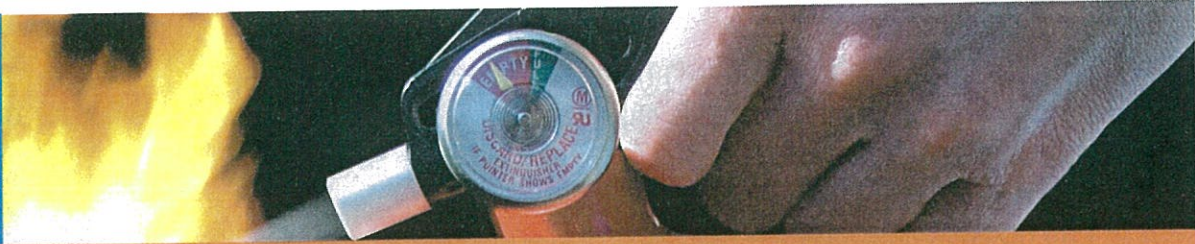


2.2



Accidents and Injuries

READING PREVIEW

Key Concepts

- Identifying common accidents and injuries
- Using basic safety guidelines to prevent accidents and injuries
- Learning first aid and emergency procedures
- Understanding safety as an ongoing process

Vocabulary

- accident report
- anaphylactic shock
- automated external defibrillator (AED)
- carcinogenic
- cardiopulmonary resuscitation (CPR)
- corrosive
- Environmental Protection Agency (EPA)
- general safety audit
- hazard communication program
- Hazard Communication Standard (HCS)
- Heimlich maneuver
- Material Safety Data Sheet (MSDS)
- obstructed airway maneuver
- Occupational Safety and Health Administration (OSHA)
- toque
- worker's compensation

Types of Accidents and Injuries

An accident is any unplanned event that hurts someone or damages someone's property. Accidents and injuries are a constant concern in any work environment. When you know the most common types of injuries or accidents and how they happen, you can take steps to avoid or prevent them. The most common types of accidents in foodservice establishments are the following:

- Burns
- Cuts
- Sprains, strains, and falls

Burns Some burns are more serious than others, but all burns require immediate care. Burns are described as being first, second, or third degree. *Degree* refers to how severe the burn is.

Cuts It comes as no surprise that cuts are one of the most common injuries for cooks. You can get a cut from a knife or any sharp edge. Cleaning up broken glass can cause a cut, as can handling paper. There are different types of cuts.

- **Abrasion.** A minor cut, such as a rug burn, caused by rubbing the skin against something else.
- **Laceration.** A cut or tear in the skin, such as a knife cut. Lacerations can be quite deep. Deep lacerations or those in a place on the body that can open easily, such as your forehead, may require stitches.

Source: Susanna Price/
Dorling Kindersley



Burns

Degree	Description	Treatment
First-degree burn	Skin turns red, feels sensitive, and may become swollen.	Treat with cool running water or by covering with towels soaked in cool water. Do not apply ice.
Second-degree burn	Burn is deeper and more painful than a first-degree burn. Blisters form. Blisters may ooze and are quite painful.	Cool the skin as directed for first-degree burns. Do not apply ointments or bandages. Seek medical attention.
Third-degree burn	Skin may turn white and become soft, or it may turn black and feel leathery or hard. Burned area does not have feeling because the burn has damaged the nerves.	Cover the burn with cool, moist, sterile gauze or clean cloth. Do not apply ointments, ice, or ice water. Seek immediate medical attention.

- **Avulsion.** A cut that removes a piece of skin or even a part of the body, such as a fingertip. Depending on severity, an avulsion may require immediate medical attention.
- **Puncture.** A wound resulting from a sharp object that pierces the skin and makes a deep hole in the skin. Depending on depth and location, a puncture wound may also require immediate medical attention.

Strains, Sprains, and Falls Sprains and strains are the result of twisting or wrenching your body out of its normal position. They are often caused by tripping or falling over something. If you step into a hole or onto something slippery, it is easy to sprain an ankle.

When you fall, you may try to stop yourself by grabbing something or putting your hands behind or in front of you. A sprained wrist or shoulder may then result.

You may suffer from strained muscles when you stand in the same position for too long, hold yourself in an awkward position (such as when you stretch or bend over to work), or make the same motion over and over again.

One of the most common types of strain is a back strain caused by lifting heavy things improperly.



READING CHECKLIST

What are the most common types of accidents in foodservice establishments?

FOCUS ON Safety

Cool Water for Burns

You may think rubbing ice or a burn is a good treatment. Ice can actually damage your skin. Instead, soak the burn in cool water or cover it with a cool cloth.

FOCUS ON Safety

Dull Knives

The worst cuts come from dull knives because they cut unevenly and require more force.

