and emergency care of patients.

Courtesy of the U.S. Department of Transportation.

Figure 2-22 Wear a helmet made of a certified electrical nonconductor material, making sure that the chin strap is fastened securely.

exposes only your feet to the ground current. If you sit, both your feet and your buttocks are exposed. Place an object made of nonconductive material, such as a blanket, under your feet. Get inside a car or your unit, if possible, as vehicles will protect you from lightning.

Fire

You will often be called to the scene of a fire. Therefore, you should understand some basic information about fire, if you do not know it already. There are seven common hazards in a fire:

- Smoke
- Oxygen deficiency
- High ambient temperatures
- Toxic gases
- Building collapse
- Equipment
- Explosions

Smoke is made up of particles of tar and carbon. These particles irritate the respiratory system on contact. Most smoke particles are trapped in the upper respiratory system, but many smaller particles enter the lungs. Some smoke particles not only irritate the airway, but may also be deadly. You must be trained in the use of appropriate airway protection, such as a disposable short-term device, or, if you are a fire fighter, a self-contained breathing apparatus, and have it available at all fire scenes Figure 2-23.

Fire consumes oxygen. Particularly in confined spaces fire may consume most of the available oxygen. This will make breathing difficult for anyone in that space. The high ambient temperatures in a fire can result in thermal burns and damage to the respiratory system. Breathing air that is heated above 120°F (49°C) can damage the respiratory system.

A typical building fire emits a number of toxic gases, including carbon monoxide, cyanide, and carbon dioxide. Carbon monoxide is a colorless, odorless gas that is responsible for more fire deaths each year than any other by-product of combustion. Carbon monoxide combines with the hemoglobin in your red blood cells about 200 times more readily than does oxygen. It blocks the ability of the hemoglobin to transport oxygen to your body tissues. Cyanide is a product of the combustion of many materials that burn. Inhaling cyanide prevents cells from using

Figure 2-23 EMTs who are also fire fighters should be trained in the use of self-contained breathing apparatus and have it available if working near fire scenes.

oxygen. In sufficiently high concentrations, it causes signs and symptoms of shock and severe hypoxia leading to death. Carbon dioxide is also a colorless, odorless gas. Exposure causes increased respirations, dizziness, and sweating. Breathing concentrations of carbon dioxide greater than 10% to 12% will result in death within a few minutes.

During and after a fire, there is always a possibility that all or part of the burned structure will collapse. Often, there are no warning signs. As an EMS provider, you should never enter a burning building without proper breathing apparatus and approval. Always follow the instructions of the incident commander and safety officer at the scene, and never undertake any task (ie, enter a burning structure or initiate search and rescue) unless you have been properly trained to do so. Hasty entry into a burning structure may result in serious injury and possibly death. Once inside a burning building, you are subject to an uncontrolled, hostile environment. Fires are not selective about their victims. You must be extremely cautious whenever you are near a burning structure or one in which a fire has just been placed under control.

Fuel and fuel systems of vehicles that have been involved in crashes are also a hazard. Although this rarely happens, any leaking car fuel may ignite under the right conditions. If you see or smell a fuel leak, or people are trapped in the vehicle, you must coordinate appropriate fire protection equipment. Gasoline and other auto fluids are considered hazardous materials.

Make sure you are properly protected if there is or has been a fire in the vehicle. Wear appropriate respiratory protection and thermal protection because the smoke from a vehicle fire contains many toxic by-products. The use of appropriate protective gear at a crash scene can reduce your risk of injury. Avoid using oxygen in or near a vehicle that is smoking, smoldering, or leaking fuel.

Vehicle Crashes

Vehicle crashes are common events for EMS providers. These environments provide some of the most unstable and potentially lethal situations you will face. Traffic hazards are the first risk to consider. As you drive your ambulance to the scene of the crash, it is important to keep several things in mind. What is the flow of traffic near and around the crash? How will you safely leave and move about the scene? Ideally, you should park your ambulance in a manner where you can easily leave the scene. Keep in mind that additional fire, rescue, and police vehicles may also be parked in the same area or they may be blocking your exit. Hydraulic and hose lines are just two examples of common blockages you may encounter.

If you are the first to arrive at the scene, use the ambulance itself as a shield to protect the scene. The ambulance can be relocated for easier exit once additional help arrives. Park at least 100 feet away from all crash sites.

As you approach the scene, be very conscious about the flow of traffic. If needed, request police assistance to shut down the roadway. This will ensure a safe scene as you work with patients. Be aware of any fluids leaking from the vehicles because they can be flammable. A more common problem with leaking fluids is slipping and sliding on the roadway.

How is the vehicle positioned? Is it stable? Cars and trucks can come to rest in a wide array of positions. As the center of gravity of the vehicle is raised, its ability to fall onto you increases. The standard approach for all vehicle crashes should be for firefighters to first stabilize the vehicle to ensure safety for the passengers and any EMS providers.

Are there other hazards such as power lines? Downed lines can generate lethal electrical charges many feet away from vehicle crashes. If there are lines down, you should assume they are power lines, and do not approach. Call for additional resources to manage this hazard. Be aware that most electrical companies will not shut down power to the grid. Though this seems like a logical solution, many injuries can be caused by an unscheduled power

outage. If people in their homes are on ventilators or other lifesaving medical devices, this could create another emergency situation when the power is shut off.

Look closer at the scene. Where are the occupants? Does violence appear to be present? Is there a good risk of violence? As you look at the vehicle, are there weapons inside? Do the passengers look suspicious? If you feel there may be violence or if violence is obvious, have the police dispatched to assist you.

With proper equipment and training, you may enter the vehicle itself. Air bags can be another hazard. If the air bag has not deployed, there is a risk that it may accidently activate while you are in the vehicle. Air bags are typically rendered inoperable by the fire department when the power is cut from the car battery.

Your protective clothing will help you to remain safe while working in and around the vehicle crash. The risk of injuries from glass and sharp metal objects cannot be underestimated. Make sure if you are working inside the vehicle you have sufficient protective gear.

Protective Clothing: Preventing Injury

Wearing protective clothing and other appropriate gear is critical to your personal safety. Become familiar with the protective equipment that is available to you. Then you will know what clothing and gear are needed for the job. You will also be able to adapt or change items as the situation and environment change. Remember, protective clothing and gear provide protection only when they are in good condition. It is your responsibility to inspect your clothing and gear. Learn to recognize how wear and tear can make your equipment unsafe. Be sure to inspect equipment before you use it; ideally, this is done before reaching the scene so care is not delayed.

Clothing that is worn for rescue must be appropriate for the activity and the environment where the activity will take place. For example, turnout gear worn for firefighting may be too restrictive for working in a confined space. In every situation involving blood and/or other body fluids, follow standard precautions. You must protect yourself and your patient by wearing gloves and eye protection, as well as any additional protective clothing that may be needed. EMS coats should provide a body fluids barrier if they were purchased after 1998.

Safety Tips

The American National Standards Institute (ANSI) requires all EMS providers to utilize a high-visibility public safety vest while on or near the roadway.

YOU are the Provider PART 3

The cardiac monitor reveals the child does not have cardiac activity (asystole). With CPR ongoing, your partner intubates the child and an intravenous (IV) line is inserted. The child's mother, who is standing back watching your efforts, is crying and keeps yelling at you, "Why isn't my daughter waking up! Why aren't you saving her!"

Recording Time: 5 Minutes	
Respirations	Absent
Pulse	Absent
Skin	Cool and cyanotic
Blood pressure	Not obtainable
Oxygen saturation (Spo_2)	Not obtainable

4. How should you respond to the mother?
5. What stage of the grieving process is the mother experiencing?

Cold Weather Clothing

When dressing for cold weather, you should wear several layers of clothing. Multiple layers provide much better protection than a single thick cover. You have more flexibility to control your body temperature by adding or removing a layer. Cold weather protection should consist of at least the following three layers:

1. A thin inner layer (sometimes called the transport layer) next to your skin. This layer pulls moisture away from your skin, keeping you dry and warm. Underwear made of polypropylene or polyester material works well. Wool is the best fiber. The goal is to wick moisture away from the skin.
2. A thermal middle layer of bulkier material for insulation. Wool has been the material of choice for warmth, but newer materials, such as polyester pile, are also commonly used.
3. An outer layer that resists chilling winds and wet conditions, such as rain, sleet, or snow. The two top layers should have zippers to allow you to vent some body heat if you become too warm.

When choosing protective clothing, you should pay attention to the type of material from which it is made. Cotton should be avoided in cold, wet environments. Cotton tends to absorb moisture, causing chilling from wetness. For example, if you wear cotton trousers and walk through wet grass, the cotton soaks up the moisture from the grass. This will chill you in cold weather. However, cotton is appropriate in warm, dry weather because it absorbs moisture and pulls heat away from the body.

As an outer layer in cold weather, you might consider plastic-coated nylon, as it provides good waterproof protection. However, it can also hold in body heat and perspiration, which makes you wet both inside and out. Newer, less airtight materials allow perspiration and some heat to escape while the material retains its water resistance. Avoid flammable or meltable synthetic material anytime there is any possibility of fire.

Turnout Gear

Turnout or bunker gear is a fire service term for protective clothing designed for use in structural firefighting environments Figure 2-24. Turnout gear provides some protection by using different layers of fabric or other material to provide protection from the heat of fire. It also helps to reduce trauma from impact or cuts and keeps water away from the body. Like most protective clothing, turnout gear adds weight and reduces range of motion to some degree.

Figure 2-24 Turnout or bunker gear is protective clothing designed for use in firefighting.

The exterior fabrics provide increased protection from cuts and abrasions. They also act as a barrier to high external temperatures. In cold weather, an insulated thermal inner layer of material that helps to retain body heat is recommended.

Turnout gear or a bunker jacket provides minimal protection from electrical shock. However, it does protect you from heat, fire, possible flashover, and flying sparks. The front opening of the jacket should be fastened, and the jacket should be worn with the collar up and closed in front to protect your neck and upper chest. Proper fit is important so that you can move freely.

