A2 ENVIRONMENTAL SAFETY

English:
If you do not comprehend English, and you require Safety Pass training in a language other than English, please send notification in writing to 2710 Winona Avenue, Burbank, CA 91504. Please provide your name, along with contact information, and specify the language you comprehend. Thank you.

Spanish:
Si usted no comprende inglés y requiere la capacitación Safety Pass en un idioma diferente al inglés, por favor envíe una notificación por escrito a 2710 Winona Avenue, Burbank, CA 91504. Por favor provea su nombre, junto con la información de contacto, y especifique el idioma que usted comprende. Gracias.

Korean:
영어를 이해하지 못하시고 영어가 아닌 다른 언어로 **Safety Pass** 훈련을 받으셔야 한다면, 서면 통지를 **2710 Winona Avenue, Burbank, CA 91504** 로 보내주시기 바랍니다. 귀하의 성함과 연락처를 기재하시고 이해하실 수 있는 언어를 명시해주십시오. 감사합니다.

Armenian:
Եթե դուք անգլերեն չեք հասկանում և ձեզ հարկավոր է **Safety Pass**-ի մարզում անգլերենից տարբեր լեզվով, խնդրում ենք գրավոր ծանուցագիր ուղարկել հետևյալ հասցեով՝ **2710 Winona Avenue, Burbank, CA 91504**: Խնդրում ենք ներկայացնել ձեր անունը, ինչպես նաև կապի տեղեկությունը, հատկապես նշելով ձեր հասկացած լեզուն: Շնորհակալություն:

Contract Services Administration Training Trust Fund
2710 Winona Avenue
Burbank, CA 91504

Safety Pass Training Program

The Entertainment Industry is committed to maintaining a safe and healthful working environment. To that end, all major studios have a safety representative on staff. In addition, all employers have a safety program in force. This Safety Pass Program has been designed to further promote safety and health and to prevent injuries, illnesses, and accidents on all productions, both on-lot and off-lot.

Studios and production companies may have more restrictive safety requirements than those mandated by local, state, or federal laws or regulations. They also may assign different duties or responsibilities to employees. Therefore, in addition to this Safety Pass training course, employees should refer to the safety manual and materials provided by their employers.

Employees must adhere to all safety rules and regulations. Failure of any employee to follow safety rules and regulations can lead to disciplinary action, up to and including discharge. However, no employee shall be discharged or otherwise disciplined for refusing to perform work that the individual reasonably believes is unsafe.

No safety training can comprehensively cover all possible unsafe work practices. Each production and its employees, therefore, should fully promote each employee's personal obligation to work safely in order to prevent accidents involving, and injuries to, the employee and to his/her fellow employees.

The Safety Pass Program derives from Federal and California Occupational Safety and Health Administration (OSHA) safety regulations. However, the material included in this workbook and its accompanying presentation should be used only as a general guideline. It is not intended as a legal interpretation of any federal, state, or local safety standard.

During the course of your employment, you may be acting as a supervisor or manager.In California, individuals with management authority and actual authority for the safety of a business practice could be convicted of a crime if they have actual knowledge of a serious concealed danger and fail to warn the affected employees and report the hazard. If a hazard exists, immediately notify the employer or studio safety department of the hazard and insure that potentially affected employees are informed of the danger and that steps are taken immediately to mitigate it.

Although the information contained in this training program has been compiled from sources believed to be reliable, the Alliance of Motion Picture and Television Producers, Contract Services Administration Trust Fund, Contract Services Administration Training Trust Fund, and the instructor make no guarantee nor warranty as to, and assume no responsibility for, the accuracy, sufficiency, or completeness of such information.

The Entertainment Industry is committed to maintaining a safe and healthful working environment.

A2 – Environmental Safety

Slide 1 - Welcome

Slide notes

Hello, and welcome to Course A2, *Environmental Safety.*

This 180-minute course is part of the Safety Pass training program for the motion picture and television industry.

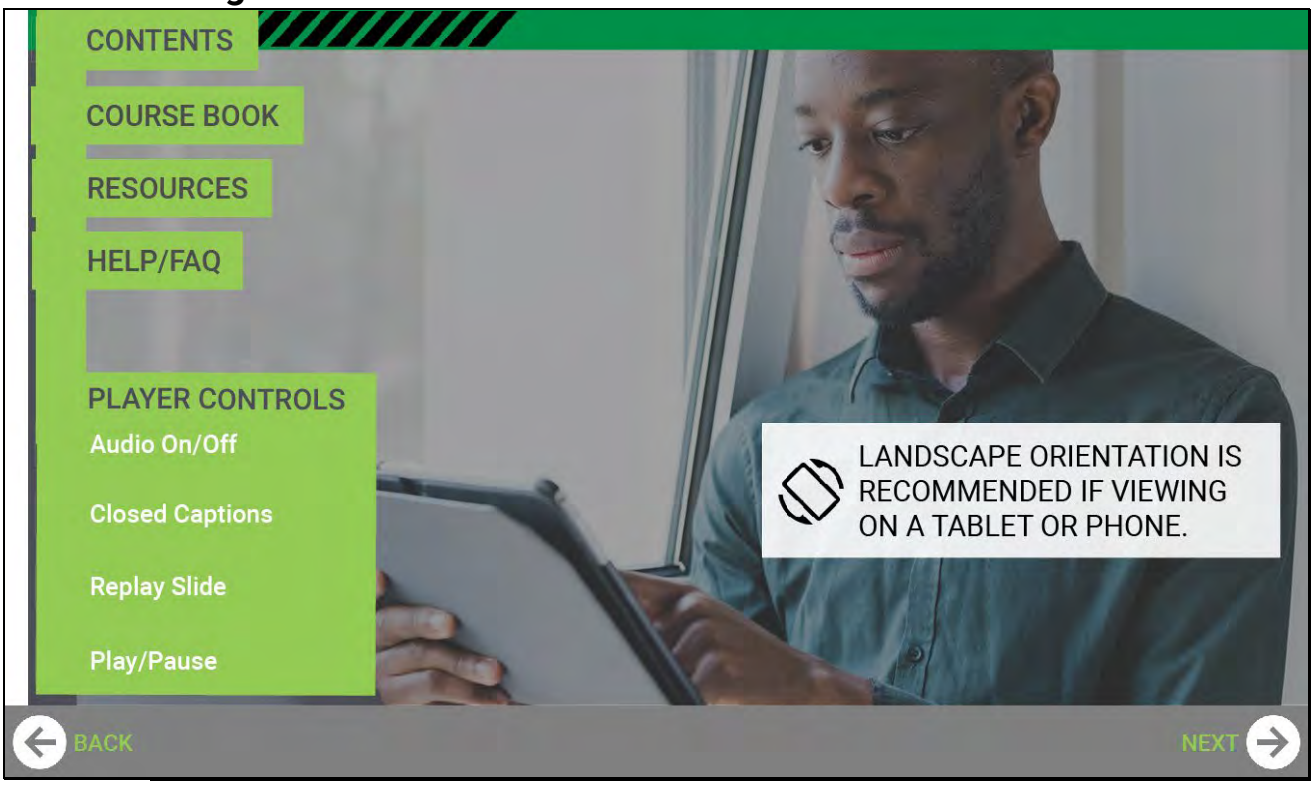
It is presented to you by Contract Services.

At the end of the presentation, there will be a test.

You must score at least 70 percent on the test to pass the course.

Click START to begin.

Slide 2 - Navigation and Resources

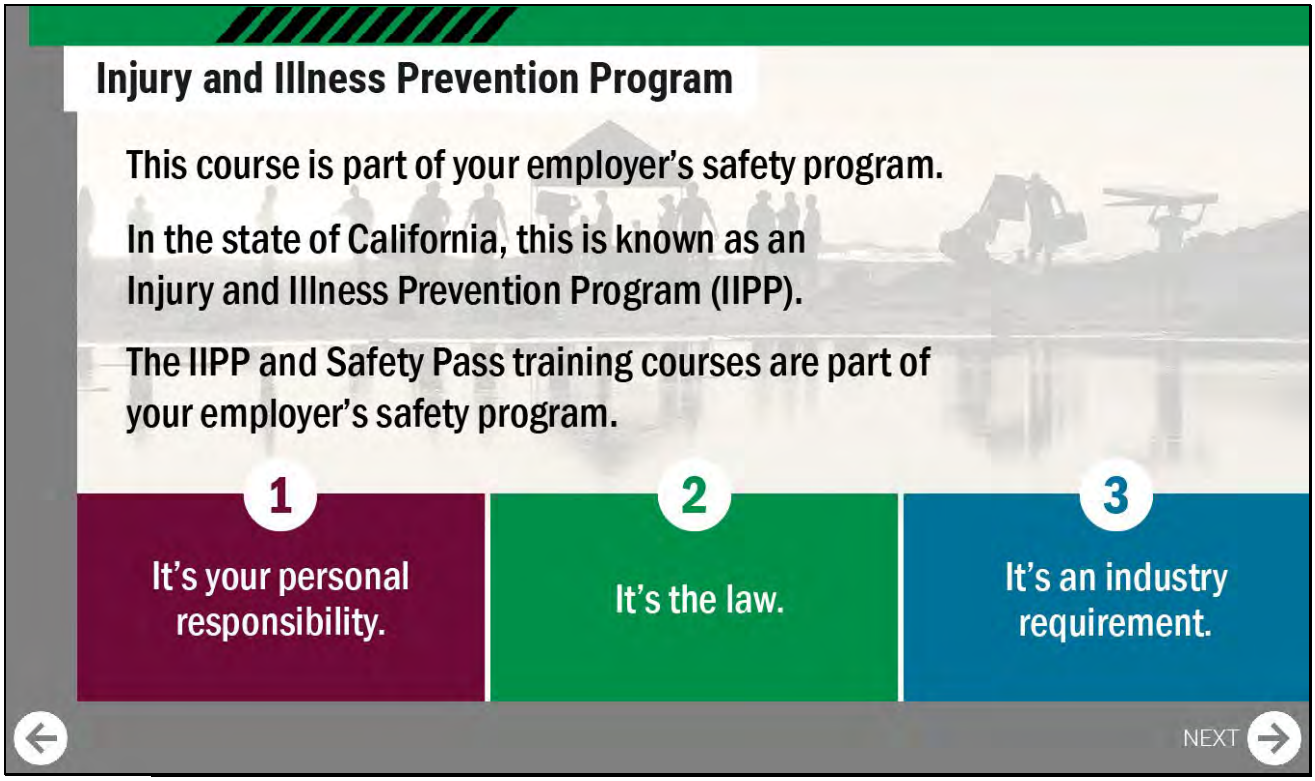


Slide notes

At any time during the presentation, you can use the buttons on the side of the player window to view the Table of Contents, open the course book PDF, link to course references and resources, or get technical support or help from an instructor about course content.

When you're ready to continue, select the NEXT arrow.

Slide 3 - IIPP



Slide notes

This course is part of your employer's safety program.

In the state of California, this is known as an Injury and Illness Prevention Program (or IIPP). The IIPP and Safety Pass training courses are part of your employer's safety program.

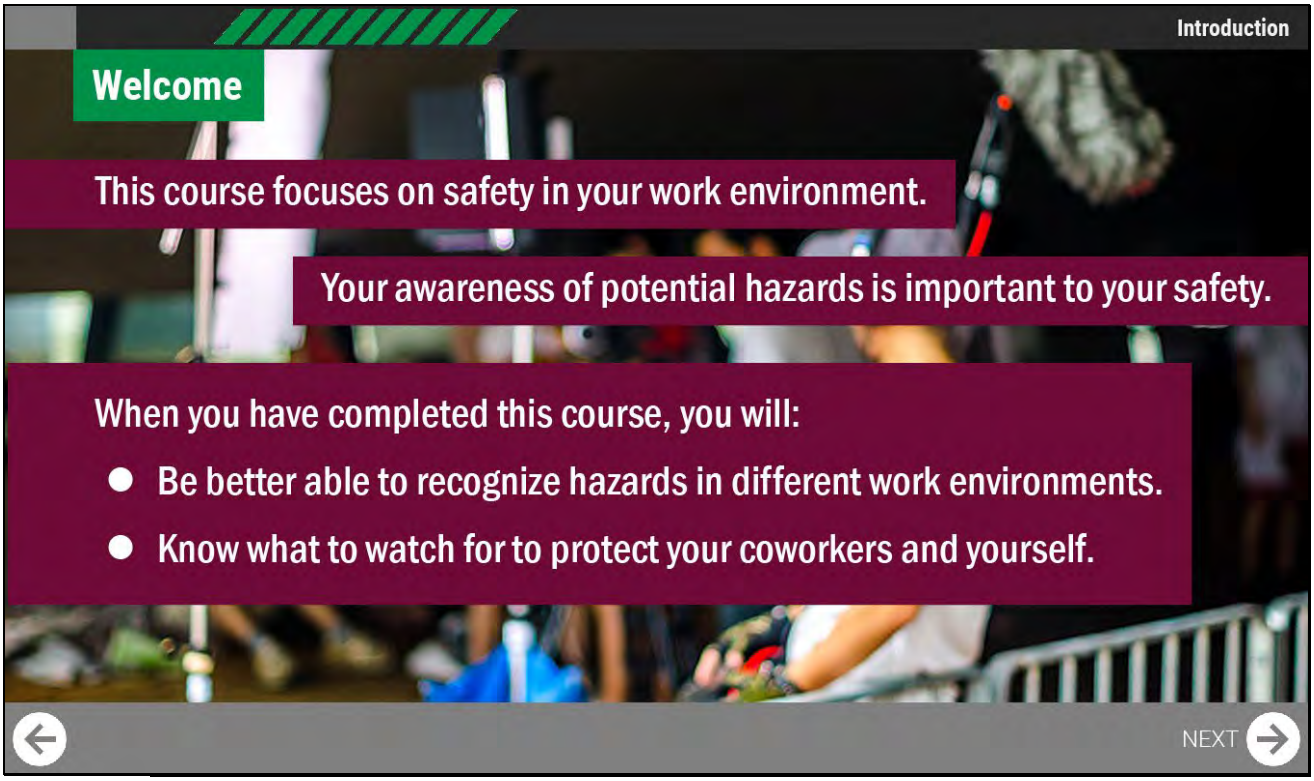
There are three reasons to get safety training.

First, you are personally responsible for your safety. You owe it to yourself and your coworkers to avoid accidents and injuries. The way you make a living and your quality of life depend on it.

Second, it is the law. Occupational safety and health standards guarantee the right to a safe workplace and require employers to train their employees in safety.

And third, the industry requires it. This course is part of a cooperative commitment between major motion picture and television studios and industry labor unions to deliver safety training.

Slide 4 - Introduction



Slide notes

This course is a part of your employer's safety program. It is an expansion of the Safety Pass "A" General Safety course.

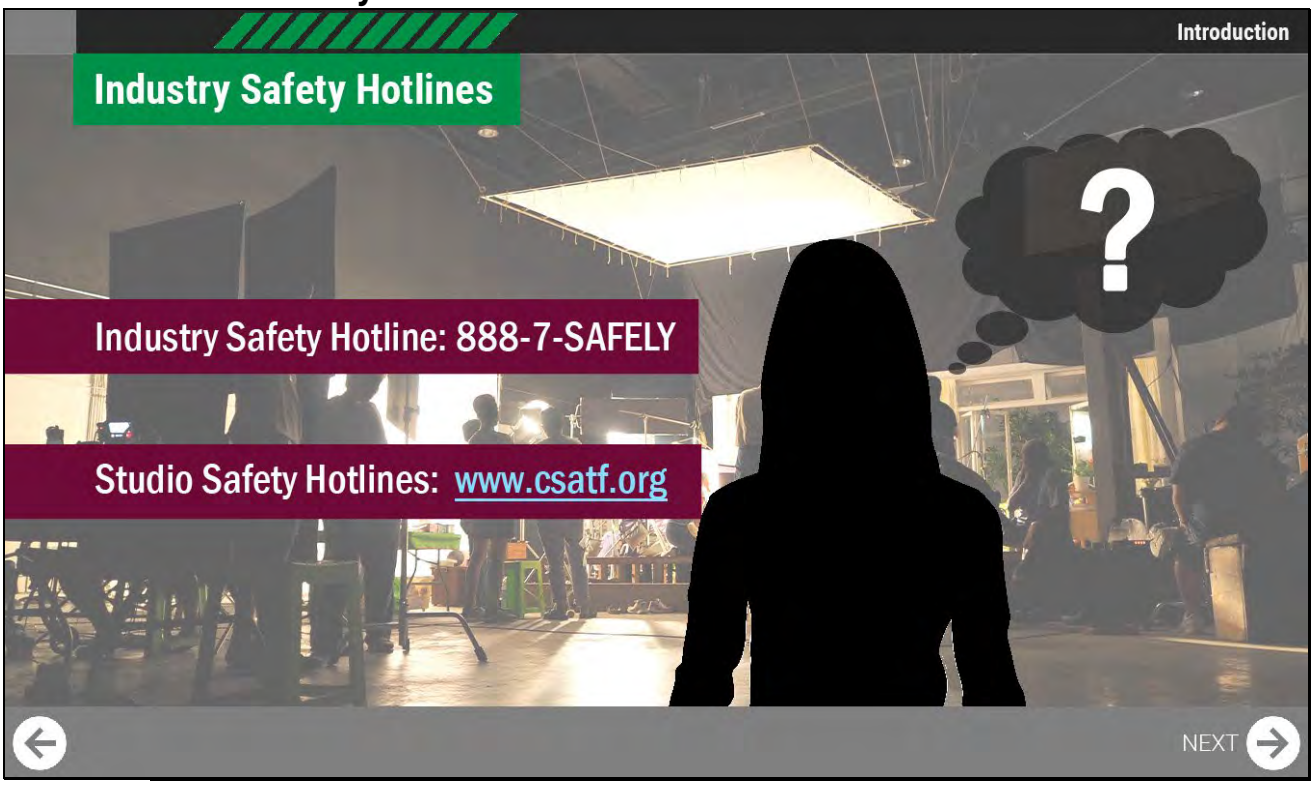
Like that course, these are topics that apply to every worker. Today's course looks at safety factors related to the work site *environment*.

No matter if you're working in a very familiar environment, like a studio back lot, or a very unusual environment, like in sub-zero temperatures, your awareness of the potential hazards is important to your safety.

When you have completed this course, you will be able to recognize hazards associated with many different kinds of environments. You'll take with you a greater knowledge of what to watch for to protect your co-workers and yourself.

Let's get started.

Slide 5 - Studio Safety Hotline



Slide notes

This scene is a reminder that there are resources at your disposal to report unsafe conditions and access industry safety information.

Our industry-wide safety hotline number is 888.7.SAFELY. That number will get you to the major studio safety departments if you need to contact them.

One important resource is each studio's Studio Safety Hotline. All of the major studios have safety hotlines.

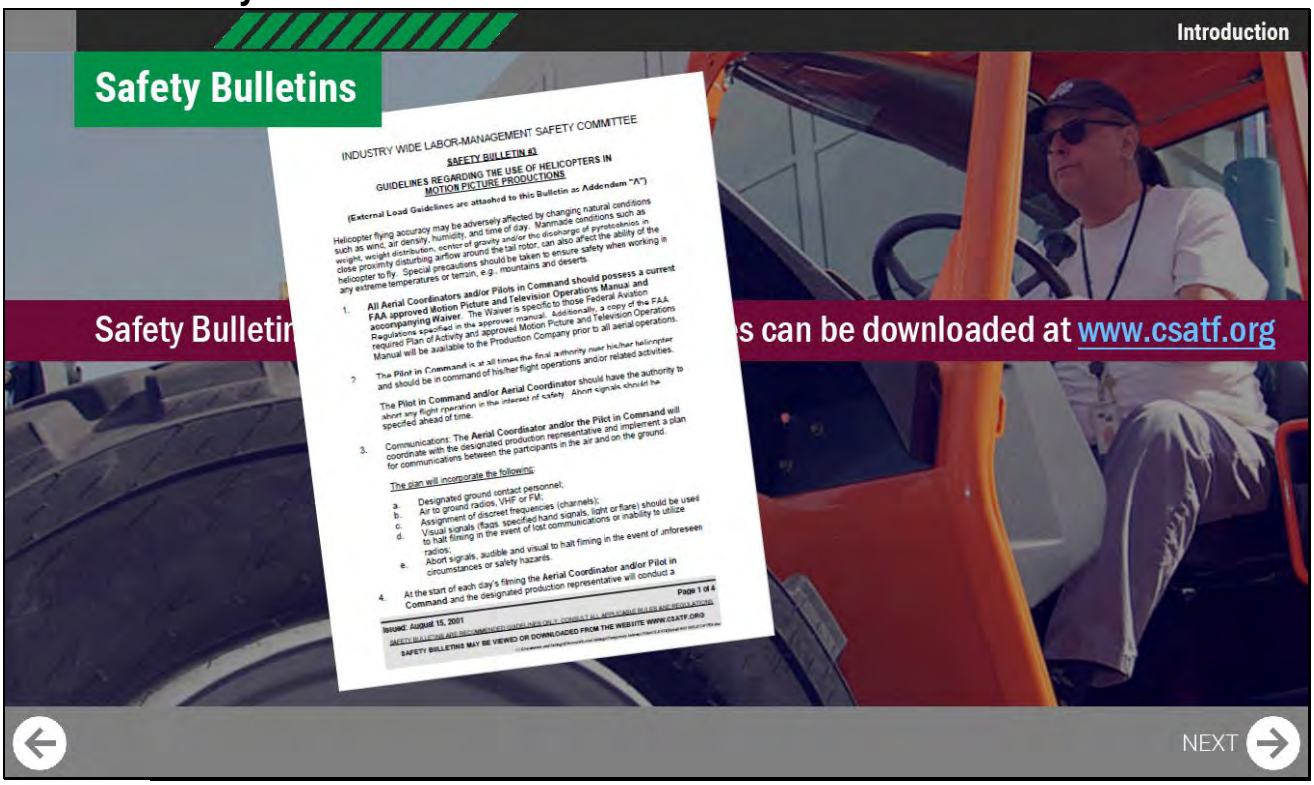
If you have a question about safety or are concerned about a safety or health issue on your production, you can use the hotline numbers to anonymously call the studio safety department directly.

Hotline numbers for each of the studios can be found at our website, www.csatf.org, using the Studio Safety Hotlines link.

You don't have to give your name. Just say something like, "I'm working down here on stage 16 and I don't think what they're doing is safe".

The studio safety department will take it from there.

Slide 6 - Safety Bulletins



Slide notes

The Industry-Wide Labor-Management Safety Committee has written a Code of Safe Practices to be used as guidelines in the workplace. The committee has also developed Safety Bulletins that cover specific industry practices.

Whenever you've worked with insert cars, helicopters, or firearms, you've probably found Safety Bulletins attached to the call sheet. A full list of Safety Bulletins can be found on our website. These bulletins get updated periodically, and new ones get added. We recommend that when you start a new project, you go to our website and take a look at the Safety Bulletins that apply to what you will be doing.

Slide 7 - Employer Responsibilities

Slide notes

Your employer has certain responsibilities for providing a safe work environment. They have to comply with all safety laws and regulations. This includes OSHA regulations and the rules of the DOT, EPA, FAA, TSA and the whole alphabet soup of agencies. They have to follow state laws, county ordinances, and city regulations.

Your employer must have a safety training program in place. They must train employees to perform their jobs safely. They have to make records of injuries and chemical exposures available to you. They have to post notices, citations, and warnings that are necessary for safety.

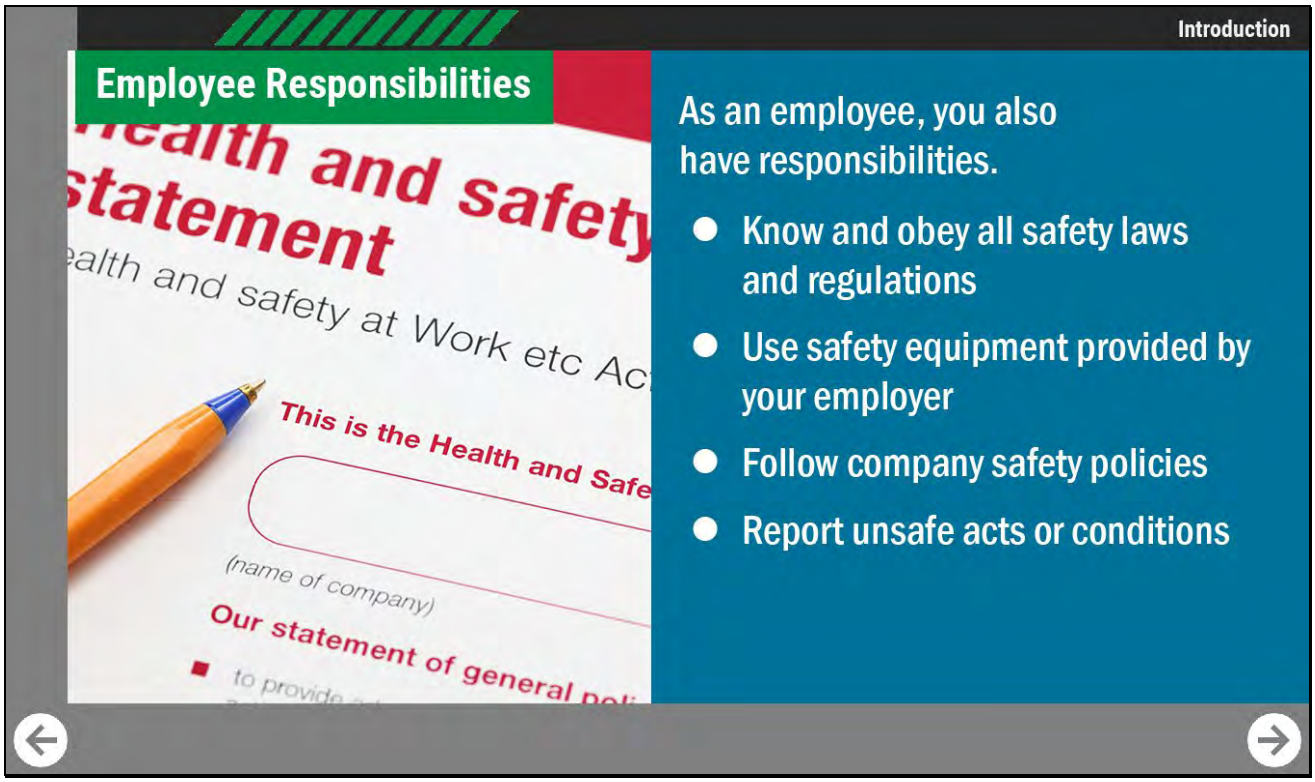
Slide 8 - Employee Responsibilities 1

Slide notes

Employees have to know and obey all the safety rules and regulations for the job that they do. For example, if you're a driver, you have to know all the rules of the road. You need to know the DOT regulations that apply to the vehicle that you drive.

Slide notes

Employees have to use the safety equipment the employer provides. For example, if you're working near an active roadway, the employer should issue to you a reflective safety vest, and you have to wear it.



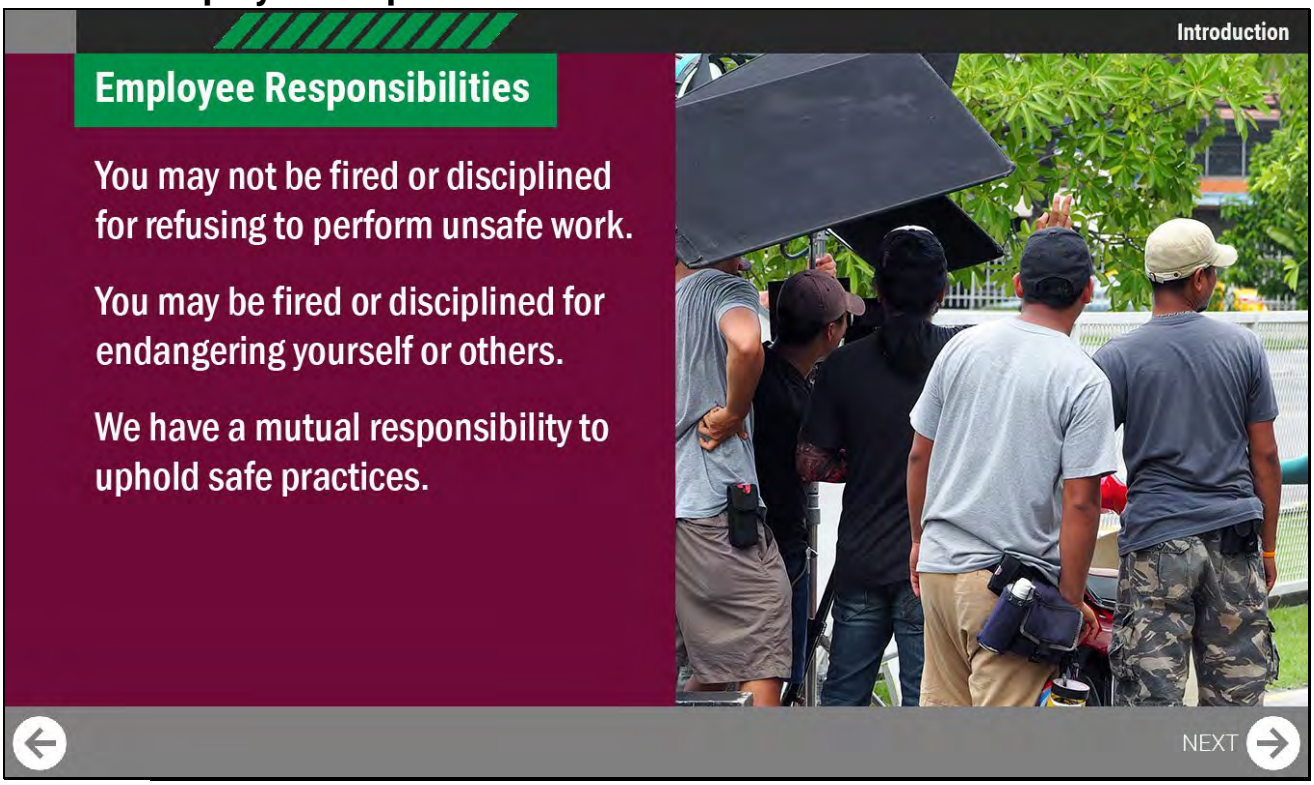
A2 – Environmental Safety

Slide notes

Employees have to follow company safety policies. Some studio safety policies go beyond OSHA regulations, and if they do, the law says you have to follow your employer's policies as well.

It's everyone's responsibility to report unsafe acts or work conditions either to a supervisor, department head, or Safety Hotline.

Slide 9 - Employee Responsibilities 2



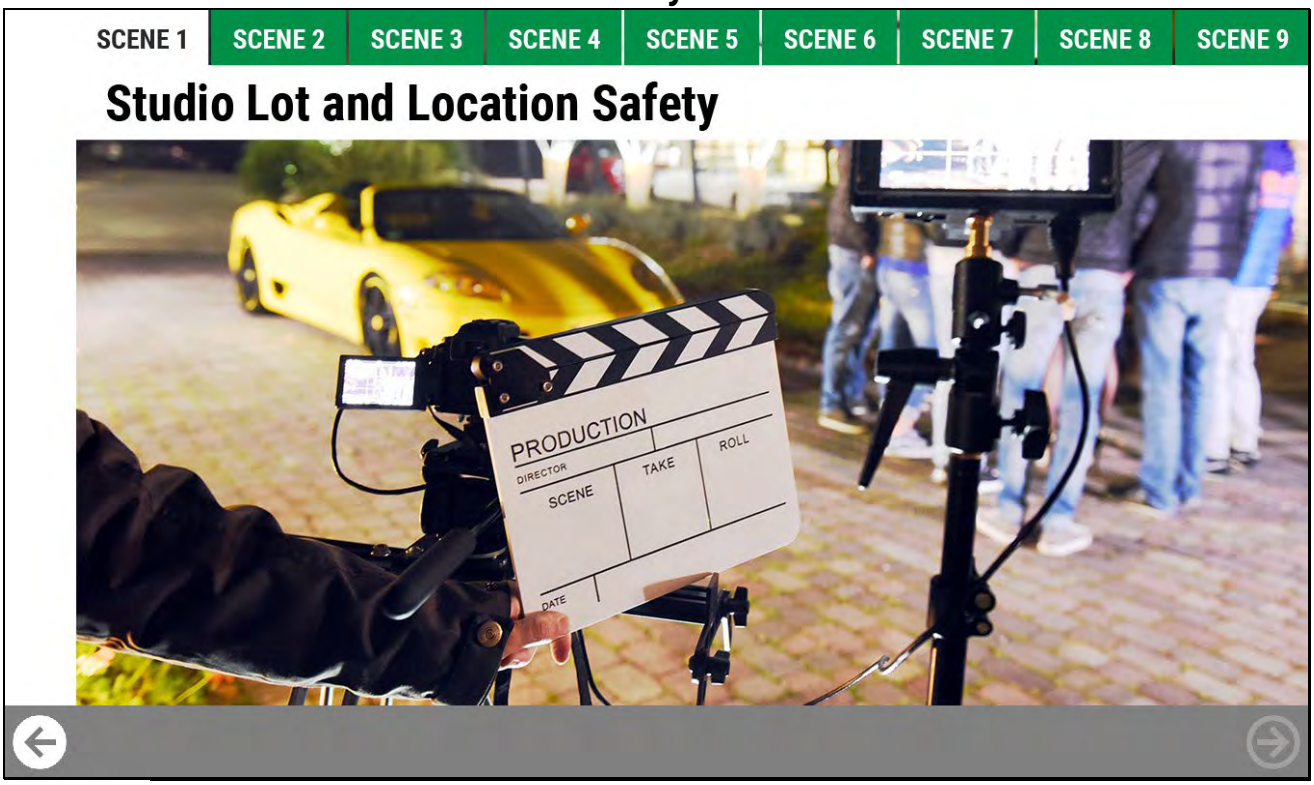
Slide notes

Think of your responsibilities this way: you may not be fired or disciplined for refusing to perform work you reasonably believe is unsafe, but you may be fired or disciplined for endangering yourself or others.

Each employer and each employee has a mutual responsibility to uphold safe practices.

Let’s move on and start looking at some specific situations found on studio lots and on location.

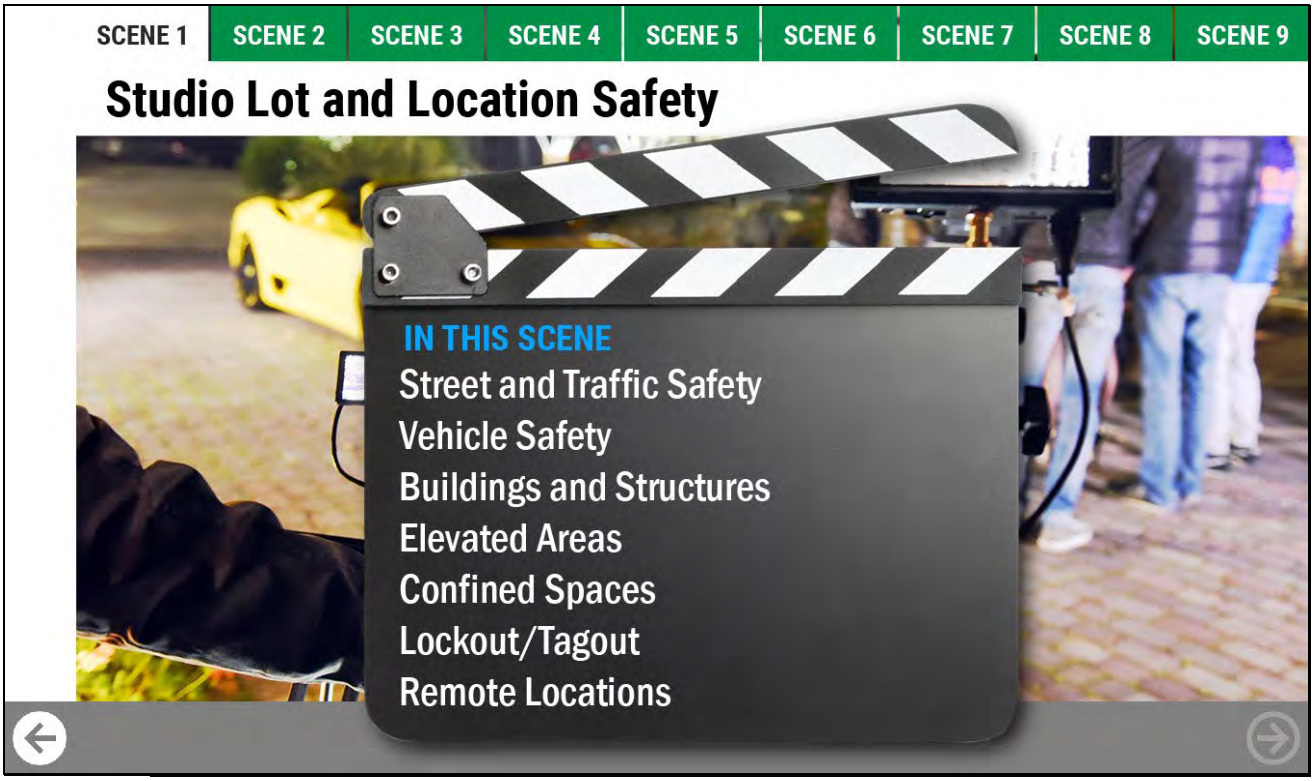
Slide 10 - Studio Lot and Location Safety



Slide notes

Scene One. Studio Lot and Location Safety.

Slide 11 - In This Scene

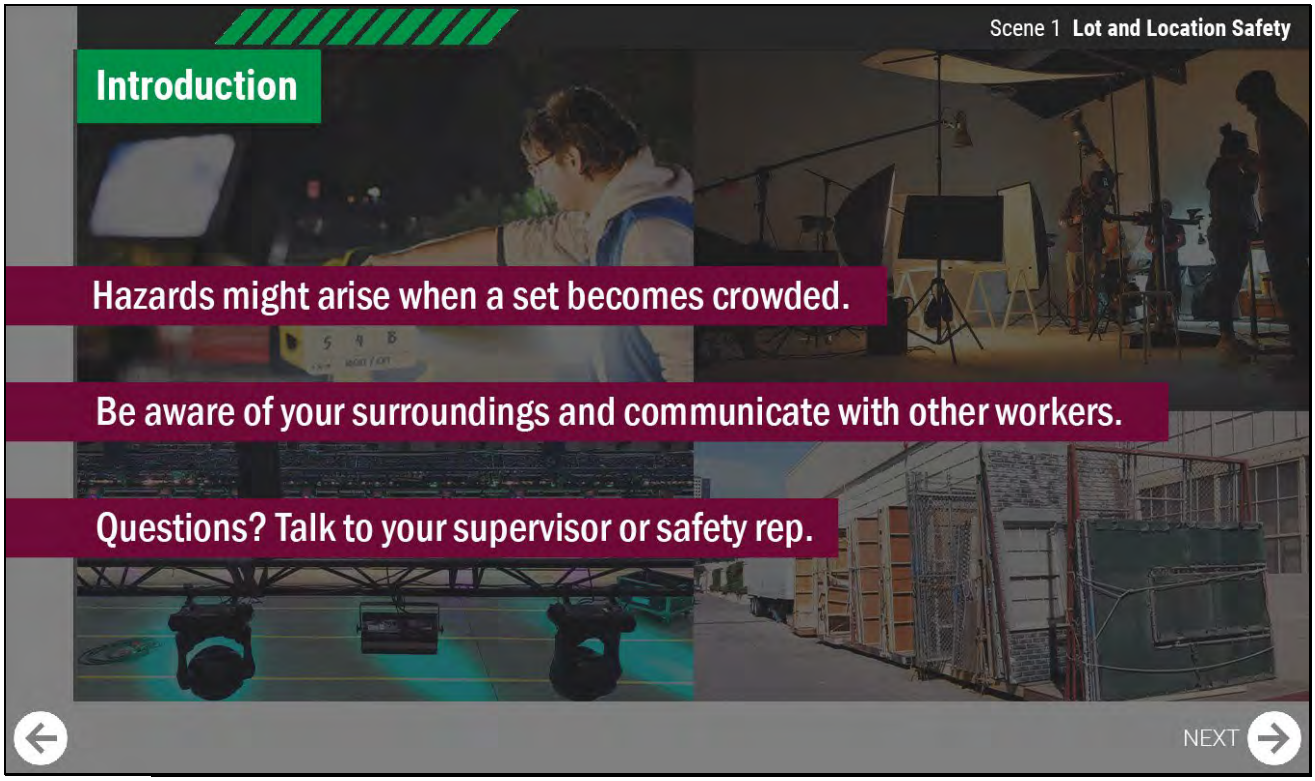


Slide notes

Each studio has unique guidelines for lot and location safety.