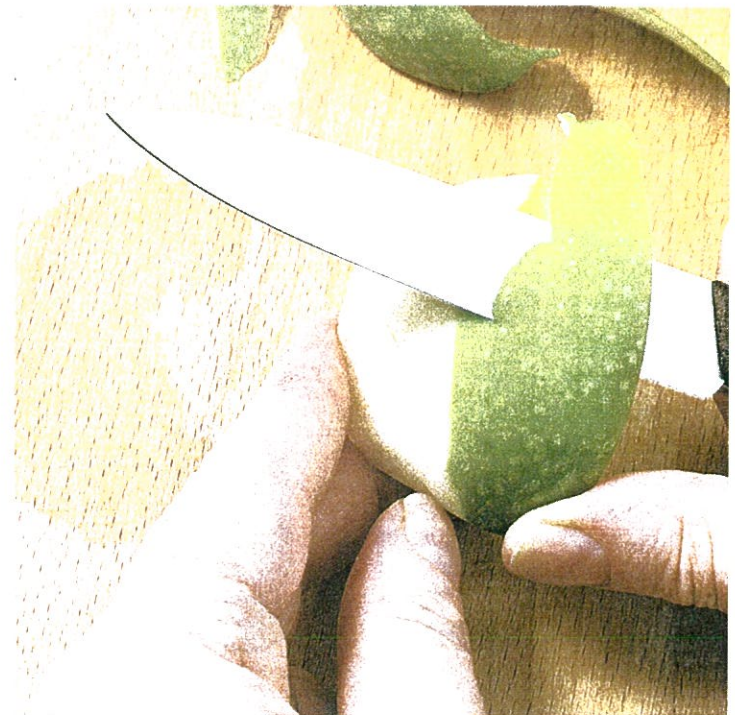
FIGURE 2-6

Cutting with a Knife

Never underestimate the sharpness of a kitchen knife.

DRAWING CONCLUSIONS *Why is it important for a new chef to focus immediately on learning appropriate knife skills?*

Source: Dave King/Image Partners 2005 Active/Dorling Kindersley



Preventing Accidents and Injuries

Preventing accidents and injuries is your responsibility. You can make yourself safer at work by observing safe work habits as described in this section. When you work safely, you help to create and maintain a safe environment for everyone.

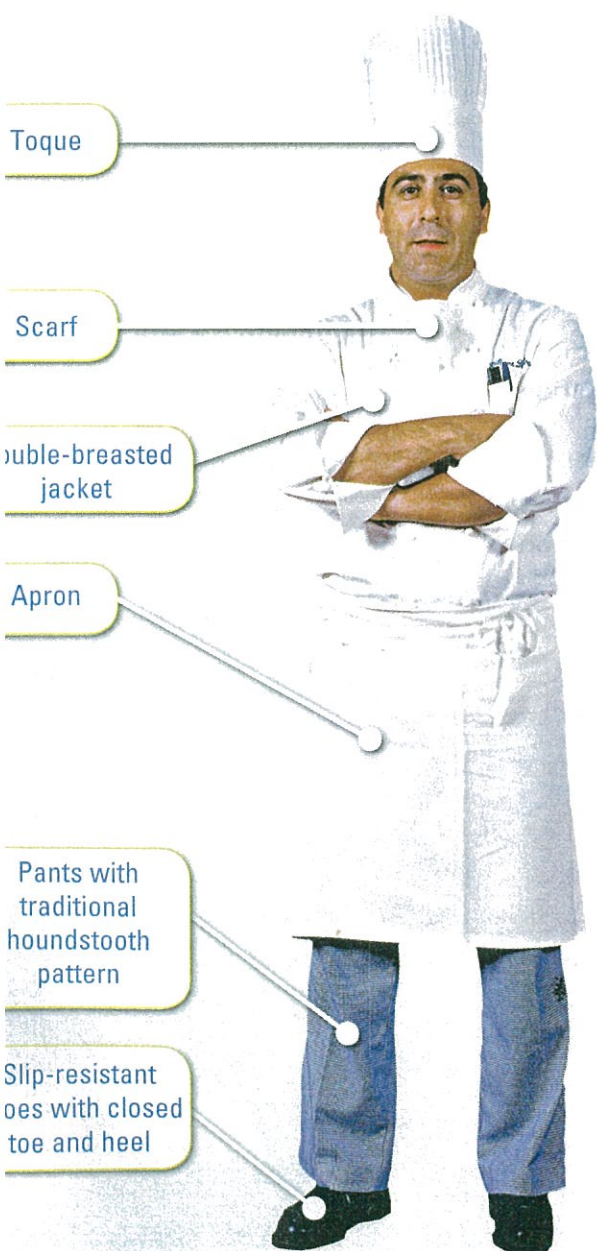
FIGURE 2-7

Uniform and Kitchen Safety

A complete uniform offers protection.

FORMING A MODEL *What parts of the uniform protect you from injury?*

Source: Max Alexander/Dorling Kindersley Media Library/Dorling Kindersley



Dressing for Safety You can protect your safety when you work in the kitchen by wearing the right kind of clothing, using the right tools and equipment, and learning to use all the tools and equipment in the kitchen properly and safely.

Large or dangling jewelry such as necklaces, earrings, bracelets, and rings can get caught in machinery. Take such items off before you start work.

The **toque** (toke) prevents hair from falling into the food. It also is open at the top for coolness.

Never wear loose or baggy clothing that could get caught on something or tangled in machinery or equipment. A chef's double-breasted jacket protects against burns and scalding on the arms. Be sure to keep your arms covered. You can button a double-breasted jacket on the alternate side if one side becomes dirty.

The chef's apron adds another layer of protection. You can also change it easily if it becomes unduly soiled. The houndstooth pattern of the traditional chef's pants does not show dirt.