Gloves

Firefighting gloves provide the best protection from heat, cold, and cuts Figure 2-25. Yet these gloves reduce manual dexterity. In addition, firefighting gloves will not protect you from electrical hazards. In rescue situations, you must be able to freely use your hands to operate rescue tools, provide patient care, and perform other duties. Wearing puncture-proof

Figure 2-25 Firefighting gloves protect your hands and wrists from heat, cold, and injury.

leather gloves and latex gloves underneath will permit free use of your hands and offer added protection from both injury and body fluids.

Helmets

You should wear a helmet any time you are working in a fall zone. A fall zone is an area where you are likely to encounter falling objects. The helmet should provide top and side impact protection. It should also have a secure chin strap Figure 2-26. Objects will often fall one after another. If the strap is not secure, the first falling object may knock off your helmet. This leaves your head unprotected as the remaining objects fall.

Construction-type helmets are not well suited for rescue situations. They offer minimal impact protection and have inadequate chin straps. Modern fire helmets offer impact protection. However, the projecting brim at the back of the neck may get in your way in a rescue situation. In cold weather, a great loss of body heat occurs if you are not wearing a hat or helmet. An insulated hat made from wool or a synthetic material can be pulled down over the face and the base of the skull to reduce heat loss in extremely cold weather.

You should always wear a helmet with a chin strap and face shield in situations involving electrical hazards. The shell of the helmet should be made of a certified electrical nonconductor. The chin strap should not stretch. In fact, it should fasten securely so the helmet stays in place if you are knocked down or a power line hits your head. You should also be able to lock the face shield on the helmet. This will protect your face and eyes from power lines and flying sparks. A standard fire turnout helmet should meet all of these needs.

Figure 2-26 A helmet with top and side impact protection.

Boots

Boots should protect your feet. They should be water resistant, fit well, and be flexible so that you can comfortably walk long distances. If you will be working outdoors, you should choose boots that cover and protect your ankles, keeping out stones, debris, and snow. Steel-toed boots are preferred Figure 2-27. In cold weather, your boots must also protect you

Figure 2-27 Boots should cover and protect your ankles keeping out stones, debris, and snow. Steel-toed boots are preferred.

from the cold. Leather is one of the best materials for boots. However, other materials, such as any waterproof, windproof, and breathable fabrics, are also very good. The soles of your boots must provide traction. Lug-type soles may grip well in snow, but they become very slippery when caked with mud.

Properly fitted boots and shoes are extremely important, because a minor annoyance can develop into a disabling injury. Painful blisters may develop if your feet slip around inside your boots, so, make sure you have enough room to wiggle your toes.

Boots should be puncture-resistant, protect the toes, and provide foot support. It may be difficult to obtain a good fit with firefighting boots; shoe inserts or sock layering may be needed to ensure a comfortable fit. Make sure the tops of your boots are sealed off to keep rain, snow, glass, or other materials from getting into your boots. Moisture increases blistering—wool or wicking socks help prevent feet from becoming wet.

Socks will keep your feet warm and provide some cushioning for you as you walk. In cold weather, two pairs of socks are generally preferable to one thick pair. A thin sock next to the foot helps to wick perspiration away to a thicker, outer sock. This tends to keep your feet warmer, drier, and generally more comfortable. When you purchase new shoes or boots, you may want to try them on while wearing the two pairs of socks to ensure a proper fit.

Eye Protection

The human eye is very fragile, and permanent loss of sight can occur from very minor injuries. You need to protect your eyes from blood and other body fluids, foreign objects, plants, insects, and debris from extrication. You may wear eyeglasses with side shields during routine patient care.

However, when tools are being used during extrication, you should wear a face shield or goggles. In these instances, prescription eyeglasses do not provide adequate protection. In snow or white sand, particularly at higher altitudes, you must protect your eyes from ultraviolet exposure. Specially designed eyeglasses or goggles can provide this. In addition, your eye protection must be adaptable to the weather and the physical demands of the task. It is critical that you have clear vision at all times.

Ear Protection

Exposure to loud noises for long periods of time can cause permanent hearing loss. Certain equipment, such as helicopters, some extrication tools, and sirens, produces high levels of noise. Wearing soft foam industrial-type earplugs usually provides adequate protection.

Skin Protection

Your skin needs protection against sunburn while you are working outdoors. Long-term exposure to the sun increases the possibility of skin cancer. It may be considered simply an annoyance, but sunburn is a type of burn. In reflective areas such as sand, water, and snow, your risk of sunburn increases. Protect your skin by applying a sunscreen with a minimum sun protection factor (SPF) of 15.

Body Armor

The policy for most departments directs EMTs to avoid situations that may involve gun violence. EMS responders in some areas wear body armor (bulletproof vests) for personal protection. Several types of body armor are available. They range from extremely lightweight and flexible to heavy and bulky. The lighter vests do not stop large-caliber bullets. However, they offer more flexibility and are preferred by most law enforcement personnel. Lighter vests are commonly worn under a uniform shirt or jacket. The larger, heavier vests are worn on the outside of your uniform. Vests may not be practical to wear on a daily basis. They are also costly, and do not protect against rifle ammunition or stabbing attacks.

Long/Loose Hair, Rings, Jewelry

You need to be careful wearing long, unsecured hair, loose rings, and jewelry. For example, these items can become caught in machinery during extrication. Due to the multitude of unusual situations in which EMTs may find themselves, many EMS services have restrictive policies regarding hair, rings, and jewelry. You should tie hair up neatly, limit the number of rings worn, and wear only a watch on the wrist.

Caring for Critically Ill and Injured Patients

When you are caring for a critically ill or injured patient, the patient needs to know who you are and what you are doing. Let the patient know you are attending to his or her immediate needs and these are your primary concerns at this moment Figure 2-28. As soon as possible, explain to the patient what is going on. Confusion, anxiety, and other feelings of helplessness will be decreased if you keep the patient informed from the start. Never assume a patient cannot hear you. Avoid making unprofessional comments during

Figure 2-28 Let the patient know immediately that you are there to help.

resuscitation, and treat all patients with dignity and respect.

Responses of the Critical Patient

Patients who are dying as a result of trauma, an acute medical emergency, or a terminal disease will feel threatened. That threat may be related to their concern about survival. These concerns may involve feelings of helplessness, disability, pain, and separation Table 2-6.

Anxiety

Anxiety is a response to the anticipation of danger. The source of the anxiety is often unknown, but in the case of seriously injured or ill patients, the source is usually recognizable. What may increase the anxiety are the unknowns of the current situation. Patients may ask the following questions:

- What will happen to me?
- What are you doing?
- Will I make it?
- What will my disabilities be?

Patients who are anxious may have the following signs and symptoms:

- Emotional upset
- Sweaty and cool skin (diaphoretic)
- Rapid breathing (hyperventilating)
- Fast pulse (tachycardic)
- Restlessness

Table 2-6 Concerns of the Dying, Critically Ill, or Injured Patient

- Anxiety
- Pain and fear
- Anger and hostility
- Depression
- Dependency
- Guilt
- Mental health problems
- Receiving unrelated bad news

- Tension
- Fear
- Shakiness (tremulous)

For the anxious patient, time seems to be extended; seconds seem like minutes, and minutes seem like hours. Anxiety is never helpful to a patient and can cause real physiologic harm. It is your job to do everything you can to reduce your patient's anxiety and help your patient cope with what may be the most terrifying experience in his or her lifetime.

Pain and Fear

Pain and fear are closely interrelated. Pain is often associated with illness or trauma. Fear is generally thought of in relation to the oncoming pain and the outcome of the illness or trauma. It is often helpful to encourage patients to express their pains and fears, because expression begins the process of adjustment to the pain and acceptance of the emergency medical care that may be necessary. Some patients find it difficult to openly admit their fear. The fear may be expressed as bad dreams, withdrawal, tension, restlessness, butterflies in the stomach, or nervousness. In some cases, it may be expressed as anger.

Often you may be tempted to make light of a patient's pain and fear. It is easier to say to the stroke patient, "Oh, you'll be OK," than, "I'm sure you are really scared right now because you are not able to talk, but you should know I am doing everything I can to help you." Making a connection with your patient through eye contact and the squeeze of a hand can often do more to allay fear than the most eloquent words.

Anger and Hostility

You may find your patient is expressing anger with very demanding and complaining behavior. Often, this may be related to the fear and anxiety of the emergency medical care that is being given. In other

situations, the fear is so acute that the patient may want to express anger toward you or others but is unable to do so because of the dependency factor. If you find you are the target of the patient's anger, make sure you are safe; do not take the anger or insults personally. Be tolerant, and do not become defensive.

Anger may also be expressed physically, and you may be the target of the displaced aggression. If the patient or a relative becomes so emotionally upset that you are physically assaulted or you believe this could happen, back out of the situation. Such hostility must be contained. If emergency medical care is not possible under these circumstances, law enforcement intervention is required.

Depression

Depression is a natural physiologic and psychologic response to illness, especially if the illness is prolonged, debilitating, or terminal. Whether the depression is a temporary sadness or clinical depression that is long-term, there is, of course, little you can do to alleviate the pain of depression during the brief time the patient is being treated and transported. The best you can do in treating and transporting a patient experiencing depression is to be compassionate, supportive, and nonjudgmental.

Dependency

Dependency usually takes longer to develop than during the very brief relationships developed in EMS. When medical care is given to any individual, a sense of dependency may develop. Patients who are placed in this position may feel helpless and become resentful. The resentfulness may arouse feelings of inferiority, shame, or weakness. Make every attempt to remain supportive and compassionate.

Guilt

Many patients who are dying, their families, or the caregivers of those patients may feel guilty over what has happened to them. Occasionally family members or long-term caregivers may feel a degree of relief when an extended illness is finally over. That relief may later turn into guilt. Most of the time, however, no one can explain these feelings.

The magnitude of the guilt may be very great. Sometimes, feelings of guilt can result in a delay in seeking emergency medical care. Again, understanding the complex emotions that often come to the surface during times of emergency and stress may help you cope with some of the intense and often seemingly bizarre behavior you will encounter in your role as an EMT.