In this scene, you'll gain familiarity with work practices that apply broadly to all work locations and be provided with a wide variety of safety information related to working on studio lots and on location-for example, street and traffic safety, vehicle safety, buildings and structures, elevated areas, confined spaces, lockout/tagout, and remote locations.

Slide 12 - Introduction



Slide notes

A studio is a unique kind of workplace. Studios and locations can be congested with pedestrians, bicycles, electric carts, trucks, and machinery-all in motion.

With many crafts working at one site, it is important that everyone work as a team. Hazards might arise when a set becomes crowded with multiple crafts sharing space. Work in one area could lead to falling objects, trip hazards, chemical exposures, noise, debris, or other issues that could impact others working nearby. Wherever you're working and whatever your task, be aware of your surroundings and communicate with other workers. If you have questions, talk to your supervisor or safety rep.

Each studio has unique guidelines for lot and location safety. In this scene, you'll gain familiarity with work practices that apply broadly to all work locations, and be provided with a wide variety of safety information related to working on studio lots and on location.

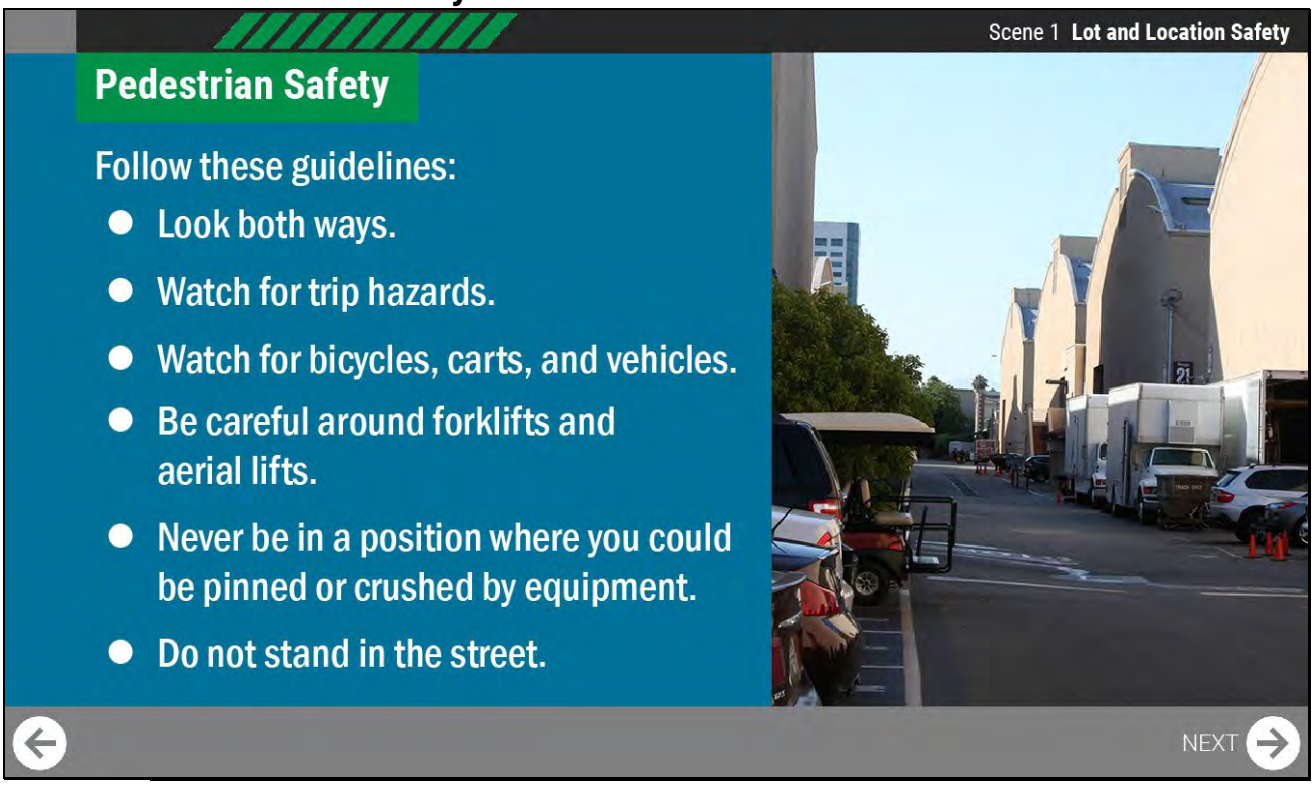
Slide 13 - Street and Traffic Safety

Slide notes

As adults, we are familiar with the rules for traffic and pedestrian safety. Nevertheless, people get injured at work because they pass over these familiar rules. For instance, people get distracted or absorbed in their phones and don't pay attention to what is going on around them. Although they may seem obvious, these are real, everyday hazards that require everyone's attention.

Pay attention to speed limits. At some studios, you can get a ticket. You've probably noticed that speed limits are very low on the lots. That's because there are blind corners and heavy pedestrian and vehicular traffic in close quarters. Drivers, riders, and pedestrians need to use caution. Street signs and traffic signs must be obeyed.

Slide 14 - Pedestrian Safety



Slide notes

Pedestrians should follow these guidelines:

Look both ways before you cross the street.

Watch for trip hazards, like curbs and uneven surfaces.

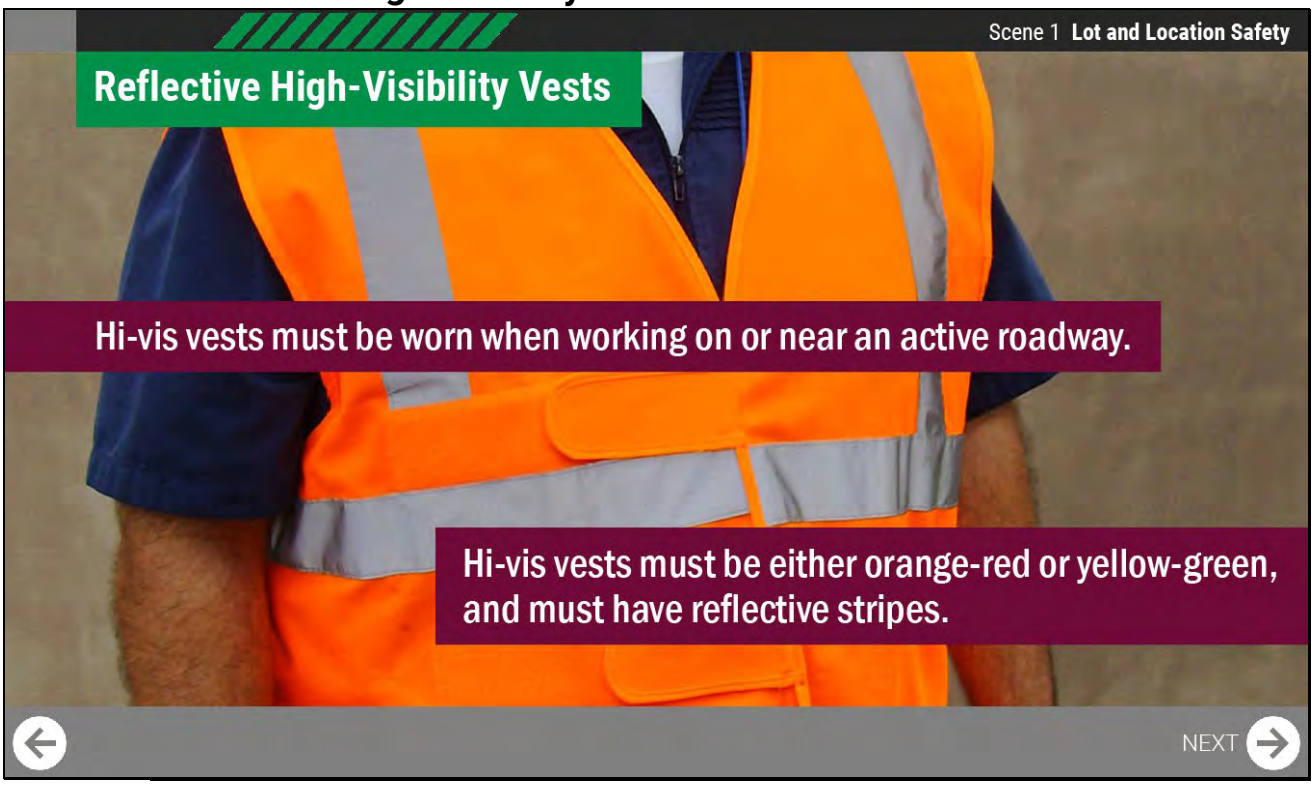
Watch out for bicycles, electric carts, and other vehicles.

Be especially careful around vehicles like forklifts and aerial lifts and never assume that a driver can see you.

Don’t put yourself where you could get pinned or crushed if the vehicle moves in an unexpected way. Have a way out.

Unless there is traffic control, do not stand in the street. Whether on location or on the lot, during a tech scout or while shooting, during rigging or wrap - don’t put yourself in the path of traffic.

Slide 15 - Reflective High Visibility Vests



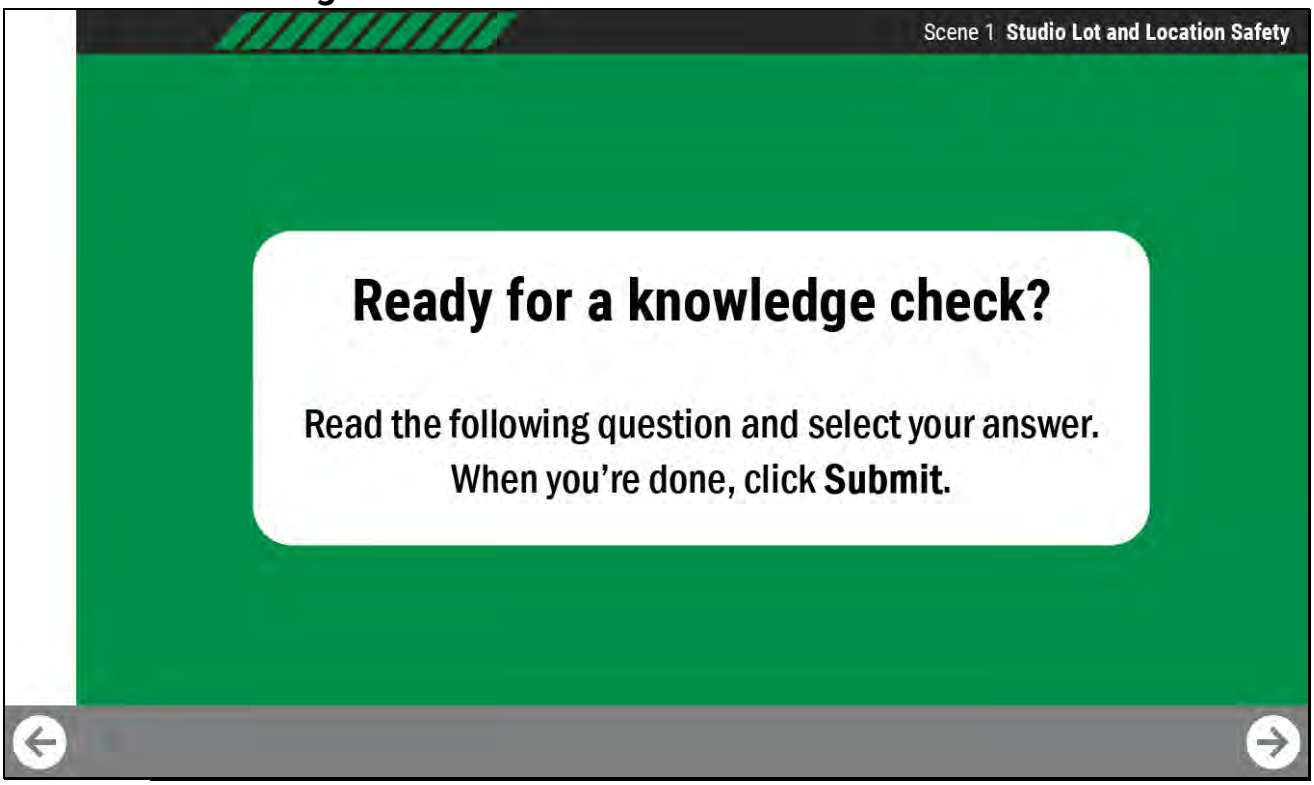
Slide notes

Federal, state, and local regulations require workers to wear reflective high-visibility vests whenever working on or near an active street or roadway, whether setting up, rigging, filming, or striking. Even when the production is using intermittent traffic control, everyone must wear the vests.

Alternative measures are used to provide protection for the cast performing in the scene.

Reflective high-visibility vests must be orange-red or yellow-green with reflective stripes in accordance with the ANSI standard.

Slide 16 - Knowledge Check Introduction



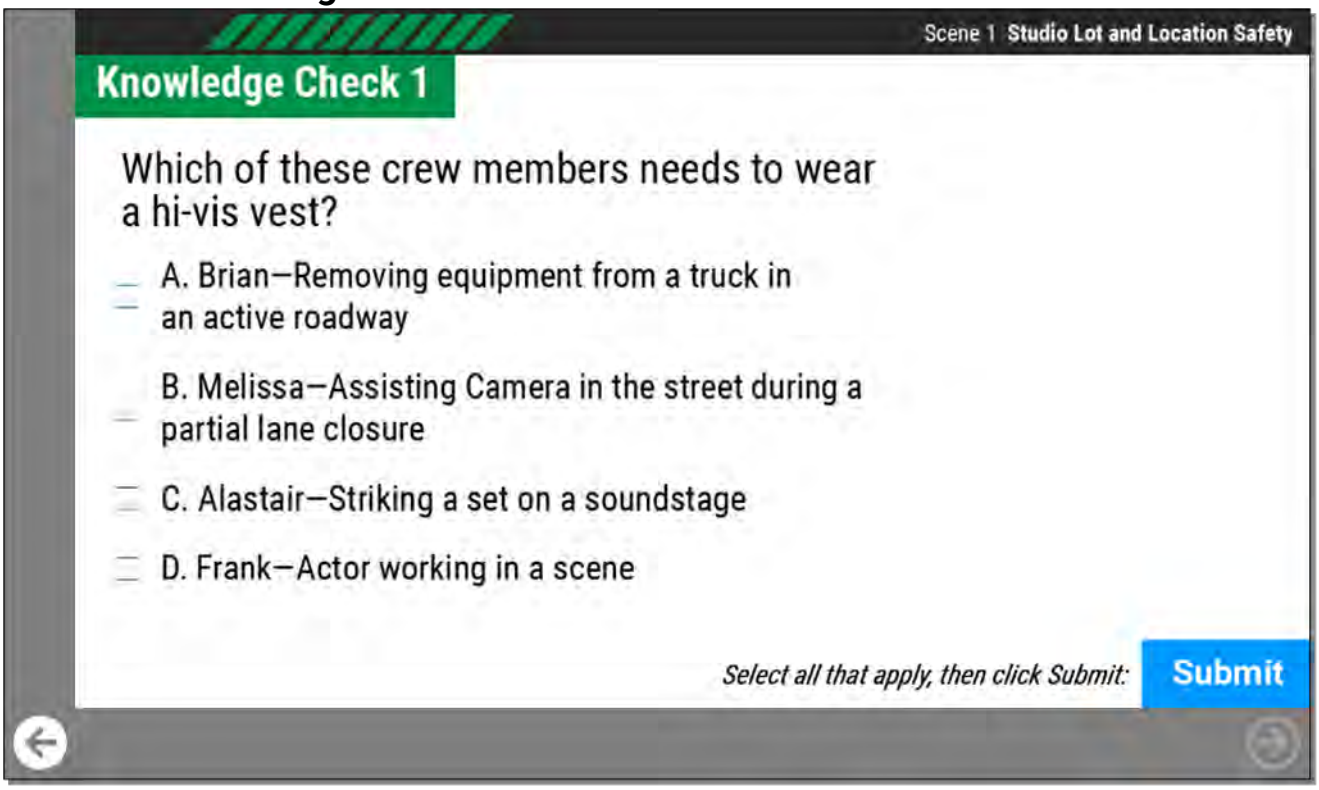
Slide notes

Ready for a knowledge check?

Read the following question and select your answer.

When you're done, click *Submit*.

Slide 17 - Knowledge Check 1

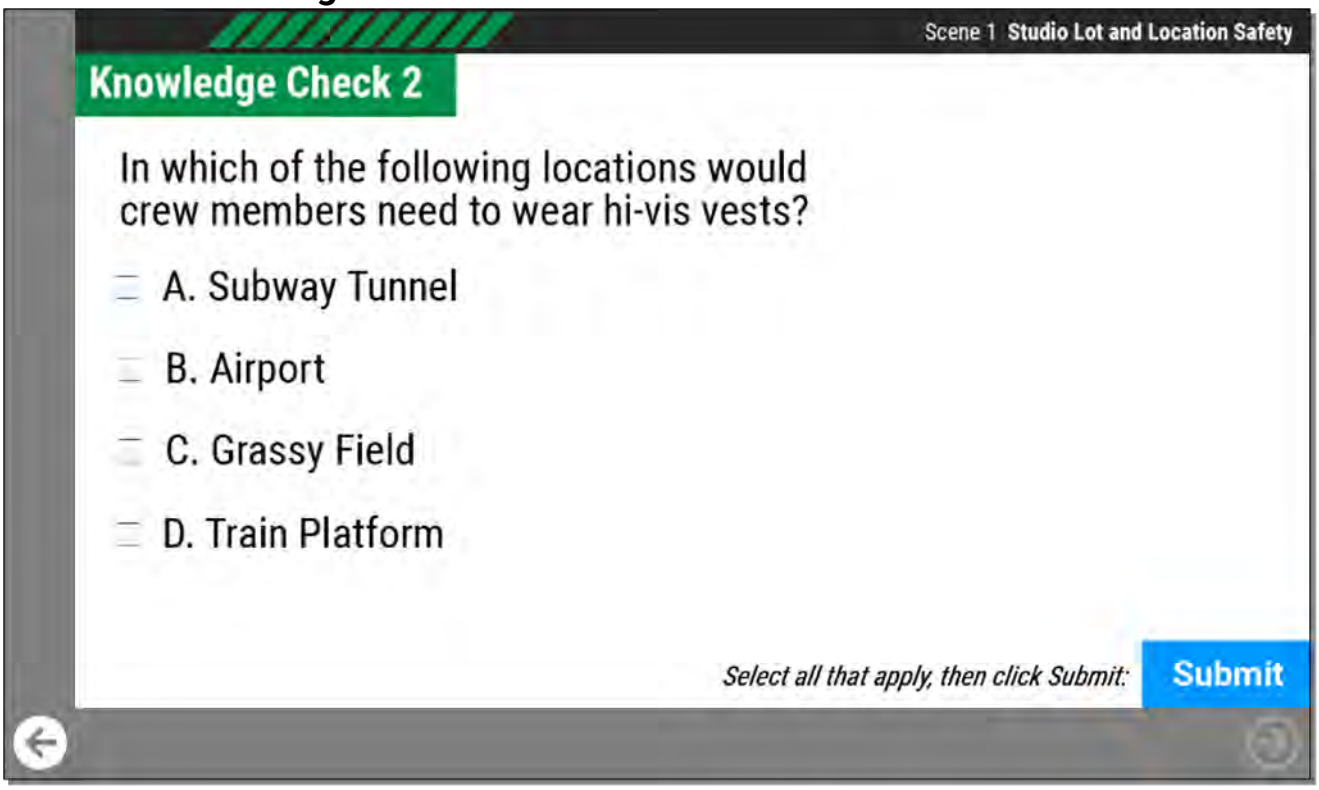


Slide notes

Knowledge Check 1

Question: Which of these crew members needs to wear a hi-vis vest?

Slide 18 - Knowledge Check 2



Slide notes

Knowledge Check 2

Question: In which of the following locations would crew members need to wear hi-vis vests?

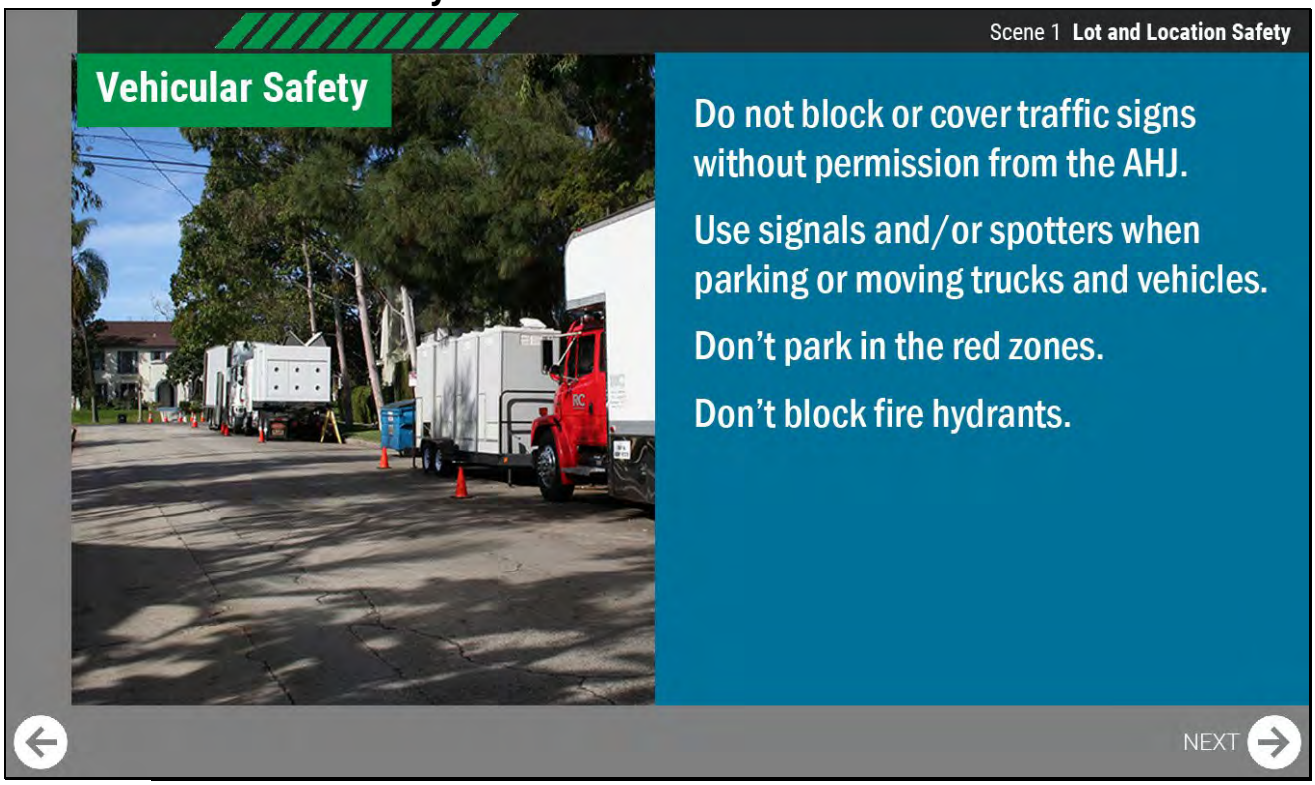
Slide 19 - Driveways and Businesses

Slide notes

Let's talk about driveways and businesses. Nobody wants members of the public tripping over one of our ballasts or getting hit in the head with a C-stand. This can be avoided by establishing designated walkways using cones, caution tape, signs, barricades, or security guards. The designated walkway separates pedestrian traffic from our work areas.

At the same time, stores and businesses need access for their customers. Be careful not to block the doorway or driveway to a business or home.

Slide 20 - Vehicular Safety



Slide notes

There are a wide variety of safety concerns with regard to vehicles.

First, be careful not to block or cover traffic signs unless you have permission from the authority having jurisdiction, also known as the AHJ.

Use signals or spotters to help the big trucks land safely.

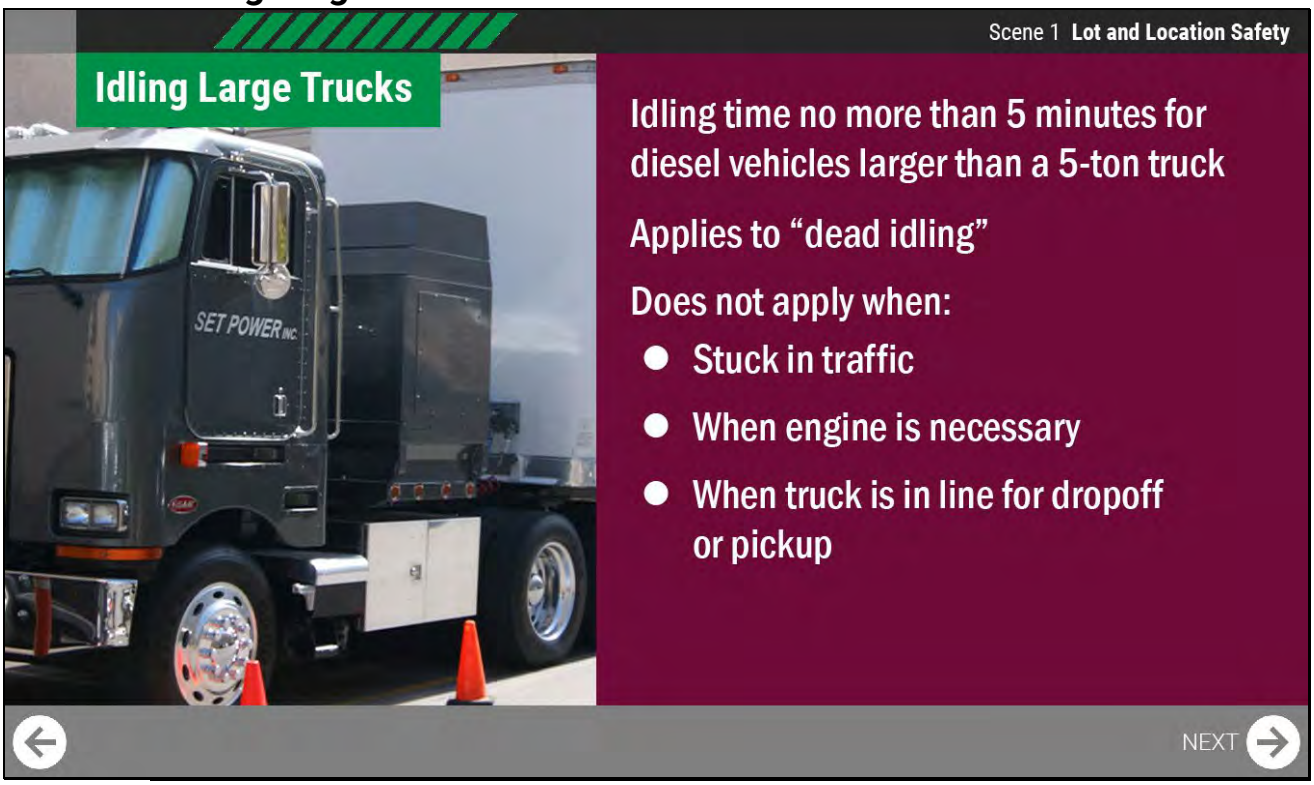
Don't park in the red zones or block fire hydrants.

Slide 21 - Idling Large Trucks 1

Slide notes

The idling limits of diesel commercial vehicles vary based on the weight of the vehicle and the anti-idling regulations of the state, county, or municipality where the vehicle is being used. In some areas these idling limits may also apply to gasoline powered vehicles.

Slide 22 - Idling Large Trucks 2



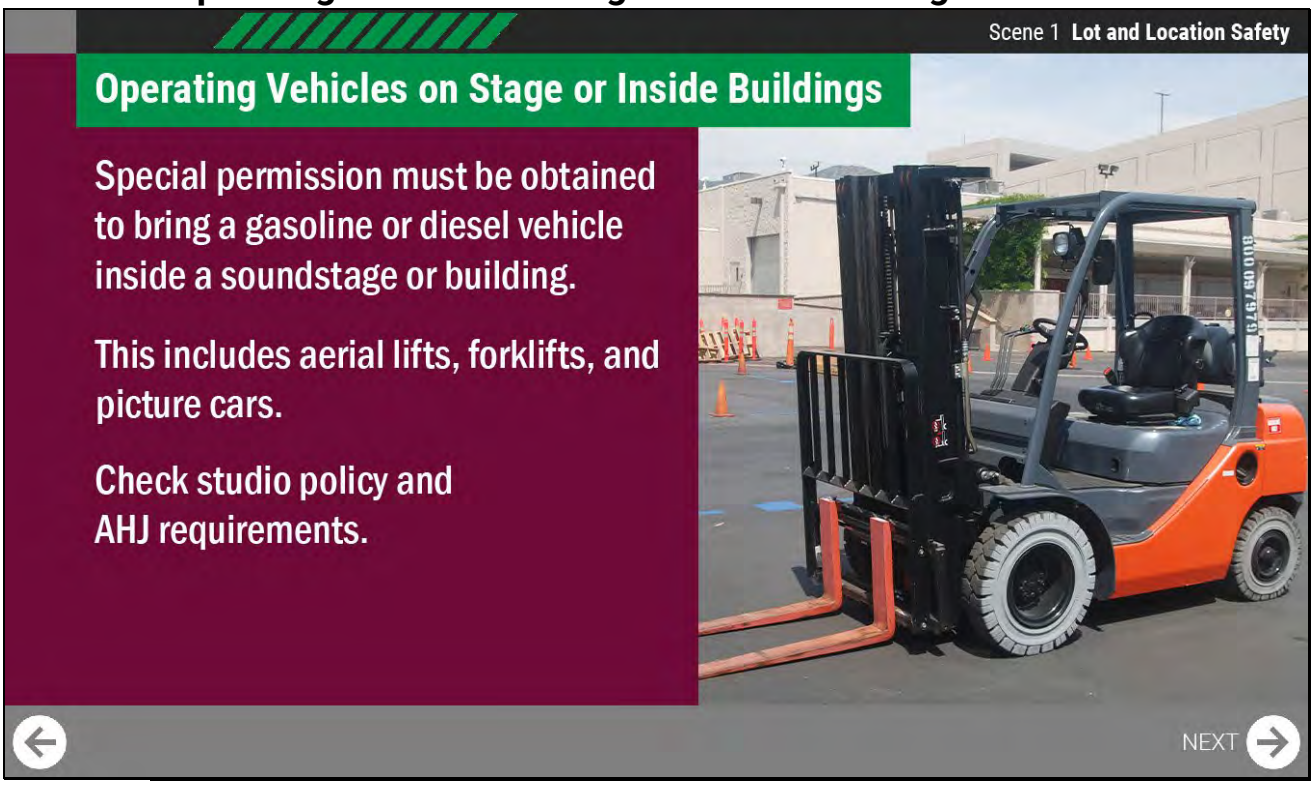
Slide notes

In California, environmental regulations limit idling time to no more than 5 minutes for any diesel commercial vehicle with a gross vehicle weight rating of more than 10,000 lbs., or, in other words, larger than a 5-ton truck.

This regulation applies to “dead idling”-that is, idling without a purpose. It does not apply when a truck is stuck in traffic, where the engine is necessary to operate some piece of equipment, like a liftgate, or when a truck is waiting in line to drop off or pick up.

These idling limits may also vary from studio to studio. Check with your employer or studio safety department if you have any questions about your specific location.

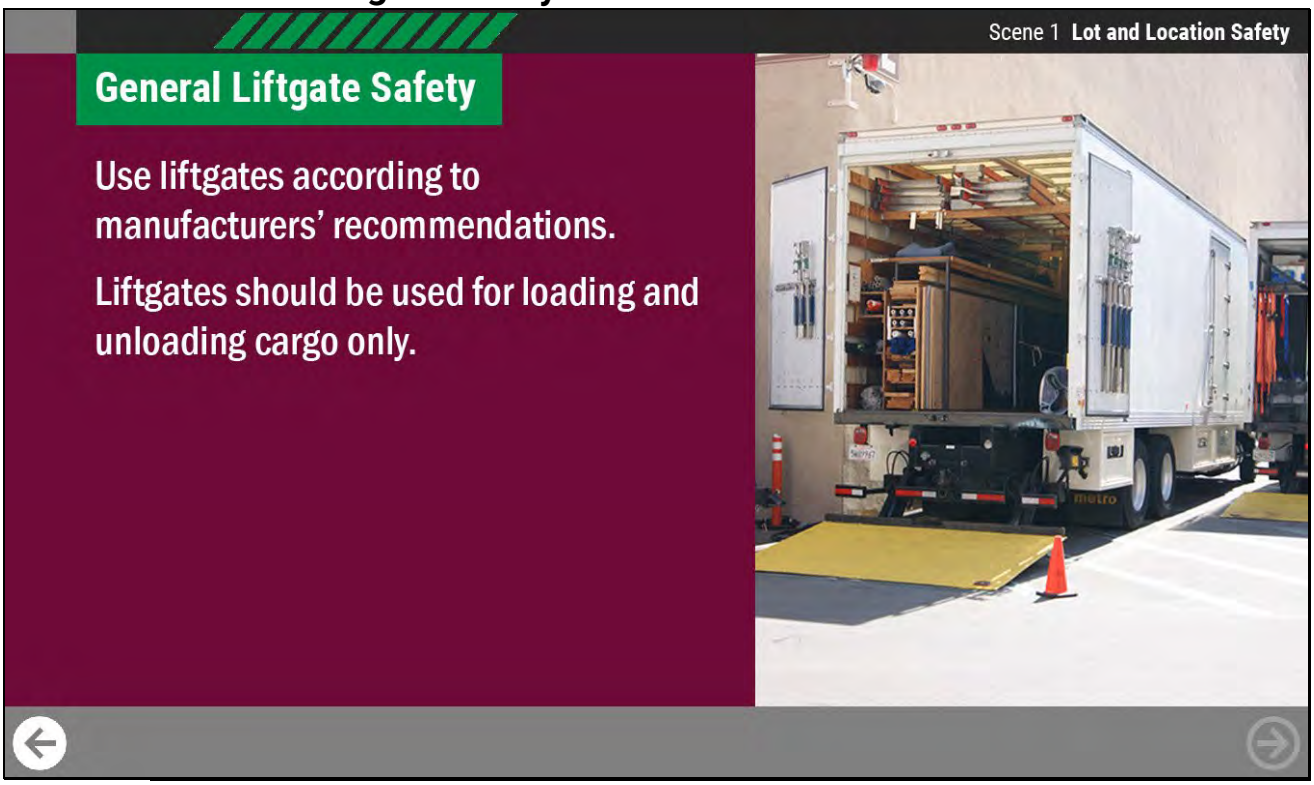
Slide 23 - Operating Vehicles on Stage or Inside Buildings



Slide notes

Special permission must be obtained to bring a gasoline- or diesel-powered vehicle indoors. This includes aerial lifts, forklifts, and picture cars. Check studio policy and AHJ requirements.

Slide 24 - General Liftgate Safety 1

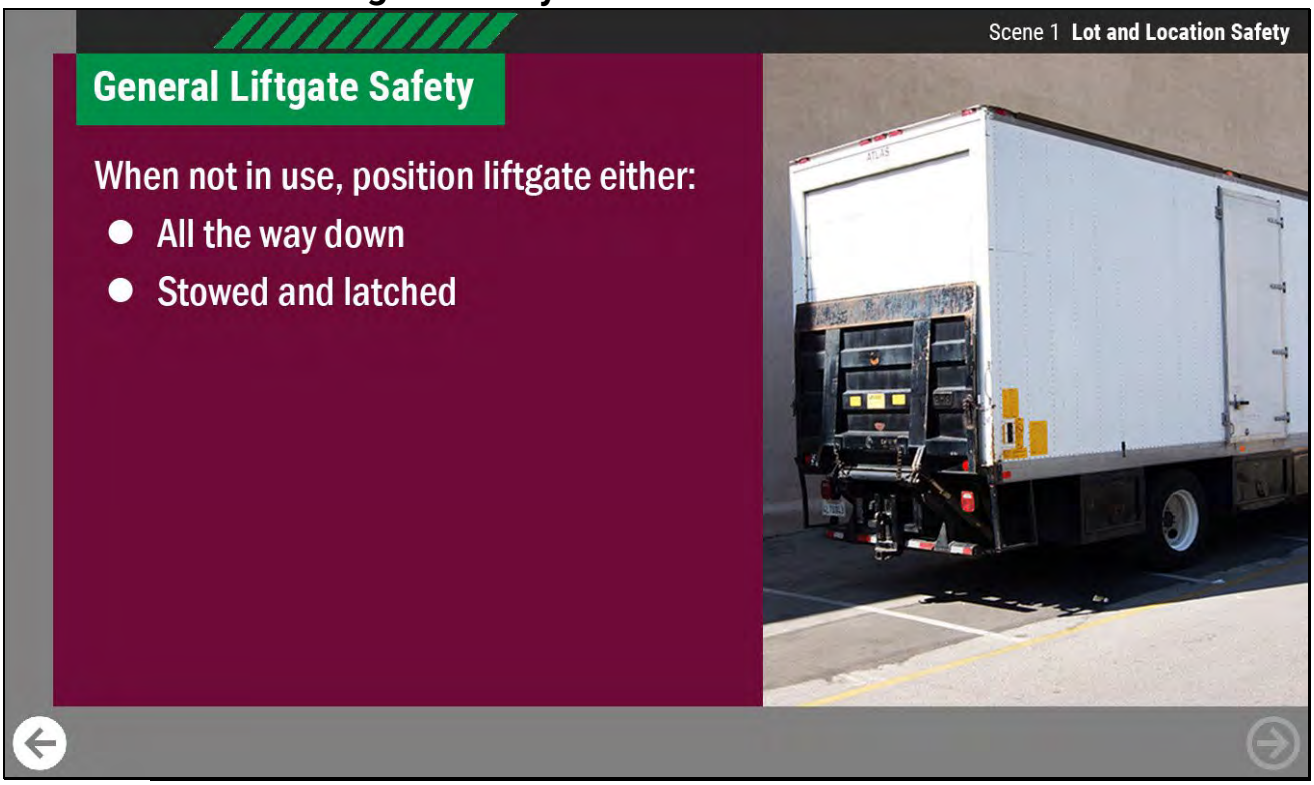


Slide notes

Hydraulic liftgates are used to raise or lower cargo from trucks.

Follow the manufacturers' recommendations for the liftgate you're using. Some manufacturers specify that their liftgates are for cargo only, meaning people are not permitted to ride.