Wear slip-, grease-, and heat-resistant shoes to protect your feet. They should either lace up tightly or have no laces at all. Closed toes (and even steel-reinforced toes) in your shoes can protect you from being cut if a knife should fall. Closed toes also can help prevent bruises if something heavy falls on your foot and can protect against stubbed toes. The shoes' heels should be low to avoid twisted or sprained ankles.

Wear additional protective gear when appropriate, especially when you are working with chemicals such as those in cleaning compounds. You may need to wear goggles, a mask, and rubber gloves to protect yourself from chemicals or from the particles that may fly out of a meat grinder or mixer. Wear heavy leather gloves when you are opening crates or lifting heavy objects.

Handling Knives and Other Cutting Tools Safely

To avoid cutting yourself, keep your knives sharp as you work and keep your hands and your knives clean and dry. Keep your knives organized and safely stored at your workstation. Don't let your work area become so cluttered that it is difficult for you to work safely. If a knife falls, do not grab for it—just try to get out of its way.

To avoid cutting someone else with your knife, pass it to someone else safely by laying it down on a flat surface with the handle extending to the person receiving the knife. Let them pick the knife up from the table, rather than passing it in midair.

If you must carry a knife through a crowded kitchen, walk carefully with the blade pointed down and the knife held close to your side. Put the knife in a shield if possible.

Wear mesh cutting gloves to protect your hands, especially when you must exert pressure on the blade. Opening oysters and slicing meats are good examples of situations when a mesh cutting glove would help avoid accidents.

Take special precautions when you are working with machines or appliances that cut food (slicers, grinders, mandolines, graters, and so on). Most of these machines have guards that are meant to keep your fingers or hands away from the blade. Be sure you always use these guards properly. When you are cleaning any motorized equipment, be sure it is turned off and unplugged before you begin cleaning.

Other common sources of cuts in the kitchen are can openers, open metal cans, and the cutting bars on rolls of aluminum or plastic wrap. Keep your hands away from sharp and jagged edges.

Broken glass can cut an unwary person easily. Clean up broken glass right away with a broom. Ask people near the area to simply stay where they are until you finish cleaning up. Many establishments have a separate container to hold broken glass. It would be easy for broken glass to break through a plastic trashcan liner and cut you when you empty the can.

Preventing Burns An open flame, the handle of a hot pan, sputtering grease, and chemicals can all cause burns. The best way to prevent burns is to keep your skin away from hot or caustic materials.

Your uniform is one way you can protect yourself from burns. Wear long sleeves and keep them rolled down. When you need to move or carry a hot pot or pan, use oven mitts or dry side towels to protect your hands. Tell other workers that a hot pan or tray has been left to cool.

If you must walk through the kitchen with something hot, let people know you are walking near them. If possible, let them know before you start walking.

Putting hot pans or dishes into a sink full of water is not good for the utensils. It could cause them to buckle or even break. It is also dangerous for anyone who may unknowingly reach into the sink. Let hot pots and pans cool before washing them or putting them in the sink. Always keep a dry side towel on the handle of a hot pan to let other workers know that the pan and handle are hot.

The steam that is released when you lift the lid on a pot or pan can cause serious burns. To prevent steam burns, lift the lid so the side farthest from you opens up first. This directs the steam away from your face.



FIGURE 2-8

Carrying a Knife

Hold the knife properly to avoid hurting others.

DRAWING CONCLUSIONS *Why is this the best way to carry a knife in a crowded kitchen?*

Source: Culinary Institute of America

Chef's Tip

Dry Mitts or Towels

Replace your side towel if it gets wet. A wet side towel or oven mitt doesn't protect you from a hot pan or oven rack.



FIGURE 2-9

Preventing Burns

This chef thinks that because he is using a towel, he is preventing burns.

PREDICTING *What's wrong with this picture? Hint: What would happen if the hot liquid splattered from the pot?*

Source: Culinary Institute of America



FIGURE 2-10

Prevent Slipping

Let others know that the floor is wet or slippery.

APPLYING CONCEPTS *Why is using both a sign and a verbal warning the safest way to alert others that the floor is wet?*

Source: Michal Heron/Pearson Education/PH College

A hot blast from an oven could be enough to cause burns on your face. If you wear glasses, the hot air could cause the lenses to fog up, temporarily obscuring your vision. Open oven doors carefully by opening them just enough for some of the hot air to escape before you open the door the rest of the way and then bend to look into the oven.

Hot oil and grease sputters when water is added to it. Moist food, frozen food, batter, and other liquids all contain enough water to cause oil to fly out of the pan or deep fryer. You should dry food as much as possible before adding it to hot oil. When you are adding food to the pan or the fryer, lower the food carefully into the oil. If possible, place food so the edge closest to you is placed in the hot oil first.

Avoiding Slips and Falls When you are walking, look where you are going. Be conscious of potential problems. Wet floors, uneven carpeting, broken pavement, loose steps, and objects that stick out into your path all can trip you. Keep floors and walkways clean, dry, and free from obstructions. Tell others about any hazards that may make them fall.

Walking in the dark makes it impossible to see hazards clearly, so turn on a light or use a flashlight. Replace lightbulbs or use a flashlight so you can see more easily.

Cleaning Up Spills Even a little spill on the floor can be enough to make someone slip and fall. Whenever you see liquid on the floor, clean it up immediately. Water is easy to lift up, but grease is more difficult to clean. Use mops or absorbent toweling to soak up the liquid. You may also need to scatter an absorbent material such as cornmeal on a spill, especially a grease spill, before scooping it up.