Mental Health Problems

As an EMT, you will be called on to treat and transport patients with mental health problems. These problems may be the cause of the patient's distress or may be caused by the stresses of physical illness or injury. Mental health problems such as disorientation, confusion, or delusions may develop in the dying patient. In these instances, the patient may display behavior inconsistent with normal patterns of thinking, feeling, or acting. Common characteristics of such behavior may include the following:

- Loss of contact with reality
- Distortion of perception—patients may have difficulty judging such common factors as time, distance, and relationships
- Regression—patients may regress to an earlier stage in their development, often infancy or childhood
- Diminished control of basic impulses and desires—patients may act out on their urges without being able to exercise the normal judgment expected of adults. For example, patients may become violent or inappropriately affectionate.
- Abnormal mental content, including delusions and hallucinations

The normal course of dying can cause a patient to seem disoriented. In some long-term situations, generalized personality deterioration may occur (see Chapter 22, *Psychiatric Emergencies*, for a discussion on mental health).

Receiving Unrelated Bad News

A patient who is in critical condition or is dying may not want to hear unrelated bad news, such as the death of someone close to him or her. Such news may depress the patient or cause the patient to give up hope.

▶ Techniques for Communicating With the Critical Patient

Avoid Sad and Grim Comments

EMTs, other safety personnel, family members, and bystanders must avoid making grim comments about a patient's condition. Remarks such as "This is a bad one" or "The leg is badly damaged, and I think he will lose it" are inappropriate. These remarks may upset or increase the patient's anxiety and compromise possible recovery outcomes. This is especially true for the patient who may be able to hear but cannot respond.

Orient the Patient

You should expect a patient to be disoriented in an emergency situation. The aura of the emergency situation—lights, sirens, smells, and strangers—is intense. The impact and effect of injuries or acute illness may cause the patient to be confused or unsettled. It is important for you to orient the patient to his or her surroundings Figure 2-29. Use brief, concise statements such as "Mr. Smith, you have had an accident, and I am now splinting your arm. I am John Foxworth of the New Britain EMS; I will be caring for you."

Be Honest

When approaching any patient, you must decide how much information each patient is able to understand and accept. You should be honest without further shocking the patient or giving unnecessary information or information that may not be understood. Simply explain what you are doing, and allow the patient to be part of the care being given; this can relieve feelings of helplessness as well as some of the fear.

Initial Refusal of Care

On occasion you may encounter a patient who refuses emergency medical care and insists you do nothing or leave him or her alone. In these cases, it is important to impress upon the patient the seriousness of his or her condition without causing undue alarm. If you say, "Everything will be okay," when it is obvious that it is not okay, you are not being truthful. Generally, seriously ill or injured patients know they are in trouble; however, many people refuse care because of their inability to pay their medical expenses. Depending on department policy, the patient may be able to make payment arrangements.

Figure 2-29 The aura of an emergency situation can be confusing and frightening to the patient.

Allow for Hope

In trauma and acute medical conditions, patients may ask you whether they are going to die. At these times, you may feel at a loss for words. You may also know, on the basis of past experience or in view of the seriousness of the present situation, that the prognosis is poor. But it is not your decision to tell the patient that he or she is dying. Statements such as "I don't know if you are going to die; let's fight this one out together" or "I am not going to give up on you, so do not give up on yourself" can be helpful to the patient.

These statements transmit a sense of trust and hope, and they let the patient know you are doing everything possible to save his or her life. If there is the slightest chance of hope remaining, you want that message transmitted in your attitude and in the statements you make to the patient.

▶ Locate and Notify Family Members

Many patients will be concerned and ask you to notify their family or others close to them. The patient may not be able to assist you in doing this. You should make sure an appropriate and responsible person makes an effort to locate the desired persons. Assuring the patient that someone is going to make these notifications may be a significant part of the patient's care because it will help to calm the patient.

▶ Injured and Critically Ill Children

Injured and critically ill children who have life-threatening conditions should be cared for the same as any adult patient would, insofar as assessing airway, breathing, and circulation (ABCs) and addressing immediate life threats. Due regard should be given to variations in height, weight, and size when providing emergency medical care to pediatric patients. Because of the increased commotion and the extraordinary nature of the emergency scene for a child, it is important that a relative or responsible adult accompany the child at all times to relieve anxiety and assist in care as appropriate.

▶ Dealing With the Death of a Child

The death of a child is a tragic and dreaded event. It will not be unusual for you to think about the fact

that the dead or dying child still has a lot more to do in life and should have many more years to live. In our society, we assume only older people are supposed to die. Today, children die less frequently than they did in the past, so many people are unprepared for what they will feel when a child dies. You may think about your own children, related children, and children of close friends. And you may think, "Why should this child, who is only 5 years old, die?"

Answering the difficult questions of your own mortality will help you deal with the death of a child. Still, the death of a child will never be an easy subject to talk about. This will be especially so for the child's family, and as an EMT involved in a call that involves the death of a child, you will also likely experience stress.

One of your responsibilities may be to help the family through the initial period after the death. As an EMT, until more definitive and professional help can be arranged, you may be in the best position to help the family begin to cope with their loss. How a family initially deals with the death of a child will affect its stability and endurance. You can help a family through their initial period of grief and provide information about follow-up counseling and support services that are available.

Helping the Family

Whether the child has just died in your presence or was dead when you arrived, acknowledging the death is important. This should be done in a private place, even if that is inside an ambulance. Often, the parents cannot believe the death is real, even if they have been preparing for it, as in the case of a terminal illness such as leukemia.

Reactions vary, but shock, disbelief, and denial are common emotions and reactions. Some parents show little emotion at the initial news. If it is possible and appropriate, find a place where the mother and father can hold the child. This is important in the parents' grieving process; it helps to lessen the sense of disbelief and makes the death real. Even if the parents do not ask to see the child, you should tell them that they may do so. Your decision in permitting the parents to see the child may need some discretion on your part. For example, in the case of a traumatic death in which there is significant disfigurement of the body, that decision might have to be delayed. The delay may involve waiting for support services or contacting the family physician or others who can help the parents through this difficult situation. This situation may also involve preparing the parents for what they will see and the changes brought on by rigor mortis or asphyxiation, for example.

Sometimes, you do not need to say much. In fact, silence can sometimes be more comforting than words. You can express your own sorrow. Do not overload grieving parents with a lot of information; at this point, they cannot handle it. Nonverbal communication, such as holding a hand or touching a shoulder, may be more valuable. Let the family's actions be your guide to what is appropriate. If you sense the parents want to talk, it is important for you to encourage them to talk about their feelings.

Words of Wisdom

Patients don't care what you know until you show you care. Most patients are not technical experts. They will judge your treatment based on how you behave toward them.

Death and Dying

Life expectancy has dramatically increased. In fact over two-thirds of all deaths occur among those age 65 years and older. The number one cause of all deaths today is attributed to heart disease. According to the Centers for Disease Control and Prevention, from the age of 1 year to 44 years, trauma and unintentional injuries are the leading cause of death. Unlike in the past, the typical human encounter with death has changed. Death is less likely to occur in the home setting. Today, death occurs in the hospital, a hospice facility or a convalescent home, at the workplace, or on the highway, and death is likely to occur either quite suddenly or after a prolonged terminal illness. For these reasons, we are less familiar with death than our ancestors were. While we all know we are going to die someday, some time, we tend to deny death. Illness can be much more drawn-out and much more removed from daily life. Life support systems and impersonal care remove the whole experience of death from most people's awareness. The mobility of families also makes it less likely there will be extended family support when death does occur.

You may have significant painful personal experience with death. No matter what the frequency of response to emergency calls, death is something that every EMT will face at some time. For some of you, it may be infrequent. Others, in urban settings, may see death many times in responding to motor vehicle crashes, drug overdoses, suicides, or homicides. You may have to deal with the mass-casualty incident of

an airplane crash or a hazardous materials incident. In all these situations, coming to grips with your thoughts, understandings, and adjustment to death is not only important personally, but also a function of delivering emergency medical care.

The Grieving Process

Everyone working as an EMT will experience grief at one time or another. This section discusses how to handle patient grief, as well as how to cope with your own grief that may result from a difficult call.

The death of a human being is one of the most difficult events for another human being to accept. If the survivor is a relative or close friend of the deceased, it is even more difficult. Emotional responses to the loss of a loved one or friend are appropriate and should be expected. In fact, it is expected you will feel emotional about the death of a patient. Feelings and emotions are part of the grieving process. All of us experience these feelings after a stressful situation that causes us personal pain.

In 1969, Dr Elisabeth Kübler-Ross published *On Death and Dying*, which revealed her theory on the stages of grief people go through. They are as follows:

1. **Denial.** Refusing to accept diagnosis or care, unrealistic demands for miracles, or persistent failure to understand why there is no improvement.
2. **Anger, hostility.** Projecting bad news onto the environment and commonly in all directions, at times almost at random. The person lashes out. Someone must be blamed, and those who are responsible must be punished. This is usually an ugly phase, and may even be inappropriately directed toward the EMT.
3. **Bargaining.** Attempting to secure a prize for good behavior or promising to change. "I promise to be a 'perfect patient' if only I can live until 'x' event."
4. **Depression.** Internalizing anger, hopelessness, and the desire to die. It rarely involves suicidal threats, complete withdrawal, or giving up long before the illness seems terminal. The patient is usually silent.
5. **Acceptance.** Accepting the impending death of the patient, or accepting the death of a loved one.

The stages may follow one another, occur simultaneously, or a person may jump back and forth between stages. The stages may last different amounts of time.

Even though the event (death) has not yet happened, the patient knows that it will happen. The patient has no control over this process. The patient will die whether or not he or she is ready to die. As

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The child is placed onto the stretcher and loaded into the ambulance. Her mother is secured in the front seat of the ambulance. One of the first responders drives the ambulance so that both you and your partner can continue attending to the child. With resuscitative efforts continuing, you depart the scene and proceed to the hospital. The child's condition is reassessed en route.

Recording Time: 11 Minutes	
Level of consciousness	Unconscious and unresponsive
Respirations	Absent
Pulse	Absent
Skin	Cool and cyanotic
Blood pressure	Not obtainable
Spo_2	Not obtainable

6. How can poorly managed stress affect your physical well-being?
7. How can you mitigate the stress associated with the job?

an EMT, you may encounter situations in which the patient is close to death, and you may need to provide reassurance and emotional care.