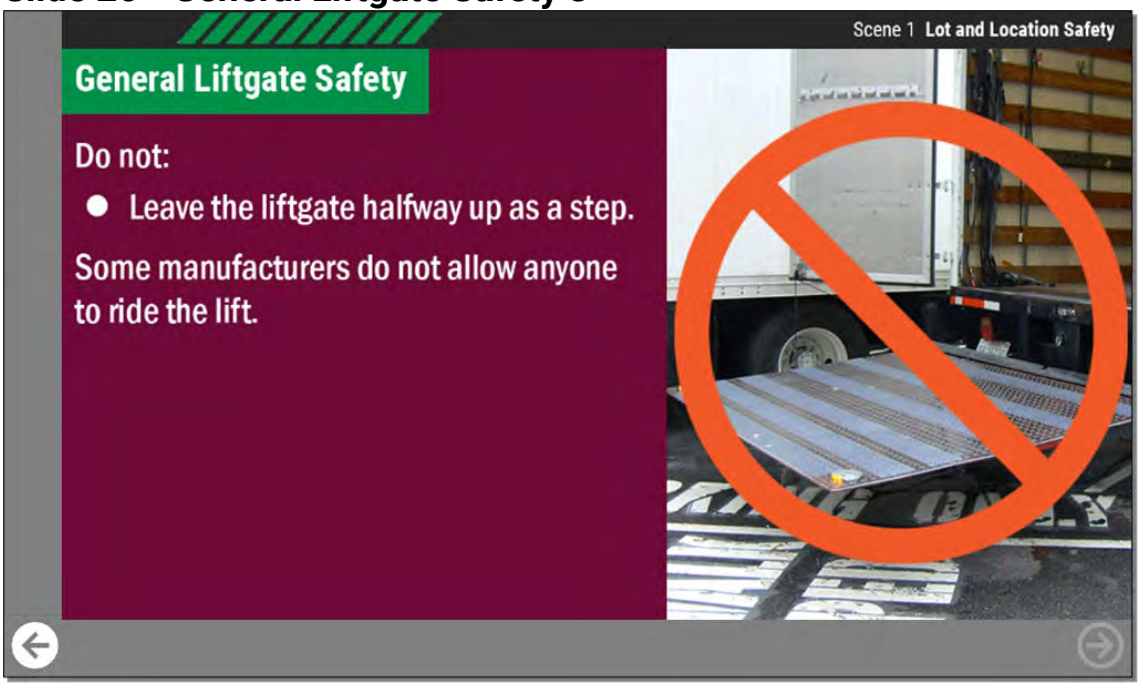
Slide 25 - General Liftgate Safety 2



Slide notes

When the liftgate is not being used for loading or unloading, it must be positioned in one of two ways: either all the way down (in full contact with the ground), or stowed and latched.

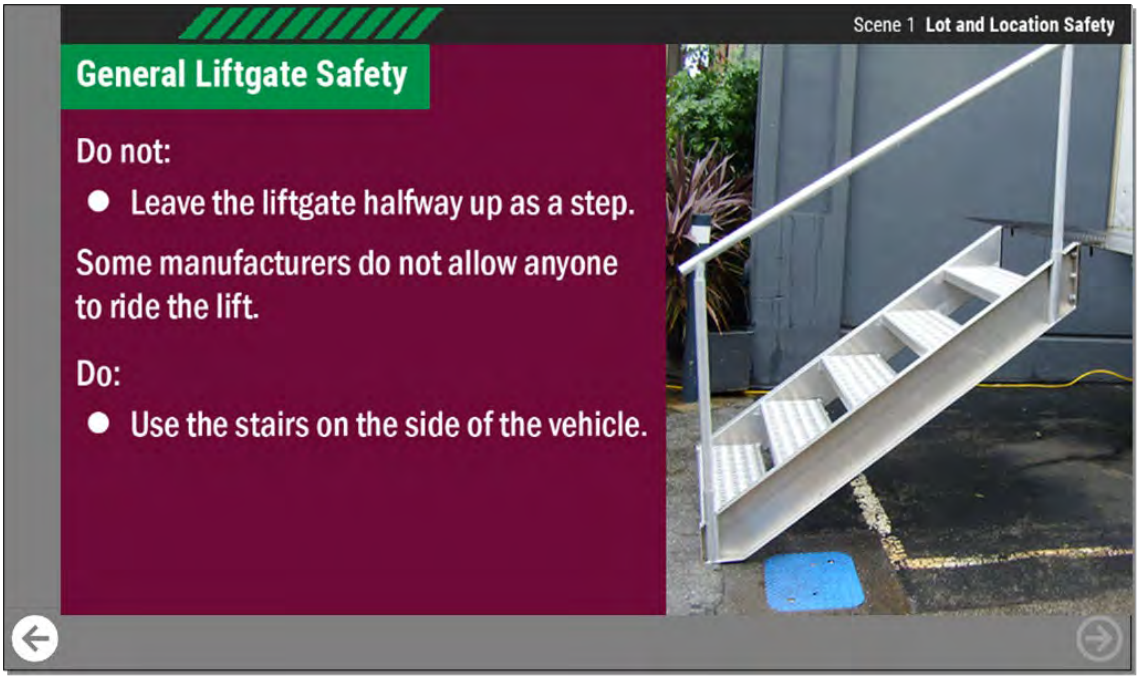
Slide 26 - General Liftgate Safety 3



Slide notes

Do not leave the liftgate halfway up as a step to go in and out of a truck.

Some manufacturers do not allow anyone to ride on the lift.



Slide notes

The preferred method to go in and out is by the stairs on the side of the vehicle.

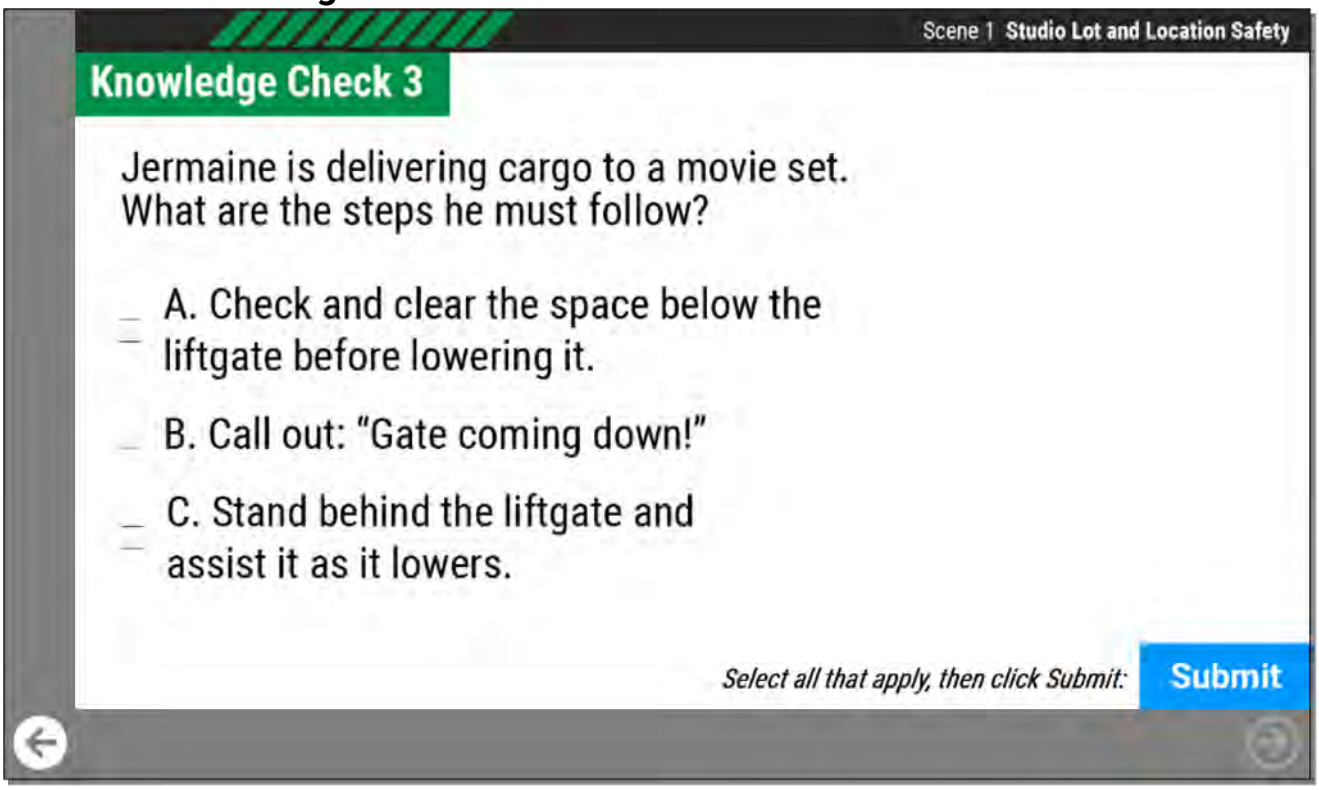
Slide 27 - General Liftgate Safety 4

Slide notes

Close and latch the liftgate when the back is not in use and any time the vehicle is to be moved.

Never ride on a liftgate when the vehicle is in motion.

Slide 28 - Knowledge Check 3

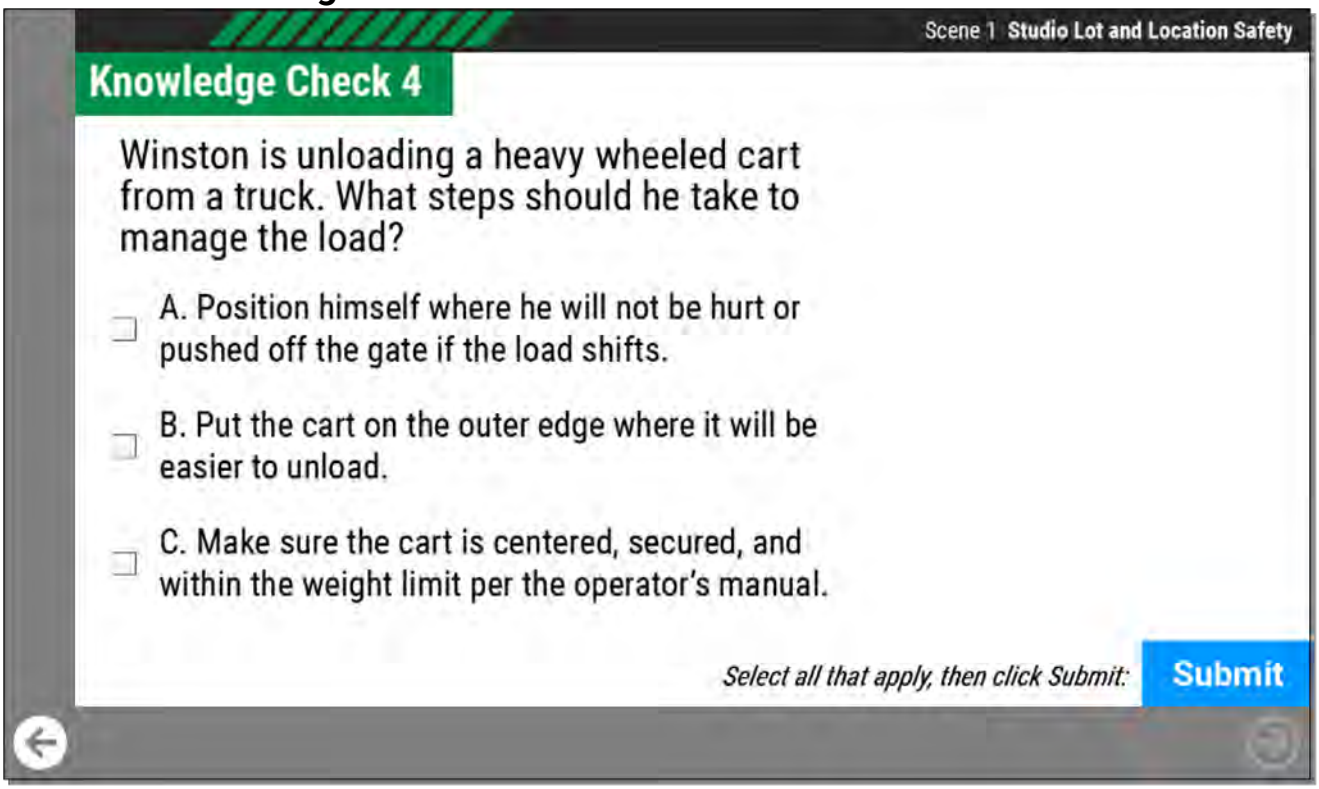


Slide notes

Knowledge Check 3

Question: Jermaine is delivering cargo to a movie set. What are the steps he must follow? Choose all that apply.

Slide 29 - Knowledge Check 4

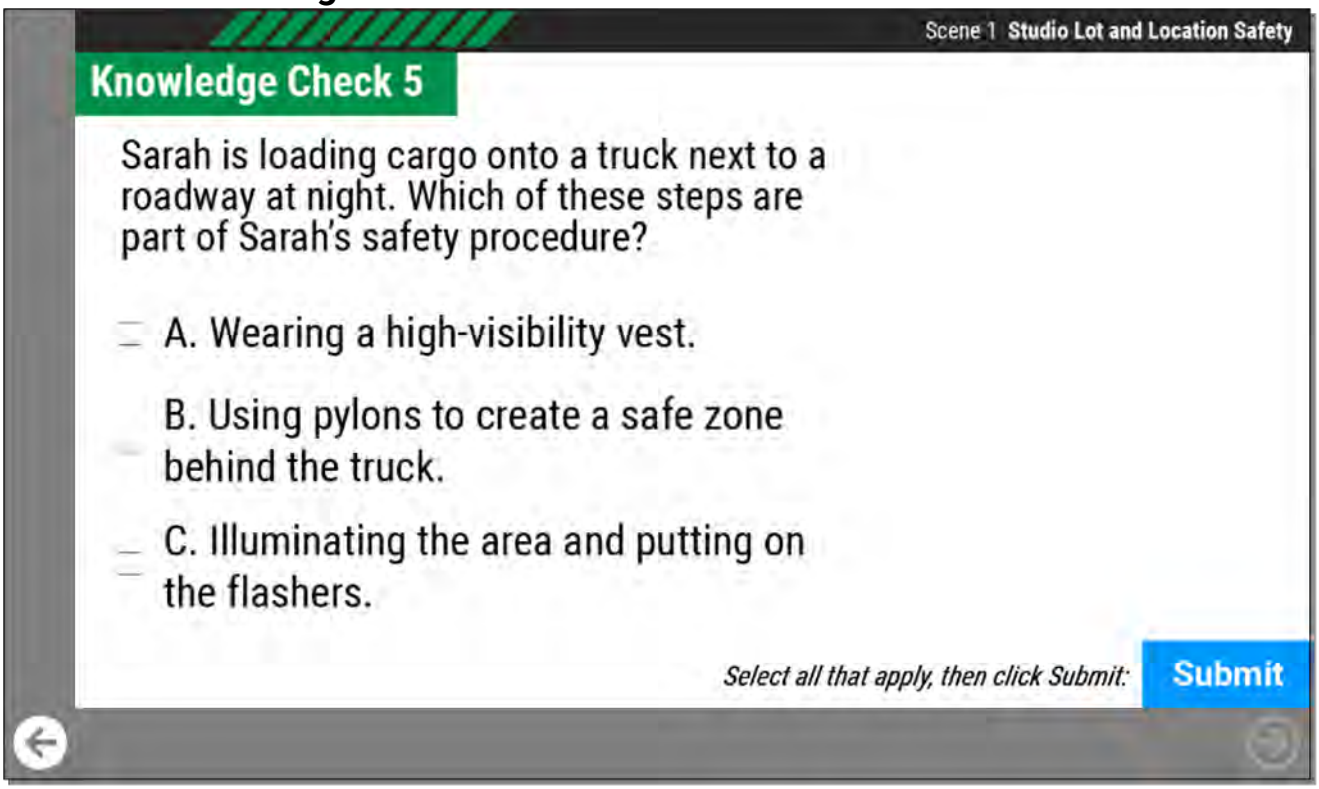


Slide notes

Knowledge Check 4

Question: Winston is unloading a heavy wheeled cart from a truck. What are the steps Winston should take to manage the load? Choose all that apply.

Slide 30 - Knowledge Check 5



Slide notes

Knowledge Check 5

Question: Sarah is loading her cargo at the edge of a roadway at night after a thunderstorm. Which of these steps are part of Sarah's safety procedure? Choose all that apply.

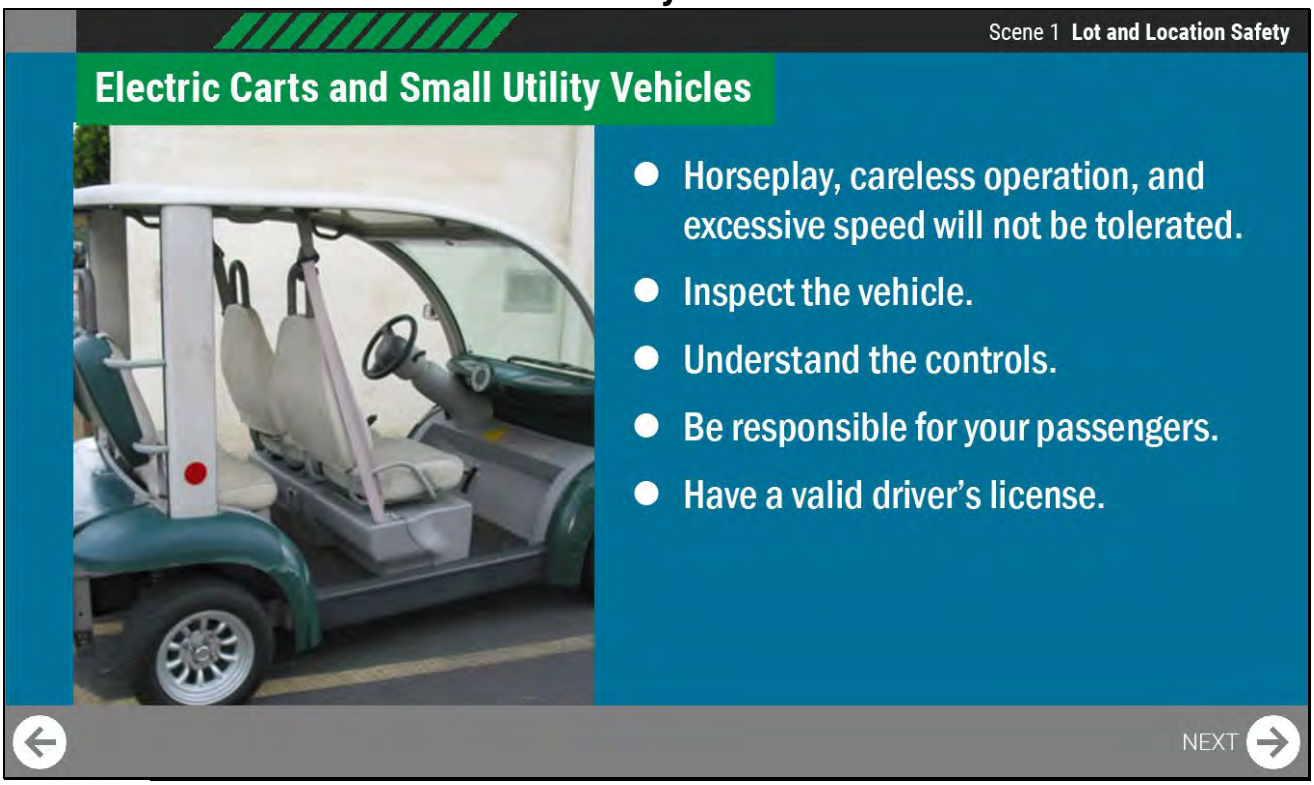
Slide 31 - Stairs to Mobile Trailers

Slide notes

On a film set, there are lots of vehicles. Many have stairs, and they must be safe to use.

Stairs with four or more steps must have a stair rail to protect people from falls. In California, the stair rail must be 34”- 38” above the tread of each step. Check with your employer for required stair rail heights outside of California. Stairs with less than four steps are not required to have stair rails. Watch your step coming down stairs.

Slide 32 - Electric Carts and Small Utility Vehicles



Slide notes

Studios have rules governing the on-lot operation of bicycles and golf carts. Check with your employer or safety department for their specific rules.

When using small carts and electric utility vehicles, horseplay, carelessness, and excessive speed can lead to accidents and will not be tolerated. Lot privileges can be taken away, and permits to drive on the lot can be revoked.

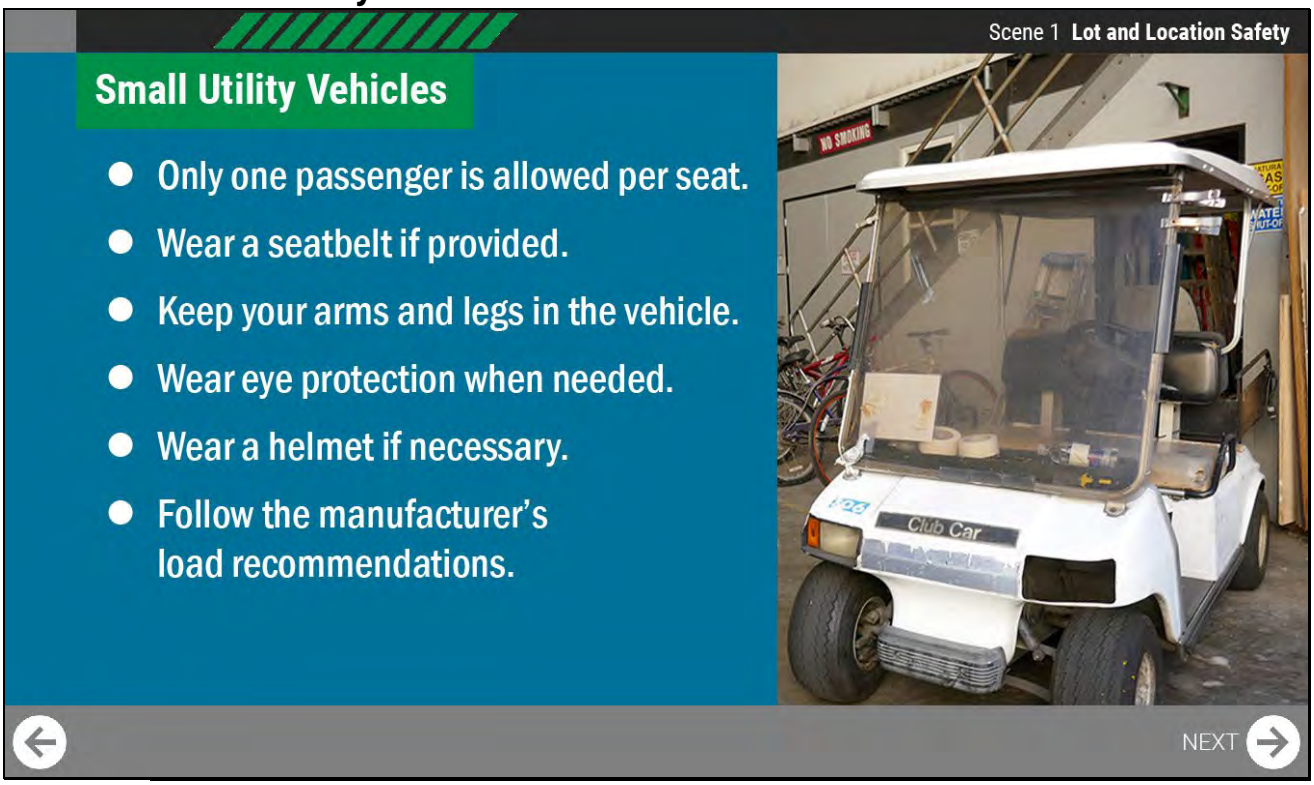
Inspect the vehicle before you use it. Check the brake lights, tires, and steering.

Most carts are not very difficult to operate, but if you don't understand how something works, ask for instruction.

Operators are responsible for the safety of their passengers and cargo, so make sure that your passengers are riding safely.

Operators should have a valid driver's license and must follow all traffic rules. If your license is expired, suspended, or revoked, or if you don't have a license, notify production.

Slide 33 - Small Utility Vehicles



Slide notes

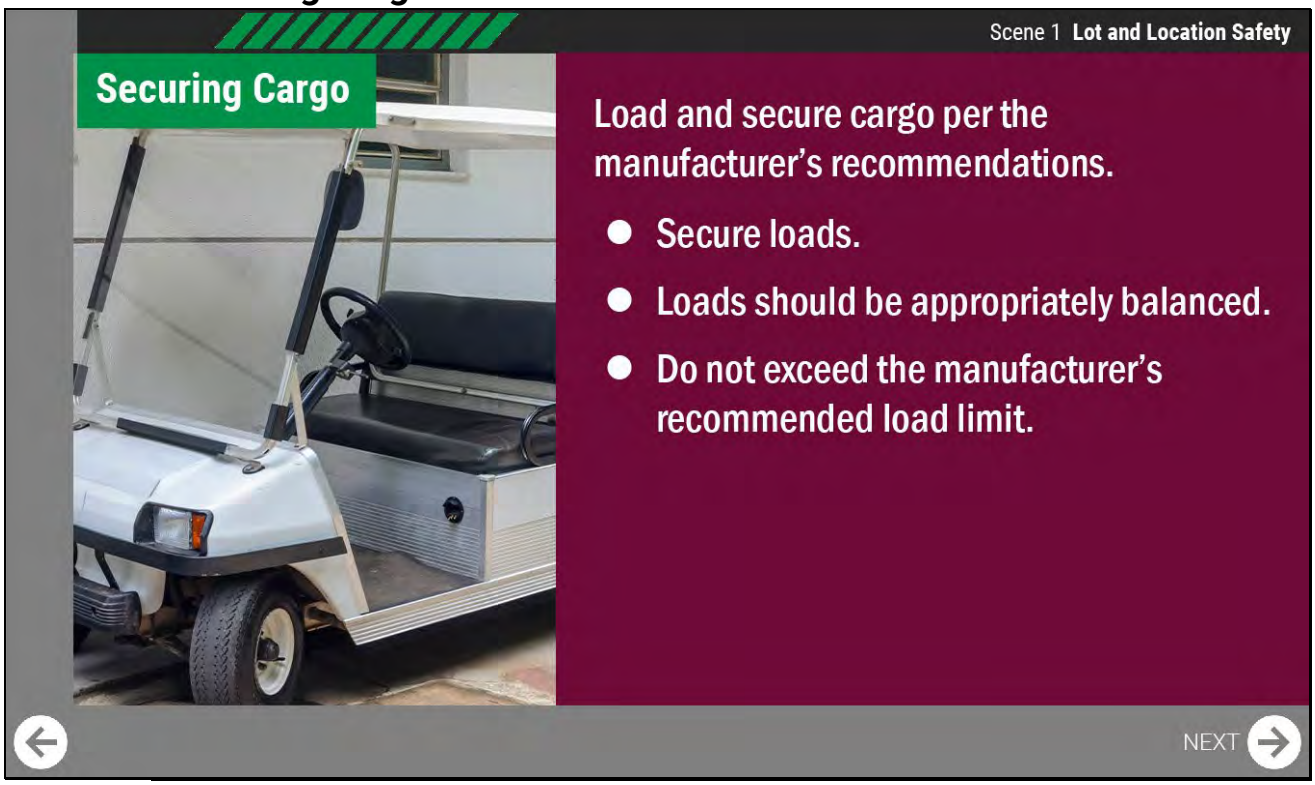
All passengers must have their own seat, and only one person per seat. Don't drive around with somebody sitting on your lap. No loading up passengers in the back cargo bed, standing on the bumper, or riding on a tailgate.

Wear seatbelts if they are provided. Keep your arms and legs inside the vehicle. If the cart doesn't have a windshield, eye protection is recommended.

Wear a helmet when necessary.

Stay within the vehicle manufacturer's maximum load limit. Overloading can affect braking and handling, which can lead to an accident.

Slide 34 - Securing Cargo



Slide notes

If the vehicle is equipped to carry cargo, follow the manufacturer's recommendations. Secure the load such that it will not shift or fall out. Balance the load appropriately. Do not exceed the load limit of the vehicle.

Slide 35 - Additional Utility Vehicle Safety

Slide notes

The person operating the vehicle is responsible for safety.

Use caution near people and animals.

Pedestrians have the right of way.

Avoid driving off curbs or turning on an incline.

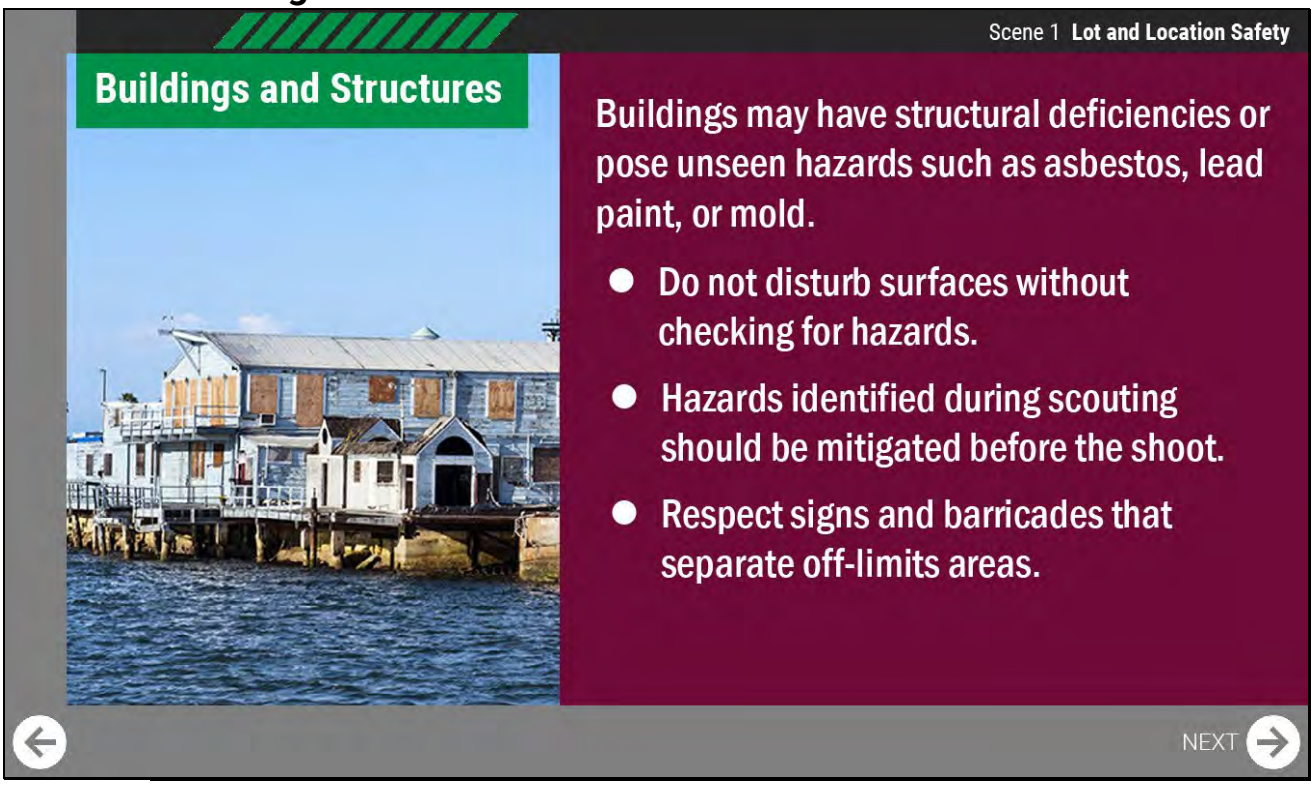
Do not exceed safe speeds appropriate for the conditions.

Do not use at night without sufficient lighting.

Tow in a manner specified by the vehicle manufacturer.

See Safety Bulletin #40, *Safety Guidelines for Non-Camera Utility Vehicles*.

Slide 36 - Buildings and Structures



Slide notes

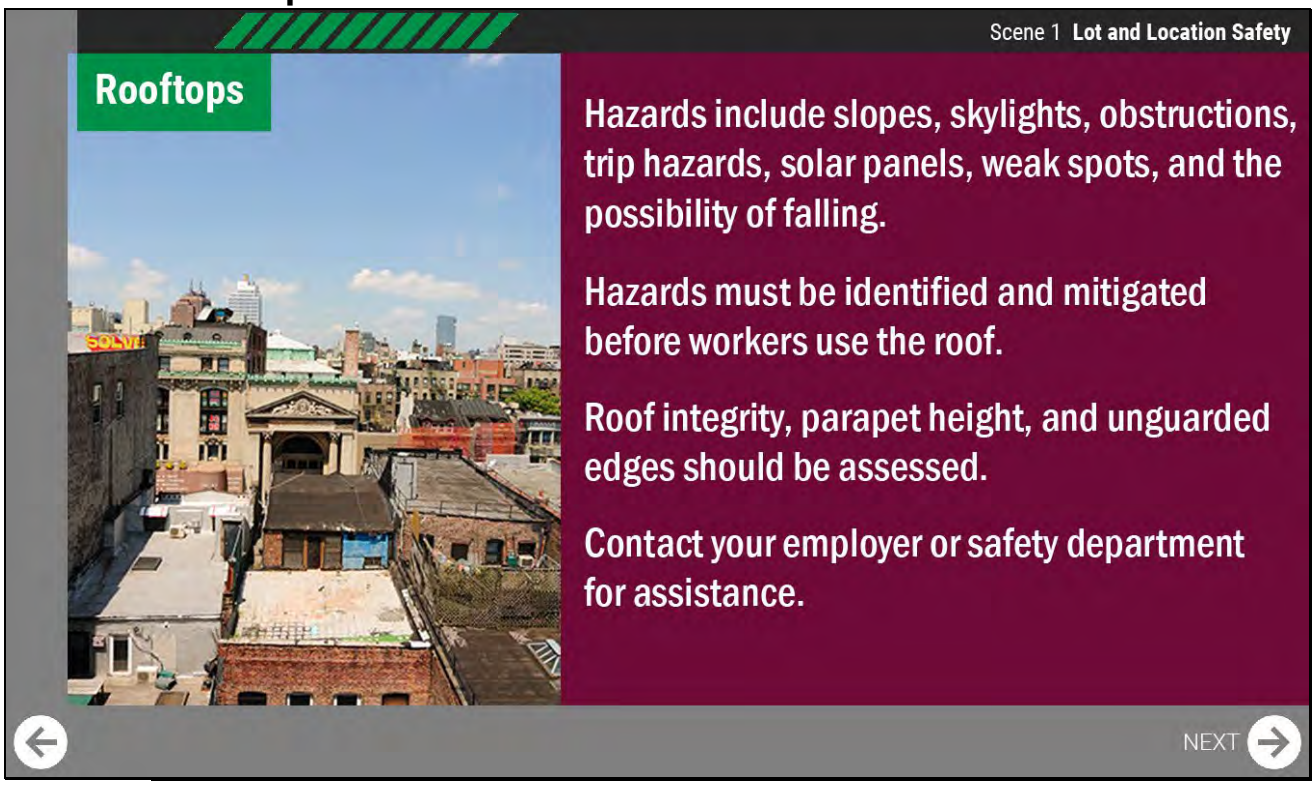
Even if they do not look old or run-down, buildings may have unseen hazards such as structural deficiencies, protruding nails, loose or uneven flooring, or a lack of fire extinguishers.

Health hazards such as bird and rodent droppings, mold, standing water, asbestos, and lead paint may also be present.

Don’t disturb the floors, walls, or ceilings without making sure they have been checked for these kinds of hazards. Hazards identified during scouting should be mitigated before the shoot.

Location department personnel may mark off potentially unsafe areas using signs and caution tape. For your safety, do not go into areas that have been posted off-limits.

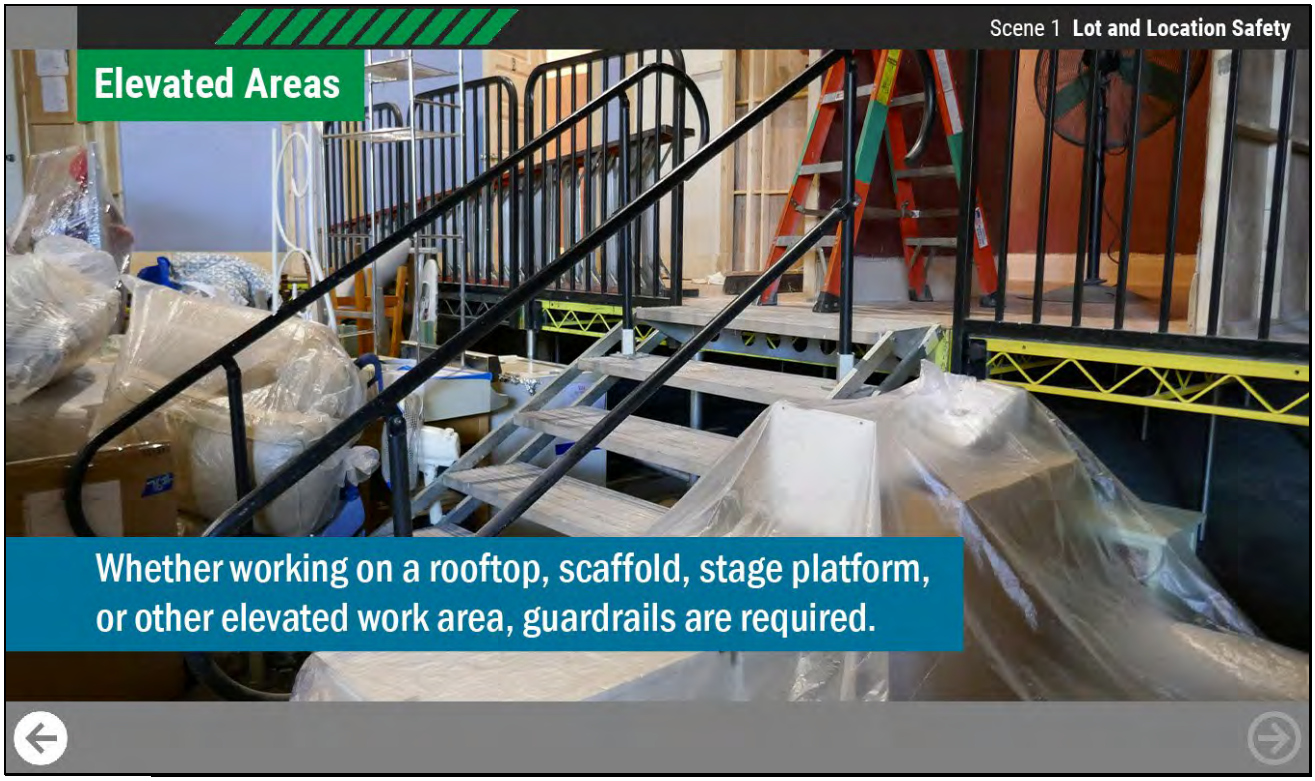
Slide 37 - Rooftops



Slide notes

Rooftops are another source of potential hazards, including slopes, obstructions, trip hazards, solar panels, weak spots, and of course, the possibility of falling off an unguarded edge or through a skylight. Hazards must be identified and mitigated by careful planning before workers use the roof. The capacity and integrity of the roof structure, the height of the parapets, and fall protection for unguarded edges should be assessed. Contact your employer or safety department for assistance.