No matter what type of material is spilled on the floor, the first thing you should do is let the people in the immediate area know. Direct them to walk around the spill, or put up signs to indicate that the floor is wet or slippery.

Lifting and Moving Heavy Objects Safely You may need to move heavy or bulky objects into or out of storage, take a large pot off the stove, or lift a pan of food out of the oven. Moving heavy objects improperly can easily result in a strained or aching back.

Before you start to lift a heavy object on your own, take a minute to consider each of the following questions:

- Can you lift the weight on your own, or should you get some help?
- Is the load balanced?
- Could the contents splash or spill as you walk?

- Is your path clear of all obstacles?
- Is there somewhere for you to put the item down safely once you reach your destination?

When you have the help you need and have made sure the path is clear, you are ready to begin. To lift heavy items safely, use your legs and not your back. To do this, squat down, keeping your back straight, rather than bending over. Get a secure grip on the item you need to move. While you are holding the item firmly, lift yourself up with your legs.



Using Ladders Safely Your storage area may have shelves that are above your head. To safely store or retrieve items higher than you can easily reach, you must use a ladder.

There are three basic types of ladders:

- Step stool
- Stepladder
- Straight ladder

A ladder is usually labeled with information about how much weight it can safely carry. Each part of the ladder should be in good condition. All of the steps (or rungs) should be intact. Ladders should have nonskid feet to keep them in place when you are using them. If your ladder is made of metal, make sure it is not touching anything electrical, such as wires, motors, or outlets.

The ladder you choose should be tall enough so you don't need to step on the top of a step stool or the top two rungs of a straight ladder. Make sure the ladder won't slip or move when you get on it. Step stools and folding ladders may have a brace that holds the legs of the ladder open. Be sure the braces are completely locked in place.

If you are using a straight ladder, you need to lean it at an angle, with the bottom of the ladder 2 or 3 feet away from the shelf or wall. Lean the top of the ladder against the shelf or wall. Check the ladder to make sure it won't slide or slip. If something you are trying to reach is not close enough to reach without leaning, get down from the ladder and move the ladder closer to the item. You should never lean to one side.

Get help if you need it. Always have someone hold the bottom of a straight ladder steady as you climb it. If you can't carry the item you need

FIGURE 2-11

Prevent Back Strain

Lift a heavy object safely.

INFERRING If a chef strained his or her back badly and was unable to cook, what would the consequences be for a restaurant?

Source: Michal Heron/Pearson Education/PH College

FOCUS ON Safety

Watch Your Back

A back brace provides support for your lower back when you are lifting heavy objects and helps avoid sprains or strains.



FIGURE 2-12

Stepladder

A ladder is typically labeled with information about how much weight it can safely carry.

COMMUNICATING If you needed to retrieve an object from a high storage shelf, but everyone seemed busy, who would you do?

Source: Matthew Ward/Dorling Kindersley

to move with one hand, get someone to stand by who can hand you things or hold the things you've retrieved.

After you finish using a ladder, be sure to put it away properly. Tall ladders can easily fall, so be sure they are secured.

Driving You may be called on to drive for a work-related activity. It is important that you observe all safe-driving procedures. Your license must be up to date. Employers may want you to complete a defensive driving program. They may also check your driving record.

The vehicle you are driving should be safe to drive. The brakes should work. All lights, including turn signals and brake lights, must work properly. Tires need to have enough tread for traction on the road. If a vehicle supplied by your employer is not safe, bring it to your employer's attention immediately.

Wet, windy, snowy, icy, and dark conditions all make driving more difficult. Take extra care when you must drive at these times and leave plenty of room between yourself and other cars so you can react to other drivers and stop safely.

Avoid distractions while you are driving. Anything that takes your attention away from traffic, such as changing the station on the radio, talking on a cell phone, or eating or drinking, could easily cause an accident.

Follow safe-driving procedures. Always observe the posted speed limit and other traffic signs. Never pass a stopped school bus, and wear your seatbelt at all times.



**READING
CHECKPOINT**

What is the right way to lift something heavy?



FIGURE 2-13

First-Aid Kit

This first-aid kit includes bandages, ointments, tweezers, and aspirin, along with a first-aid manual.

PREDICTING *Which supplies do you think will need to be replaced most frequently?*

Source: Sashkin/Shutterstock

First Aid and Emergency Procedures

First aid is the care you give in response to an accident. It is important to assist the injured person as quickly as possible. Every kitchen should have a properly stocked first-aid kit that can be used for a variety of injuries including cuts, burns, and sprains. If your establishment offers delivery service or uses trucks for catering, first-aid kits should be placed in these vehicles as well.

The kit should include materials and supplies such as bandages, ointments, tweezers, scissors, and some medications, such as aspirin. It should also include a first-aid manual with information about how to treat various injuries. Whenever there is an accident and someone gets hurt, follow these guidelines:

- Check the scene of the accident.
- Stay calm and keep the victim calm.
- Ask anyone who is not directly assisting the victim to stand back.
- Call for medical help, if appropriate, or ask someone to call for you.

- Administer first aid, using the information in your first-aid manual.
- Stay with the victim until medical help arrives.
- Complete an accident report.

The American Red Cross offers courses that teach the correct procedures in case of workplace accidents. You can contact your local office to find out when these courses are offered, and you can even take a course in first aid to become certified.