What Can the EMT Do?

As patients and bystanders are grieving, you can do helpful things and make simple suggestions. Ask whether there is anything that you can do that will be of help, such as calling a relative or religious advisor. Provide gentle and caring support. Reinforcing the reality of the situation is important. This can be accomplished by merely saying to a grieving person, "I am so sorry for your loss." It is not important that you have a well-rehearsed script, for it is not likely that your exact words or consolations will be remembered. Being honest and sincere are important.

Some statements of consolation tend to be trite, and some suggest a kind of silver lining behind the clouds. Although they may be said with the intention of making the person feel better about a situation, they can also be viewed as an attempt to diminish the person's grief. The grieving person needs to be validated. Statements like these can indicate our inability to comprehend the profound sadness of grief because you have not experienced that kind of loss. If you have not experienced a death, it is okay to say so; do not pretend you have.

Attempts to take grief away too quickly are not good. If you do not know how the person really feels, you should not say so. People may be offended by responses that give advice or explanations about the death Table 2-7. Statements such as "Oh, you shouldn't feel that way" are judgmental. If you judge what the grieving person is feeling, it is likely that he or she will stop talking with you. People feel what people feel. It is as simple and clean as that. Remember, anger is a stage of grieving. The anger may be directed at you. The anger seems irrational to everyone but the person grieving; therefore, it is necessary that you maintain a professional attitude and let the person grieve in his or her own way.

Statements and comments that suggest action on your part are generally helpful. These statements imply a sense of understanding; they focus on the grieving person's feelings. It is not necessary to go into an extensive discussion. All you need to do is be sincere and say, "I am so sorry for your loss. I just want you to know that I am thinking about you." What people really appreciate is somebody who will listen to them. Simply ask, "Would you like to talk about how or what you are now feeling?" Then accept the response.

Table 2-7 Responding to Grief

Don't say . . .	Try instead . . .
▪ Give it time. Things will get better.	▪ I'm sorry for your loss.
▪ You should not question God's will.	▪ It is okay to be angry.
▪ You have to get on with your life.	▪ It must be hard to accept.
▪ You have to keep on going.	▪ That must be painful for you.
▪ You can always have another child.	▪ Tell me how you are feeling.
▪ You're not the only one who suffers.	▪ If you want to cry, it's okay.
▪ The living must go on.	▪ People really cared for . . .
▪ I know how you feel.	

Dealing With the Patient and Family Members

There is no right or wrong way to grieve. Each person will experience grief and respond to it in his or her own way. Family members may express rage, anger, and despair. Many people will be rational and cooperative. Their concerns will usually be relieved by your calm, efficient manner. Your actions and words, even a simple touch, can communicate caring. While you must treat all patients with respect and dignity, use special care with dying patients and their families. Be concerned about their privacy and their wishes, and let them know you take their concerns seriously. However, it is best to be honest with patients and their families; do not give them false hope.

Stress Management on the Job

EMS is a high-stress job. Understanding the causes of stress and knowing how to deal with stress is critical to your job performance, health, and interpersonal relationships. To prevent stress from negatively affecting your life, you need to understand what stress is, its physiologic effects, what you can do to minimize these effects, and how to deal with stress on an emotional level.

Stress is the impact of stressors on your physical and mental well-being. Stressors include emotional, physical, and environmental situations or conditions that may cause a variety of physiologic, physical, and psychologic responses. The body's response to stress begins with an alarm response, followed by a stage of reaction and resistance, and then recovery or, if the stress is prolonged, exhaustion. This three-stage response is referred to as the **general adaptation syndrome**.

The physiologic responses involve the interaction of the endocrine and nervous systems, resulting in chemical and physical responses. This is commonly known as the fight-or-flight response. Positive stress, such as exercise, as well as negative forms of stress, such as shift work, long hours, or the frustration of losing a patient, all have the same physiologic manifestations. These include the following:

- Increased respirations and heart rate
- Increased blood pressure
- Dilated venous vessels near the skin surface (causes cool, clammy skin)
- Dilated pupils
- Tensed muscles
- Increased blood glucose levels
- Perspiration
- Decreased blood flow to the gastrointestinal tract

Situations that are stressful for EMS providers include the following:

- Dangerous situations
- Physical and psychologic demands
- Critically ill or injured patients
- Dead and dying patients
- Overpowering sights, smells, and sounds
- Multiple patient situations
- Angry or upset patients, family, bystanders
- Unpredictability and demands of EMS
- Noncritical/non-9-1-1 patients

As you examine this list, you will see some situations are clearly stressful: a car crash where a child is killed or a terrorist attack. Other situations may seem confusing. You may ask yourself why caring for noncritical patients is considered stressful. You need to manage a large array of patients. One person's definition of an emergency may be quite different from another's. As you begin your career in EMS, you may envision that all of your calls will be exciting life-and-death calls where you are able to save lives. In reality most patients are not critical and the care they need becomes rather routine. This can create stress in people who are unable to make the transition from the TV image of emergency medicine to its reality.

Words of Wisdom

As with most things in life, EMS comes down to balance. You need to understand that not all of the patients you care for will be critically ill or injured. This does not mean that they do not need care, only that they need a different kind of care. A thoughtful word or a hand on a shoulder can be powerful medicine. Care for each person, regardless of his or her complaint, as a person. Be satisfied with the rewards of simple compassion and you will find a home in EMS for many years to come.

A new stressor for those who work in EMS is hospital wait times. Emergency departments (EDs) around the country are dealing with greater numbers of patients. Coupled with shortages of personnel, including nurses, this increased patient load can lead to delays in care. This is where EMS comes into potential conflict. When the ambulance arrives at the hospital with a noncritical patient, the ED may not be able to accept the patient right away. As a result, you may need to sit for hours in the ED hallway, waiting for a bed to open up so your patient can be transferred. This situation can certainly generate stress.

Reactions to stress can be categorized as acute, delayed, or cumulative. **Acute stress reactions** occur during a stressful situation. You feel nervous and excited, and your ability to focus increases. This focus can be very helpful in managing a crisis situation. But if the stress of the situation becomes too great, you are at risk of being caught up in the emotional and physical reactions to stress. Picture stress as a wave in the ocean. If the crest of the wave is too high, you can potentially drown if the stress goes unrecognized and is not relieved.

Delayed stress reactions manifest after the stressful event. During the crisis, you are able to focus and function, but after things have calmed down, you may be left with nervous, excited energy that continues to build and becomes a distraction. With both acute and delayed reactions, the important question to ask yourself is how did you manage these feelings during the stressful event? Were you able to continue, managing the stress well and taking it in stride? Or, were you unable to manage the stress well, resulting in delayed stress reactions?

Cumulative stress reactions are the most important to understand. After the stressful event is over, are you able to shake off the effects? Are you still tired? Cumulative stress occurs when you are exposed to prolonged or excessive stress. You fight to remain

in control and you are successful, but you are starting to grow tired. Now the next stressful situation occurs. Each time, you find it harder to recover because the effects of the previous stress are tiring.

Cumulative stress can have physical symptoms such as fatigue, changes in appetite, gastrointestinal problems, or headaches. It may cause insomnia or hypersomnia, irritability, inability to concentrate, and hyperactivity or underactivity. Additionally, it may present with psychologic reactions such as fear, dull or nonresponsive behavior, depression, guilt, oversensitivity, anger, irritability, and frustration. A fast-paced lifestyle compounds these effects by not allowing a person to rest and recover after periods of stress. Prolonged or excessive stress has been proven to be a strong contributor to heart disease, hypertension, cancer, alcoholism, and depression.

Many people are subject to cumulative stress, whereby insignificant stressors accumulate to a larger stress-related problem. In the emergency services environment (EMS, police, fire fighters), stressors may also be sudden and more severe. Some events are unusually stressful or emotional, even by EMS standards. These acute severe stressors result in what is referred to as critical incident stress. Events that can trigger critical incident stress include the following:

- Mass-casualty incidents
- Serious injury or traumatic death of a child
- Crashes with injuries, caused by an emergency services provider while responding to or from a call
- Death or serious injury of a coworker in the line of duty

Posttraumatic stress disorder (PTSD) may develop after a person has experienced a psychologically distressing event. It is characterized by reexperiencing the event and overresponding to stimuli that recalls the event. Stressful events in EMS are sometimes psychologically overwhelming. Some of the symptoms include depression, startle reactions, flashback phenomena, and dissociative episodes (eg, amnesia of the event).

A process called **critical incident stress management (CISM)** was developed to address acute stress situations and potentially decrease the likelihood that PTSD will develop after such an incident Figure 2-30. The process theoretically is used to confront the responses to critical incidents and defuse them, directing the emergency services personnel toward physical and emotional equilibrium. CISM can occur formally, as a debriefing for those who were on scene. In such situations, trained CISM teams of peers and mental health professionals may facilitate this.

Figure 2-30 Critical incident stress management is sometimes used to help providers relieve stress.

Additionally, CISM can occur at an ongoing scene in the following circumstances:

- When personnel are assessed for signs and symptoms of distress while resting
- Before reentering the scene
- During a scene demobilization in which personnel are educated about the signs of critical incident stress and given a buffer period to collect themselves before leaving

Safety Tips

Coworkers often notice a change in behavior or attitude before a supervisor does. This is especially true in EMS, where close relationships develop between people who work together and share rooms, meals, and social interactions. Being a friend means helping a friend. Talk to your partner about changes in his or her behavior you may notice. If you are the EMT having trouble dealing with a crisis, remember, you are not alone. Talk with your partner.

Defusing sessions are the first to occur. These sessions are held during the event or immediately afterward. A group informally discusses events that they experienced together. Defusing sessions are designed to educate the participants as to the expectations over the next few days and give guidance on proper techniques to manage the feelings they may be experiencing. One example is to discourage drinking alcohol during this stressful time.

Debriefing sessions are held within 24 to 72 hours of a major incident. These meetings are held by a CISM team consisting of peers and mental health professionals. At the debriefing session, pent up emotions can be properly expressed. It is more likely you will be ready to express your emotions more freely a few days following the event.

One of the important rules associated with the debriefing session is to not turn it into an operational critique. No one is right. No one is wrong. No one is to blame. Only emotions about the specific event are to be relayed. These debriefing sessions may also have to be repeated at a later time.