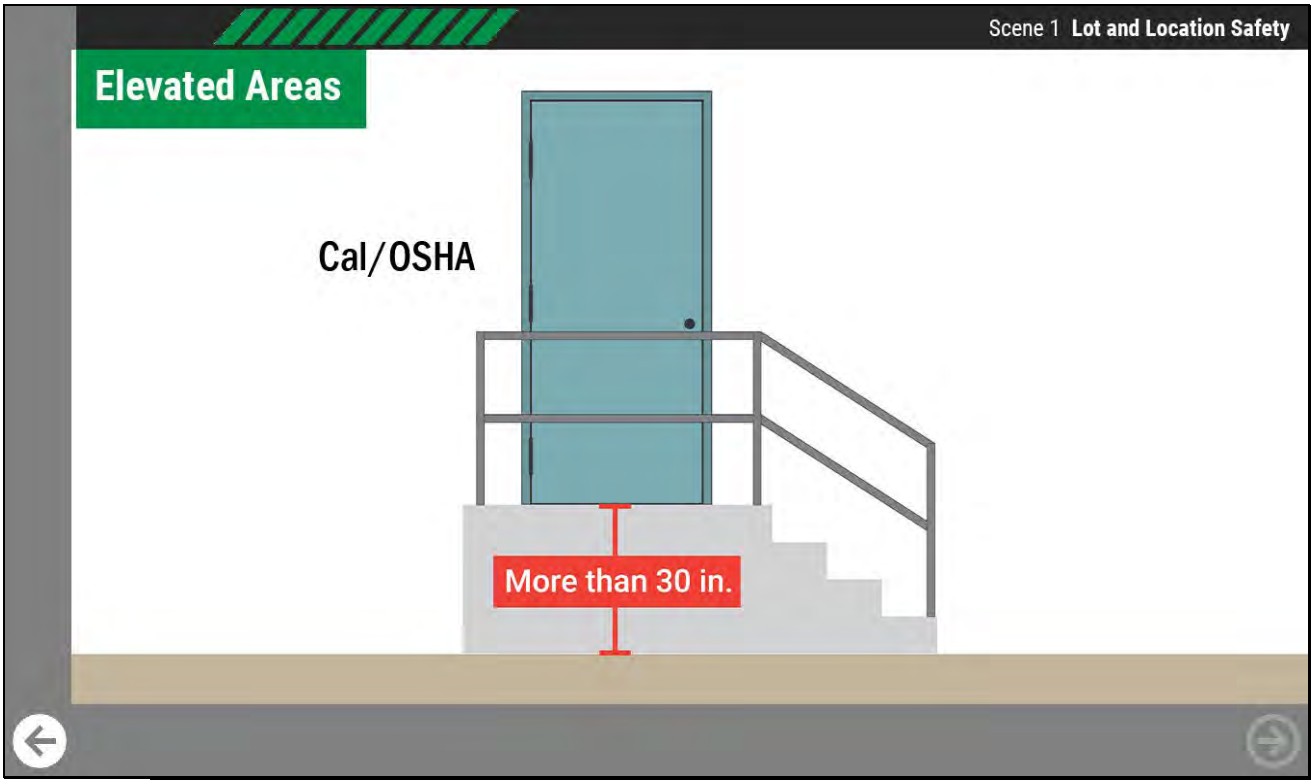
Slide 38 - Elevated Areas 1



Slide notes

Whether working on a rooftop, scaffold, stage platform, or other elevated work area, guardrails are required.

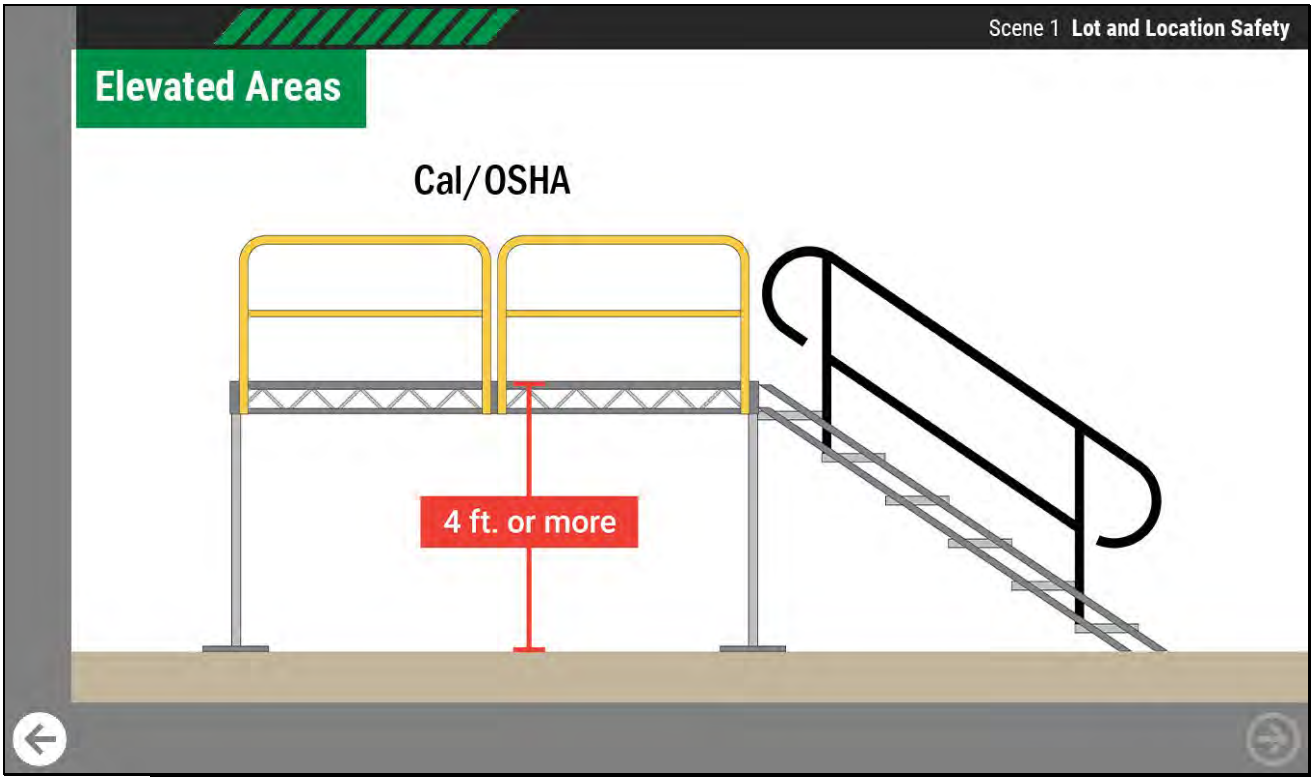
Slide 39 - Elevated Areas 2



Slide notes

In California, when the elevated area is part of a building or structure, it must have guardrails when the standing surface is more than 30 inches above the ground.

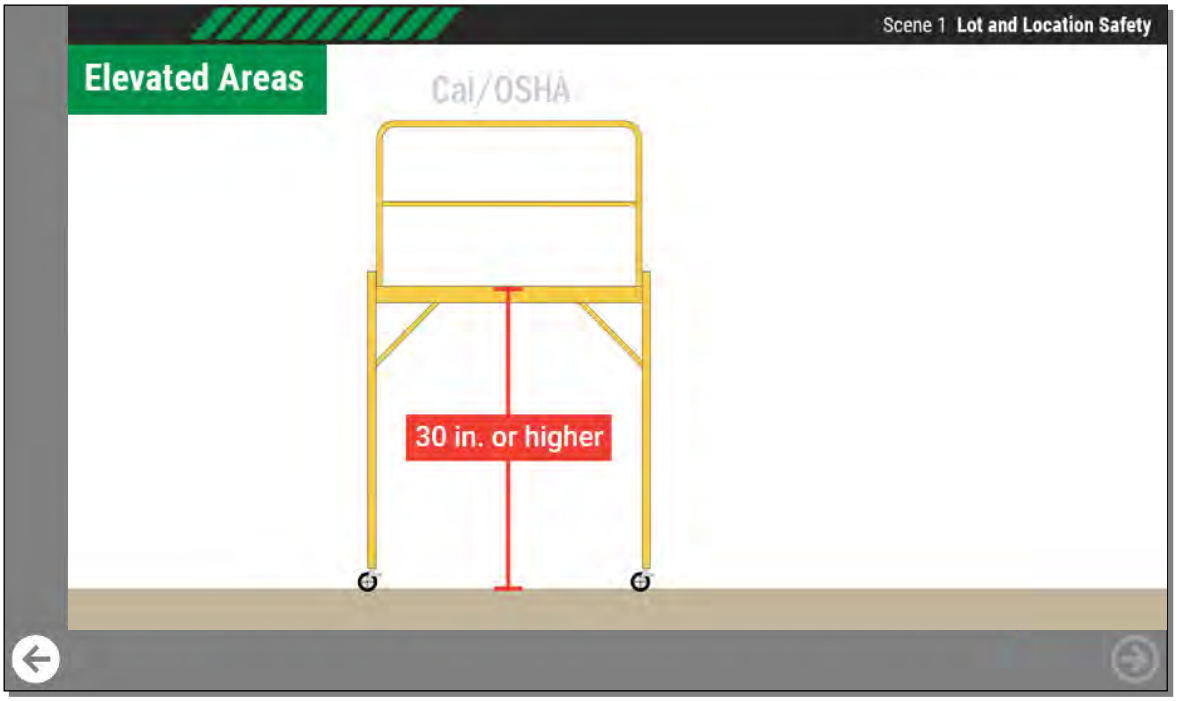
Slide 40 - Elevated Areas 3



Slide notes

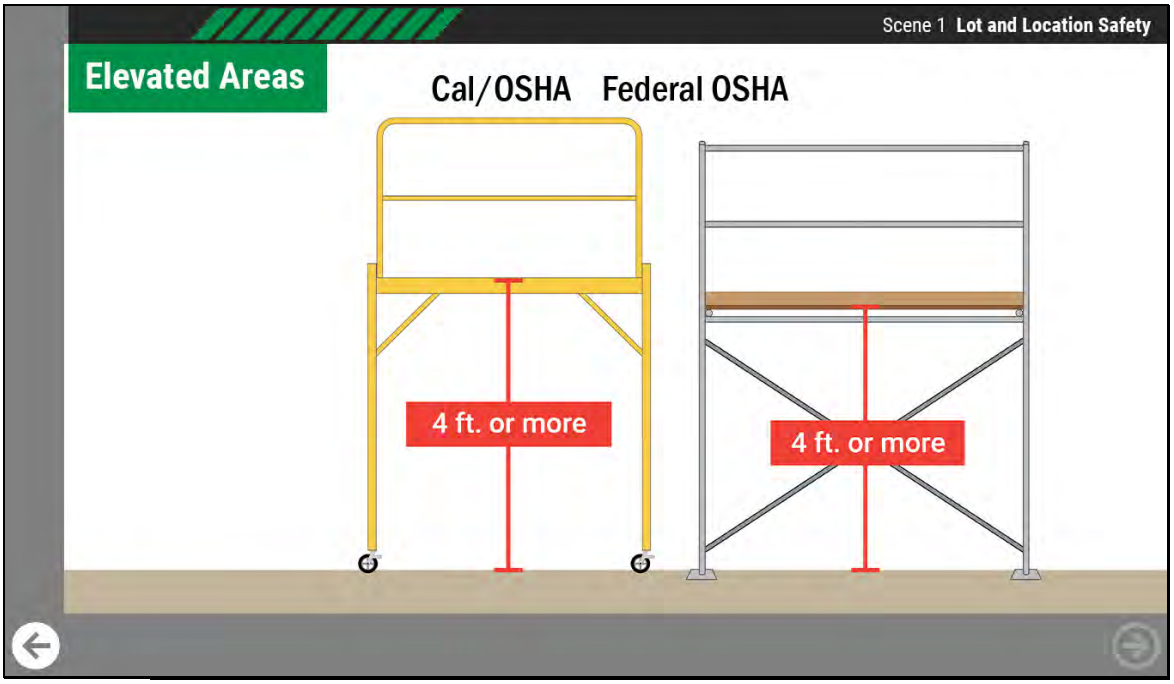
For an elevated platform that is not part of a building or structure, such as a runway, scaffold, or temporary stage platform, guardrails are required when the worker's standing surface is 4 feet or more above ground level.

Slide 41 - Elevated Areas 4



Slide notes

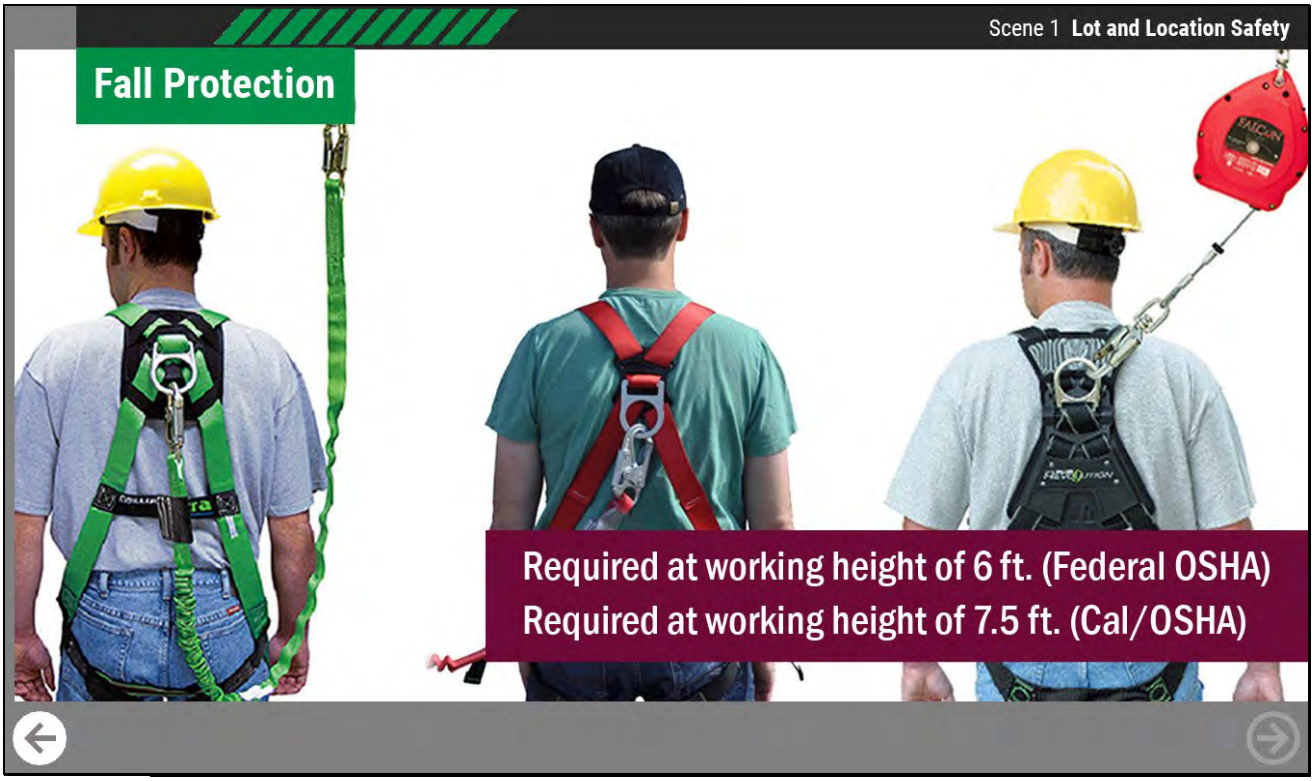
However, if the platform has wheels (a rolling scaffold tower, for example), then guardrails are required for any platform 30 inches or higher above ground level. All guardrails must conform to regulations, including top rails, mid-rails, and toe boards.



Slide notes

Outside of California, Fed OSHA requires guardrails when working 4 feet or more above a lower level.

Slide 42 - Elevated Areas 5

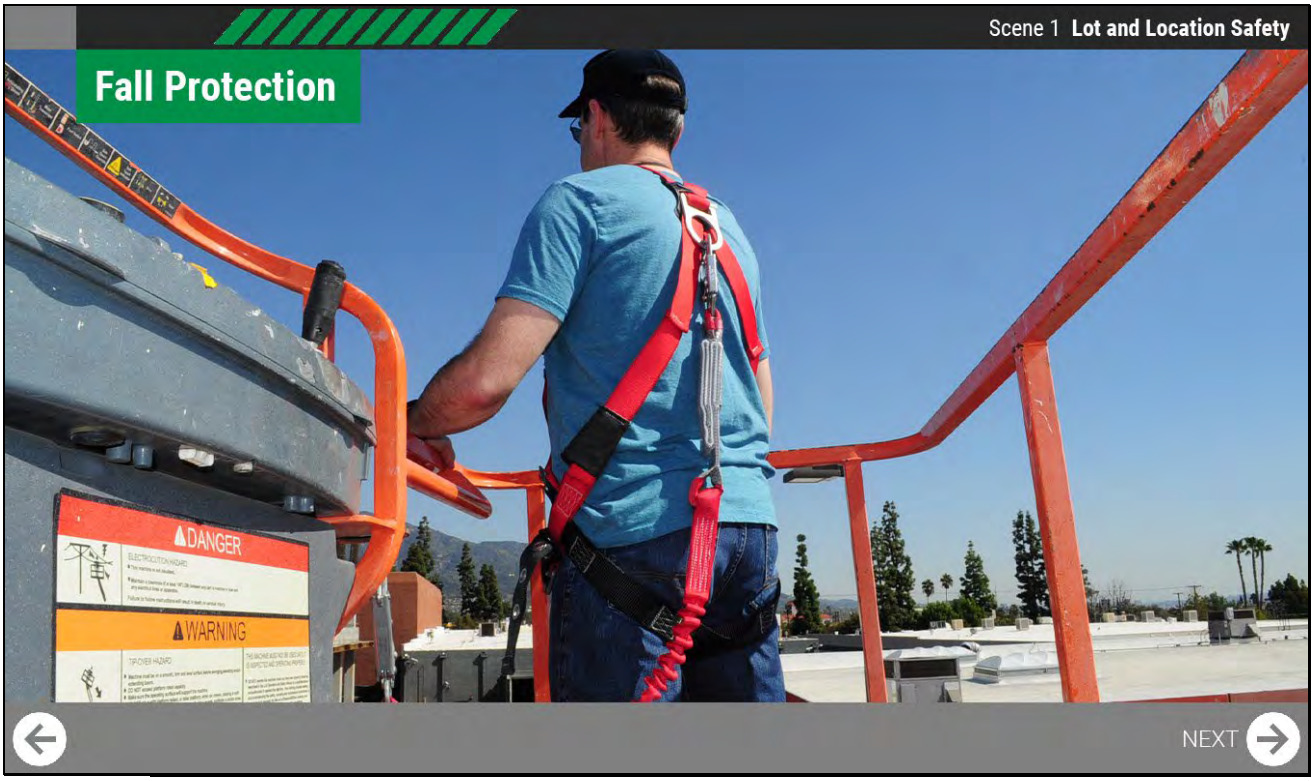


Slide notes

If no guardrails are provided, then other fall protection must be used, such as a personal fall protection system.

In construction, Fed OSHA requires fall protection starting at a working height of 6 feet. The Cal/OSHA construction standard starts at 7 1/2 feet. For specific situations, such as driving an aerial lift or working outside the guardrails of a catwalk system, personal fall protection (such as harness and lanyard) is required.

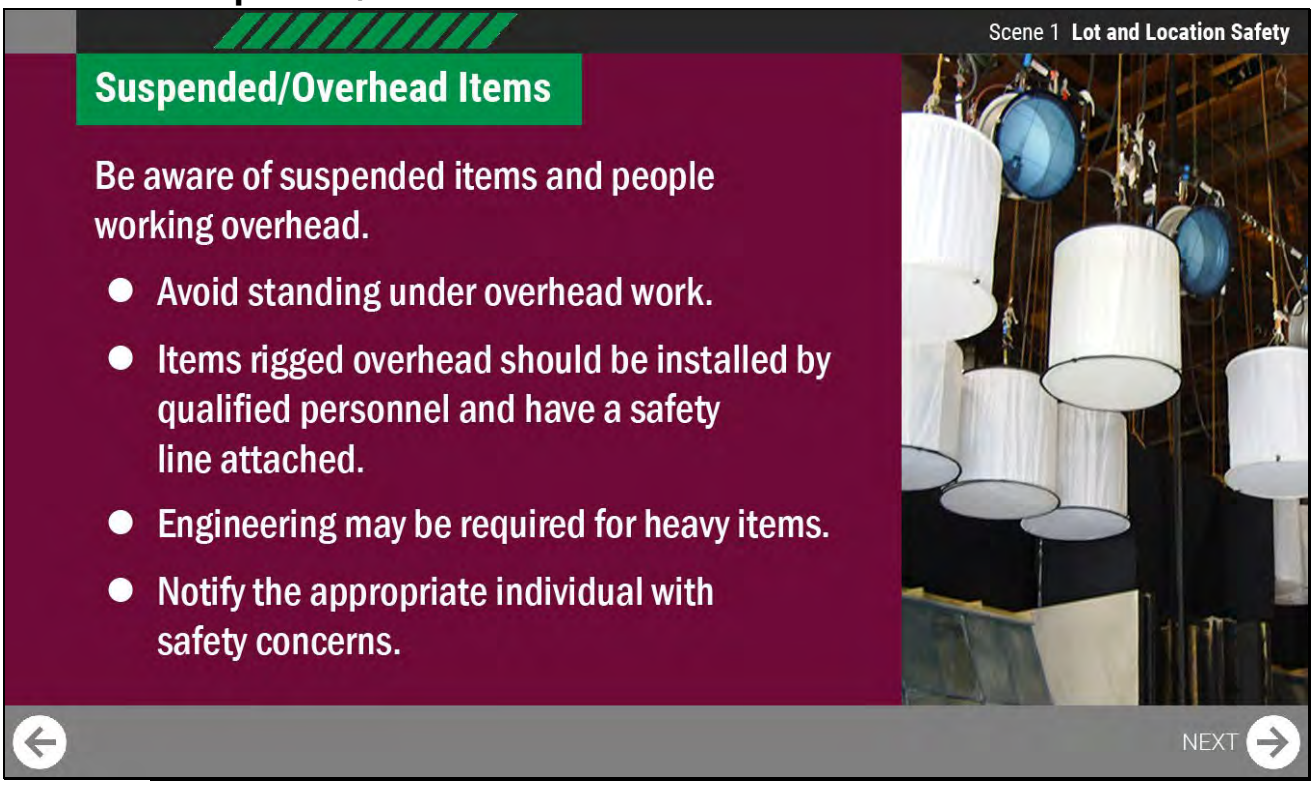
Slide 43 - Fall Protection



Slide notes

Each studio has specific rules regarding fall protection. Find out what rules apply where you are working.

Slide 44 - Suspended/Overhead Items



Slide notes

Be aware of and avoid standing below people working overhead. Working overhead means not only the people up high in the perms, but also the camera crew up on a 12-step ladder-pod or the technician hanging a light.

Be aware of the items that are suspended over a stage. Items rigged overhead should be installed by qualified personnel and have a safety line attached.

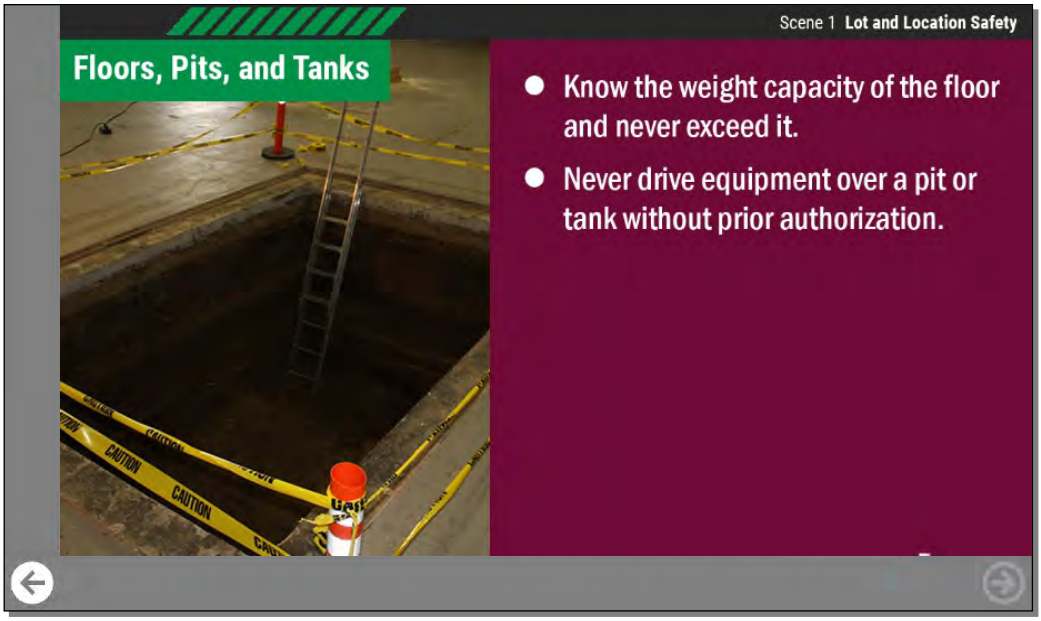
When heavy items need to be suspended, an engineer may need to be brought in to determine if the weight can be safely distributed to the structure.

Notify the appropriate department head, supervisor, or safety department if you have concerns about suspended items.

Slide 45 - Floors, Pits, and Tanks

Slide notes

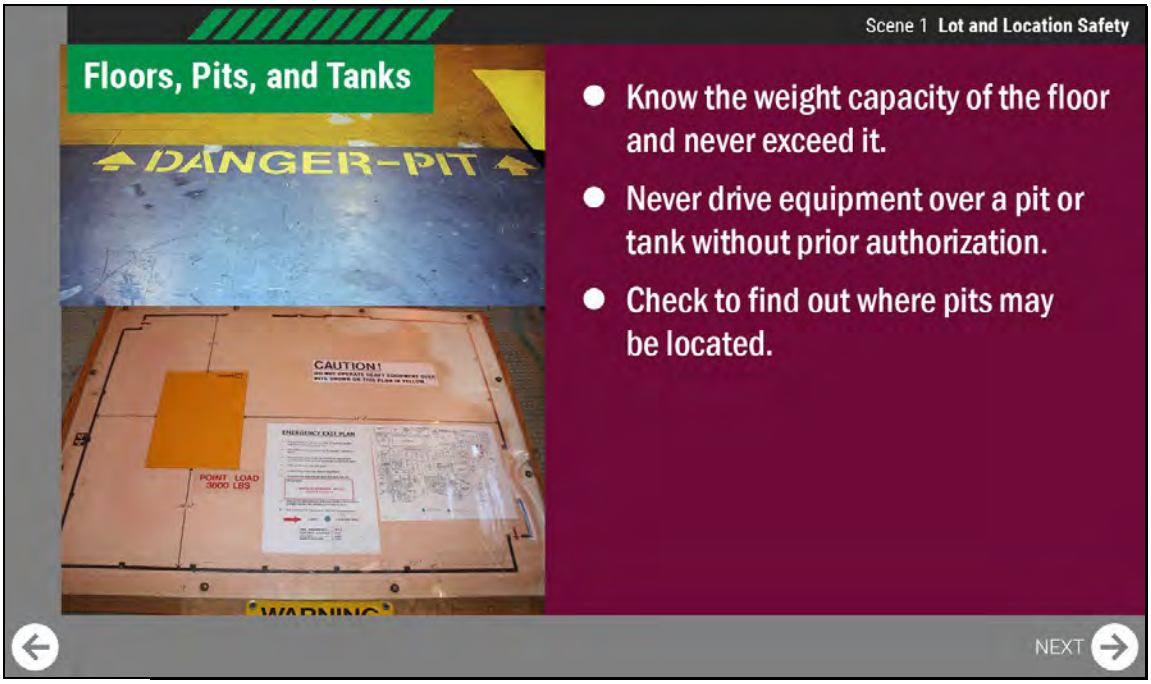
Before driving any heavy equipment onto a stage, the weight capacity of the floor must be known. This applies to aerial lifts, scissor lifts, forklifts, camera vehicles, picture vehicles, and any other heavy equipment, because the floor could collapse.



Slide notes

Some stage floors are designed with pits or tanks beneath them. The weight capacity of the platform that covers the pit or tank may be considerably less than the rest of the floor. If one wheel of an aerial lift breaks into the floor, the entire lift is likely to tip over and can catapult the occupant out of the lift.

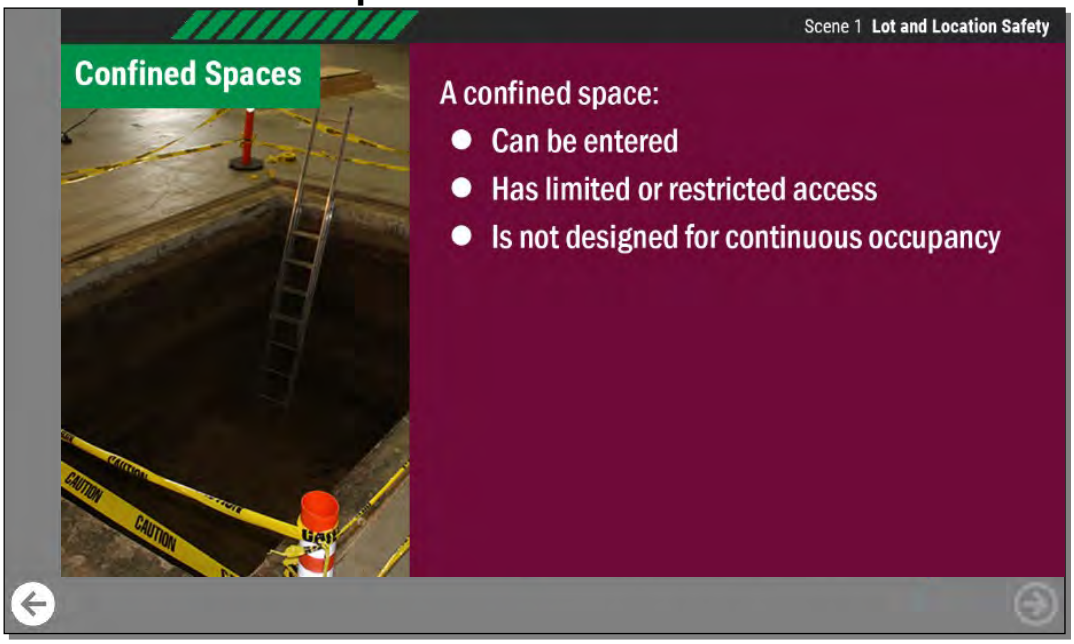
Do not drive equipment over a pit or tank cover without prior authorization.



Slide notes

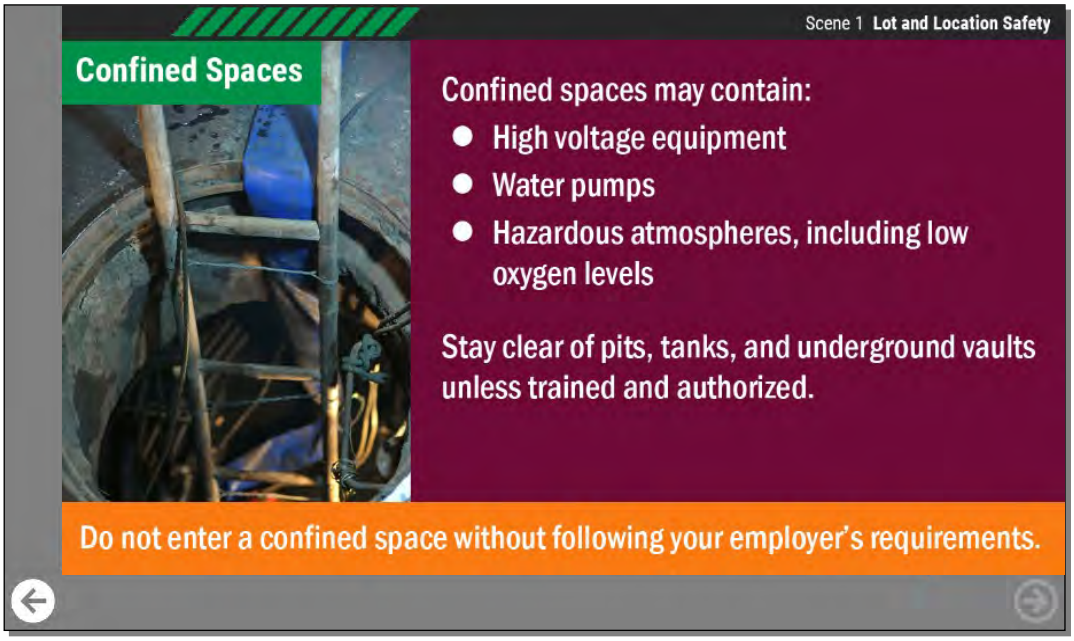
Pits and tanks are sometimes marked with red and yellow lines on the stage floor. However, floors are usually covered over as part of the set design. To determine where pits may be located on a particular sound stage, check the floor plan, generally located near the exits. If there is any question, contact a supervisor, location representative, back-lot operations, or studio safety.

Slide 46 - Confined Spaces



Slide notes

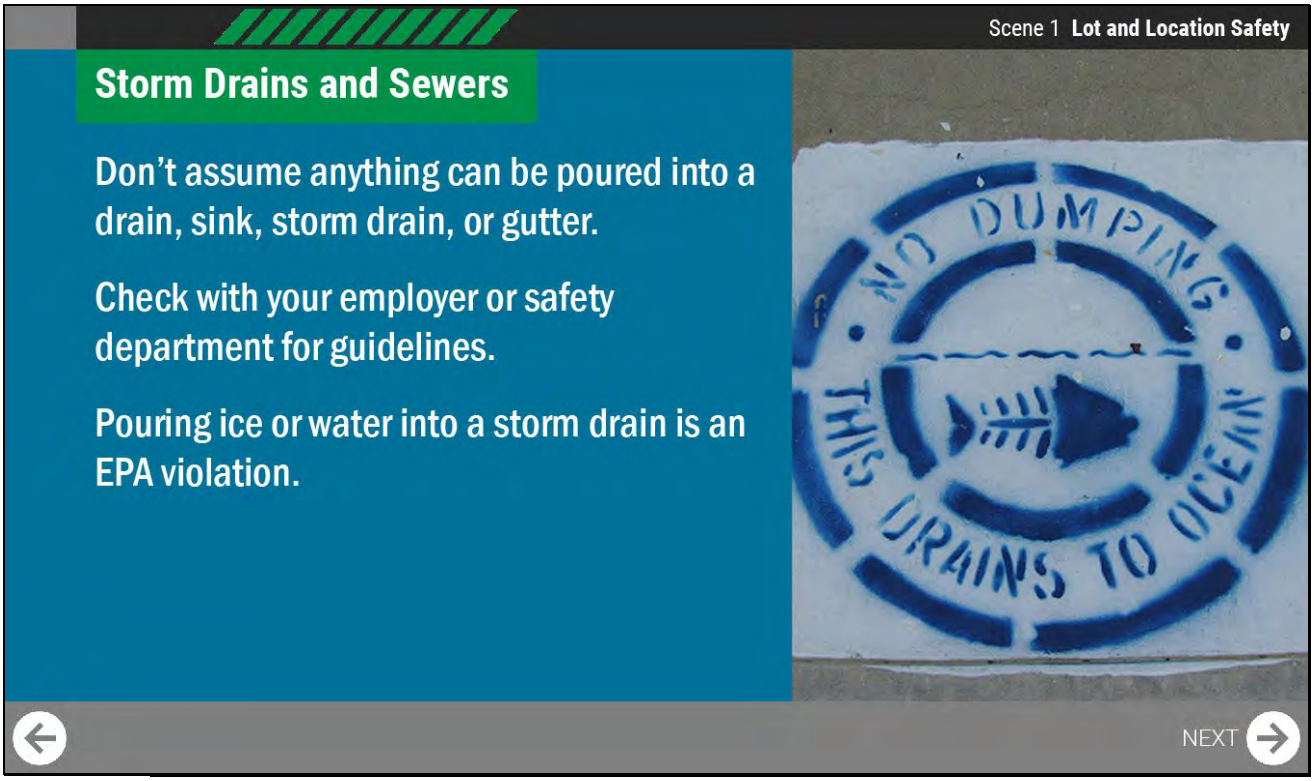
Pits, tanks, and underground vaults may be considered confined spaces. A confined space is any space that you can get into, but that has limited or restricted access and is not designed for continuous occupancy.



Slide notes

Underground vaults typically house high voltage equipment, water pumps, and similar potentially dangerous equipment. Confined spaces like manholes and vaults may contain hazardous atmospheres, including low oxygen levels. Stay clear of these areas unless you have been trained and authorized by your employer to work there. Do not enter a confined space without following your employer's confined space requirements.

Slide 47 - Storm Drains and Sewers



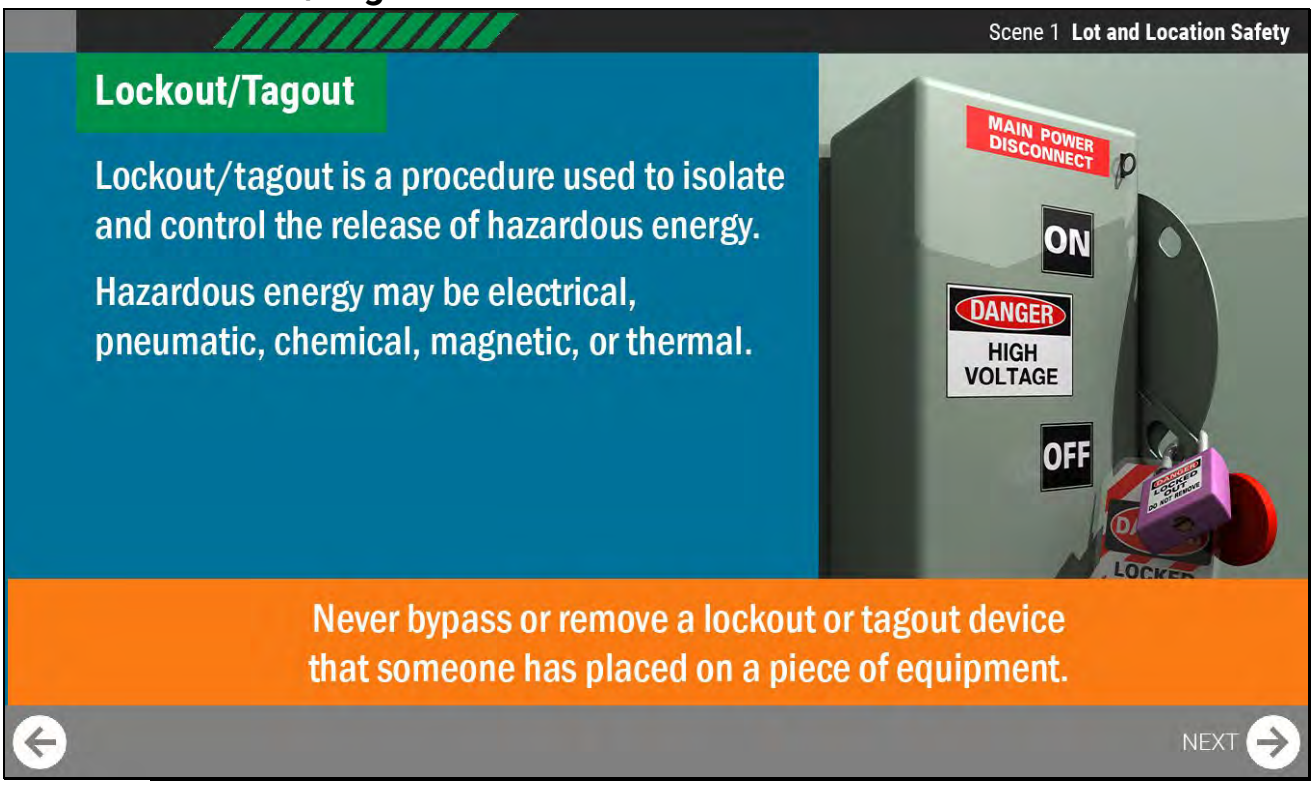
Slide notes

Make no assumptions about what is legal and safe to pour into a drain, a sink, a storm drain, or gutter. Check with the employer or safety department for guidelines.

Here's an example. What's the only thing that can legally go down a storm drain?

Rainwater. Even emptying ice and water from a cooler into a storm drain is an EPA violation.