Burns Whenever someone is burned, the first step is to remove the heat source. This may involve removing clothing that is soaked with hot water or grease and moving the victim to a safe place. Keep the victim calm and still so he or she can rest while first aid is administered or until medical help arrives. Soak the burned area in cool water. If you can't easily get the burned area into a basin of cool water, soak a cloth in cool water and drape the cloth over the burn.

Cuts Clean the area well with soap and warm water. If the cut is bleeding heavily, cover the wound with sterile gauze pads and apply pressure until the flow stops. Cover the wound with a sterile dressing or bandage. The bandage should be changed frequently to keep it from becoming a potential site for cross-contamination. Anyone helping someone with a cut should wear disposable gloves and avoid coming in contact with blood.

Sprains, Strains, and Broken Bones Rest the injured part of the body. If possible, elevate the injured part so it is higher than the person's heart. This will help keep the swelling down. Apply ice to the injured area during the first 24 hours. Leave the ice in place for about 15 minutes each hour. Wrap or bandage the injured area to give it support. Serious sprains should be kept as still as possible. Some falls are strong enough to break, or fracture, a bone. Then, an x-ray and a visit to the emergency room or a medical professional is required.

Choking A guest or coworker can easily choke on a piece of food. When something gets lodged in a person's airway, that person is not able to talk or breathe. The **obstructed airway maneuver**, or **Heimlich (HIME-lick) maneuver**, is performed to remove the obstruction. Food-service establishments should have posters that show how to perform this maneuver.

CPR **Cardiopulmonary resuscitation (CPR)** (CARD-ee-oh-PULL-mohn-ayr-ee ree-suss-ih-TAY-shun) is a technique used to restore a person's breathing and heartbeat. CPR is called for if someone stops breathing because of shock, drowning, or other serious injury. It involves pressing the chest of the victim at a rate of about 100 times a minute in an effort to help circulate the blood artificially. Breathing into the mouth of the victim

FOCUS ON Safety

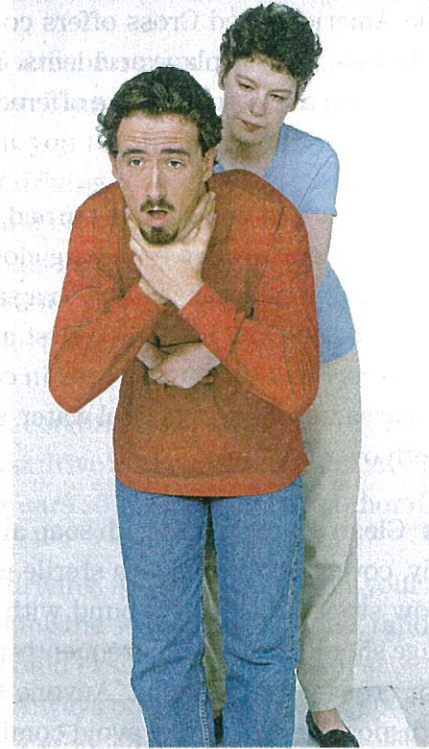
Stitches

A deep cut or one that won't stop bleeding may need stitches. Waiting longer than six hours to get stitches increases the chance of developing an infection.



Obstructed Airway Maneuver (Heimlich Maneuver)

1. Make a fist and place the fist just above the victim's navel, with the thumb facing in.
2. Use a quick, upward thrust. Repeat this thrusting motion until the obstruction is coughed up.



Source: Andy Crawford/Dorling Kindersley Media Library/Dorling Kindersley

is no longer recommended for untrained rescuers. To become certified in CPR techniques, you need to complete a training program. Both the training and certification need to be renewed every year. Do not try CPR without appropriate training.

AED An **automated external defibrillator (AED)** is a device that shocks the heart into starting again. Using this device properly and quickly often means the difference between life and death when someone has a heart attack. If your establishment has an external defibrillator, learn its location. If you are not trained to use it, find out who on the staff does have the appropriate training so no time is lost when a real emergency occurs. Do not try to use an AED without appropriate training.

Anaphylactic Shock Some people have severe allergies to food, drugs, or insect bites or stings that affect their whole body. Some of the most common food allergies are fish, peanuts, shellfish, and tree nuts (walnuts, almonds, etc.). Such a reaction is called **anaphylactic (an-ah-fil-ACK-tic) shock**. Symptoms develop rapidly, often within seconds or minutes, from exposure to the substance. The symptoms may include hives, fainting, and nausea, but the most significant symptom is swelling in the throat severe enough to block the airway. A warning sign of severe throat swelling is a very hoarse or whispered voice or a loud wheezing sound.

Anaphylactic shock that affects the air passages is an emergency condition. Contact 911 immediately. Meanwhile, try to calm the person. If the allergic reaction is to a bee sting, scrape the stinger off the skin with something firm (such as a fingernail or a credit card). Don't use a tweezers. If the person has an emergency allergy medication, help the person take or inject it. Do not allow the person to try to swallow pills, however. It could lead to choking and worsen the condition. Have the person lie flat and raise the person's feet about 12 inches, but do not put a pillow under the head. Cover the person with a blanket or a coat.