CISM programs are located throughout the United States. You can locate a CISM in your area via the Internet, or it can be requested through your employer. The International Critical Incident Stress Foundation, Inc. is dedicated to limiting the effects of stress on EMS providers through education and support services. For more information, go to the Foundation's website at www.icisf.org.

CISM is an excellent service but not effective for everyone. Some providers are not receptive to openly discussing psychologically traumatic memories. When the individual's behavior is noticeably different after the event and CISM is not an option, private counseling by a mental health professional may be valuable.

Supporting patients in emergency situations is difficult. It is stressful for them and for you. You are vulnerable to all the stresses that go with your profession. It is critical that you recognize the signs of cumulative stress so it does not interfere with your work or life away from work, including your family life. The signs and symptoms of cumulative stress may not be obvious at first. Rather, they may be subtle and not present all the time Table 2-8.

Table 2-8 Warning Signs of Stress

- Irritability toward coworkers, family, and friends
- Inability to concentrate
- Difficulty sleeping, increased sleeping, or nightmares
- Feelings of sadness, anxiety, or guilt
- Indecisiveness
- Loss of appetite (gastrointestinal disturbances)
- Loss of interest in sexual activities
- Isolation
- Loss of interest in work
- Increased use of alcohol
- Recreational drug use
- Physical symptoms such as chronic pain (headache, backache)
- Feelings of hopelessness

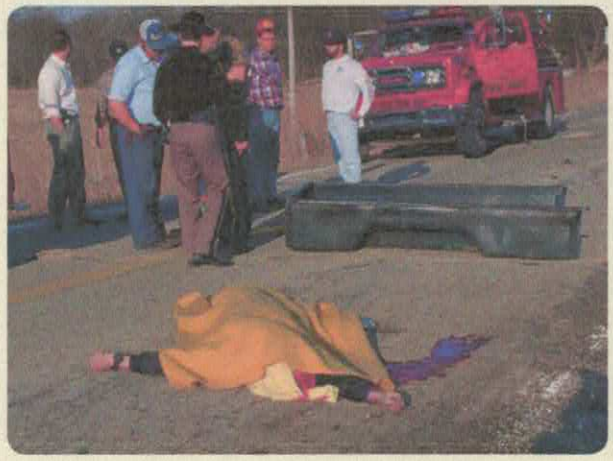

Figure 2-31 As an EMT, you may be asked to recover and remove bodies from incident sites.

Emotional Aspects of Emergency Care

At times, even the most experienced health care provider has difficulty overcoming personal reactions and proceeding without hesitation. You may have patients that need to be removed from life-threatening situations, or you need to provide life support measures to patients who are severely injured. You may also be called on to recover human remains from highway accidents, aircraft disasters, or explosions Figure 2-31. In all of these situations, you must be calm and act responsibly as a member of the emergency medical care team. You must also realize that even though your personal emotions must be kept under control, these are normal feelings. You must deal with these feelings. The struggle to remain calm in the face of horrible circumstances contributes to the emotional stress of the job.

Stressful Situations

Many situations, such as mass-casualty scenes, serious vehicle crashes, excavation cave-ins, house fires, infant and child trauma, amputations, abuse of an infant, child, spouse, or older person, and the death of a coworker or other public safety personnel, will be stressful for everyone involved. During these situations, you must exercise extreme professional care in both your words and your actions at the scene. Words

that do not seem important, or that are said jokingly, may hurt someone. Conversations at the scene must be professional. You should not say, "Everything will be all right," or "There is nothing to worry about." A person who is trapped in a wrecked car, hurting from head to foot and worried about a loved one, knows that all is not well. What will reassure the patient is your calm and caring approach to the emergency situation. Whether you are a brand new EMT or a seasoned veteran, patients expect you to bring some sense of order and stability to the terrifying chaos that has suddenly engulfed them. Briefly explain your plan of action to assist the patient in the crisis. Inform the patient that you need his or her help and the assistance of family members or bystanders to carry out your plan of action.

How a patient reacts to injury or illness may be influenced by certain personality traits. Some patients may become highly emotional over what may seem to be a minor problem. Others may show little or no emotion, even after serious injury or illness. Many other factors influence how a patient reacts to the stress of an EMS incident. Among these factors are the following:

- Socioeconomic background
- Fear of medical personnel
- Alcohol or substance abuse
- History of chronic disease
- Mental disorders
- Reaction to medication
- Age
- Nutritional status
- Feelings of guilt
- Past experience with illness or injury

You are not expected to always know why a patient is having an unusual emotional response. However, you can quickly and calmly assess the actions of the patient, family members, and bystanders. This assessment will help you to gain the confidence and cooperation of everyone at the scene. In addition, you should use a professional tone and show courtesy, along with sincere concern and efficient action. These simple considerations will go far to relieve worry, fear, and insecurity on the part of everyone involved. Your calm reassurance will inspire confidence and cooperation. Compassion is also important, but you must be careful. Your professional judgment takes priority over compassion. For example, suppose a screaming child with no obvious life-threatening injuries is covered with another patient's blood. This

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Full resuscitative efforts are continued en route; however, the child has failed to respond to appropriate advanced life support (ALS) and basic life support (BLS) treatment. The child is reassessed and a radio report is called in to the receiving facility.

Recording Time: 18 Minutes	
Level of consciousness	Unconscious and unresponsive
Respirations	Absent
Pulse	Absent
Skin	Cool and cyanotic
Blood pressure	Not obtainable
Spo_2	Not obtainable

The child is delivered to the emergency department (ED) and care is transferred to the attending physician. After an additional 15-minute period of resuscitative efforts in the ED, the child is pronounced dead. Later that evening, you find your paramedic partner in his dorm; he is crying and tells you he does not want to talk right now.

8. Does the death of a child affect the EMT or paramedic differently than the death of an adult? If so, how?
9. How can you help your partner?

frightened child appeals to your sense of compassion and thus gets your attention. In the meantime, an unconscious, nonbreathing adult nearby could die from lack of care.

Special Populations

When children are seriously ill or injured, family members and other people at the scene may be frantic. You should remain calm and confident in your skills because this may be all that is needed to provide reassurance to those at the scene.

Patients must be given the opportunity to express their fears and concerns. You can easily relieve many of these concerns at the scene. Usually, patients are concerned about the safety or well-being of others who are involved in the accident and about the damage or loss of personal property. Your responses must be discreet and diplomatic, giving reassurance when appropriate. If a loved one has been killed or critically injured, you should wait, if possible, until clergy or the ED staff can give the patient the news. They can provide the necessary psychological support the patient needs after receiving this type of news.

Words of Wisdom

Calm reassurance on your part will inspire confidence and cooperation. Compassion can also be an important component of your care, but you must be careful that your compassion does not misdirect you to provide inappropriate care. Your professional judgment needs to take priority.

Some patients, especially children and older adults, may be terrified or feel rejected when separated from family members by uniformed EMS providers. Other patients may not want family members to share their stress, see their injury, or witness their pain. It is usually best if parents are transported with their children and relatives accompany older patients. Medical attention for a child often requires adult consent. Treatment may be delayed if a caregiver is not transported with the child.

Religious customs or needs of the patient must also be respected. Some people will cling to religious medals or charms, especially if you make any attempt to remove them. Other people will express a strong desire for religious counsel, baptism, or last rites if death is near. You must try to accommodate these requests. Some people have religious convictions that strongly oppose the use of medications, blood, and blood products. If you obtain such information about your patient, it is imperative that you report it to the next level of care.

In the event of a death, you must handle the body with respect and dignity. It must be exposed as little as possible. Learn your local regulations and protocols about moving the body or changing its position, especially if you are at a possible crime scene. Even in these situations, CPR and appropriate treatment must be given unless there are obvious signs of death.

Uncertain Situations

There will be times when you are unsure whether a true medical emergency exists. In these cases, contact medical control about the need to transport. If you cannot reach medical control, it is always best to transport the patient. For both ethical and medicolegal reasons, a physician must examine all patients who are transported and judge the degree of medical need.

Words of Wisdom

It is always best to assure the patient is an active participant in the medical care he or she receives. Give your patient the information he or she needs to make an informed decision. You will find that patients who are participating in their own care are more likely to be satisfied with the care they receive.

You must also realize that even the most minor symptoms may be early signs of severe illness or injury in your patient. Symptoms of many illnesses can be similar to those of substance abuse, hysteria, or other conditions. You must accept the patient's complaints and provide appropriate care until you are able to transfer care of the patient to the next level (eg, paramedic, nurse, or physician). Your local protocols will direct your actions in these uncertain situations. When in doubt, err on the side of caution, acquire the patient's consent, and transport the patient to a medical facility.

Violent Situations

The safety of you and your team is of primary concern. Civil disturbances, large gatherings of hostile or potentially hostile people, domestic disputes, and crime scenes, especially those involving gangs,

can create many hazards for EMS personnel. Several agencies will respond to large civil disturbances. In these instances, it is important for you to know who is in command and will be issuing orders Figure 2-32. However, you and your partner may be on your own when a group of people seems to grow larger and become increasingly hostile. In these cases, you should call law enforcement immediately if they are not already present. You may need to wait for law enforcement to arrive before you can begin treatment or safely approach a patient.

Remember, you and your partner must be protected from the dangers at the scene before you can provide patient care. Law enforcement must make sure the scene is safe before you and your partner enter. A crime scene often poses potential problems for EMS personnel. If the perpetrator is still somewhere on the scene, this person could reappear and threaten you and your partner or attempt to further injure the patient you are treating. Bystanders who are trying to be helpful may interfere with your emergency medical care. Family members may be very distraught and not understand what you are doing when you attempt to splint an injured extremity and the patient cries out that what you are doing hurts. Be sure you have adequate assistance from the appropriate public safety agency in these situations.

Sometimes EMTs will be at a scene where a dangerous situation is underway, such as a hostage situation or riot. In these instances, it may be necessary for you to be protected from projectiles such as bullets, bottles, and rocks. Law enforcement personnel will ordinarily provide for concealment or cover of personnel who are responding to the incident. **Cover** involves the tactical use of an impenetrable barrier for protection, while **concealment** involves hiding behind objects to limit a person's visibility of you. You should not be placed in a position that will endanger your life or safety during such incidents. Do not depend on someone else for your safety.