Slide 48 - Lockout/Tagout

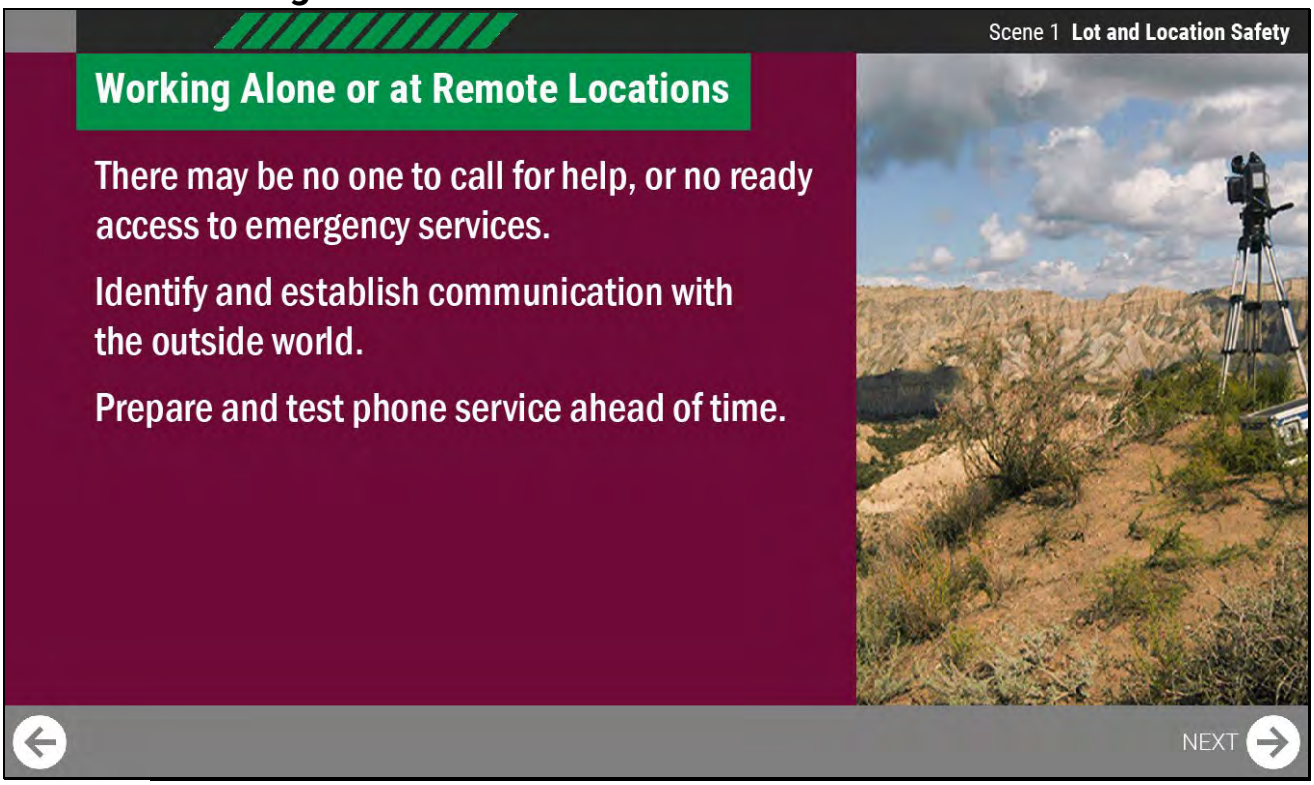


Slide notes

Now, let's talk about lockout/tagout, a procedure used to isolate energy from equipment during maintenance, repair, or inspection. Lockout/tagout procedures are used to control the release of many kinds of hazardous energy, including electrical, pneumatic, chemical, magnetic, and thermal energy.

The point is this: **Never** bypass or remove a lockout/tagout device that someone else has placed on a piece of equipment. If the tag is there, it means someone is working on the equipment and will be put in danger if the system is re-energized. If you think the tag is incorrectly placed, contact a supervisor or the person who placed the tag.

Slide 49 - Working Alone or at Remote Locations 1

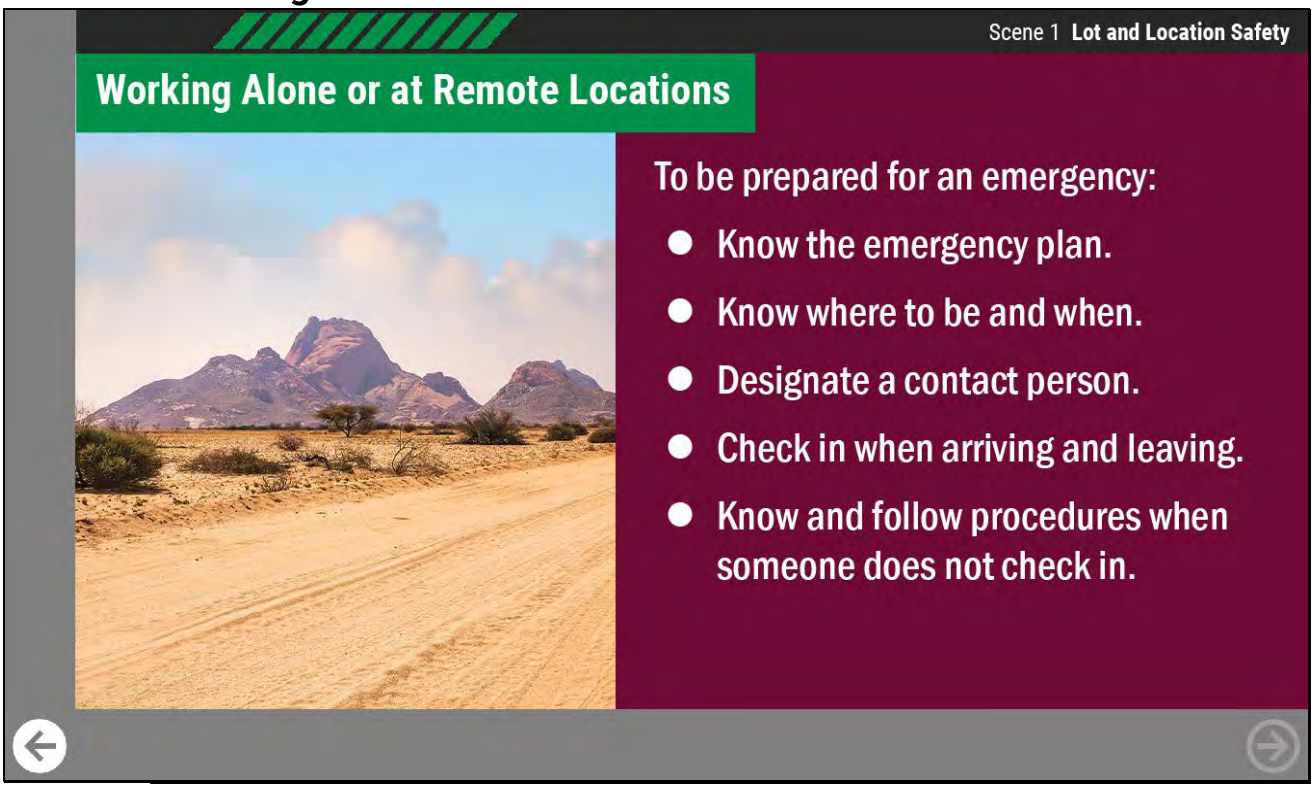


Slide notes

When working by yourself or at a remote location, additional precautions should be taken. If you are working alone and get hurt, there may not be anyone to call for help, or you may be working at a remote location with no ready access to emergency services.

It is essential to identify and establish some form of communication with the outside world. If you decide to use cell phones, test the service ahead of time and make sure everyone is prepared and phones are charged. Once you are at the location, verify communication by calling. We have all experienced drop-out spots in cell service, even in the middle of town. If you don't have service, find the closest location where the service is reliable so you are not searching for it in the event of an emergency.

Slide 50 - Working Alone or at Remote Locations 2



Slide notes

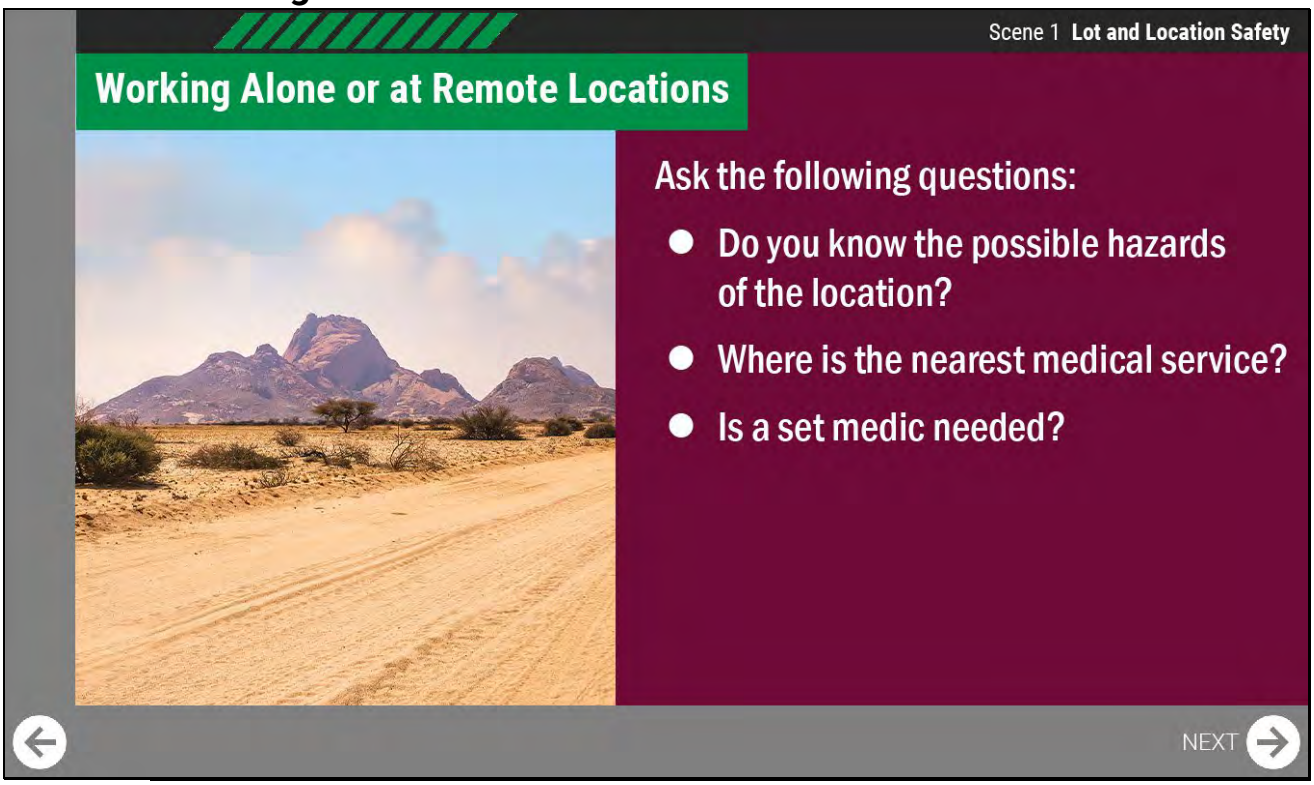
Know the emergency plan for the location where you're working, including the location of the nearest hospital and how to get help.

Know where you are expected to be and when. If a person has an accident and he or she is not at the planned location, critical help could be delayed.

Designate a contact person. Check in with the contact person when the crew first arrives at the work location and check out when the crew leaves. Keep the contact person informed when people change locations. If you set a time to check in, do not fail to call at that time.

Establish the procedure to be followed if someone does not check in as planned. The contact person needs to have the necessary information to act.

Slide 51 - Working Alone or at Remote Locations 3



Slide notes

Before working alone or at a remote location, ask the following questions:

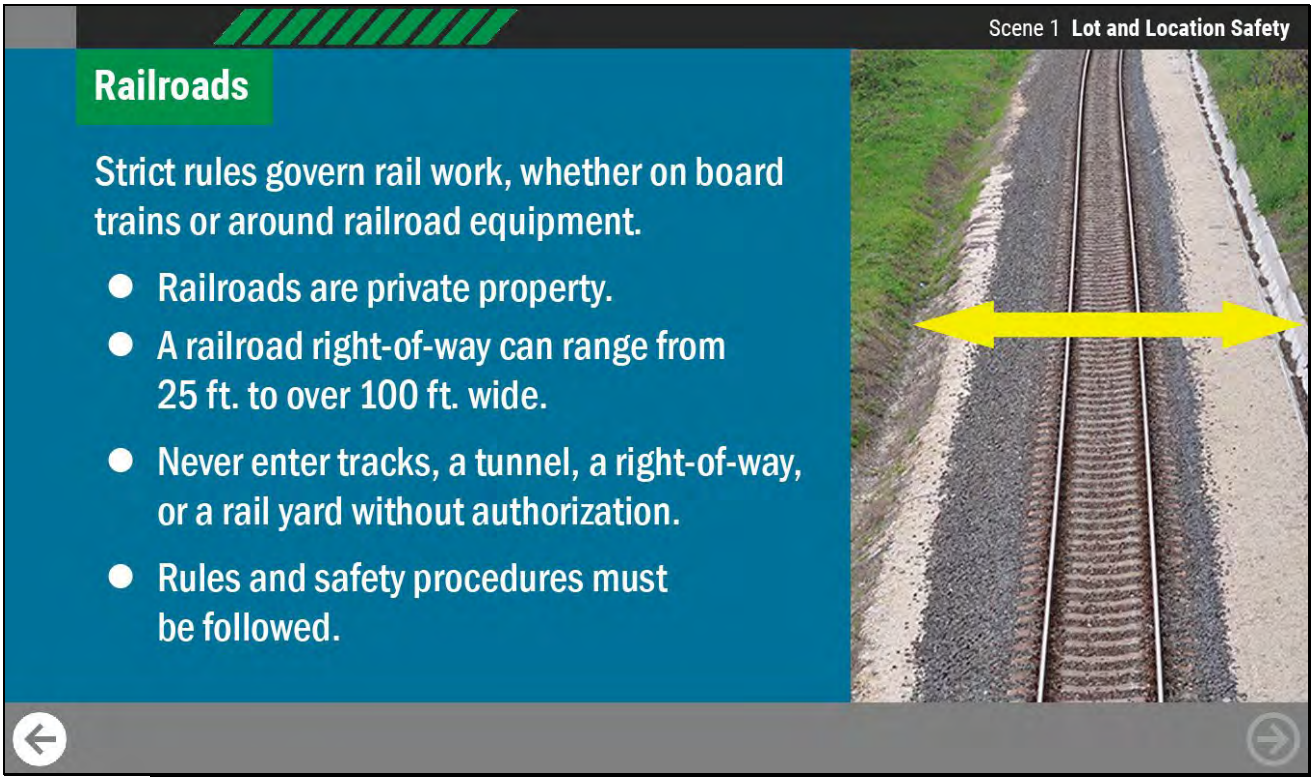
Do you know the possible hazards at the location?

Do you know where the nearest medical service is located?

This information should be listed on your call sheet and may also be shown on the location map.

If the location is remote, is a set medic needed?

Slide 52 - Railroads 1



Slide notes

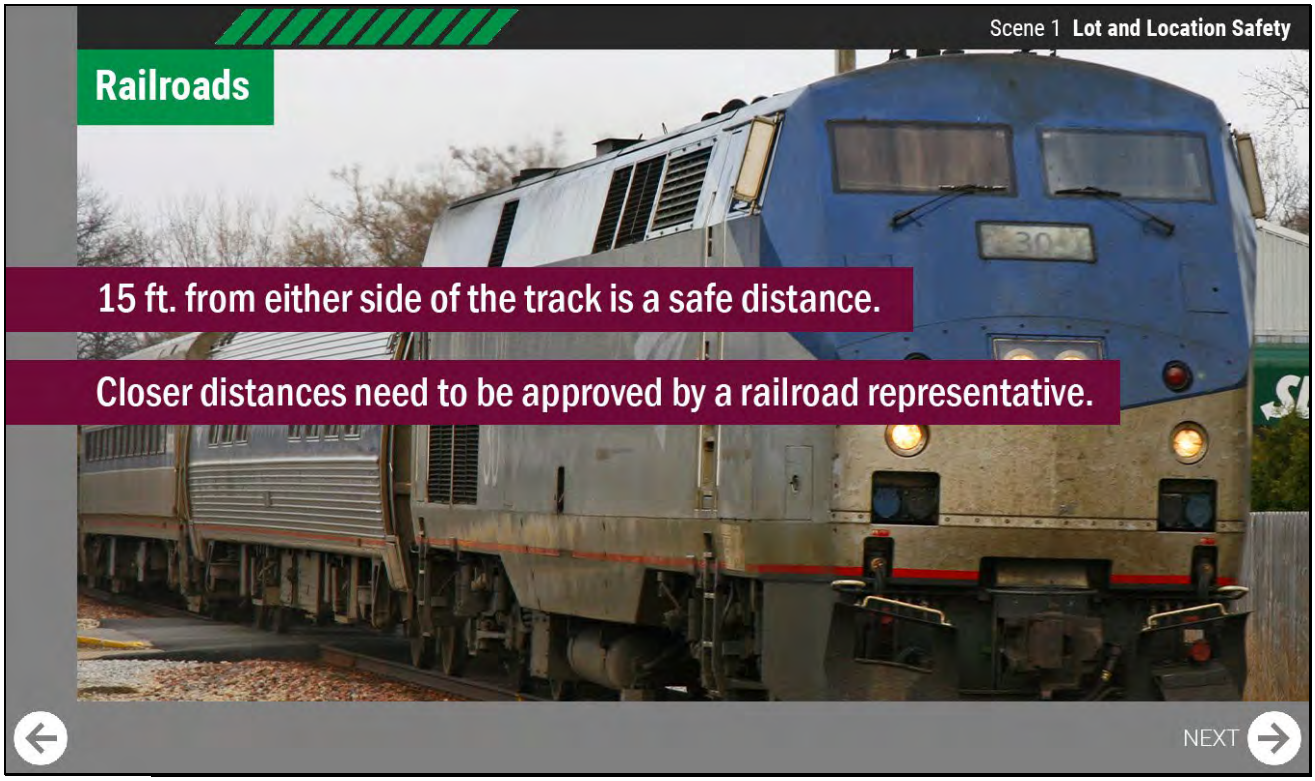
Strict rules govern rail work, whether on board trains and subways or around railroad equipment.

Railroads are private property that require the railroad's authorization to enter. Note that a railroad right-of-way extends beyond the tracks themselves and can range from 25 feet to over 100 feet wide.

Never enter train tracks, a subway tunnel, a railroad right-of-way, or a rail yard without authorization from the designated railroad representative, including during the initial scout.

If authorization is given, the railroad's safety procedures must be followed.

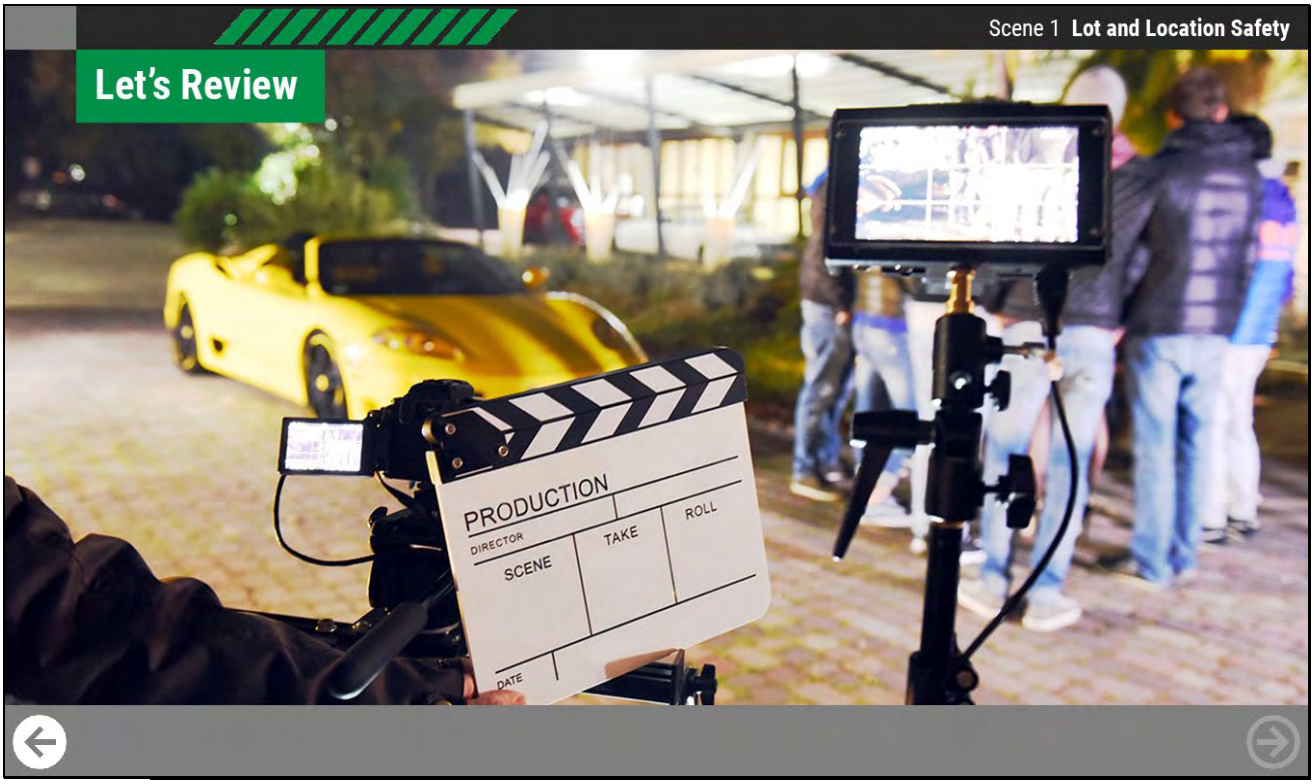
Slide 53 - Railroads 2



Slide notes

Be aware that the train is significantly wider than the track's width. 15 feet from either side of the tracks is considered a safe distance. Closer distances need to be approved by the designated railroad representative.

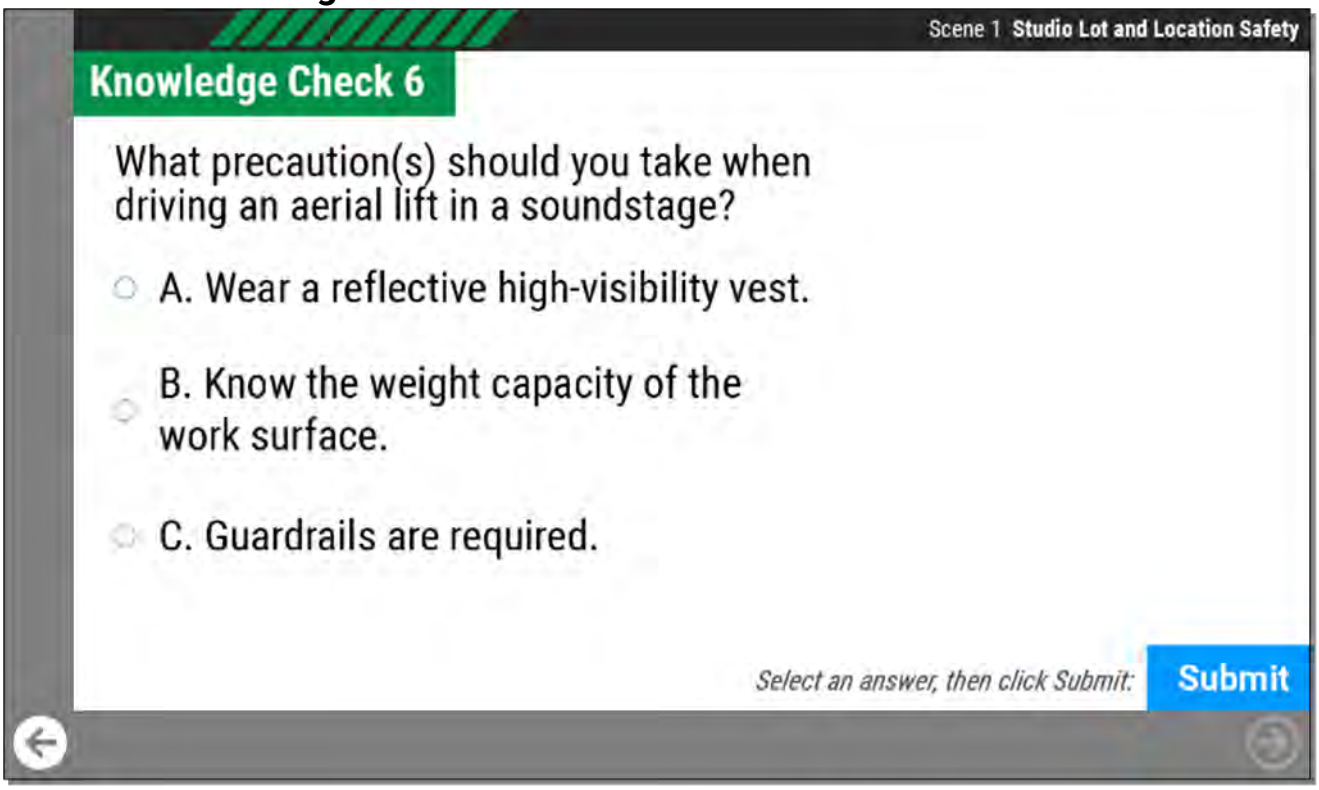
Slide 54 - Let's Review Scene 1



Slide notes

We've reached the end of this scene. We've covered a lot of ground. Let's take a moment to check your understanding of studio lot and location safety.

Slide 55 - Knowledge Check 6

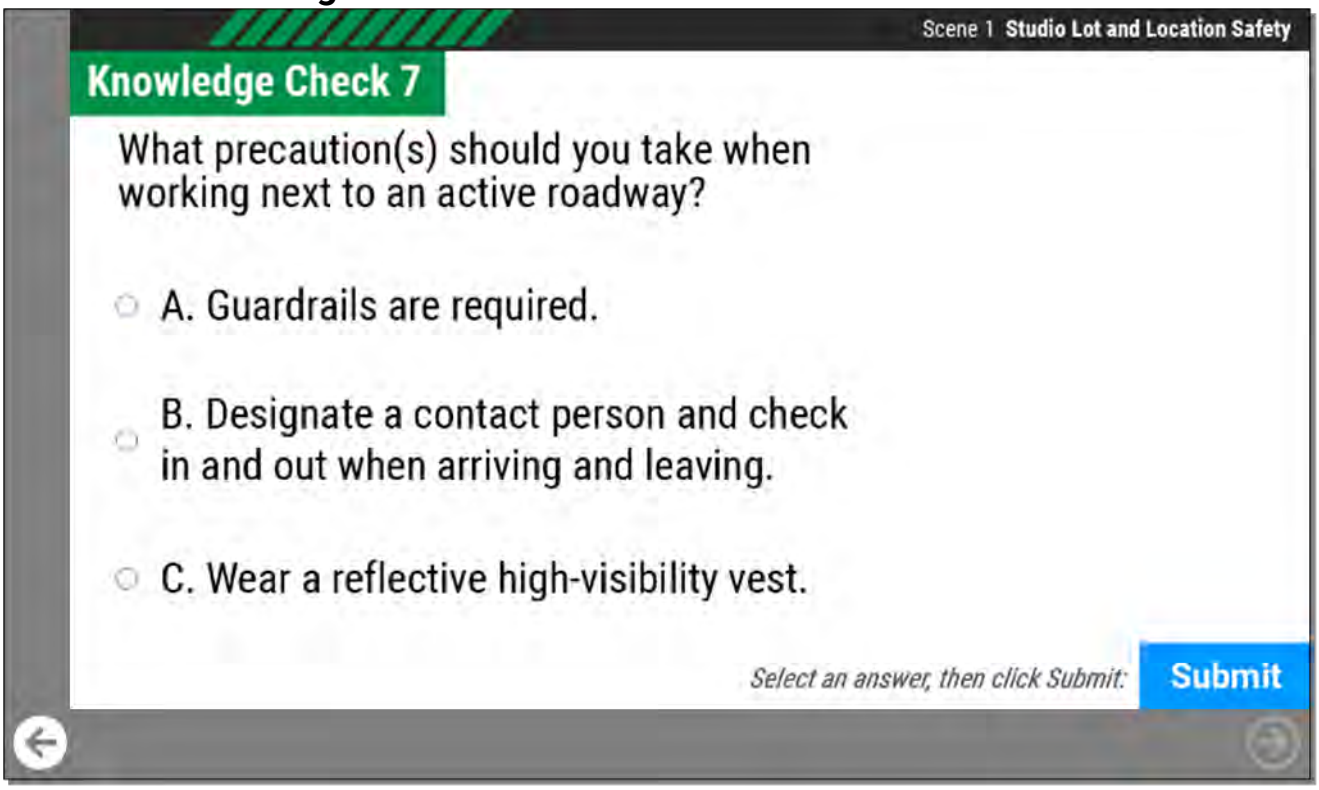


Slide notes

Knowledge Check 6

Question: What precaution should you take when driving an aerial lift in a soundstage?

Slide 56 - Knowledge Check 7

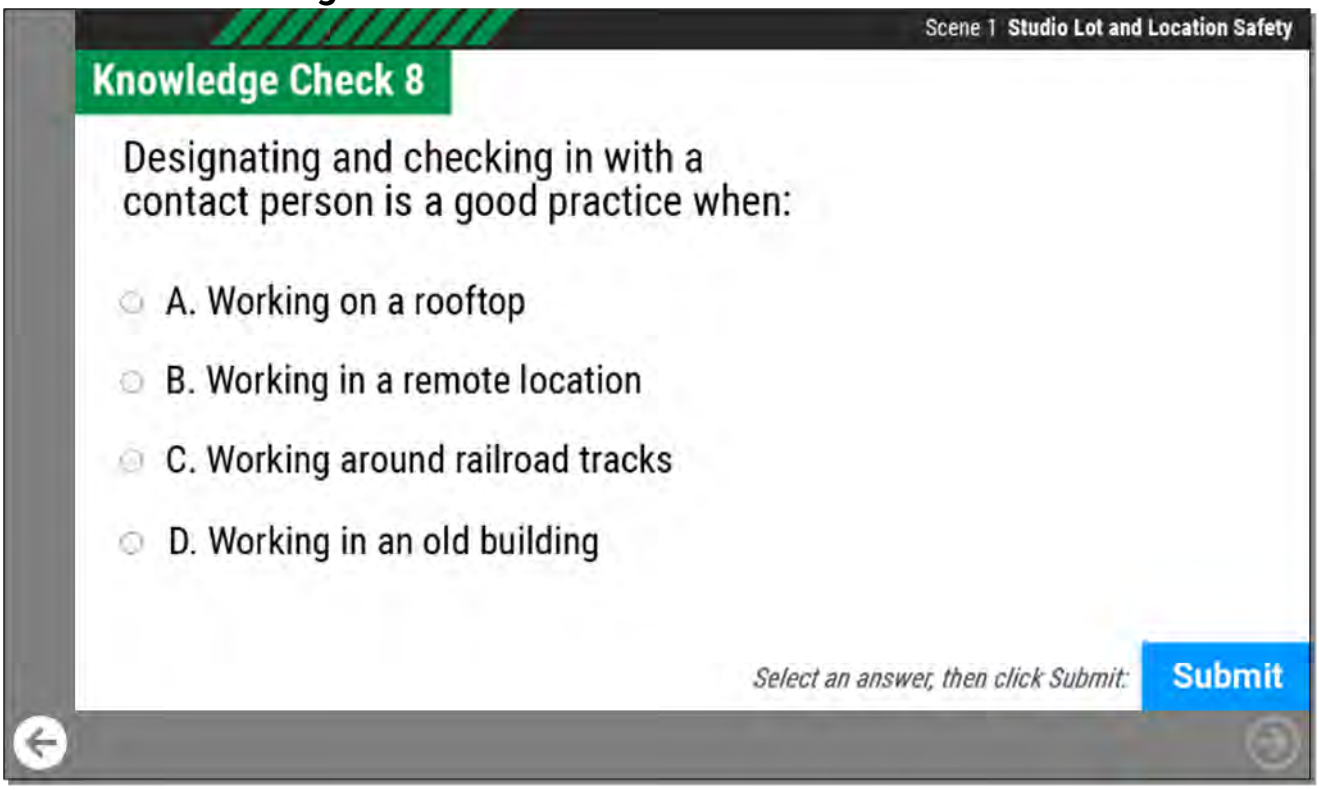


Slide notes

Knowledge Check 7

Question: What precaution should you take when performing rigging next to an active roadway?

Slide 57 - Knowledge Check 8

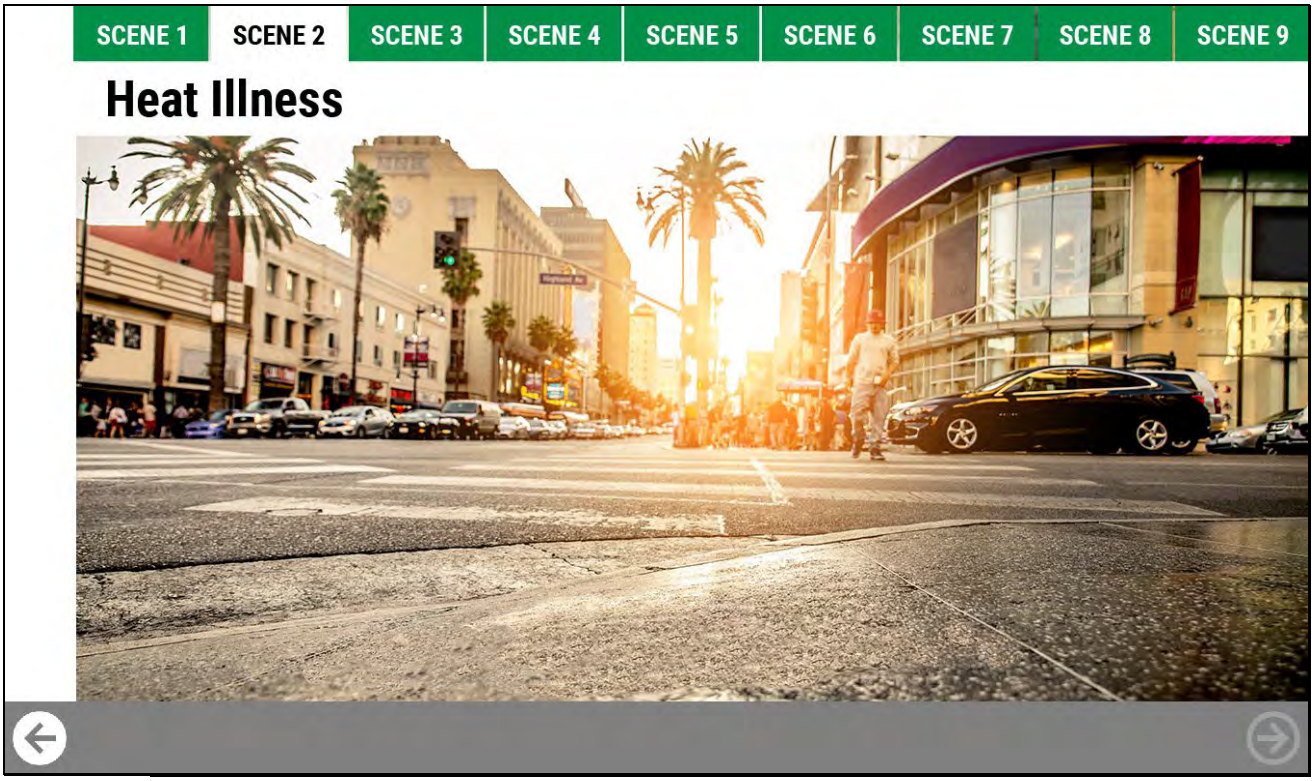


Slide notes

Knowledge Check 8

Question: Designating and checking in with a contact person is a good practice when:

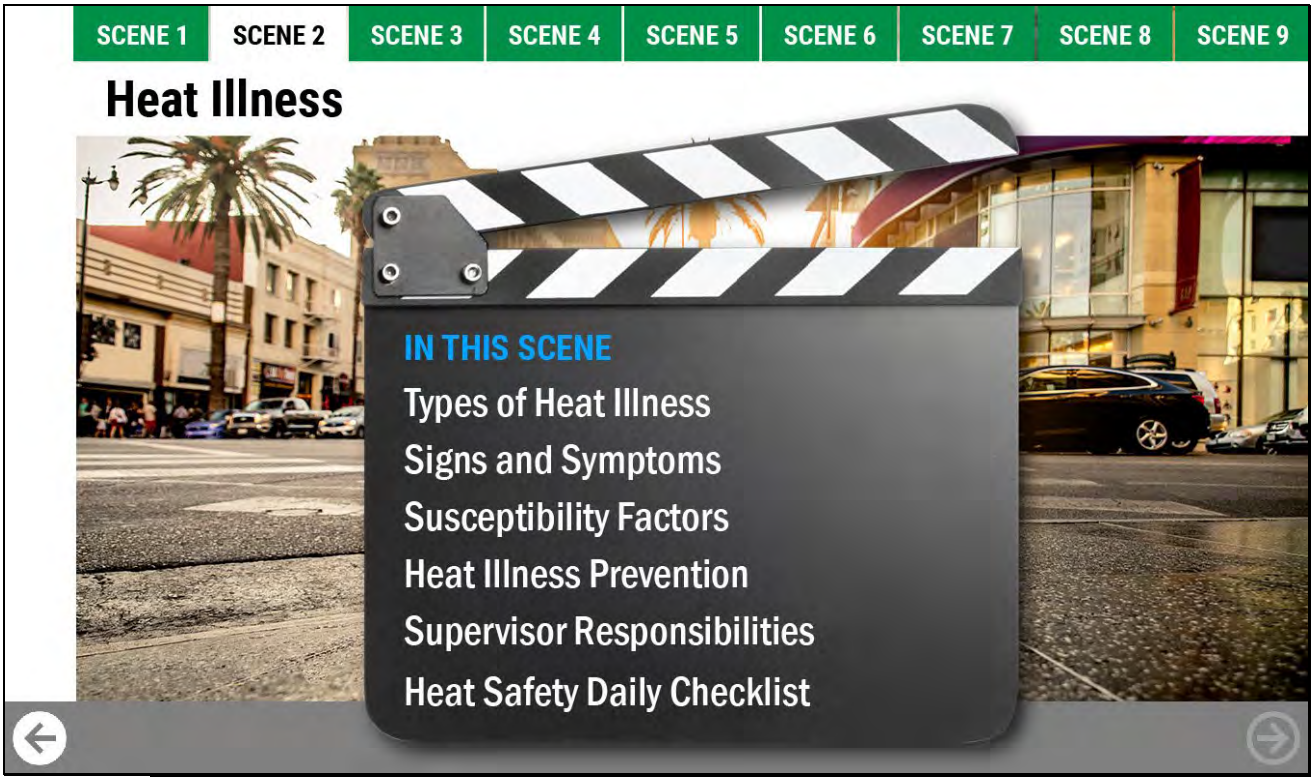
Slide 58 - Heat Illness



Slide notes

Scene Two. Heat Illness.

Slide 59 - In This Scene



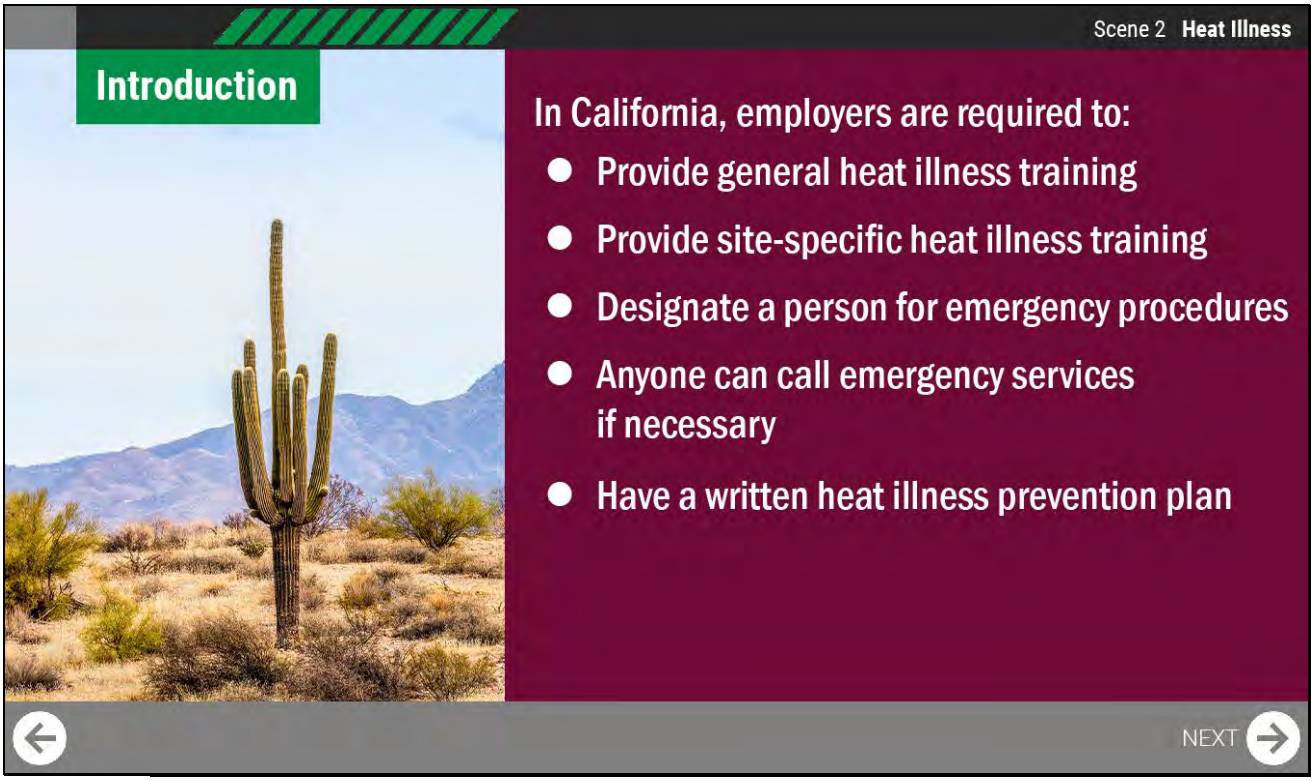
Slide notes

In this scene, we will cover types of heat illness, signs and symptoms of heat illness, susceptibility factors, heat illness prevention, supervisor responsibilities, and the Heat Safety Daily Checklist.