Preparing for Emergencies There is no way to guarantee safety in every single situation. Natural disasters, including floods, earthquakes, blizzards, wind storms, and forest fires, are almost impossible to predict accurately. Losing power, no matter what the reason, is a serious safety concern as well. If someone shows up at your restaurant armed with a gun or explosives intent on either harming someone or robbing the establishment, more than one life could be put at risk.

The only way to protect yourself, your coworkers, and your guests against these situations is to use sensible safety precautions and to be prepared.

Different parts of the country experience different types of natural disasters. Blizzards are a danger in some parts of the country, hurricanes in others, and tornadoes and lightning strikes in others. To prepare for these situations, you should have bottled water, blankets, flashlights, and a battery-operated radio on hand. Make certain that all battery-powered devices have working batteries. Learn the best safety procedures for situations you are likely to encounter.

FIGURE 2-14
Emergency Preparedness
 Some basic emergency items: first-aid poster for choking, emergency phone numbers, first-aid kit, and fire extinguisher.

FORMING A MODEL *What other emergency items might you include for your part of the country?*

Source: Culinary Institute of America



To protect your establishment from intruders, keep doors locked when the restaurant is not open. Try to have at least two people on hand whenever you must open or close the establishment. Turn on lights in parking lots and alleys when it is dark. Make sure alarms and other security devices are turned on to warn of a break-in.



READING CHECKPOINT

How do you perform the obstructed airway maneuver (the Heimlich maneuver)?

Safety as an Ongoing Process

Keeping yourself and your establishment safe from fire, accidents, and injuries is a job that is never complete. Safety is the result of staying alert, using safe procedures, and monitoring safety procedures on a daily basis to be sure they are being followed. Because safety is such an important concern, there are several federal regulations all employers and managers must know about and follow carefully.

Occupational Safety and Health Administration (OSHA)

In 1970 Congress created the **Occupational Safety and Health Administration (OSHA)**. The mission of OSHA is to ensure that workers have a safe and healthful working environment. OSHA sets and enforces standards that employers must follow. OSHA regulations require employers to post safety and health information in the workplace. OSHA also requires that all employees follow these regulations for workplace safety.

The safety of every employee and every customer is the legal responsibility of the foodservice establishment. Any foodservice establishment that does not meet this responsibility is legally responsible for any accidents, injuries, illnesses, or deaths that may result. This responsibility extends through the entire premises, including the kitchen, dining room, bathroom, parking lot, and any area in or surrounding the building.

Environmental Protection Agency (EPA)

Also formed in 1970, the **Environmental Protection Agency (EPA)** has a more general mission than OSHA, one that isn't specifically related to the workplace. The EPA's mission is to protect human health by safeguarding the air we breathe, the water we drink, and the land on which we live. However, the EPA plays a part in regulating workplace safety by requiring foodservice operations to track any chemicals that pose a risk to health.

Teen Workers! You have a right to a safe and healthy workplace.



- Know your workplace rights.
- Talk to your employer about safety and health issues at work.
- Stay alert and work safely.
- Get safety and health training.
- Visit the OSHA Teen Workers website at www.osha.gov/teens



OSHA is the federal agency that helps assure the safety and health of all workers, including teens, on the job. OSHA provides information, resources and guidance to employers and employees.

For more information, talk to your employer or call:

1-800-321-OSHA
www.osha.gov/teens
(TTY) 1-877-889-5627

OSHA 3091 11-09

Source: OSHA

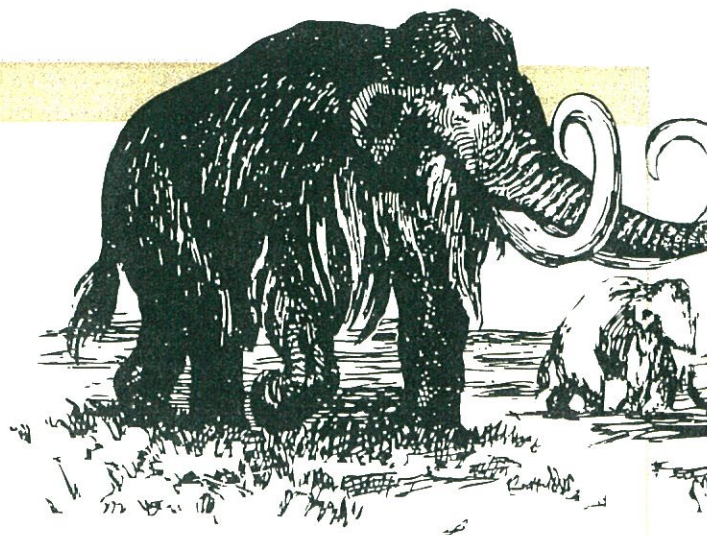
Early Ovens and Stoves

It's 29,000 B.C.E. in central Europe and you've just killed a mammoth. Would you eat it raw or would you cook it? According to archaeologists, ovens are one of the key indicators of civilization and showed that a particular society stayed in one place, rather than roaming in the search for food. You would have cooked your mammoth in a roasting pit within a hut. The oven was simply a large hole, with hot coals in the bottom, covered with ashes. The mammoth would have been butchered and pieces of meat would have been wrapped in leaves, set on top the ashes, and covered with earth.

By 3200 B.C.E. civilizations in what are now India and Egypt had developed ovens made from hardened mud. The ancient Greeks and Romans continued to refine their ovens, even creating attractive portable ceramic ovens. In time this led to larger brick ovens for both commercial and private use. Instead of earth, ceramic, or brick ovens, people in the Middle Ages typically used fireplaces and large cauldrons for cooking.