Figure 2-32 Several agencies may respond to a scene. It is important for you to know who is in command and will be issuing orders.

Remember, your personal safety is of the utmost importance. You must thoroughly understand the risks of each environment you enter. Whenever you are in doubt about your safety, do not put yourself at risk. Never enter an unstable environment, such as a shooting, a brawl, a hostage situation, or a riot. Therefore, as part of your scene size-up, evaluate the scene for the potential for violence. If further violence is a possibility, call for additional resources. Failure to do so may put you and your partner at serious risk. When appropriate, allow law enforcement personnel to secure the scene before you approach; they have the necessary experience and expertise in handling these situations.

It is important for you to remember that if you believe an event is a crime scene, you must attempt to maintain the chain of evidence. Make sure you do not disturb the scene unless it is absolutely necessary in caring for the patient.

Behavioral Emergencies

The category of behavioral emergencies covers a wide range of situations. This catchall phrase includes emergencies that do not have a clear physical cause and that result in unusual behavior. Often, the cause turns out to be physical; hypoglycemia, head trauma, hypoxia, and toxic ingestion can all cause altered mental status. Patients with psychiatric diseases, such as certain bipolar disorders or schizophrenia, may have altered sensorium or exhibit abnormal behavior.

Although most behavioral emergencies do not pose a threat to you, the potential of a threat to either the patient or yourself still exists and you should use caution.

Consider these questions as you evaluate the patient in terms of a behavioral or psychiatric emergency that may lead to a violent patient reaction:

- How does this patient respond to you? Are your questions answered appropriately? Are the patient's vocabulary and expressions what you would expect under the circumstances?
- Is the patient withdrawn or detached? Is the patient hostile or friendly? Overly friendly?
- Does the patient understand why you are there?

- How is the patient dressed? Is the dress appropriate for the time of the year and occasion? Are the clothes clean? Dirty?
- Does the patient appear relaxed, stiff, or guarded? Are the patient's movements coordinated or jerky and awkward? Is there hyperactivity? Are the patient's movements purposeful, for example, in putting on his or her clothes? Are the actions aimless, such as sitting and rocking back and forth in a chair?
- Has the patient harmed herself or himself? Is there damage to the surroundings?
- What are the patient's facial expressions? Are they bland or flat, or are they expressive? Does the patient show joy, fear, or anger to appropriate stimuli? If so, to what degree?

It might not be possible for you to gather all of the information that these questions suggest. Sometimes, a patient who is experiencing a behavioral emergency will not respond at all. In those cases, the patient's facial expressions, pulse and respirations, tears, sweating, and blushing may be significant indicators of his or her emotional state. Also see Chapter 22, *Psychiatric Emergencies*, which provides greater depth about psychiatric emergencies.

Workplace Issues

As our society continues to grow more culturally diverse, some groups that may have been satisfied in the past to accept and participate in the traditions of mainstream American cultural may seek instead to assert, preserve, and nurture their differences. And, as our society grows more culturally diverse, so do EMS workplaces. There will be challenges as these changes continue to occur. If you have any concerns working with any particular group of people, you need to address this before finishing your EMT training. You are required to provide an equal standard of care to all patients and also need to be able to work efficiently and effectively with other health care professionals from a variety of different backgrounds.

Cultural Diversity on the Job

Each individual is different, and you should communicate with coworkers and patients in a way that is sensitive to everyone's needs Figure 2-33. Look at cultural diversity as assets, and make the most of the differences among people in EMS, thus improving our ability to provide optimum patient care. As the public safety workplace becomes more culturally diverse, changes may occur that could be considered disruptive.

Figure 2-33 Communicate with coworkers in a way that is sensitive and respectful to individual differences.

Alternatively, failure to diversify the workforce in the face of a culturally diverse patient population can lead to cultural incompetence. Diversity is an effective way to strengthen a public safety workforce.

For many years, EMS and public safety have been dominated by Caucasian men. This trend is declining, as more women and minorities are working in public safety. The proactive EMT understands the benefits of using cultural diversity to improve patient care and expects to work alongside coworkers with varying backgrounds, attitudes, beliefs, and values and to accept their differences.

Cultural diversity in EMS allows you to enjoy the benefits of accentuating the skills of a broad range of people. When you accept each coworker as an individual, the need to fit them into rigid roles is eliminated. To be more sensitive to cultural diversity issues, you must first be aware of your own cultural background. Ask yourself, "What are my own issues relative to race, color, religion, and ethnicity?" Because culture is not restricted to different nationalities, you should also consider age, disability, gender, sexual orientation, marital status, work experience, and education.

In sports, you play to your team's strengths. For example, in football, offensive lines have a fast side and a strong side, and they run plays toward either side depending on the situation. As part of an effective EMS team, you can make it part of your team's culture to play to your strengths. This may be difficult to do, but once you begin the process, the benefits in terms of improved patient care are immeasurable.

It is important to strive for cultural competency with coworkers as well as patients. For example, some

cultures avoid eye contact with others. Understanding the language, mannerisms, colloquialisms (eg, ordinary or local conversation), and practices that exist in the community you serve will make you a more effective EMT.

Your Effectiveness as an EMT

To be an effective EMT, you need to discover the diverse cultural needs of your coworkers, as well as your patients and their families. Although it is unrealistic to expect you to become a cross-cultural expert with knowledge about all ethnicities, you should learn how to relate effectively.

Teamwork is essential in public safety and EMS. To work effectively as a team, you need to communicate to resolve cultural diversity issues.

As a health care professional, you should strive to be a role model for new EMTs by showing them the value of diversity. If you are working with a coworker or patient from a particular cultural group, be aware of any opinion you may have formed about that group. Do not assume there is a language barrier, and do not appear patronizing by saying, "Some of my best friends are...." There are legitimate differences in how various cultures respond to stress. For example, you should be prepared to accept that people of different cultures might respond differently to the death of a loved one.

When you are working with patients or calling the hospital on the radio, other EMTs may be sensitive to how you treat patients from their cultural group. Therefore, when referring to patients, you should use the appropriate language. Avoid using terms such as, "cripple," "deformed," "deaf," "dumb," "crazy," and "retard" to describe patients. The word "handicapped" even has a negative connotation. Instead, use the term "disabled," and describe the specific disability.

You might want to consider taking multilingual training classes. This will not only be useful in communicating with your coworkers; it will also help improve communication with your patients and sensitize you to the cultural richness of the people who are using the language.

Even the perception of discrimination can weaken morale and motivation and negatively affect the goal of EMS. Therefore, to achieve the benefits of cultural diversity in the EMS workplace, you must understand how to communicate effectively with coworkers from various backgrounds.

▶ Avoiding Sexual Harassment

The number of sexual harassment lawsuits skyrocketed in the 1990s because of increased media attention to the problem. Furthermore, guilty verdicts encouraged others to bring lawsuits concerning conduct that once would have gone unchallenged.

Sexual harassment is any unwelcome sexual advance, request for sexual favors, or other verbal or physical conduct of a sexual nature when submitting is a condition of employment, submitting or rejecting is a basis for an employment decision, or such conduct substantially interferes with performance and/or creates a hostile or offensive work environment. Remember, even an overheard conversation can be construed as sexual harassment.

There are two types of sexual harassment: quid pro quo (the harasser requests sexual favors in exchange for something else, such as a promotion) and hostile work environment (jokes, touching, leering, requests for a date, talking about body parts).

Sexual harassment incidents include complaints of a hostile work environment. Remember, it does not matter the intent of the harasser. What matters is the perception of the act and the impact the behavior has on someone else. For many years, it was not uncommon to walk into a fire station and see sexually suggestive posters, calendars, or cartoons and to hear sexual jokes or comments. This situation is changing because it is not acceptable professional practice.

Because EMTs and other public safety professionals depend on each other for their safety, it is especially important for you to develop nonadversarial relationships with coworkers. Most EMS facilities and fire stations have separate bunkrooms for men and women. If this is not the case at your facility, you should discuss this with your supervisor and talk openly with coworkers of the opposite gender to allow for their privacy.

If you are concerned about a particular behavior, it may be helpful to ask yourself these questions: "Would I do or say this in front of my spouse, significant other, or parents?" "Would I want my family members to be exposed to this behavior?" "Would I want my behavior videotaped and shown on the evening news?"

If you have been harassed, you should report it according to local policy and procedure and keep notes of what happened and what was said. If you are asked to go out on a date, say, "I'm not interested." If remarks or touching offend you, say, "Please don't say/do that to me; it offends me."

▶ Substance Abuse

In the past, part of the fire service ritual was to go back to the fire station after the fire, clean and maintain the equipment, and discuss the call. At some locations, having a few beers was not uncommon. EMS today is very different from the ambulance service of 20 years ago.

Drug and alcohol use in the workplace causes an increase in accidents and tension among workers, but most important, it can lead to poor treatment decisions. EMS personnel who use or abuse substances such as alcohol or marijuana are more likely to have problems with their work habits, and their driver's licenses may be revoked as a result. They may be absent from work more often than other workers. If the use or abuse has occurred within hours before the start of their shift, their ability to render emergency medical care may be lessened because of mental or physical impairment. Because of the seriousness of substance abuse or misuse, many EMS systems now require their personnel to undergo periodic random tests for illegal drug use. Since public safety workers depend so much on coworkers for their own safety, it is even more important that ways be found to manage this problem.

As an EMT, you will witness firsthand the tremendous effects of violence, trauma, and disease. Beyond CISM, members of the public safety community have a way of covering for each other. It is important to understand the problem behavior will usually get worse before it gets better. Unfortunately, the stereotypical image of the alcoholic or addict lying in the gutter in an urban part of town often blinds EMS personnel to the existence of a coworker's drug or alcohol problem. Not all people with a substance abuse problem fit the stereotype.