This training is important because we often work outdoors in temperatures of 80 degrees and higher where heat illness is a concern.

By the end of this scene, you'll understand the types of heat illness and be able to identify the various risk factors that can make people more susceptible to it. You'll learn ways to prevent heat illness as well as how to recognize common symptoms and the importance of reporting them to a supervisor immediately. This will allow you to take the necessary steps to report and provide basic aid during situations where heat illness is a concern.

Slide 60 - Introduction

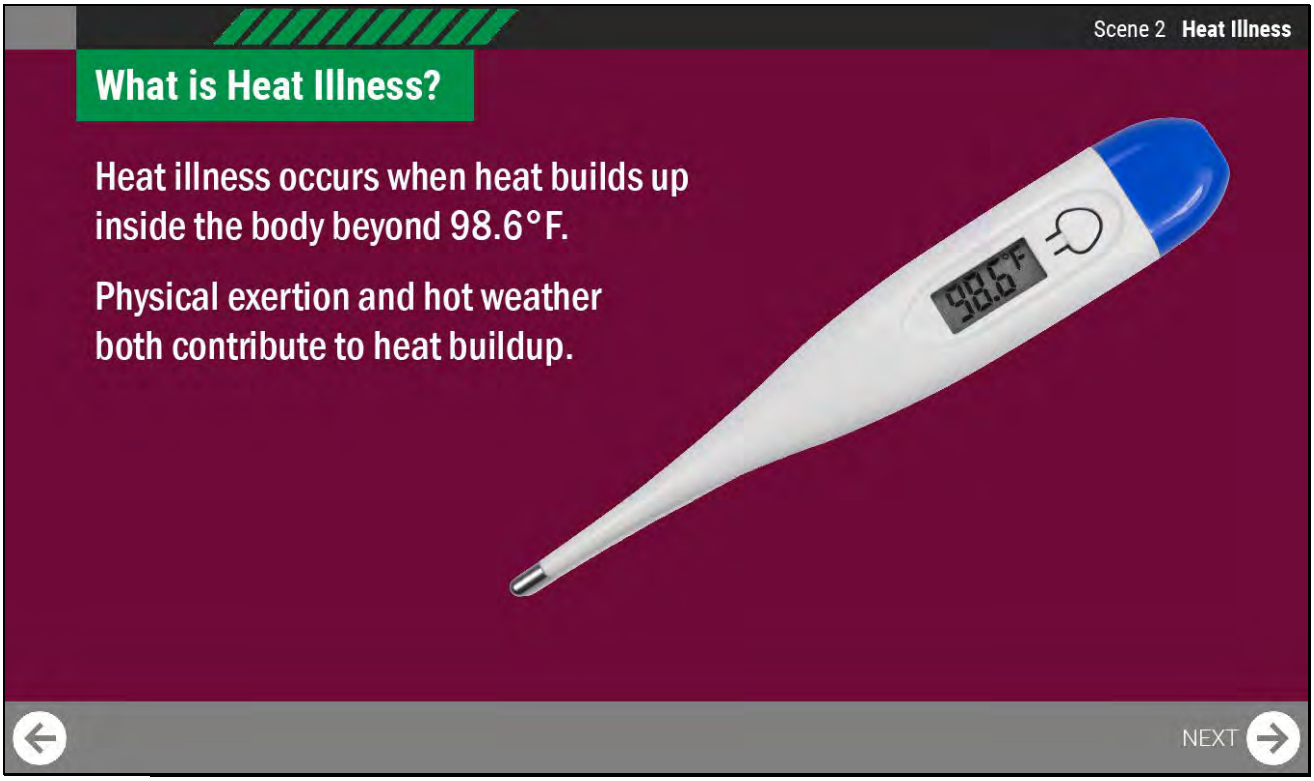


Slide notes

In California, your employer is required to provide general heat illness training, as well as additional site-specific heat illness and training procedures, and to designate a person to invoke emergency procedures when necessary, although if that person is not available, anyone can call emergency services. Check with the production or safety department for details.

Each production will have a written heat illness prevention plan that covers site-specific details for that project.

Slide 61 - What is Heat Illness?



Slide notes

Heat illness can happen anywhere.

So, what is heat illness? Heat illness is a serious medical condition that occurs when heat builds up inside a person's body beyond the ideal temperature, or 98.6 degrees Fahrenheit. Physical exertion and hot weather are two of the factors that can contribute to heat buildup.

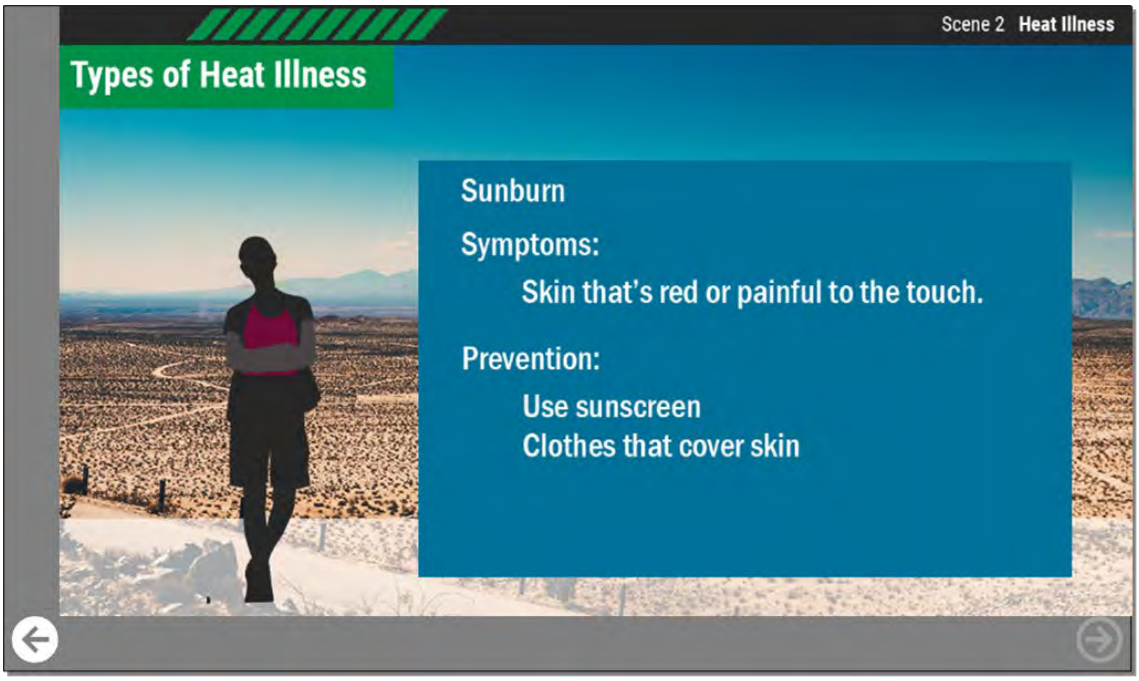
Slide 62 - Types of Heat Illness

Slide notes

Let's start by talking about the different types of heat-related conditions.

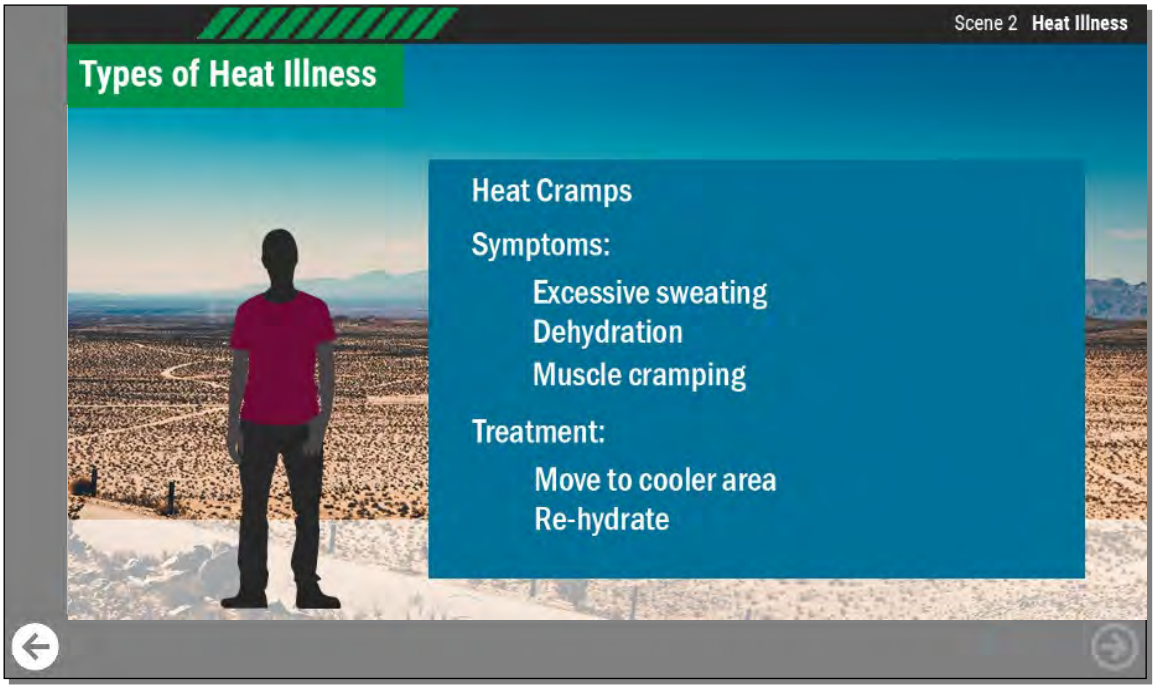
Slide notes

Joel developed small blisters from heat rash because he was wearing clothing that made him sweat excessively. Tomorrow, he'll wear lighter clothing and keep the rash dry with powder.



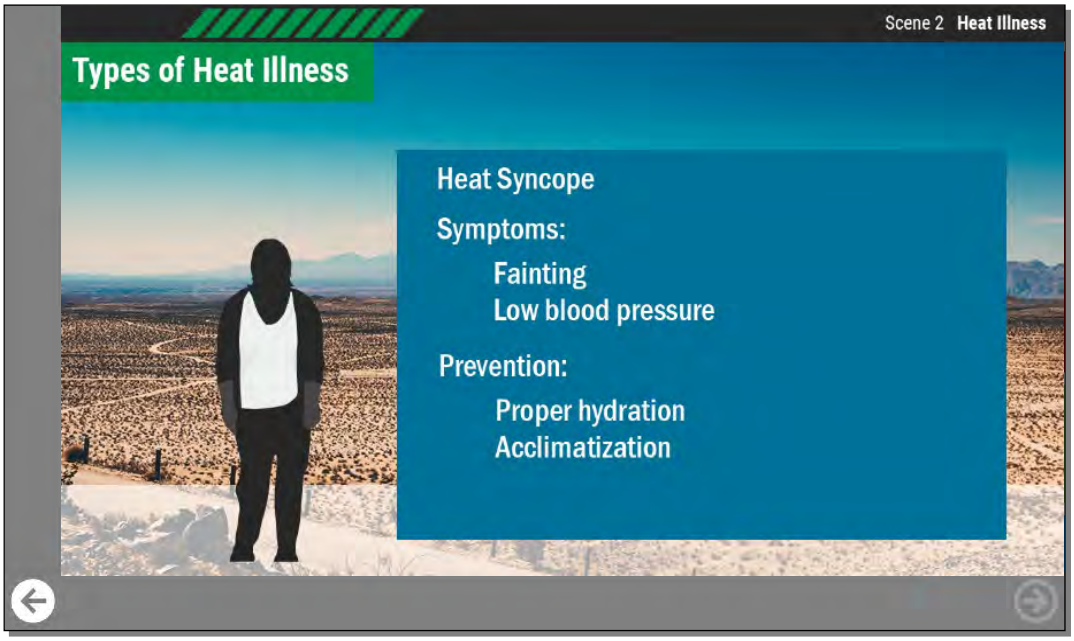
Slide notes

Because it was overcast, Elicia didn't realize she would get a sunburn while she was directing a rooftop scene. Her painful skin will heal, but exposure to the sun's ultraviolet rays is dangerous, and, over time, can lead to skin cancer. She could have prevented it with sunscreen and clothes that covered her skin.



Slide notes

Mike was sweating heavily while he was working, and he wasn't keeping himself hydrated. His body's salt and fluid levels became depleted, and his muscles started to cramp. He moved to a cooler area, drank a lot of water, and didn't return to work until his cramps went away.

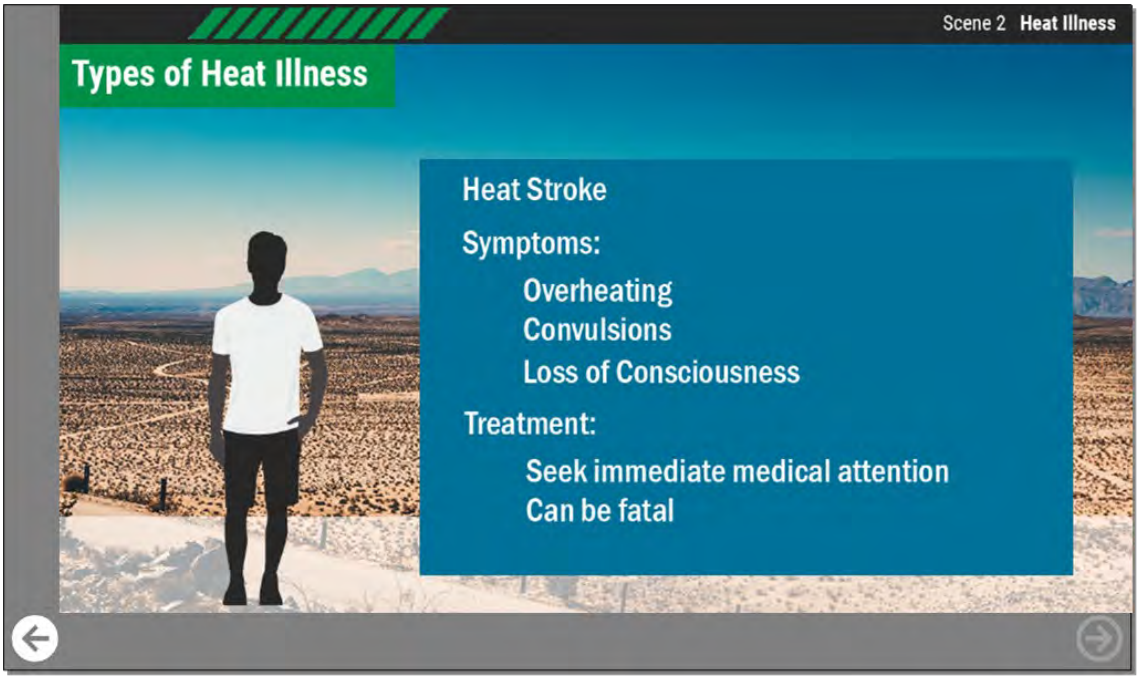


Slide notes

Nadia fainted on set yesterday. In an effort to cool her body down, her blood vessels dilated, which contributed to a drop in her blood pressure and reduced the amount of oxygen getting to her brain. She learned that this is called heat syncope and that it could have been prevented with proper hydration and acclimatization.

Slide notes

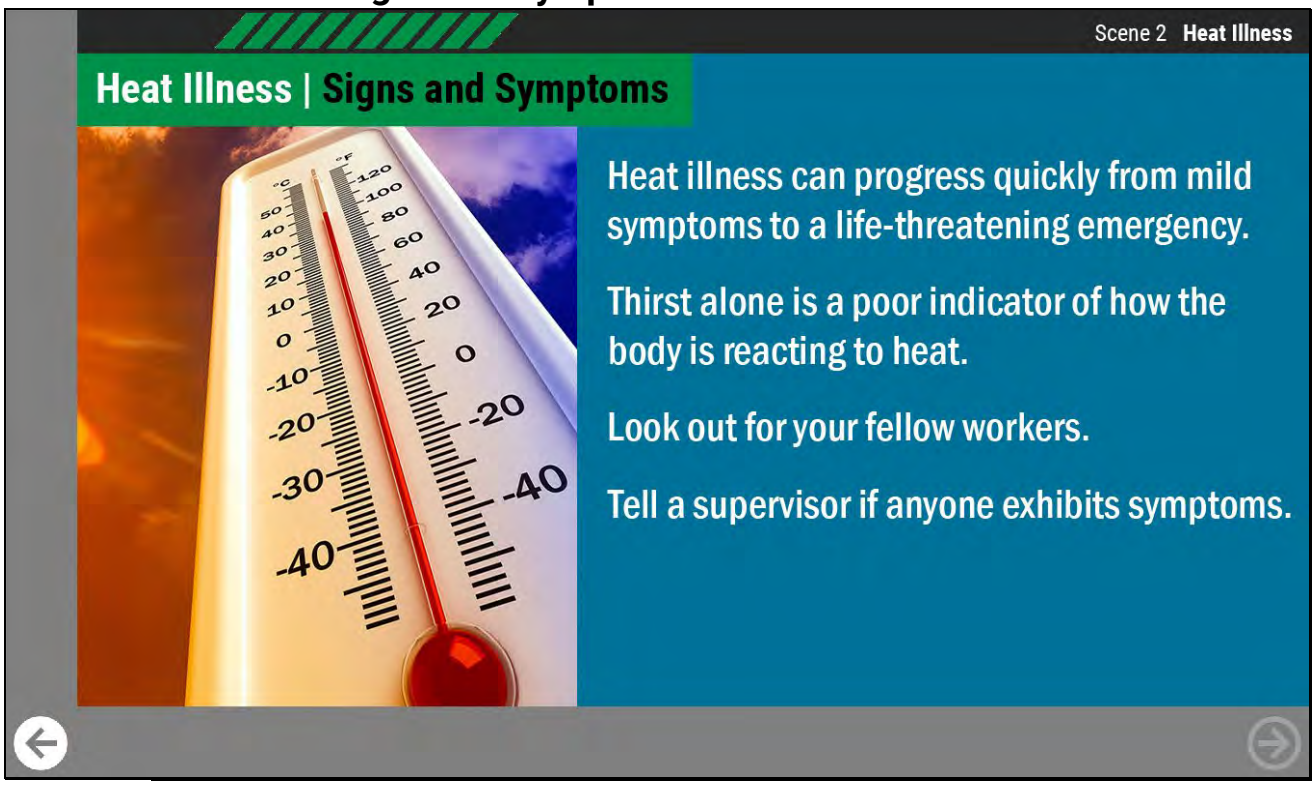
Sarah also wasn't acclimatized to the hot conditions. After a few hours, she felt nauseous and could barely stand. The other crew members recognized this as heat exhaustion, moved her out of the heat, and called for help. If they hadn't, it might have led to heat stroke.



Slide notes

Daniel was in the heat for many hours and was rapidly overheating. His body temperature control system began to shut down, and he stopped sweating. He had convulsions and lost consciousness. Luckily, he received immediate medical attention because heat stroke can be fatal.

Slide 63 - Know the Signs and Symptoms 1



Slide notes

An important point to remember is that heat illness may not be progressive. It doesn't always start as heat rash and then advance to heat cramps and so on. It can progress quickly from mild symptoms to a serious, life-threatening illness. For example, it can go straight from sunburn to heat stroke with nothing in between. Also, remember that thirst alone is a poor indicator of how the body is reacting to heat. Just because you don't feel thirsty doesn't mean that the heat isn't building up to dangerous levels inside your body.

Look out for your fellow workers. People are often unaware that they are experiencing symptoms of heat illness. Tell a supervisor immediately if you or your coworkers exhibit symptoms.

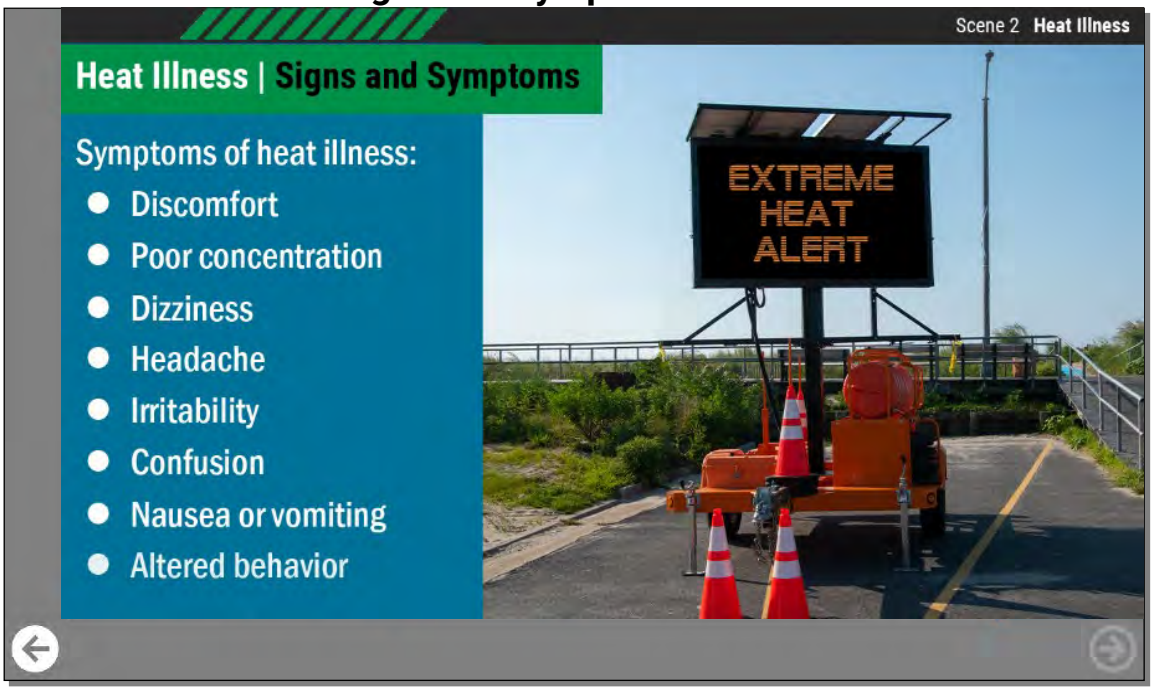
Slide 64 - Know the Signs and Symptoms 2

Slide notes

Next, we'll take a look at some heat illness symptoms.

We've already talked about some of them, such as fatigue, muscle cramps, lack of sweating, fainting, excessive sweating, and seizures.

Slide 65 - Know the Signs and Symptoms 3



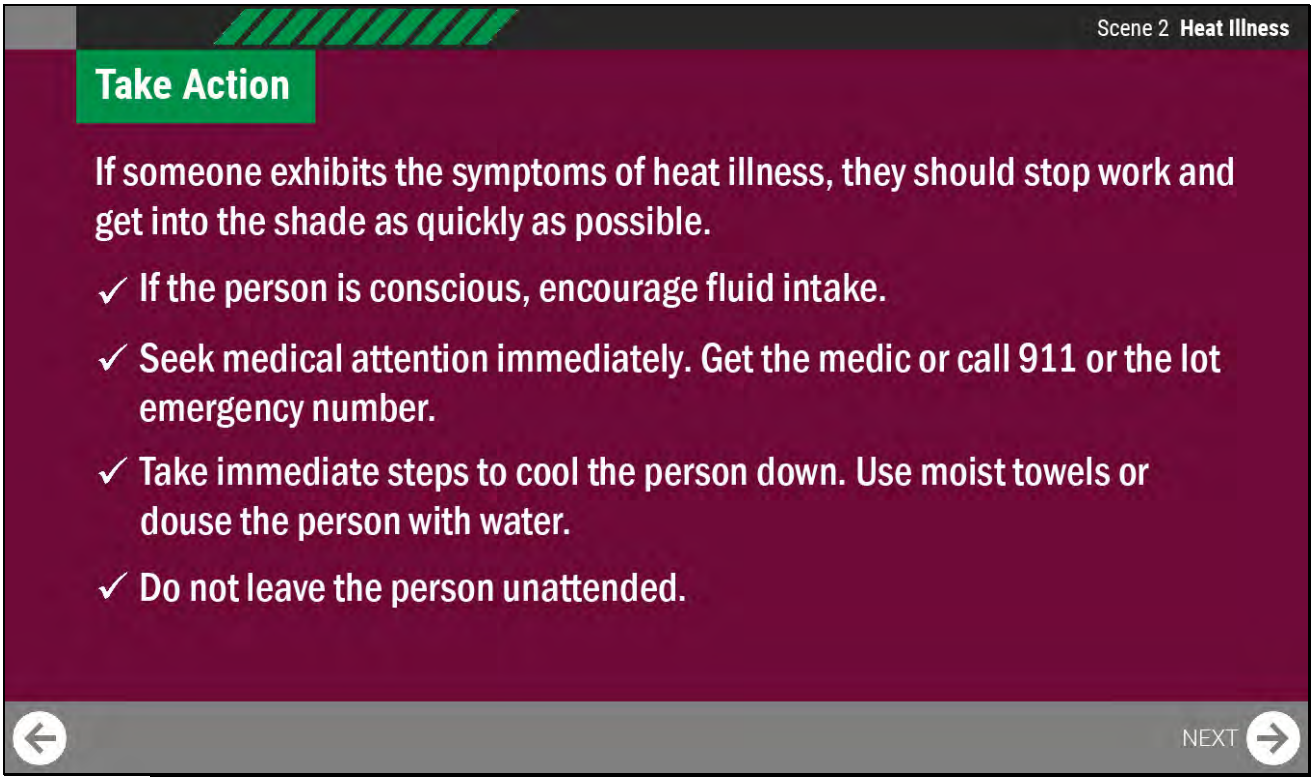
Slide notes

Many of the symptoms are not obviously connected to heat illness, such as discomfort, poor concentration, lack of coordination, dizziness, headache, irritability, confusion, nausea or vomiting, and altered behavior.

Slide notes

Notice also that many of these symptoms are related to low blood flow associated with lack of fluids: like fast and weak pulse, blurry vision, cold or clammy skin, and rapid, shallow breathing.

Slide 66 - Take Action



Slide notes

If someone exhibits symptoms of heat illness, they should stop work and get into the shade as quickly as possible.

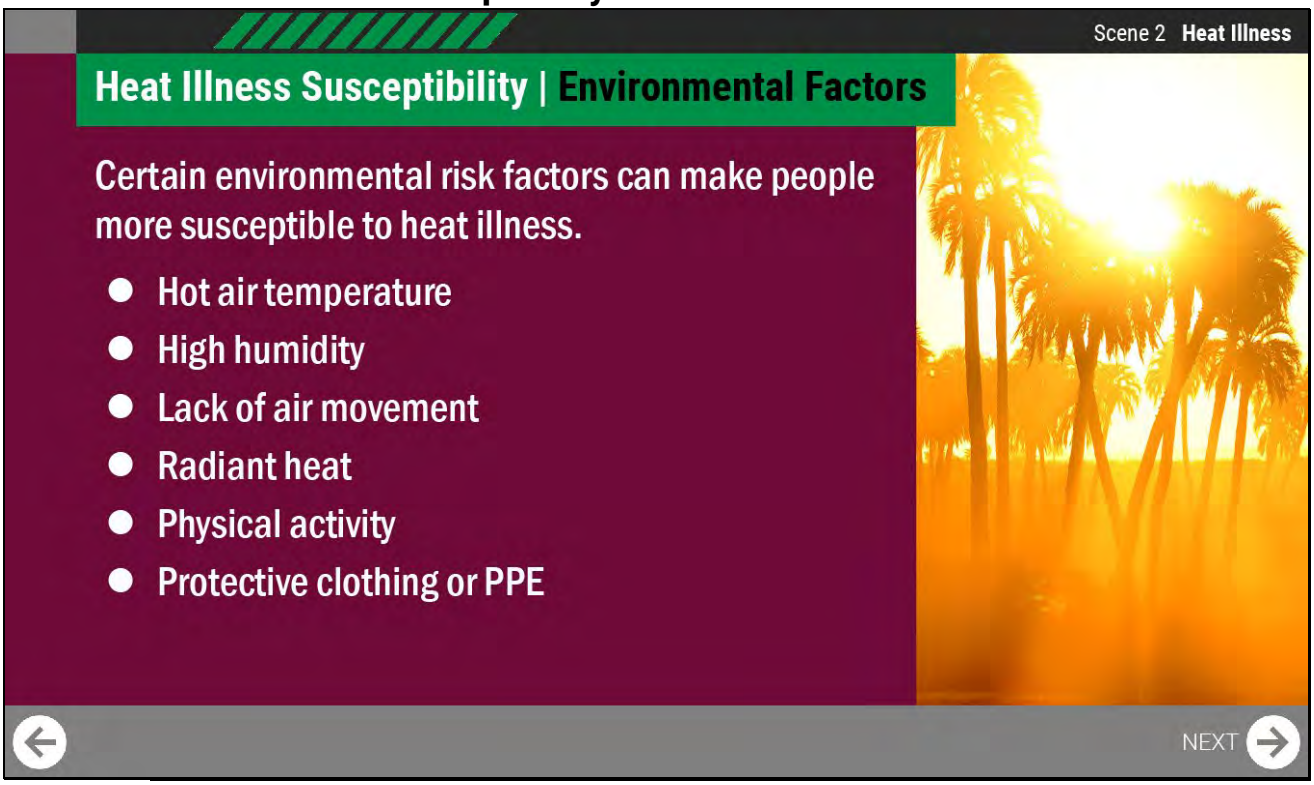
Encourage fluid intake.

Seek medical attention. Get the on-set medic or call 911 or the lot emergency number, following the employer's procedures.

Take immediate steps to cool the person down. Use moist towels or douse the person with water to lower their body temperature.

Immediately report the situation to the employer. Do not leave the person unattended. They could faint and fall or get otherwise injured.

Slide 67 - Heat Illness Susceptibility: Environmental



Slide notes

Certain environmental risk factors can make people more susceptible to heat illness.

High temperatures, high humidity, lack of air movement-these are all things that impede evaporation, which is what cools the body. Radiant heat from the sun or hot lights, and conductive heat sources, such as heat reflected from the pavement or ground, also attribute to heat build-up.

Physical activity generates heat inside your body. Greater exertion and longer duration produce a greater heat load on the body, as does trapping heat with protective clothing or personal protective equipment (referred to as PPE). For example, when a shot involves gunfire, crew members might wrap up in a *furni* pad as protection from blanks. Imagine what happens to your body temperature on a hot sunny day, when you are wrapped up in a heavy blanket. This could put you at greater risk for heat illness.

Slide 68 - Heat Illness Susceptibility: Personal

Slide notes

Certain personal risk factors also make people more susceptible to heat illness.

People who have a history of heat illness should consult with their doctor and take additional precautions. People who are not acclimated to the heat, are in poor physical condition or health, are on a low salt diet, or take certain prescription or over-the-counter medications are at higher risk. Children and people of advanced age are also at higher risk of heat illness and should be observed closely.

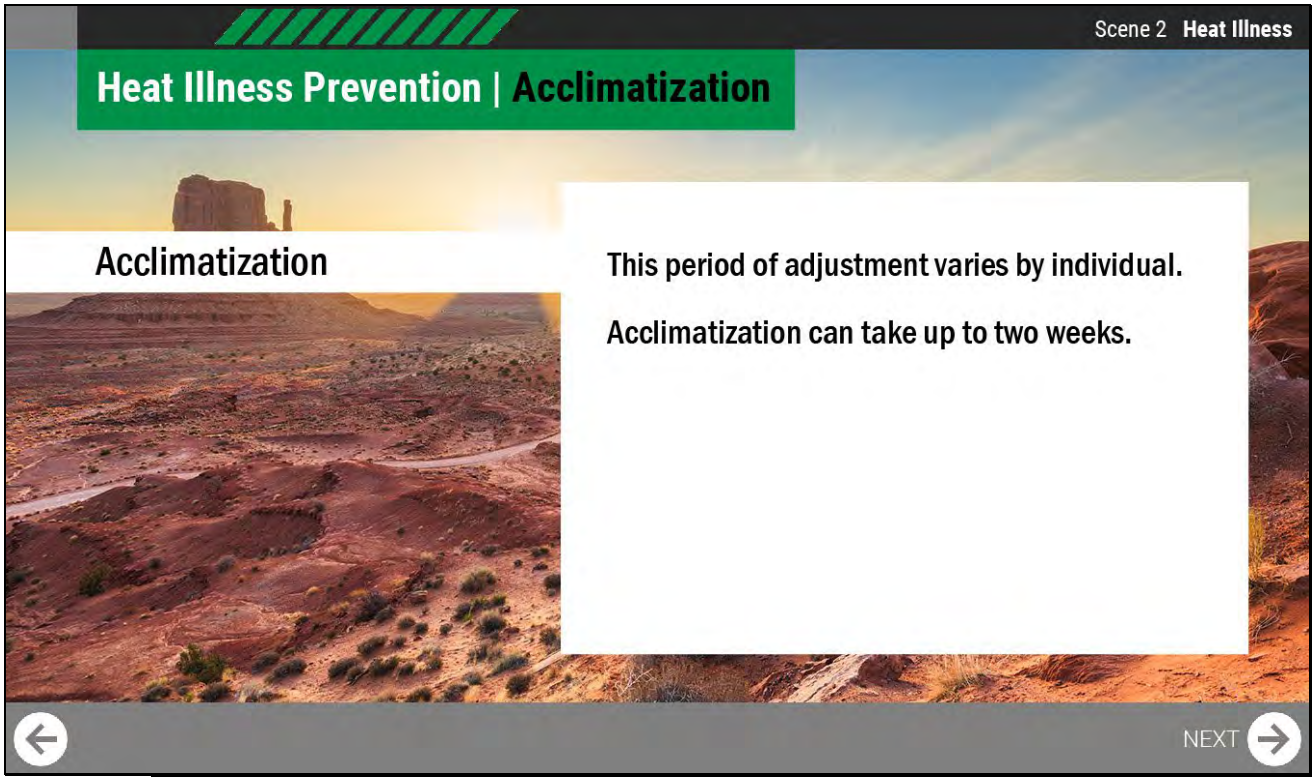
Alcohol, caffeine, carbonated drinks, energy drinks, and insufficient water consumption are also things that can increase susceptibility to heat illness.

Slide 69 - Acclimatization | Introduction

Slide notes

How do we avoid heat illness? An important factor is acclimatization-the process of temporarily and gradually adapting the body to work in the heat.

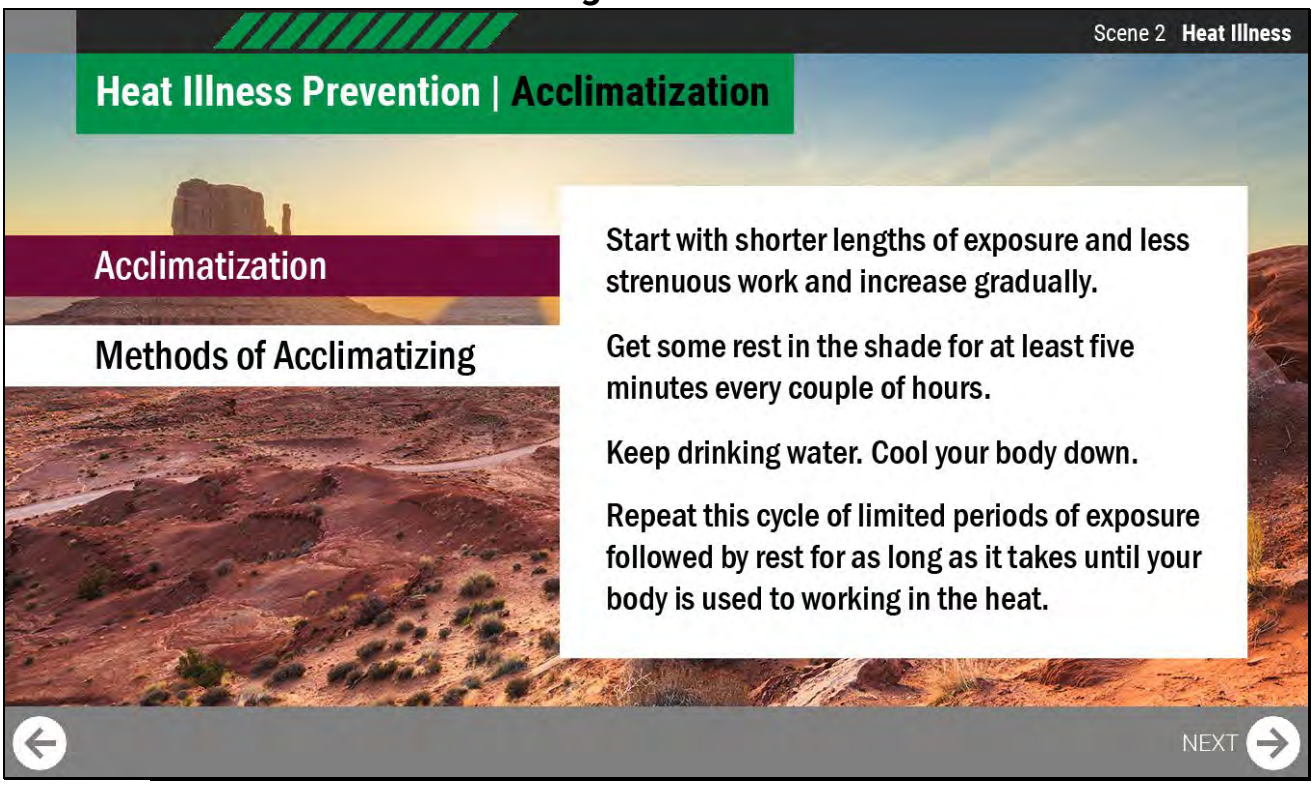
Slide 70 - Acclimatization



Slide notes

This period of adjustment varies by individual and can take up to two weeks. During this period, the body undergoes physical changes in blood vessels and seating, which help to dissipate heat more effectively.