The first written historical record of an oven actually being built from scratch was found in Alsace, France, in 1490. The oven was made entirely of brick and tile. The biggest problem with wood-burning ovens continued to be the smoke from the fire. This led to the development of fire chambers that completely contained the fire. Pots would go on top of the fire chamber, which eventually was vented through a chimney.

By the early 1700s, cast-iron wood-burning stoves began to be made in quantity. These were large and intended primarily for commercial use. A more energy-efficient wood-burning iron stove was invented by Benjamin Franklin in 1741. In 1834 Stewart Oberlin designed a compact cast-iron stove suitable for home use. At around this time, other types of fuel—kerosene, coal, and, eventually gas—began to be used. Gas stoves became common once gas lines were available in most urban settings. Electric ovens were invented in the late 19th century but were not in common use until electricity was widely available.



Source: Denis Barbulat/Shutterstock

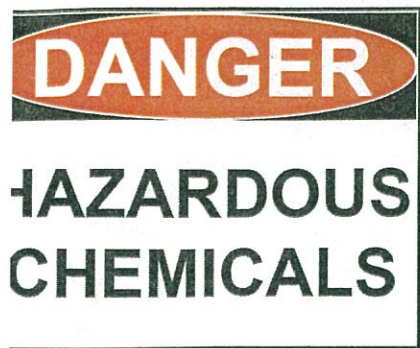
Research

Research one of these early versions of an oven: early hardened mud/ceramic ovens, Greek/Roman brick ovens, early wood-burning cast-iron ovens, the first coal-burning oven, the first electric oven, or the first gas oven. Prepare a report describing your findings for the class.



Source: ppart/Shutterstock

Modern electric stove



Source: Pearson Education

Hazard Communication Standard Chemicals, such as cleaning agents, dishwashing compounds, sanitizers, or bleach, are often found in the kitchen. You may also find pesticides, metal polishes, and materials to control mildew and fungus. OSHA's **Hazard Communication Standard (HCS)**, also known as *Right-to-Know* or *HAZCOM*, makes sure the employer tells all employees about the chemical hazards present on the job. This standard also requires employers to train employees in the safe use of any products containing chemical hazards.

Chemicals that are a hazard to your safety are those that can irritate or eat away your skin or the lining of your nose and throat or (if they are ingested) damage your entire digestive system. These irritating substances are referred to as **corrosive** (core-OH-siv) materials. The most common type of hazard associated with chemicals is burns, either from direct contact between the material and your unprotected skin or from a fire caused by the chemicals. Some chemicals can burst into flame easily, and some can ignite if exposed to air, moisture, or other chemicals.

The chemicals that pose a risk to your health are those that are toxic, poisonous, or cancer-causing, or **carcinogenic** (car-sin-oh-JEN-ik). Health hazards from chemicals include long- and short-term injuries or illnesses. Short-term illnesses may be relatively minor and last only a few days or weeks. However, long-term illnesses can last for months, years, or your entire life. Cancers that result from chemical exposure in the workplace can be life-threatening.

Material Safety Data Sheet (MSDS) A **Material Safety Data Sheet (MSDS)** describes the specific hazards posed by a chemical. There must be an MSDS for each product that contains chemicals. These sheets are usually supplied by the chemical manufacturer or supplier. Everyone working in the establishment must have access to this information.

Hazard Communication Program A **hazard communication program** is part of an effective safety program. It includes several important documents that can be used as evidence that reasonable care was taken if someone is injured. It includes the following:

- A written policy, stating that the establishment has the intention of complying with OSHA requirements for job safety.
- An up-to-date list, known as a hazardous chemical inventory, of every hazardous chemical product used or stored in the establishment, including the name, the amount on hand, and where it can be found in the establishment.
- An MSDS for every hazardous chemical included on the inventory. These sheets must be stored in a central location that is always accessible to every employee.

Sample Material Safety Data Sheet (MSDS)

Section 1:

Product and Company Identification

- Product name
- Company contact information (including emergency response numbers)

Section 2:

Composition/Information on Ingredients

- The chemical and common name of the ingredients that pose either a physical or a chemical hazard

Section 3:

Hazards Identification

- Emergency overview
- Acute effects
- Chronic overexposure effects

Section 4:

First Aid Measures

- Eye contact
- Skin contact
- Inhalation
- Ingestion

Section 5:

Firefighting Measures

- Flash point
- Lower and upper explosive limits
- Extinguishing media

Section 6:

Accidental Release Measures

- Steps to be taken in case of accidental spillage or release

Section 7:

Handling and Storage

- Handling
- Storage

Section 8:

Exposure Controls/Personal Protection

- Engineering controls
- Respiratory protection
- Skin protection
- Eye protection
- Chronic overexposure effects

Section 9:

Physical and Chemical Properties

- Physical description of the product, including appearance, odor, boiling point, pH, and any other characteristics that may help identify it

Section 10:

Stability Hazards Identification

- Stability
- Conditions to avoid
- Incompatibility

Section 11:

Toxicological Properties

- Components known to be toxic

Section 12:

Ecological Information

- Known effects on the environment

Section 13:

Disposal Conditions

- Disposal methods

Section 14:

Transportation Information

- Hazard class
- Dept. of Transportation shipping name

Section 15:

Regulatory Information

- OSHA warnings
- Toxic Substance Control Act
- Right-to-Know

- Labels for each chemical-containing product, including its name, its hazards, and the name and address of the manufacturer.
- A written copy of the training program for employees.
- A written copy of the hazard communication plan.