As a member of the EMS team, you are responsible for responding to the community's emergency medical needs. Hazards in the EMS workplace are many. If you or one of the members of your team has an alcohol or other drug problem, these risks are increased. Furthermore, drug use that occurs off the job does not necessarily decrease the risk if a team member is showing up at work still under the influence of substance abuse. While it varies from state to state, a drug-related or alcohol-related arrest can result in the revocation of some or all driving privileges and even loss of EMT licensure. Because of the tremendous risk potential, it is critical that you seek help or find a way to confront your partner or coworker even though there will be great pressure to allow the behavior to continue. Addicts and alcoholics are skillful at covering up their behavior. You might even decide not to bother your coworker because you feel he or she has caught too many tough calls lately and needs to blow off some steam. Do not let this happen.

Find a way to confront someone who has a substance abuse problem. Because of the tremendous hazards to patients, the public, and other team members, you have a legitimate right to confront coworkers with drug and alcohol problems.

When confronting a coworker, make it clear to the coworker that if the problem is personal, it is the coworker's responsibility to take care of it. But you also have the power to assist this person. In many workplaces, coworkers are often in a position to notice a change in a coworker's behavior or attitude before a supervisor does. This is especially true in EMS because of the close relationship that develops between people who work together for many hours and share rooms and meals. This may allow you to help someone before his or her job performance is negatively affected.

Safety Tips

Trust is your business. You will be given the privilege—and it is a privilege—to care for patients in their time of highest need. You must demonstrate that trust through consistent professionalism. Remember, you have support to help you make the right choice: your partner, your supervisor, your family.

To help reduce the potential for drug and alcohol use in the EMS workplace, become informed about alcohol and other drugs. Beyond following company policy, you and your coworkers can agree among yourselves what constitutes unacceptable behavior. The best time to confront these issues is usually after a call. Management sets the tone on these issues, but senior EMTs can also emphasize to new EMTs that drug and alcohol abuse will not be tolerated.

Employee assistance programs (EAPs) are often available for EMS personnel. These agencies are contracted with the EMS department to provide a wide array of mental health, substance abuse, crisis management, and counseling services. Talk with your supervisor about resources that are available at your EMS department. Early intervention is the best bet to ensure a safe, alcohol- and drug-free workplace.

▶ Suicide Prevention

A combination of cumulative stress and acute, intense stress can weigh heavily on EMS providers. While awareness of EMS provider suicide has grown over the years, you should understand and select strategies to deal with stress in a constructive manner. If you encounter any suicidal ideations or if a colleague expresses such ideations, you should seek help, including professional counseling.

▶ Injury and Illness Prevention

According to the Bureau of Labor Statistics, approximately 4.1 million serious injuries and 4,500 deaths occur in US workplaces with a direct cost of more than $50 billion each year.

Many companies, as well as EMS departments, have established injury and illness prevention programs to determine workplace hazards and implement a plan to mitigate those hazards. Each injury and illness prevention program should include these six interrelated and interdependent elements:

- Management leadership
- Worker participation
- Hazard identification and assessment
- Hazard prevention and control
- Education and training
- Program evaluation and improvement

Data show that injury and illness prevention programs pay dividends for the companies that implement them. Thirty-four states require companies to have such programs. OSHA developed a Voluntary Protection Program (VPP) to help companies actively mitigate risk and protect their employees. Find out if your company has an injury and illness prevention program and learn how you can participate.

YOU are the Provider SUMMARY

1. How can you psychologically prepare yourself for this call?

Regardless of your years of experience in EMS, you must prepare yourself psychologically and logistically when responding to *every* call.

You will experience anxiety during your response to the scene; this is a normal human reaction to a stressful event. The key is to recognize this and to remain focused on the critical tasks that lie ahead. Instead of reacting negatively, channel your anxiety into a positive psychologic drive that will make you even more determined to provide the best emergency medical care possible.

You and your partner should have a plan; clearly delineate each of your roles when you arrive at the scene. Discuss the skills and interventions that may need to be performed, the equipment that will be required, and whether additional resources will be needed. Doing so will help minimize confusion at the scene and the psychologic stress it causes.

2. What is stress? How does it manifest?

Stress is the body's physiologic response to any kind of demand—good or bad—and is triggered by one or more stressors. A stressor is any emotional, physical, or environmental situation that causes a variety of physiologic, physical, and psychologic responses.

The body's response to stress begins with an alarm response. When stress is placed on the body—in this case, attempting to resuscitate a child in cardiac arrest—the nervous system releases adrenaline into the bloodstream, causing the fight-or-flight response. The alarm response is followed by a phase of reaction and resistance, and then recovery or, if the stress is prolonged and ineffectively managed, exhaustion. This three-stage response to stress is called the general adaptation syndrome.

3. What phase of the stress response are you experiencing right now?

You are in an acutely stressful situation—attempting to resuscitate a child in cardiac arrest—and are experiencing the alarm response. Your nervous system is releasing adrenaline into the bloodstream, which is triggering the fight-or-flight response and causing your symptoms (eg, sweating, heart racing). As a result, your body has responded with a burst of energy that allows you to carry out your assigned task of suctioning the child's mouth and managing her airway (the "fight" response). If you were experiencing the "flight" response, you would either freeze or try to escape the situation altogether. The ability to effectively do your job—despite experiencing the symptoms of stress—indicates you are able to work under pressure.

4. How should you respond to the mother's question?

Anger is often expressed by very demanding behavior and/or yelling. In this case, anger is a predictable response given the seriousness of the situation.

Clearly, the situation looks grim, so in a calm, professional, and caring manner, reassure her that, although the situation is serious, you and your team are doing everything possible to save her child's life. Be honest, do not give her false hope, and do not make promises you cannot deliver—for example, "Everything will be alright," or "There's nothing to worry about." Your actions and words, even a simple touch, can communicate caring.

5. What stage of the grieving process is the mother experiencing?

The child's mother is actually simultaneously experiencing two stages of the grieving process—denial and anger. There are five stages of the grieving process: denial, anger, bargaining, depression, and acceptance. Not all people grieve in this order, and not all people experience all stages of the grieving process.

YOU are the Provider SUMMARY continued

A person in denial refuses to accept the seriousness of the situation, makes unrealistic demands for miracles, or persistently fails to understand why there is no improvement in his or her loved one's condition.

Anger is usually the ugliest stage of the grieving process. During this phase, the person lashes out—usually at the EMS provider. Someone must be blamed, and those who are responsible must be punished. Anger often manifests as hostility toward the provider. Some people may become physically abusive, in which case law enforcement should be summoned to the scene.

6. How can poorly managed stress affect your physical well-being?

Most people can respond to sudden stress for a short time. However, prolonged or poorly managed stress can quickly drain the body of its reserves. This leaves it depleted of key nutrients, weakened, and more susceptible to disease.

In addition to the emotional damage that poorly managed stress can cause (eg, depression, guilt, persistent anxiety), it has been proven to be a strong contributor to heart disease, hypertension, cancer, alcoholism, and drug abuse, among others.

7. How can you mitigate the stress associated with the job?

Before you can manage stress, you must first recognize its signs and symptoms and identify the stressors involved. Some stressors can be changed or eliminated altogether; others cannot. Caring for critically sick or injured patients is difficult. It is stressful for them, but also for you. It is critical to recognize the manifestations of stress so it does not interfere with your job or personal life.

The signs of chronic stress are not always obvious at first; they may be subtle and not present all the time. Warning signs include irritability toward coworkers, family, and friends; difficulty concentrating; insomnia, hypersomnia, or nightmares; anxiety; indecisiveness; loss of appetite; decreased sex drive; and loss of interest in work, among others.

There are many useful and healthy strategies for managing stress; they may involve changing a few habits or your attitude. Behavioral tactics that have been shown to alleviate or eliminate the body's stress response include changing or eliminating the stressors (this is not always possible, especially in EMS), changing work hours, cutting back on overtime, changing your attitude about the stressor, developing a social network that does not involve your coworkers, and spending more time with your family.

There are also a number of exercises you can use to minimize the physical response to stress, such as periodic stretching; slow, deep breathing; regular physical exercise; and progressive muscle relaxation. If you are experiencing difficulty managing the stress associated with your job, you should consider seeing a professional counselor.

The key to successful stress management is to find a strategy that works for *you* and to use that strategy frequently and consistently. Remember, the signs of stress are not always present; you may not feel stressed, despite the fact that you are.

8. Does the death of a child affect the EMT or paramedic differently than the death of an adult? If so, how?

The death of any patient is a tragic event. However, in our society, we assume only older people are supposed to die, so most people are unprepared for what they will feel when a child's death does occur—including EMS personnel. It is common for EMS providers to feel they did not do everything possible for the child, despite the fact that they indeed provided their best resuscitative efforts.

It is normal to feel sadness and depression following the death of a child; however, unlike the death of an older person, these feelings are often more profound. Children only account for about 10% of all EMS calls; therefore, the death of a child—expected or not—often catches the EMT off guard, resulting in a greater degree of stress and anxiety compared to what is experienced following the death of an adult.

9. How can you help your partner?

Your partner's behavior is consistent with a critical incident stress reaction. Many people are prone to cumulative stress. In the emergency services field, stressors are often sudden and more severe; therefore, many events are unusually stressful or emotional, even by emergency services standards.

So, how do you help your partner? If he does not wish to talk, do not force the issue. He needs time to collect his thoughts and to grieve—just like the parents. However, you should reassure him that you are willing to listen; some people experience relief just by talking to a coworker, family member, or friend. In other cases, he or she may need to speak to a counselor.

You should alert your supervisor to your partner's crisis. If he is not emotionally fit to provide safe and effective emergency care, he should be replaced for the rest of the shift. In some cases, a grieving EMT or paramedic will become angry if his or her crisis is reported to the supervisor. However, you should reassure him or her that you reported the incident out of concern for his or her physical and emotional well-being. EMS personnel do not just look out for each other during an EMS call; they should also look out for each other after the call—even if it is just as a "sounding board."