Slide 71 - Methods of Acclimatizing

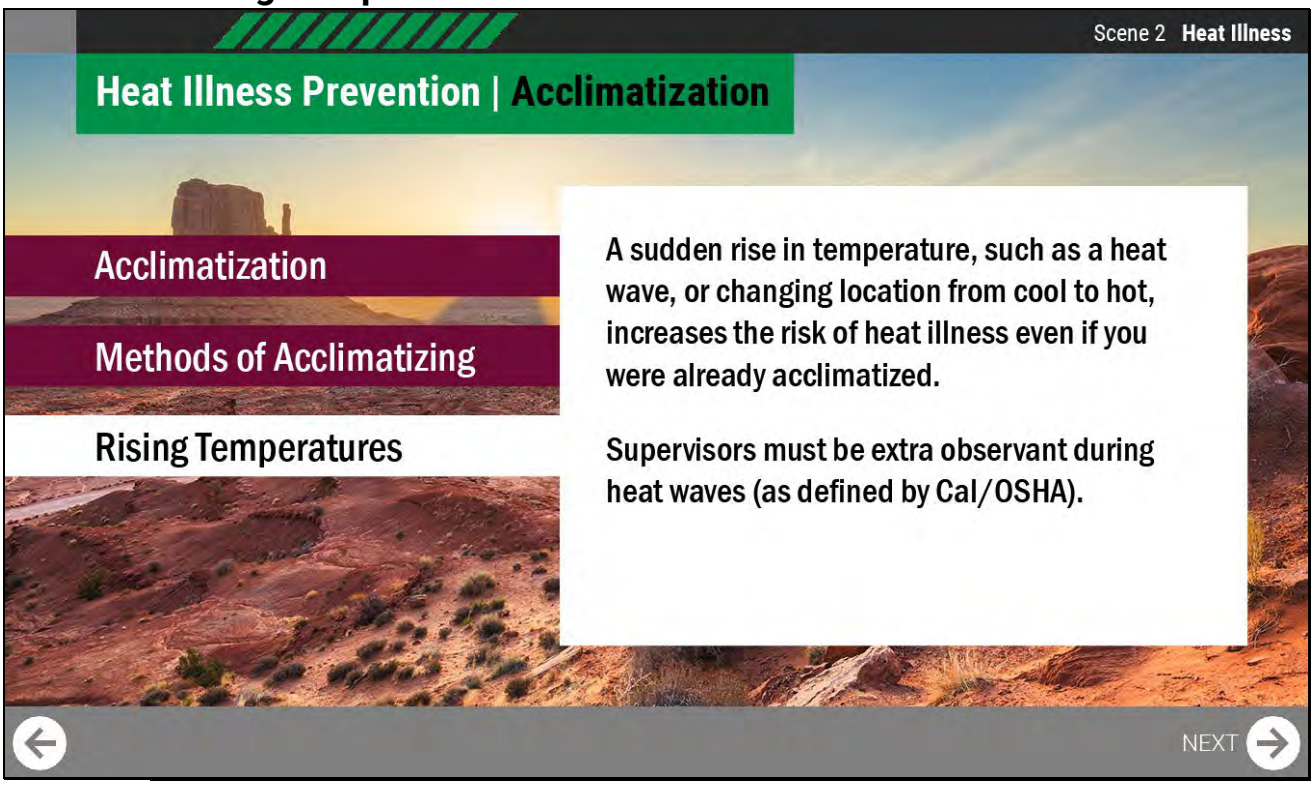


Slide notes

What are some methods to acclimatize?

Start with shorter lengths of exposure and less strenuous work and increase gradually. For example, after working for a couple of hours, get some rest in the shade for at least five minutes. Keep drinking water. Cool your body down. Repeat this cycle of limited exposure periods followed by rest and water for as long as it takes to get used to working in the heat.

Slide 72 - Rising Temperatures



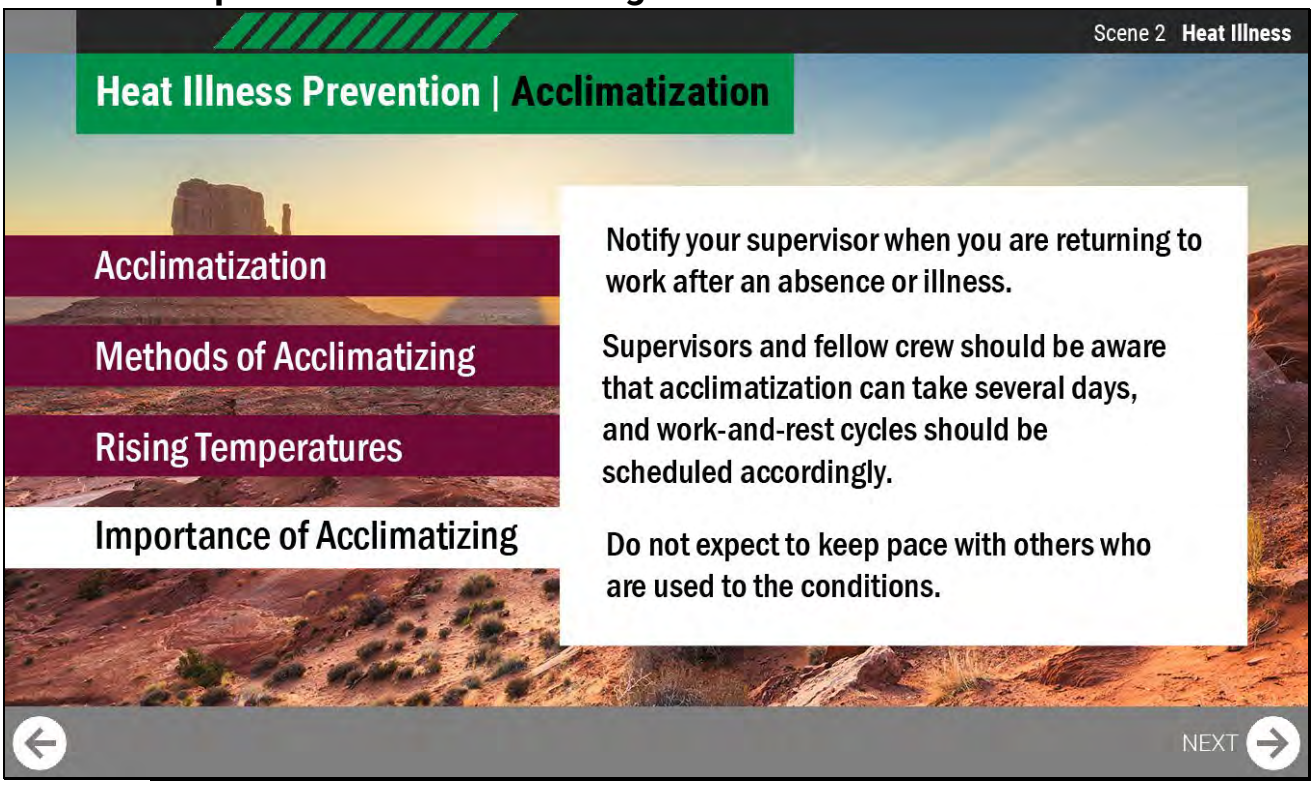
Slide notes

A sudden rise in temperature-like a heat wave, or going from a cool work location to a hot one-presents a risk of heat illness even for people who were previously acclimatized.

Supervisors must be extra observant during heat waves.

Cal/OSHA defines a heat wave as any day that the temperature will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average daily temperature in the preceding five days.

Slide 73 - Importance of Acclimatizing



Slide notes

Notify your supervisor when you may not be acclimatized, such as when coming to work after an absence or illness.

Supervisors and fellow crew should be aware that acclimatization can take up to fourteen days, and work-and-rest cycles should be scheduled accordingly.

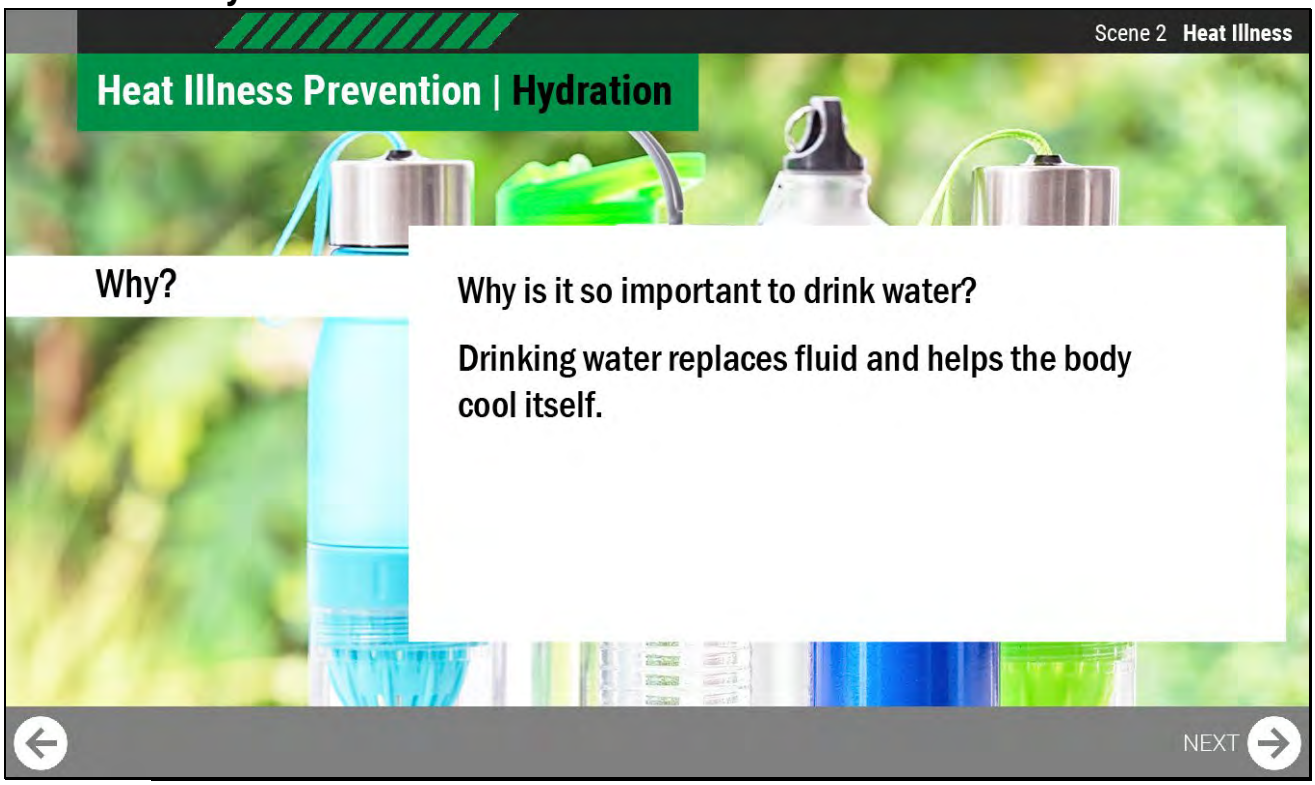
Don’t expect to keep pace with others who are used to the conditions.

Slide 74 - Heat Illness Prevention | Hydration

Slide notes

No matter how well acclimated to the heat, you can become dehydrated quickly when working in hot conditions when you are likely to be sweating more than usual. Drinking plenty of water is the most important step for avoiding heat illness.

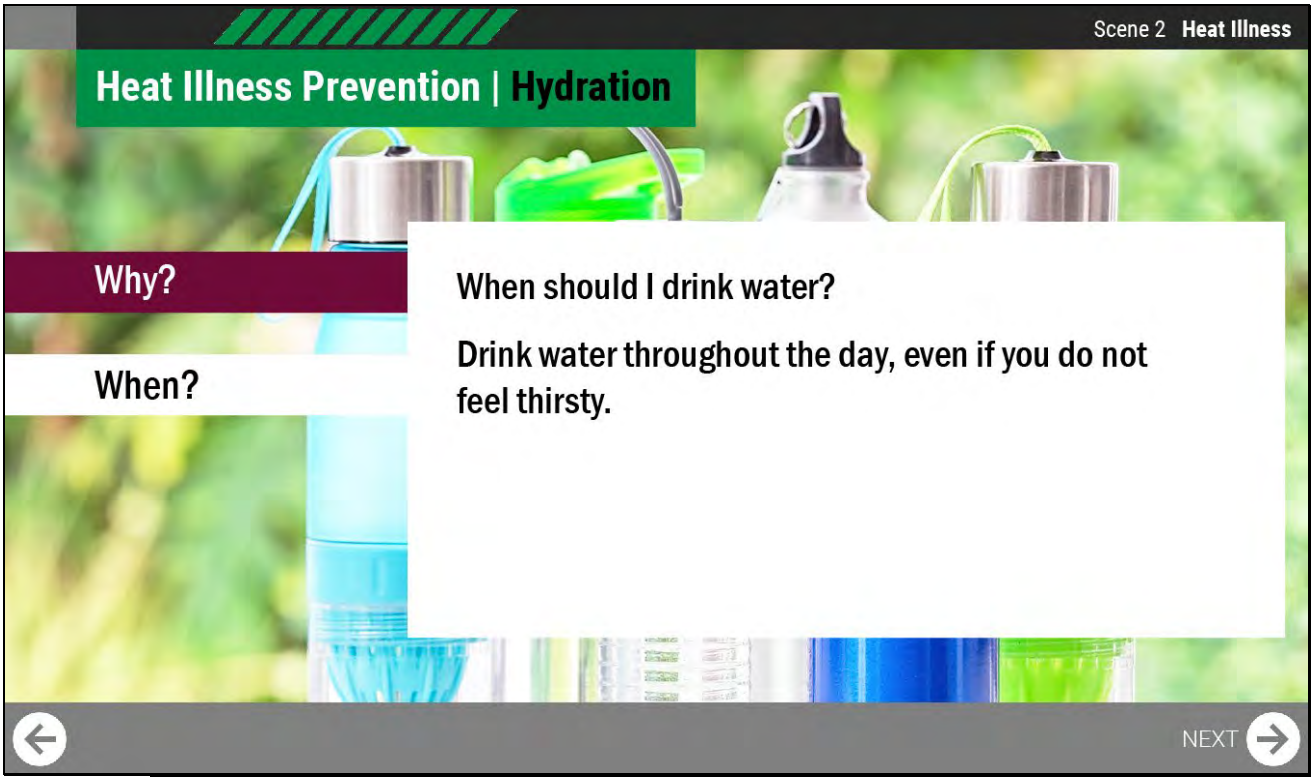
Slide 75 - Why?



Slide notes

A person can lose between 1 and 2 quarts of fluid an hour when working hard in hot weather. Drinking water replaces fluid and helps cool the body down.

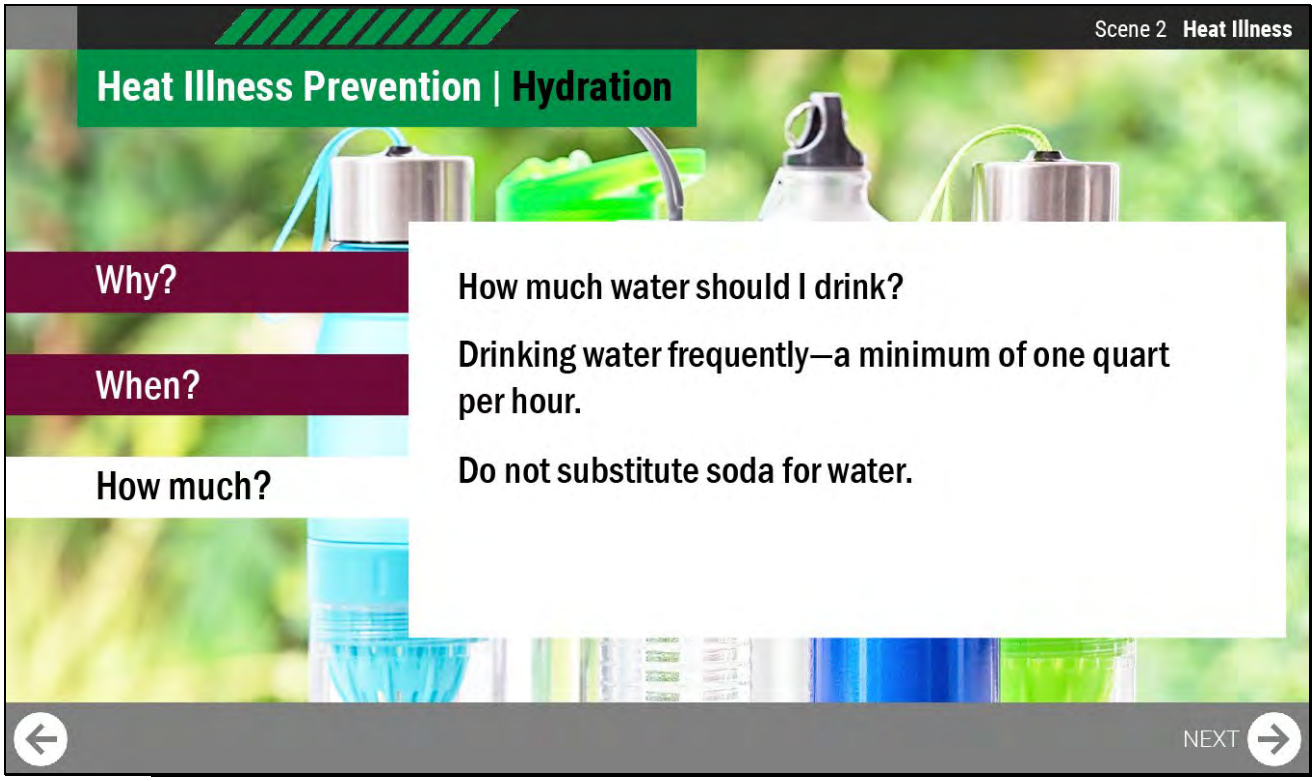
Slide 76 - When?



Slide notes

Drink water before, during, and after work to keep your fluid levels up and consistent. Don’t wait until you’re thirsty to drink water. Lack of thirst is not a reliable sign. Your body still needs water.

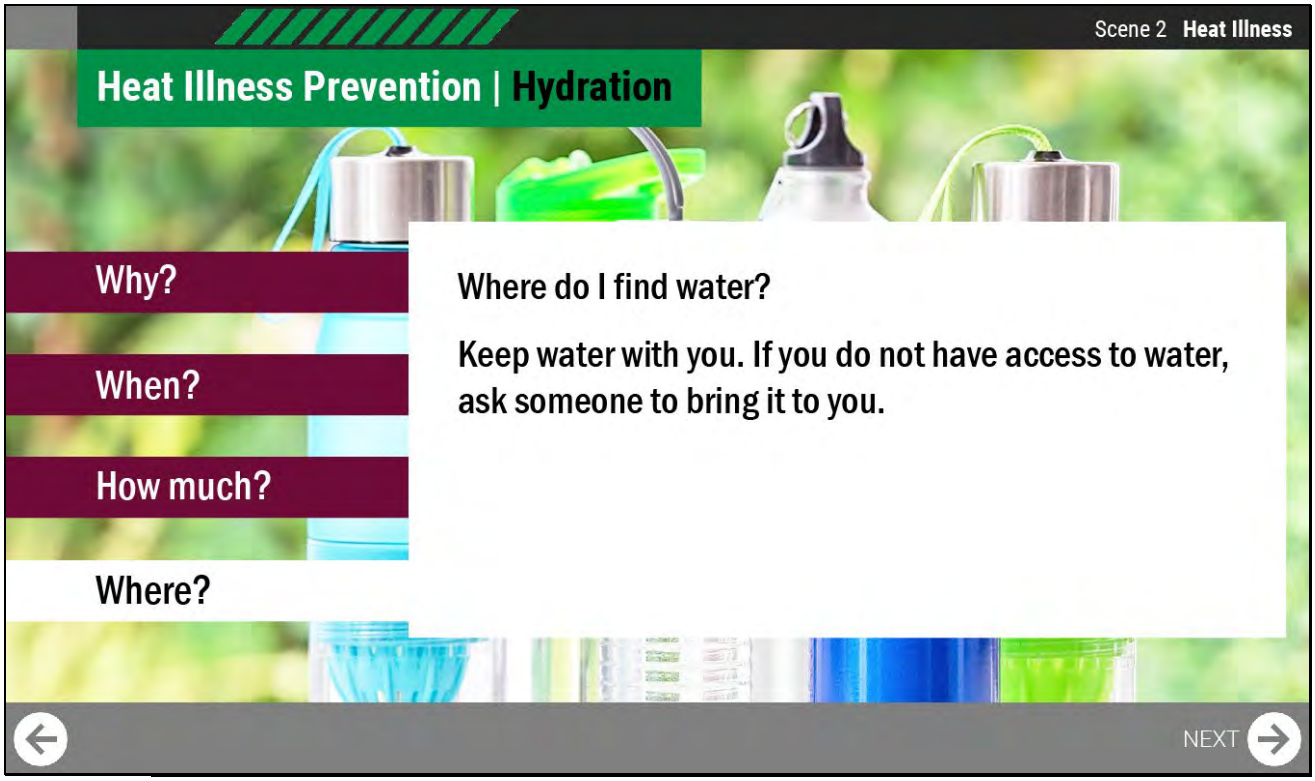
Slide 77 - How much?



Slide notes

Drink water frequently throughout the entire day. To replace the fluids lost, a person needs a minimum of a quart of water every hour when working in the heat. That’s four 8-ounce cups of water-not soda.

Slide 78 - Where?



Slide notes

Know the location of the closest drinking water supply. It should be located as close to your work site as practicable. There must be sufficient quantities for all employees during the shift. If your duties do not allow you to leave your post, ask someone to bring water to you. Frequent consumption of small quantities of water is especially important in the heat.

Slide 79 - Shade and Protection

Slide notes

Let’s take a minute to go over some tips for dealing with the heat and potential heat illness.

Protect yourself from the sun.

Wear clothing that covers your skin when you are working in the heat, such as a long-sleeved, loose-fitting, light-colored shirt. High-tech clothing is available with some sun protection built into the fabric. Wear sunglasses to protect your eyes, and a wide-brimmed hat to protect your head not just a baseball cap, but something that shades your ears and the back of your neck.

Use sunscreen or sunblock and don’t forget to reapply it as needed.

Slide notes

Get in the shade and rest.

Know the location of the nearest cool resting place. In California, shade must be in place if either the forecast temperature or the actual temperature is 80 degrees or higher and available even when the temperature is less than 80 degrees.

If you're starting to overheat or need to cool down, get out of the sun or away from the source of heat and find a cool, preferably well-ventilated resting place.

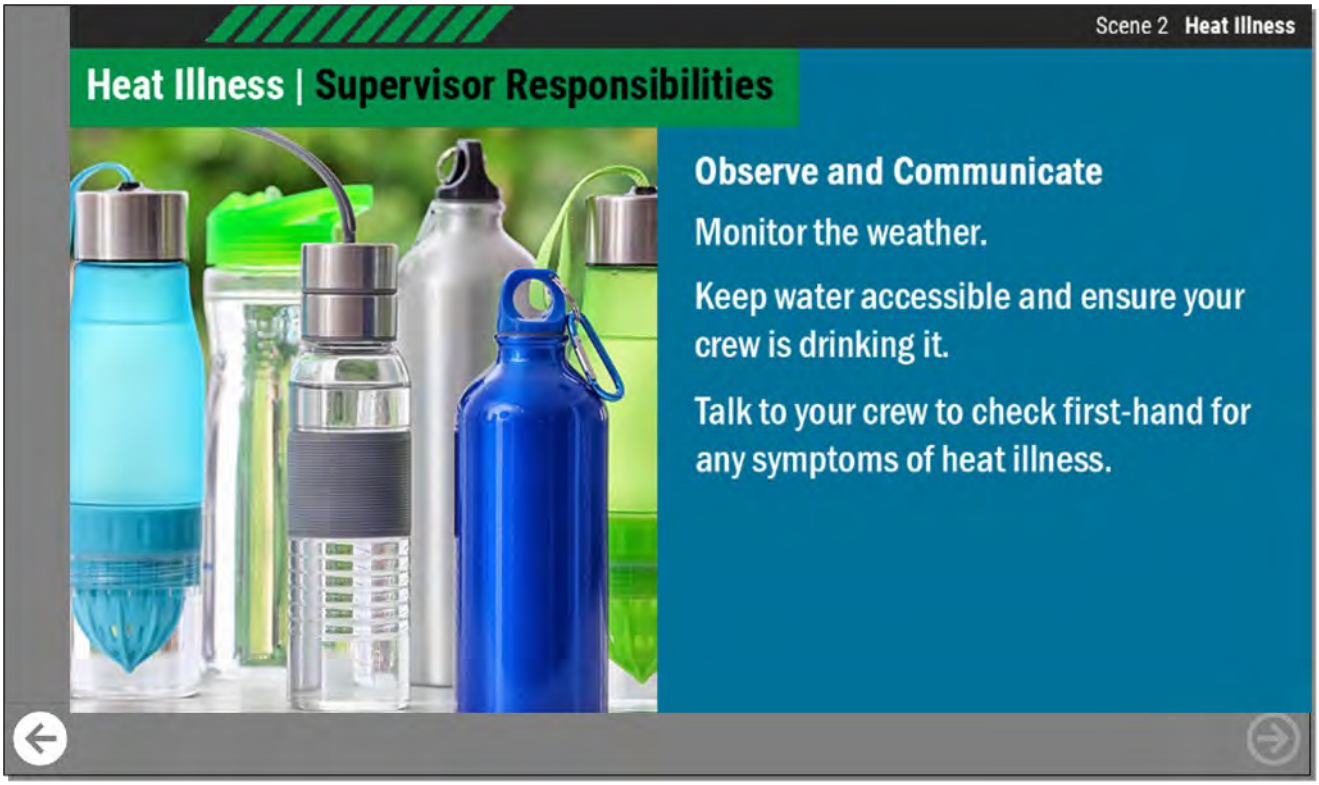
Slide notes

Eat light meals. Heavy meals make your body generate more heat.

Slide 80 - Supervisor Responsibilities

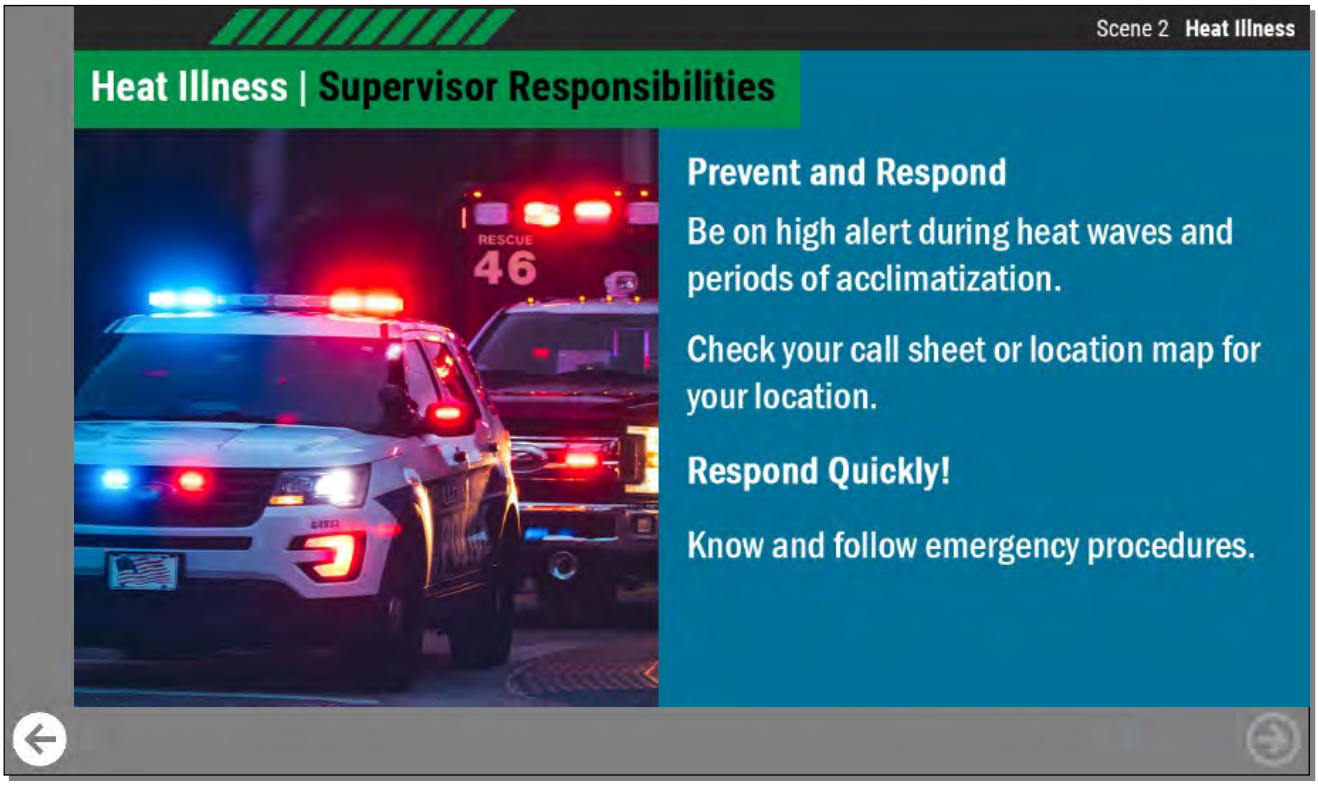
Slide notes

Supervisors in California have additional responsibilities when it comes to working in the heat. They must ensure that the employees they supervise are trained in the heat illness prevention measures for each location, and that the workers know and follow the company's heat illness prevention plan.



Slide notes

They are responsible for monitoring the weather at the job site, providing access to shade, maintaining effective communication with their crews, reminding their workers to drink plenty of water throughout the day, and observing their employees for any symptoms of heat illness.



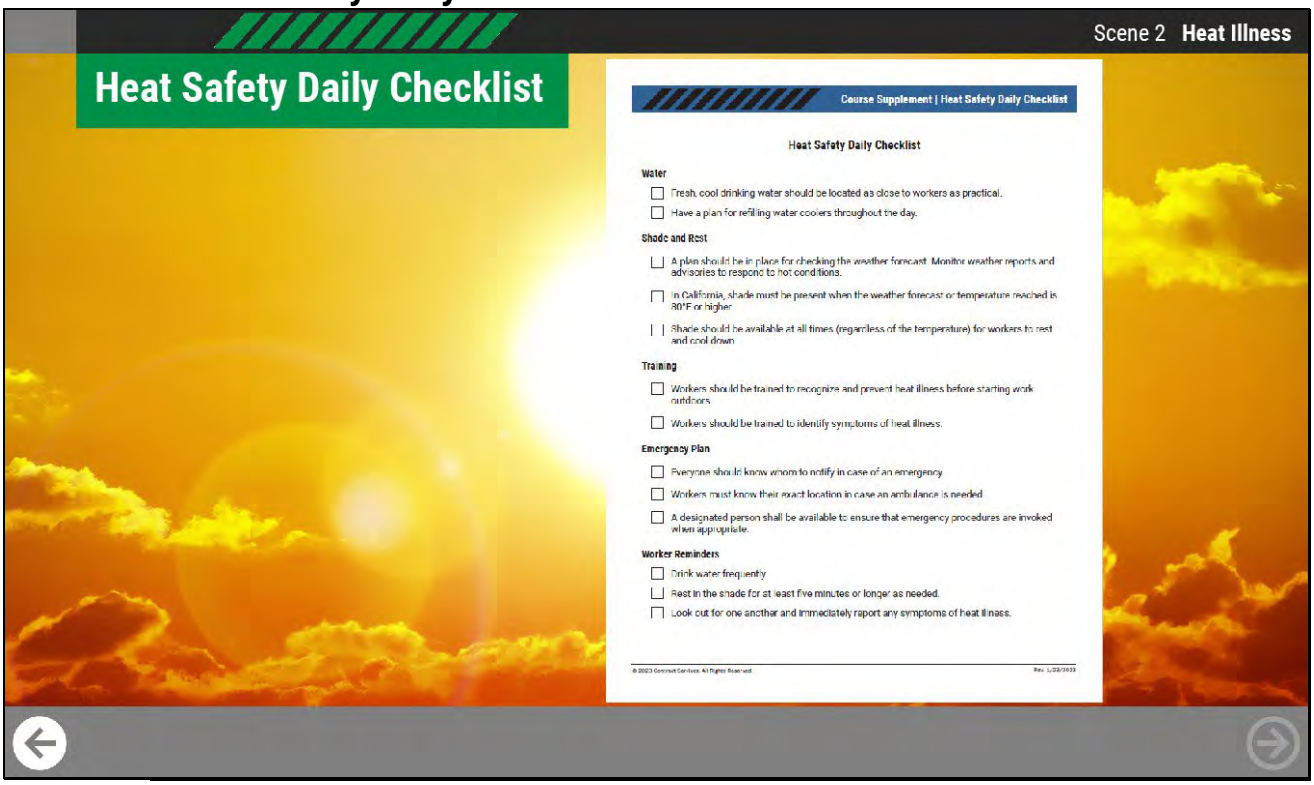
Slide notes

Finally, supervisors must know the procedures to follow if someone starts to exhibit symptoms, which is especially important during a heat wave and the first fourteen days of acclimatization.

Supervisors need to respond to heat illness without delay, and follow company emergency response procedures for providing first aid and emergency services. And, no matter the location, supervisors should know the address or specific location information in order to direct emergency responders.

Check with your employer for supervisor responsibilities and guidelines.

Slide 81 - Heat Safety Daily Checklist

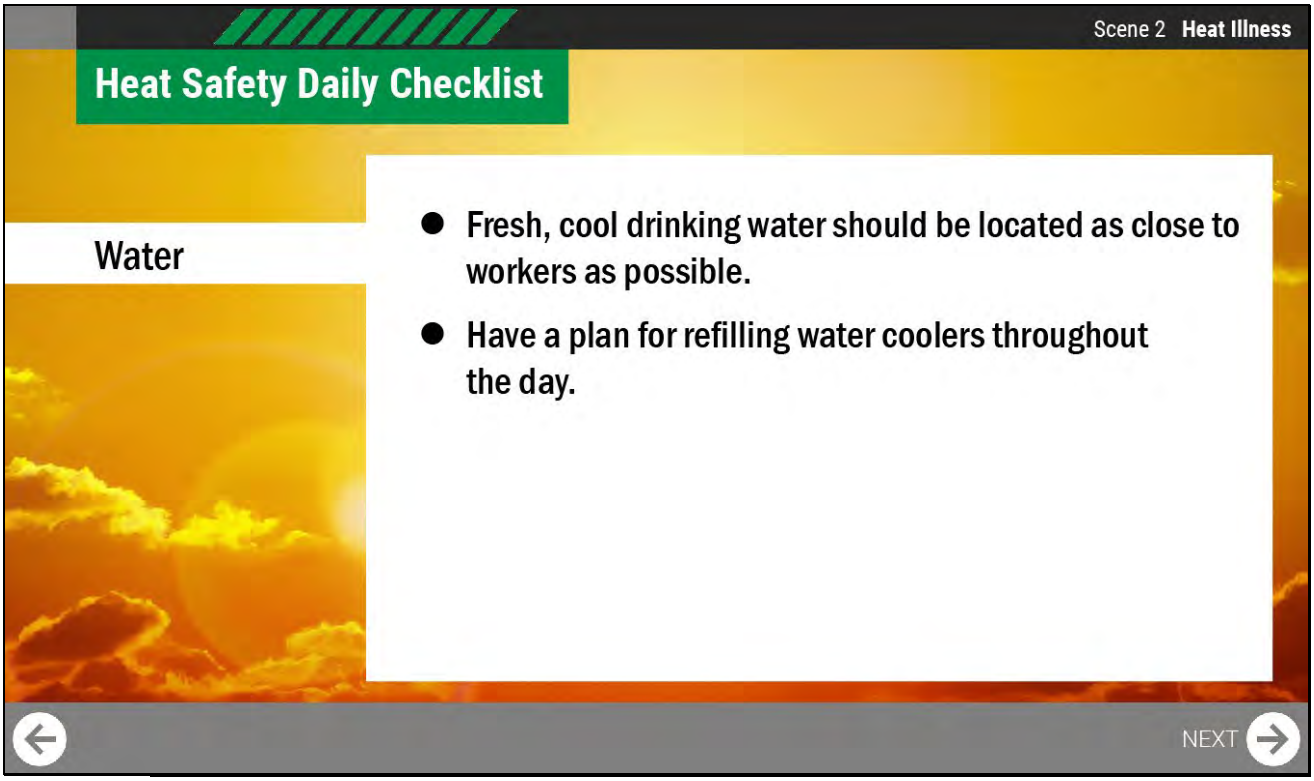


Slide notes

Supervisors should use the Heat Safety Daily Checklist, which is available through the Resources icon, as a guide to help fulfill the requirements for heat illness prevention.

In California, the employer must have a written heat illness prevention plan available at the work site.

Slide 82 - Water

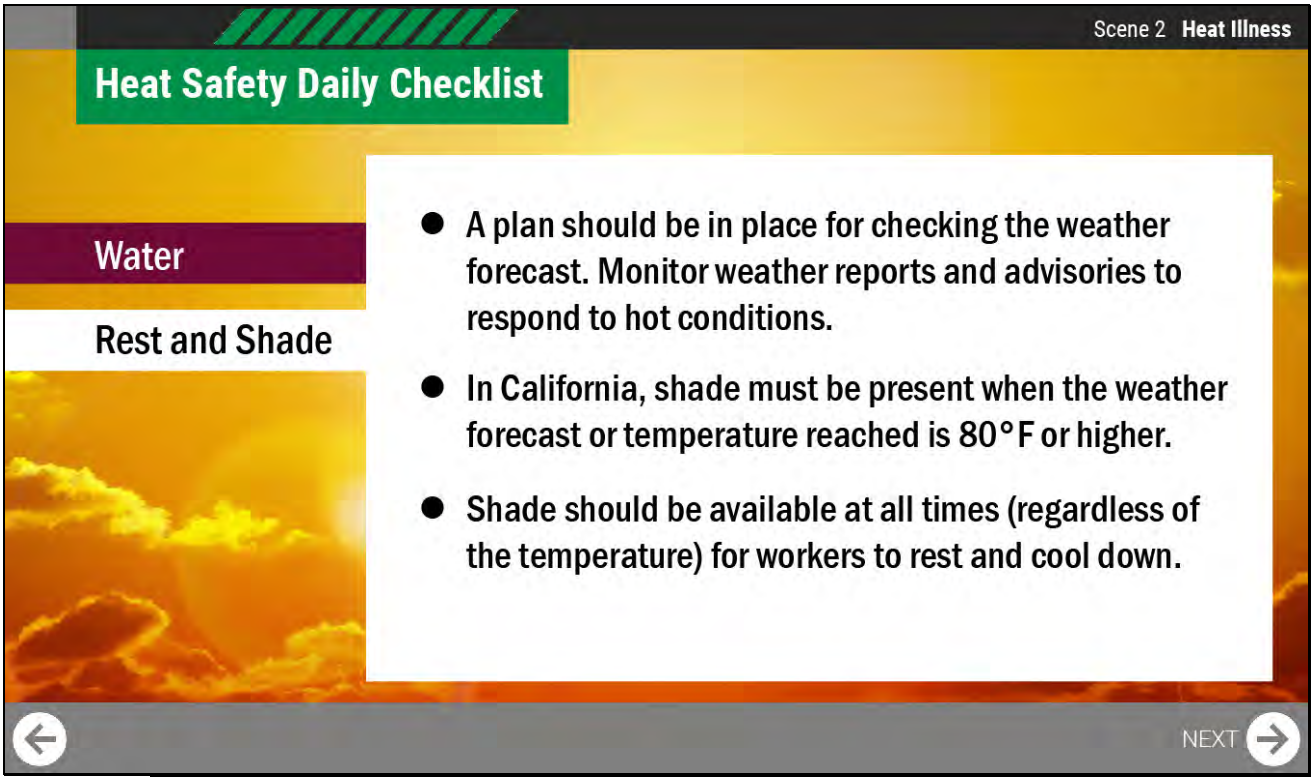


Slide notes

Water

Locate fresh, cool drinking water as close to workers as possible, and have a plan for refilling water coolers throughout the day. Workers should be encouraged to drink water frequently throughout the day.