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricts days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904. Use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Identify the person		Describe the case			
(A) Case no.	(B) Employee's name	(C) Job title (e.g., Welder)	(D) Date of injury or onset of illness	(E) Where the event occurred (e.g., Loading dock north end)	(F) Describe injury or illness, part and object/substance that direct or made person ill (e.g., Second right forearm from acetylene torch)
			month/day		
			month/day		
			month/day		
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			month/day		

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

Accident/Illness Reports and Records

Accidents can cause injuries and illnesses that may result in time lost from work. Too many accidents indicates that proper safety practices are not being followed.

It is important to report accidents properly. If an accident at your establishment results in a death, you must report it to OSHA within eight hours, using a standard **accident report** form. If three or more employees are hospitalized because of an accident, you must report it to OSHA within eight hours as well. Other employee injuries and accidents must be reported within six working days.

All establishments are also required to keep a log of accidents and injuries that happen in the workplace for one year (OSHA Form 300). A specific form is filled in with the information from that log. The report must be posted where all employees can read it throughout the month of February of the following year.

Worker's Compensation

Worker's compensation is a program run by each state that provides help for employees who are hurt or who become sick because of an accident on the job. It supplies money to replace earnings that the employee loses because he or she can't come to work and also pays for medical treatments, rehabilitation programs, and, if necessary, retraining for the employee.

General Safety Audit

A **general safety audit** is a review of the level of safety in an establishment. Generally, audits are set up like a checklist, with a checkbox for yes or no. Any items that are checked "no" must be taken care of as soon as possible to keep the restaurant, its employees, and its guests safe.

The four areas of review are the following:

- Building
- Equipment

Source: OSHA

General Safety Audit

OK = None or minor discrepancy, S = Serious, IN = Improvement Needed, U = Unsatisfactory

#	Operational Methods and Personnel Practices (Cont'd)	OK	S	IN	U
377	Production facilities, equipment, and/or accessories were designed or provided to facilitate minimum hand contact with raw materials, work in progress, or finished product.				
378	Foods or raw materials capable of supporting the rapid growth of pathogenic microorganisms were held below 41°F or above 135°F to whatever degree as appropriate and necessary to maintain internal temperatures below 40°F or above 140°F.				
379	Effective measures were undertaken to prevent cross-contamination between raw materials, refuse, and finished foods. These measures included limiting the movement of personnel between these areas.				
380	Equipment, containers, and utensils used to convey, process, hold, or store raw materials, work in process, rework, or finished foods were constructed, handled, and maintained during processing or storage in a manner that prevented the contamination of raw materials, rework, or finished foods.				

- Employee practices
- Management practices

The audit reviews the condition of interior and exterior walls and floors, the roof, the foundation, the electrical wiring, and the plumbing. Parking lots, storage areas, and outside seating are also reviewed. Depending on the location of the restaurant, the audit may include such items as floodwater drainage, snow and ice removal, and meeting any necessary standards to withstand earthquakes, tornadoes, or hurricanes.

All equipment and vehicles must be kept in working condition. The audit reviews the condition of the furniture and rugs. Fixtures, including lighting and bathroom fixtures, must function safely and properly. Fire extinguishers must be installed and maintained properly.

Employees are also part of the general safety audit. It is required that employees be trained in safe procedures. Once trained, they are responsible for following those procedures.

The review is also concerned with the employer's hazard communication program, including its training program for employees and proper record-keeping procedures for accidents and illnesses.

FIGURE 2-15

General Safety Audit

This is a small portion of a much larger general safety audit. The items in this portion of the form address concerns about pathogens and cross-contamination.

PREDICTING *If your restaurant received any marks indicating that improvement was needed, what would probably happen?*



READING
CHECKPOINT

What kinds of information are included on an MSDS?

2.2 ASSESSMENT

Reviewing Concepts

1. What are the three classes of burns? Describe each and indicate its treatment.
2. What is the right way to lift something heavy?
3. How do you perform the obstructed airway maneuver (the Heimlich maneuver)?
4. What kinds of information are included on a Material Safety Data Sheet (MSDS)?

Critical Thinking

5. **Drawing Conclusions** Why should an employee review the MSDS for any products that he or she may be required to use?
6. **Predicting** What does a foodservice establishment's annual log of accidents and injuries tell you about that establishment?
7. **Comparing/Contrasting** For whom do you think the hazard communication program is more important: employers or employees? Why?

Test Kitchen

Check your school's hazard communication program. Review the MSDS for three common kitchen cleaners (such as oven cleaners, grease cleaners, or floor wax). Evaluate how you would deal with the variety of emergencies each product could cause.

SOCIAL STUDIES

OSHA

Research the history of OSHA in the United States. Find out what rights workers had before OSHA. Why was OSHA created? How have OSHA regulations changed over time? Create a time chart that shows your findings and present it to the class.

PROJECT

2

Hazard Communication Program You are now ready to work on Project 2, "Hazard Communication Program," which is available in "My Culinary Lab" or in your *Student's Lab Resources and Study Guide* manual.