YOU are the Provider SUMMARY continued

EMS Patient Care Report (PCR)

Date: 4-3-16	**Incident No.:** 020109	**Nature of Call:** Child not breathing		**Location:** 788 E. Radcliffe	
Dispatched: 0720	**En Route:** 0720	**At Scene:** 0725	**Transport:** 0752	**At Hospital:** 0808	**In Service:** 0845

Patient Information

Age: 4 **Sex:** F **Weight (in kg [lb]):** 19 kg (42 lb)	**Allergies:** None **Medications:** None **Past Medical History:** None **Chief Complaint:** Cardiopulmonary arrest

Vital Signs

Time: 0726	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0731	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0736	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0741	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0747	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0753	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable
Time: 0801	**BP:** Unobtainable	**Pulse:** Absent	**Respirations:** Absent	**Spo_2:** Unobtainable

EMS Treatment (circle all that apply)

Oxygen @ 15 L/min via (circle one): **NC NRM (BVM)**		**(Assisted Ventilation)**	**(Airway Adjunct)**	**(CPR)**
Defibrillation	**Bleeding Control**	**Bandaging**	**Splinting**	**Other:** (Cardiac monitoring, IV, medication therapy, intubation)

Narrative

9-1-1 dispatch for an unconscious child not breathing. On arrival at the scene, found two EMRs performing CPR on a 4-year-old girl. The child's mother stated when she went to wake up her child, she was unconscious, unresponsive, and not breathing; she called 9-1-1 and began CPR. The mother denies her child has any significant past medical history or drug allergies. She further denies any recent trauma or potentially toxic ingestion. After 2 minutes of CPR, reassessment revealed the child remained apneic and pulseless. Continued two-rescuer CPR and applied the cardiac monitor, which revealed asystole. Paramedic on scene successfully performed endotracheal intubation. An IV line was established and medications were administered per protocol. Performed resuscitative efforts at the scene for approximately 10 minutes, and then loaded the child into the ambulance and began transport. The child's mother accompanied her to the hospital, and was secured in the passenger's seat of the ambulance. Continued CPR and appropriate medication therapy en route. The child's condition remained unchanged; she remained apneic and pulseless and the electrocardiogram continued to show asystole. Delivered the child, whose condition remained unchanged, to the emergency department staff and gave verbal report to the attending physician.

Provided emotional support to the child's mother and then returned to service.**End of report**

Prep Kit

Ready for Review

- Your health and wellness are the foundation for your career; without these, you cannot provide care. Wellness includes your mental, physical, and social well-being.
- Components of wellness include protection from communicable disease and scene hazards; proper nutrition; sufficient exercise and relaxation; sufficient sleep; refraining from tobacco and drug use and excessive alcohol; and taking time to relax and enjoy life.
- Every patient encounter should be considered to be potentially dangerous. It is essential that you take all available precautions to minimize exposure and risk to scene hazards and infectious and communicable diseases.
- A communicable disease is any disease that can be spread from person to person or animal to person.
- Infectious diseases can be transmitted by contact (direct or indirect), or they are airborne, foodborne, or vector-borne.
- Even if you are exposed to an infectious disease, your risk of becoming ill is small.
- Whether or not an acute infection occurs depends on several factors, including the amount and type of infectious organism and your resistance to that infection.
- You can take several steps to protect yourself against exposure to infectious diseases, including:
  - Keeping up to date with recommended vaccinations
  - Following standard precautions at all times
  - Handling all needles and other sharp objects with great care
- Because it is often impossible to tell which patients have infectious diseases, you should avoid direct contact with the blood and body fluids of all patients.
- You should know what to do if you are exposed to an airborne or bloodborne disease. Your department's designated officer will be able to help you follow the protocol set up in your area.
- Infection control should be an important part of your daily routine. Be sure to follow the proper steps when dealing with potential exposure situations.
- If you think you may have been exposed to an infectious disease, see your physician (or your employer's designated physician) immediately.
- Scene hazards include potential exposure to the following:
  - Hazardous materials
  - Electricity
  - Fire
- At a hazardous materials incident, your safety is the most important consideration. Never approach an object labeled with a hazardous materials placard or label. Use binoculars to read the placards or labels from a safe distance.
- Do not begin caring for patients until they have been moved away from the scene and decontaminated by the hazardous materials team or the scene has been made safe for you to enter.
- There are seven common hazards in a fire:
  - Smoke
  - Oxygen deficiency
  - High ambient temperatures
  - Toxic gases
  - Building collapse
  - Equipment
  - Explosions
- Wearing protective clothing and specialized gear is another important component in preventing injury.
- Part of your role is to know how to care for critically ill and injured patients. Becoming familiar with interpersonal communication techniques to use in these situations will allow you to communicate with patients and their families in an optimal way.
- You will encounter death, dying patients, and the families and friends of those who have died. Your appropriate response to grief can have a significant impact on those you work with.
- Recognizing the signs of stress is important for all EMTs. When signs of stress such as fatigue, anxiety, anger, feelings of hopelessness, worthlessness, or guilt, and other such indicators manifest themselves, behavioral problems can develop.
- Violent situations such as civil disturbances, domestic disputes, and crime scenes can create many hazards for EMS personnel. If you see the potential for violence during a scene size-up, call for additional resources.
- Common workplace issues include cultural diversity, sexual harassment, and substance abuse. You should know what to do to avoid or address these situations.

Prep Kit continued

Vital Vocabulary

acute stress reactions Reactions to stress that occur during a stressful situation.

airborne transmission The spread of an organism via droplets or dust.

bloodborne pathogens Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus and human immunodeficiency virus (HIV).

Centers for Disease Control and Prevention (CDC) The primary federal agency that conducts and supports public health activities in the United States. The CDC is part of the US Department of Health and Human Services.

communicable disease A disease that can be spread from one person or species to another.

concealment The use of objects to limit a person's visibility of you.

contamination The presence of infectious organisms on or in objects such as dressings, water, food, needles, wounds, or a patient's body.

cover The tactical use of an impenetrable barrier for protection.

critical incident stress management (CISM) A process that confronts the responses to critical incidents and defuses them, directing the emergency services personnel toward physical and emotional equilibrium.

cumulative stress reactions Prolonged or excessive stress.

delayed stress reactions Reactions to stress that occur after a stressful situation.

designated officer The individual in the department who is charged with the responsibility of managing exposures and infection control issues.

direct contact Exposure or transmission of a communicable disease from one person to another by physical contact.

exposure A situation in which a person has had contact with blood, body fluids, tissues, or airborne particles in a manner that suggests disease transmission may occur.

foodborne transmission The contamination of food or water with an organism than can cause disease.

general adaptation syndrome The body's response to stress that begins with an alarm response, followed by a stage of reaction and resistance, and then recovery or, if the stress is prolonged, exhaustion.

hepatitis Inflammation of the liver, usually caused by a viral infection, that causes fever, loss of appetite, jaundice, fatigue, and altered liver function.

host The organism or individual that is attacked by the infecting agent.

human immunodeficiency virus (HIV) Acquired immunodeficiency syndrome (AIDS) is caused by HIV, which damages the cells in the body's immune system so that the body is unable to fight infection or certain cancers.

immune The body's ability to protect itself from acquiring a disease.

indirect contact Exposure or transmission of disease from one person to another by contact with a contaminated object.

infection The abnormal invasion of a host or host tissues by organisms such as bacteria, viruses, or parasites, with or without signs or symptoms of disease.

infection control Procedures to reduce transmission of infection among patients and health care personnel.

infectious disease A medical condition caused by the growth and spread of small, harmful organisms within the body.

Occupational Safety and Health Administration (OSHA) The federal regulatory compliance agency that develops, publishes, and enforces guidelines concerning safety in the workplace.

pathogen A microorganism that is capable of causing disease in a susceptible host.

personal protective equipment (PPE) Protective equipment that blocks exposure to a pathogen or a hazardous material.

Prep Kit *continued*

posttraumatic stress disorder (PTSD) A delayed stress reaction to a prior incident. Often the result of one or more unresolved issues concerning the incident, and may relate to an incident that involved physical harm or the threat of physical harm.

transmission The way in which an infectious disease is spread: contact, airborne, by vehicles, or by vectors.

standard precautions Protective measures that have traditionally been developed by the CDC for use in dealing with objects, blood, body fluids, and other potential exposure risks of communicable disease.

vector-borne transmission The use of an animal to spread an organism from one person or place to another.

Assessment in Action

You and your partner are dispatched to a sick person. On arrival you find a conscious patient who reports a fever, night sweats, and a cough. The patient also reports a history of tuberculosis. Your partner is assessing the patient, and you notice he has not taken standard precautions by donning personal protective equipment. Lately you have noticed your partner is disinterested in his work and is coming in late, taking unnecessary risks, and has taken to sitting alone at the station and not socializing with other members of the team. The job has been stressful lately; call volume has increased and you rarely have any downtime between calls.

1. What standard precautions should your partner have taken with this patient?
   - **A.** Gloves only
   - **B.** Gloves and surgical mask
   - **C.** Gloves and particulate mask
   - **D.** Gloves, mask, and gown
2. If your partner becomes infected with this patient's illness, what type of transmission would this occur through?
   - **A.** Vector-borne
   - **B.** Foodborne
   - **C.** Indirect contact
   - **D.** Airborne
3. Because your partner did not use standard precautions, he has potentially been exposed to an infectious disease. What should he do?
   - **A.** Ignore it because the risk of contamination is small.
   - **B.** Report it to the hospital staff so they can isolate the patient.
   - **C.** Report it to the infection control officer.
   - **D.** Sanitize any equipment that was in contact with the patient.
4. On the basis of your partner's actions, what is he most likely experiencing?
   - **A.** Acute stress reaction
   - **B.** Cumulative stress reaction
   - **C.** Posttraumatic stress disorder
   - **D.** Delayed stress reaction
5. Which of the following signs and symptoms are *not* usually associated with stress?
   - **A.** Headaches
   - **B.** Risk taking
   - **C.** Night sweats
   - **D.** Isolation
6. How can you help your partner to manage his stress?
   - **A.** Suggest that he relax and have a few drinks after his shifts.
   - **B.** Suggest a vacation.
   - **C.** Suggest that the supervisor give him time off.
   - **D.** Suggest that he participate in physical activity away from the workplace.
7. Which of the following is *not* a recommended way to manage stress?
   - **A.** Alcohol
   - **B.** Exercise
   - **C.** Proper diet
   - **D.** Sleep
8. What are the long-term physical effects of stress?
9. What are the long-term psychologic effects of stress?
10. Discuss the implications of your partner's actions in this scenario.