Slide 83 - Rest and Shade

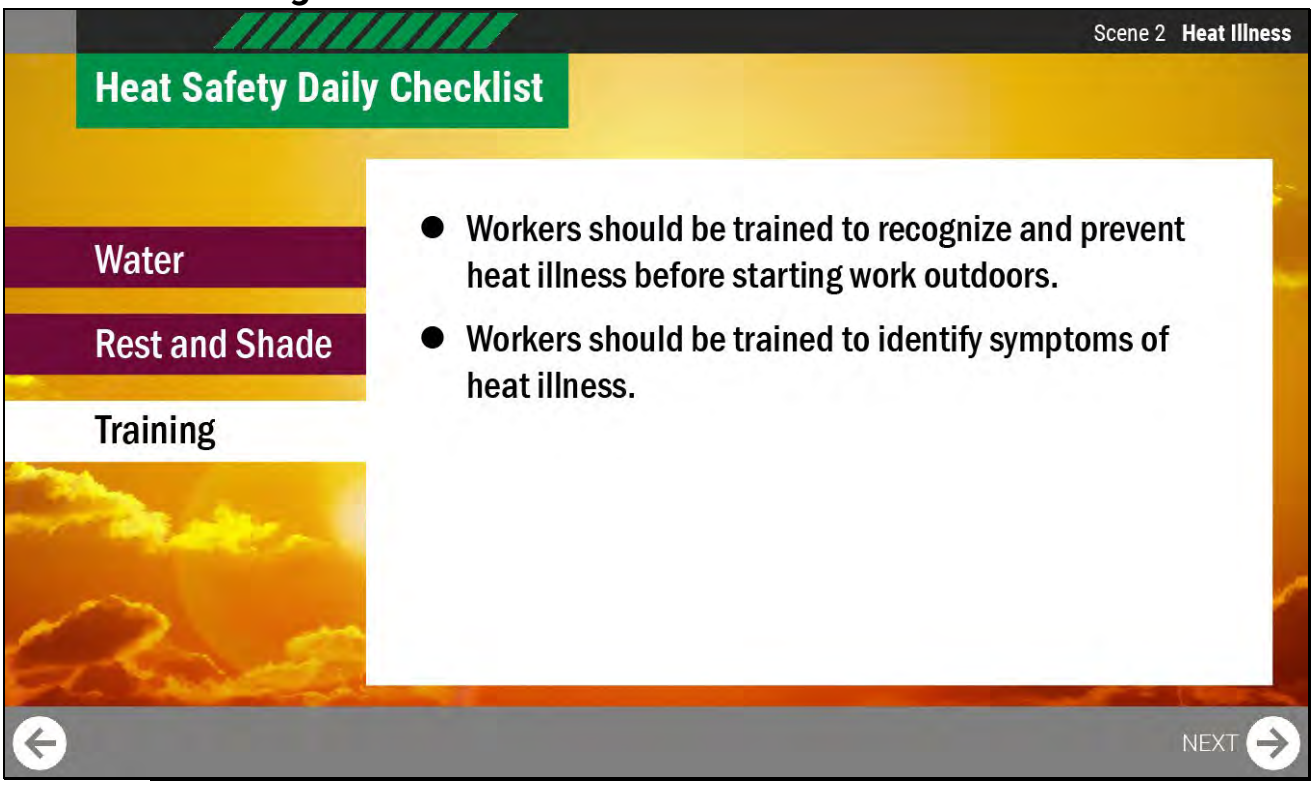


Slide notes

Rest and Shade

In California, shade must be present when the weather forecast or temperature reached is 80°Fahrenheit or higher, and should be available at all times for workers to rest and cool down, regardless of the temperature. Have a plan in place for checking the weather forecast. Monitor weather reports and weather advisories in order to respond to hot conditions and provide shade as necessary.

Slide 84 - Training

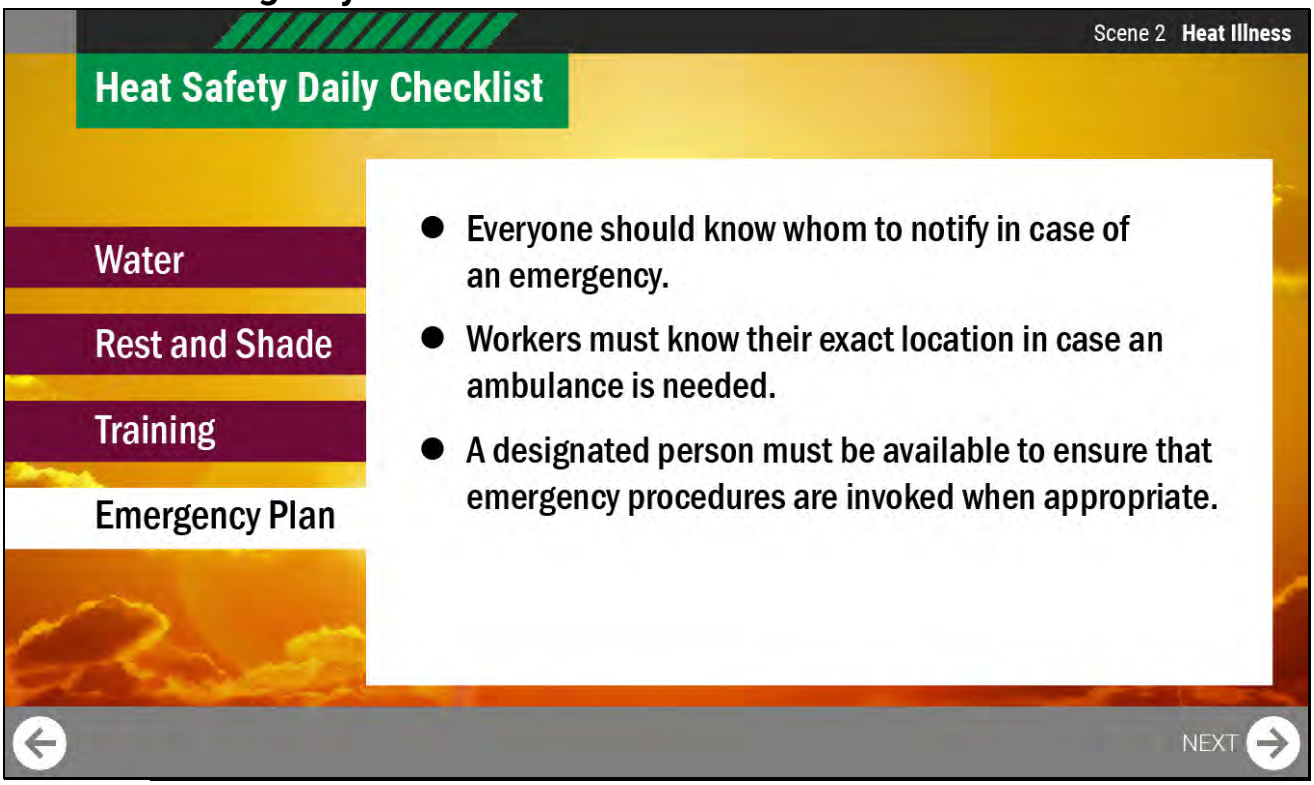


Slide notes

Training

Before starting work outdoors, workers should be trained to recognize and prevent heat illness and identify symptoms of heat illness.

Slide 85 - Emergency Plan

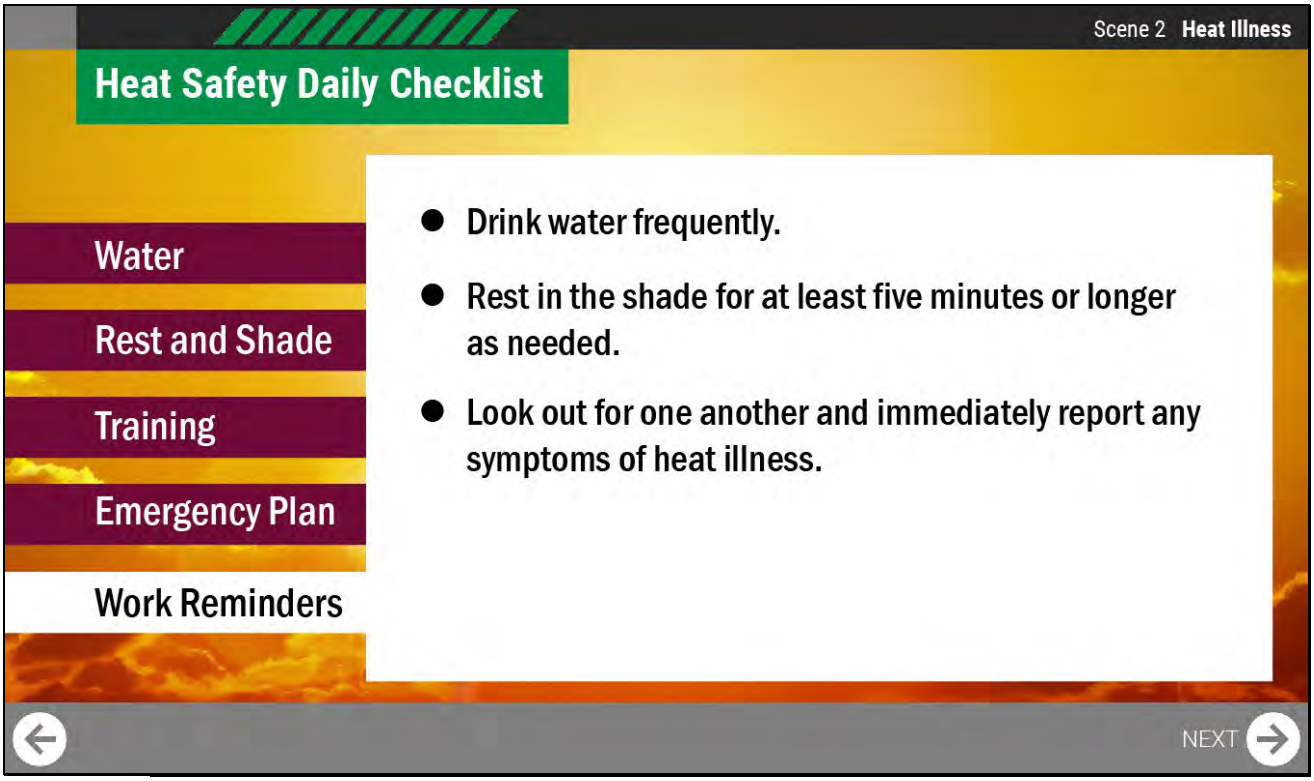


Slide notes

Emergency Plan

Everyone should know the emergency plan, including whom to notify in case of an emergency and the exact address or location in case an ambulance is needed. A designated person must be available to ensure that emergency procedures are invoked when appropriate, although anyone can call for emergency services if the designated person is not available.

Slide 86 - Work Reminders

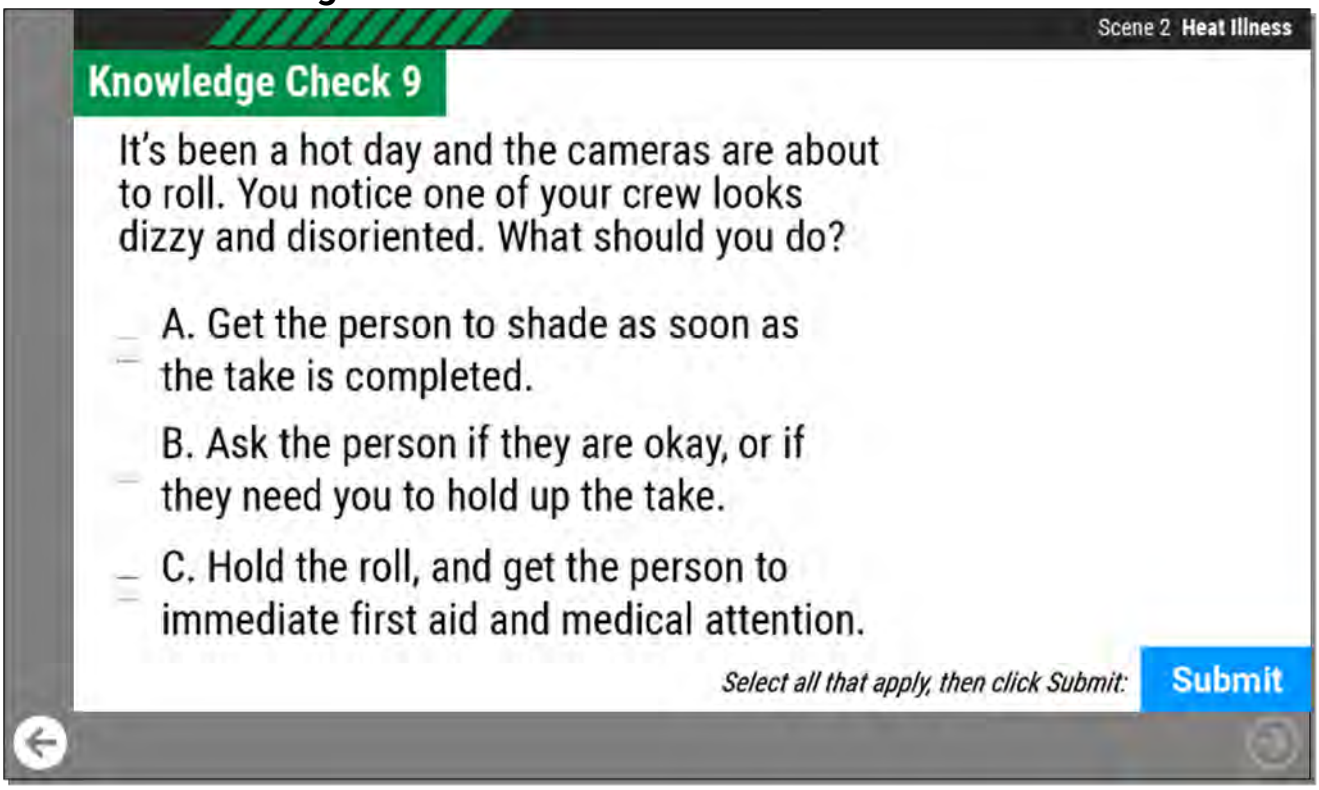


Slide notes

Work Reminders

Remind workers to drink water frequently, to rest in the shade for at least five minutes or longer as needed, to look out for one another, and to immediately report any symptoms of heat illness to medical personnel or a supervisor.

Slide 87 - Knowledge Check 9



Slide notes

Knowledge Check 9

Question: It's been a hot day and the cameras are about to roll. You notice one of your crew looks dizzy and disoriented. What should you do?

Slide 88 - Lets' Review Scene 2

Slide notes

Let's review what we've learned in Scene 2.

You can now identify the various ways a person may react to excessive heat and dehydration: heat rash, sunburn, heat cramps, fainting, heat exhaustion, and heat stroke. We discussed susceptibility factors, both environmental and personal.

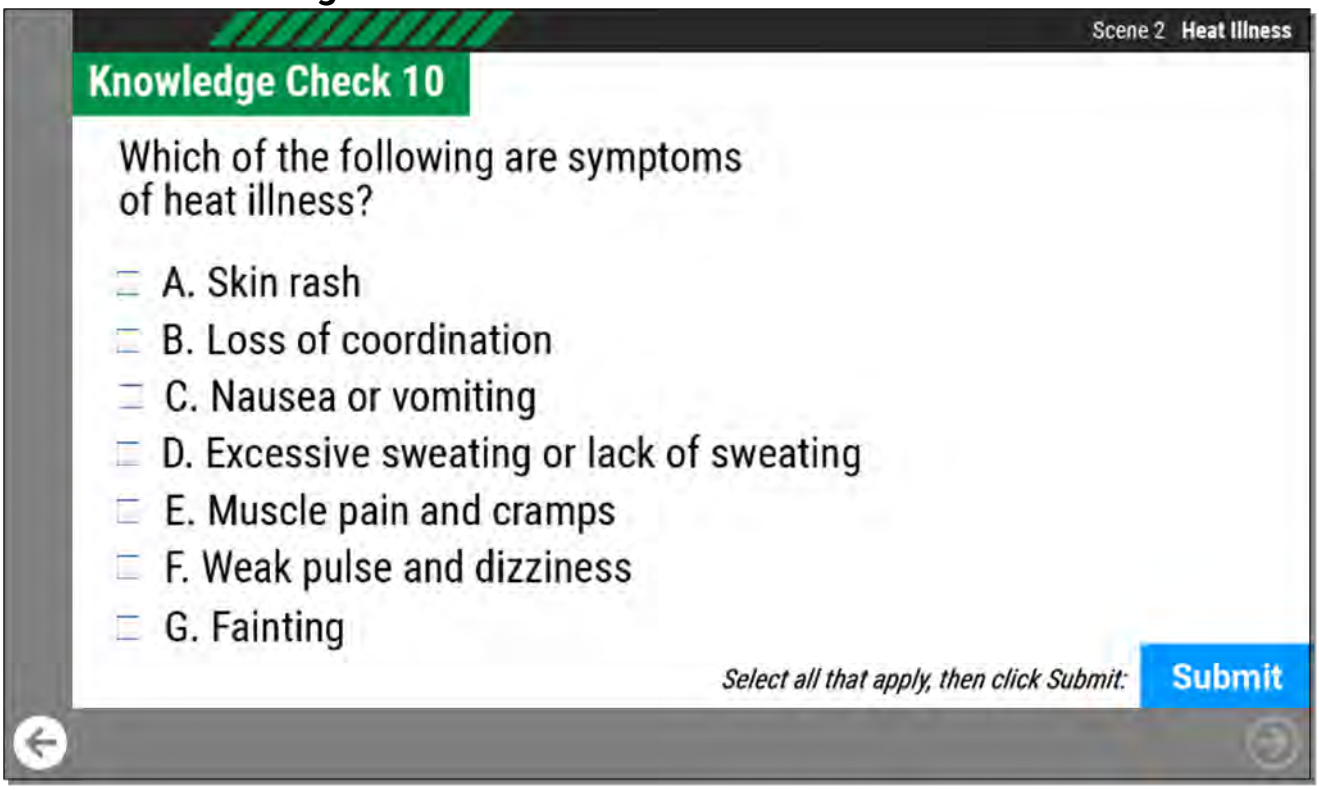
As you've seen, heat illness is preventable. We talked about the time needed to adjust to working in hot conditions. We discussed the amount of hydration that is needed and the requirements for providing shade and taking rest breaks.

You should now be able to identify the symptoms of heat illness so you can watch out for yourself and your co-workers. And you now know how to respond if someone shows signs of heat illness.

Lastly, we discussed supervisor responsibilities and the Heat Safety Daily Checklist.

If you'll be working in the heat, Safety Bulletin #35, *Safety Considerations for the Prevention of Heat Illness,* is a good resource for further information.

Slide 89 - Knowledge Check 10

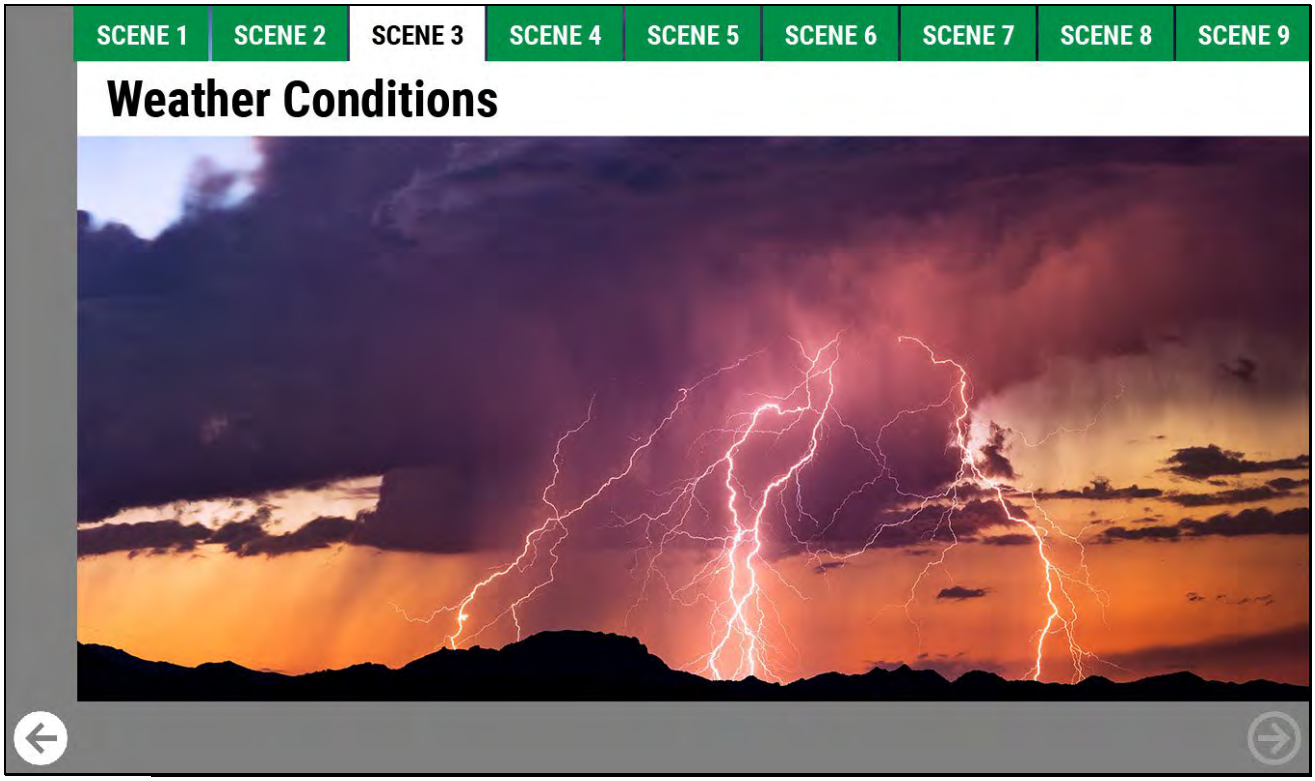


Slide notes

Knowledge Check 10

Question: Which of the following are symptoms of heat illness? Choose all that apply.

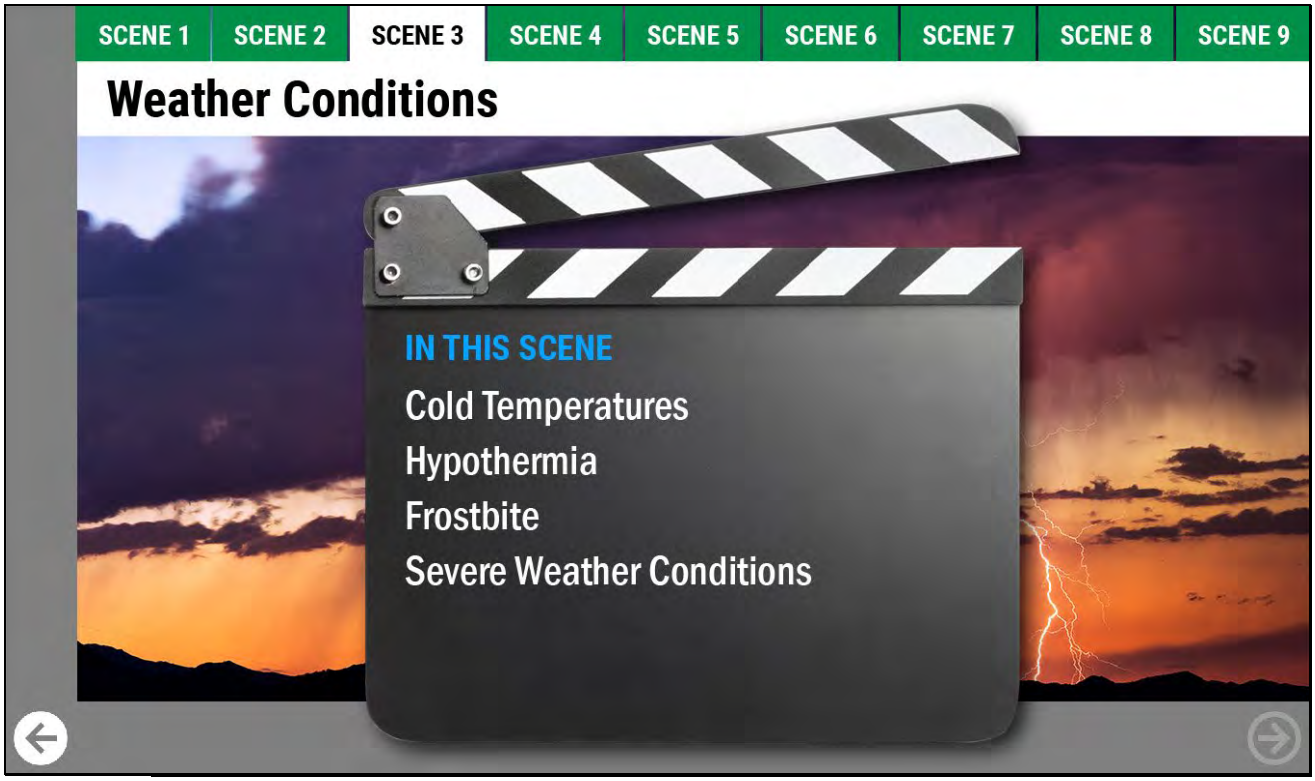
Slide 90 - Weather Conditions



Slide notes

Scene Three. Weather Conditions.

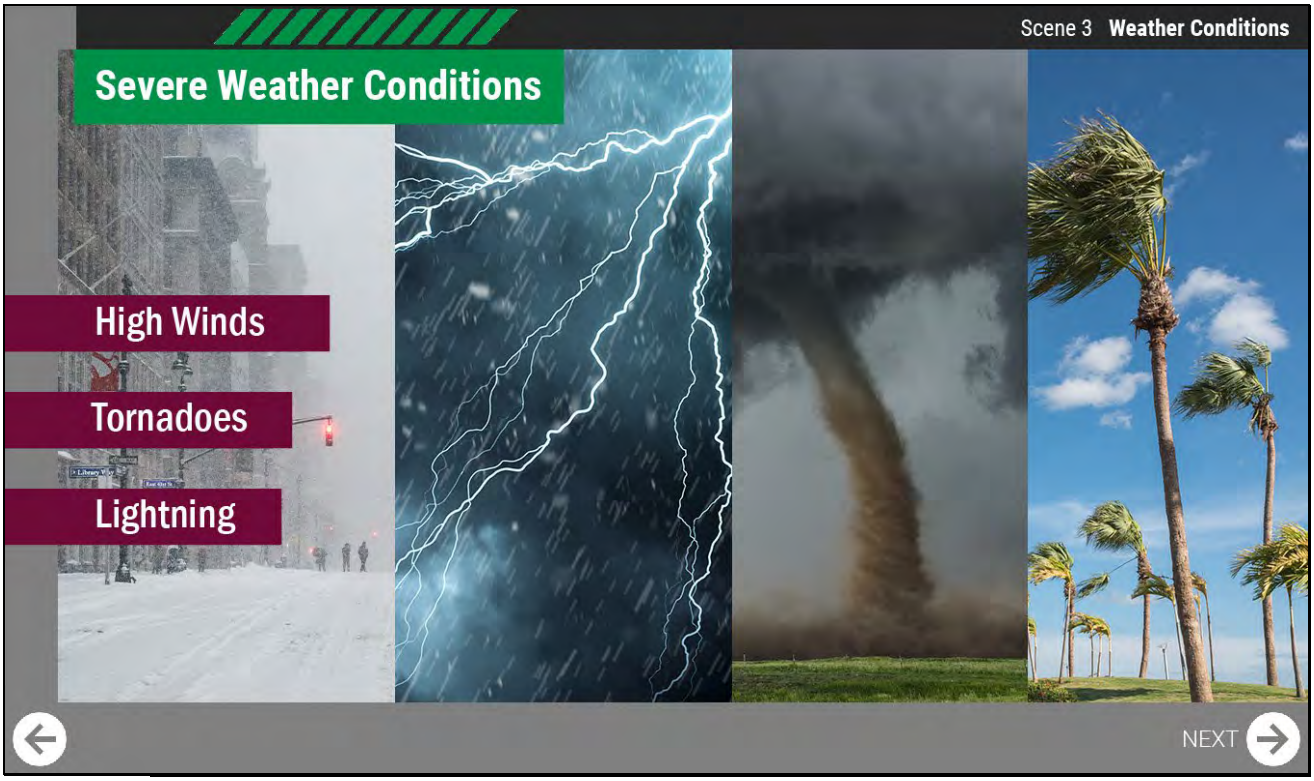
Slide 91 - In This Scene



Slide notes

In this scene, we will cover cold temperatures, hypothermia, frostbite, and severe weather conditions.

Slide 92 - Severe Weather Conditions



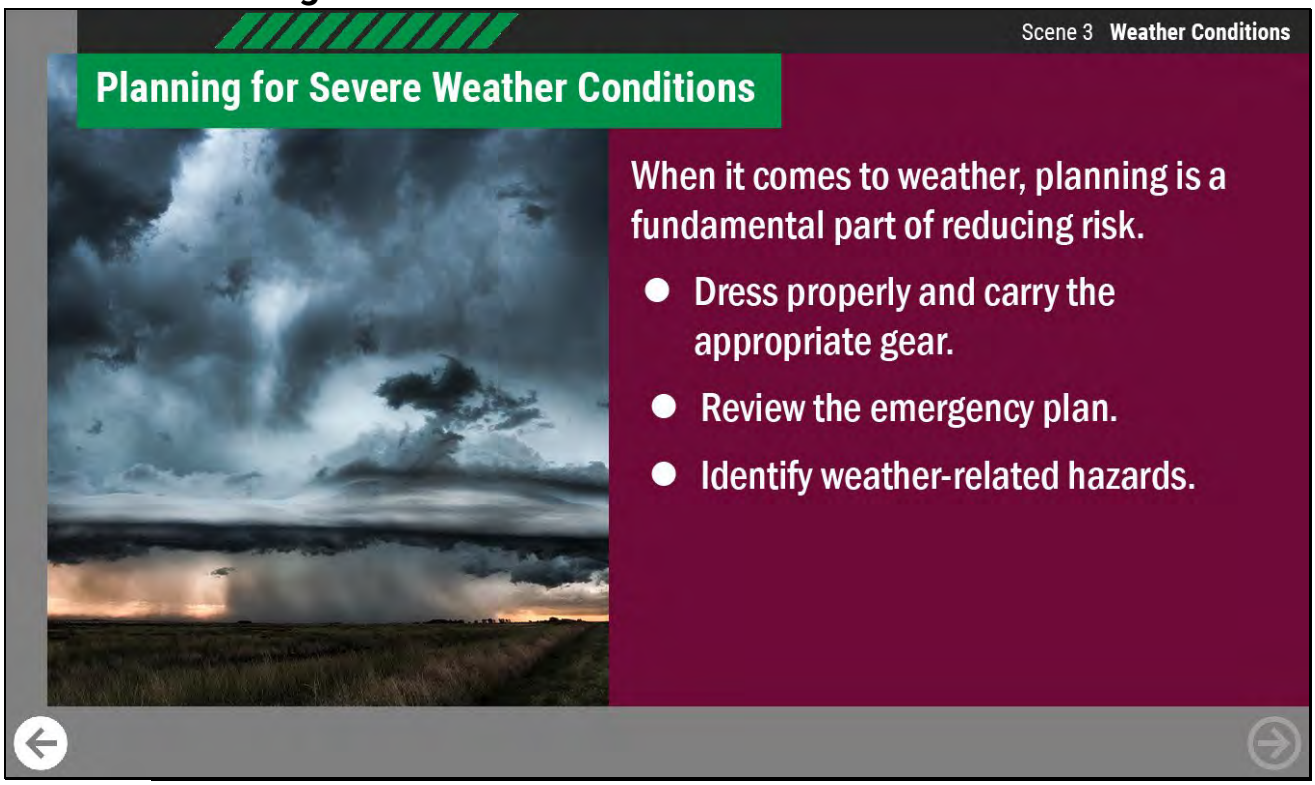
Slide notes

Heat isn't the only kind of extreme weather we can encounter at work. In this section, we'll look at other kinds of severe weather conditions and how to prepare for them.

Two significant hazards are associated with cold conditions: hypothermia and frostbite. We'll discuss when these conditions are likely to occur, and how to recognize and prevent the hazards.

Other weather-related hazards are high winds, tornadoes and lightning. The goal of this scene is for you to be able to recognize and anticipate these dangers, and to implement the appropriate safety measures to avoid injury to yourself and your co-workers when these conditions arise.

Slide 93 - Planning for Severe Weather Conditions 1



Slide notes

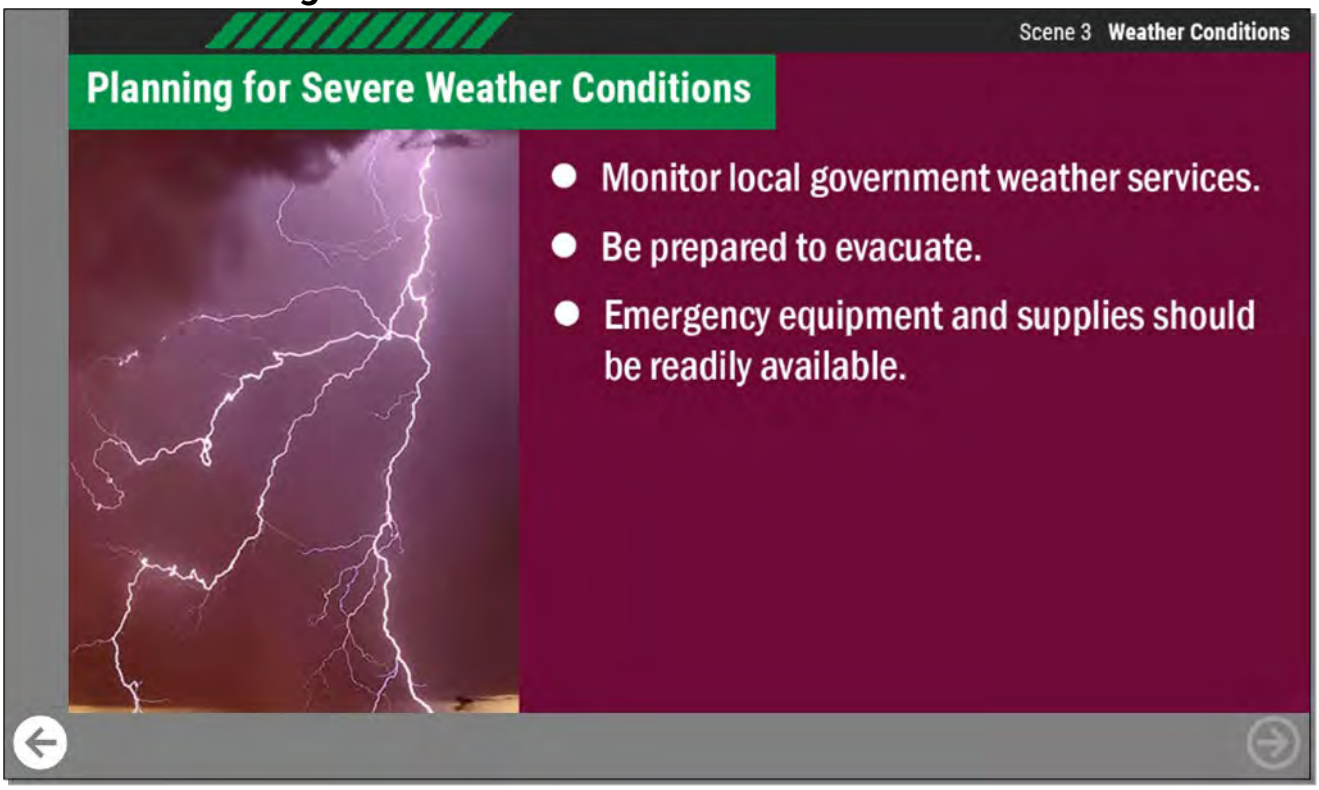
When it comes to weather, planning ahead is a fundamental part of reducing risk.

Dress properly for the conditions. Make sure you have appropriate clothing with you-rain gear, cold weather gear, sweaters and extra layers, hats and gloves, appropriate footwear, a change of socks, sunglasses, or whatever else may be appropriate for the conditions.

When severe weather is possible, the production should hold a safety meeting to review the emergency plan for that location.

Weather warnings should be announced, and the associated hazards should be identified and communicated. For example, if you are working at a location where a lightning storm is a possibility, that should be brought up at the safety meeting along with what action will be taken if lightning is sighted.

Slide 94 - Planning for Severe Weather Conditions 2



Slide notes

The production should assign someone to monitor local government weather services for warnings and developments.

When severe weather is a possibility, everyone should be prepared to evacuate to a designated safe area if the weather does turn bad. When conditions warrant, portable radios, flashlights, and other emergency supplies should be readily available.

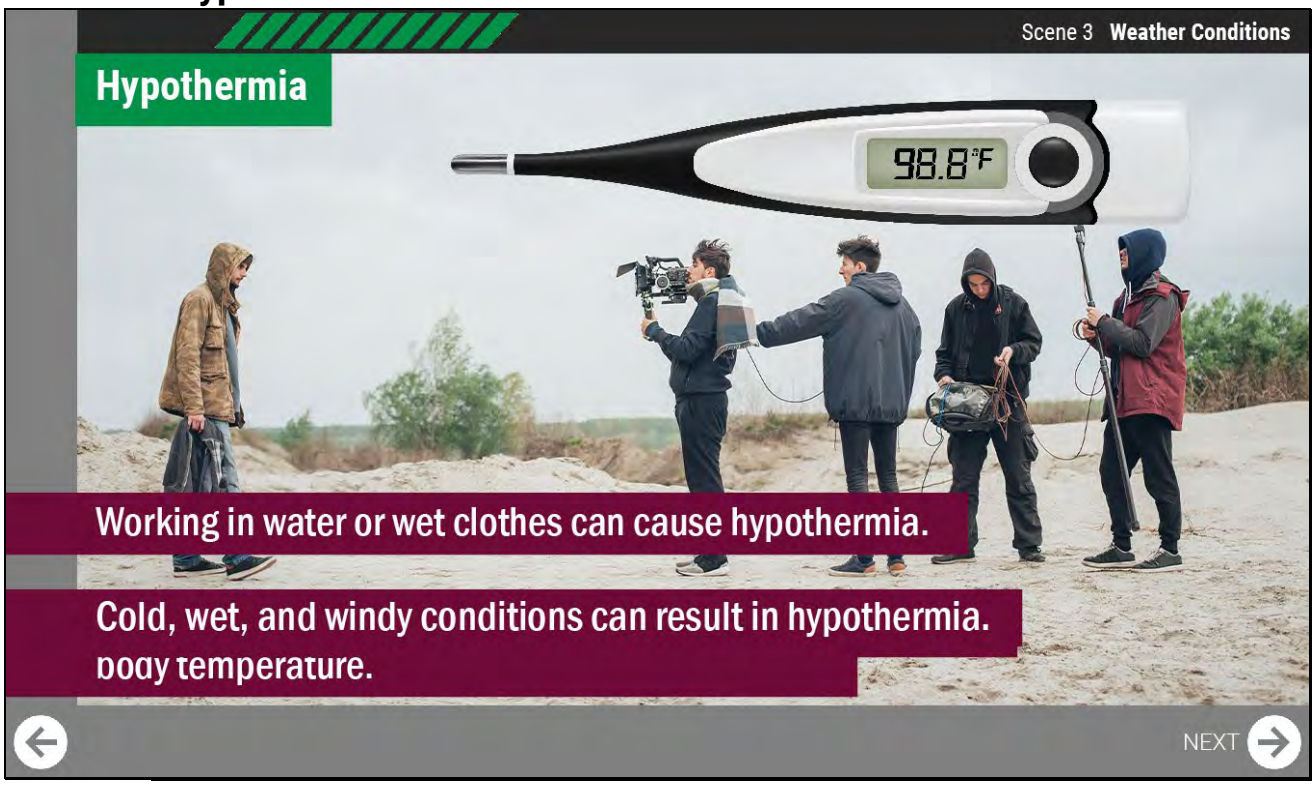
Slide 95 - Hypothermia and Frostbite

Slide notes

Let's get into some specifics. In extremely cold conditions, two serious hazards are hypothermia and frostbite. Both of these hazards can be eliminated with the proper planning.

The primary cause of hypothermia and frostbite is simply not dressing warmly enough for the conditions. Poor physical condition, fatigue, illness, and poor diet also increase the risk because they reduce the body's ability to generate enough heat. The use of alcohol, tobacco, or drugs does the same thing.

Slide 96 - Hypothermia



Slide notes

Hypothermia is a potentially deadly condition that can result from an abnormally low body temperature.

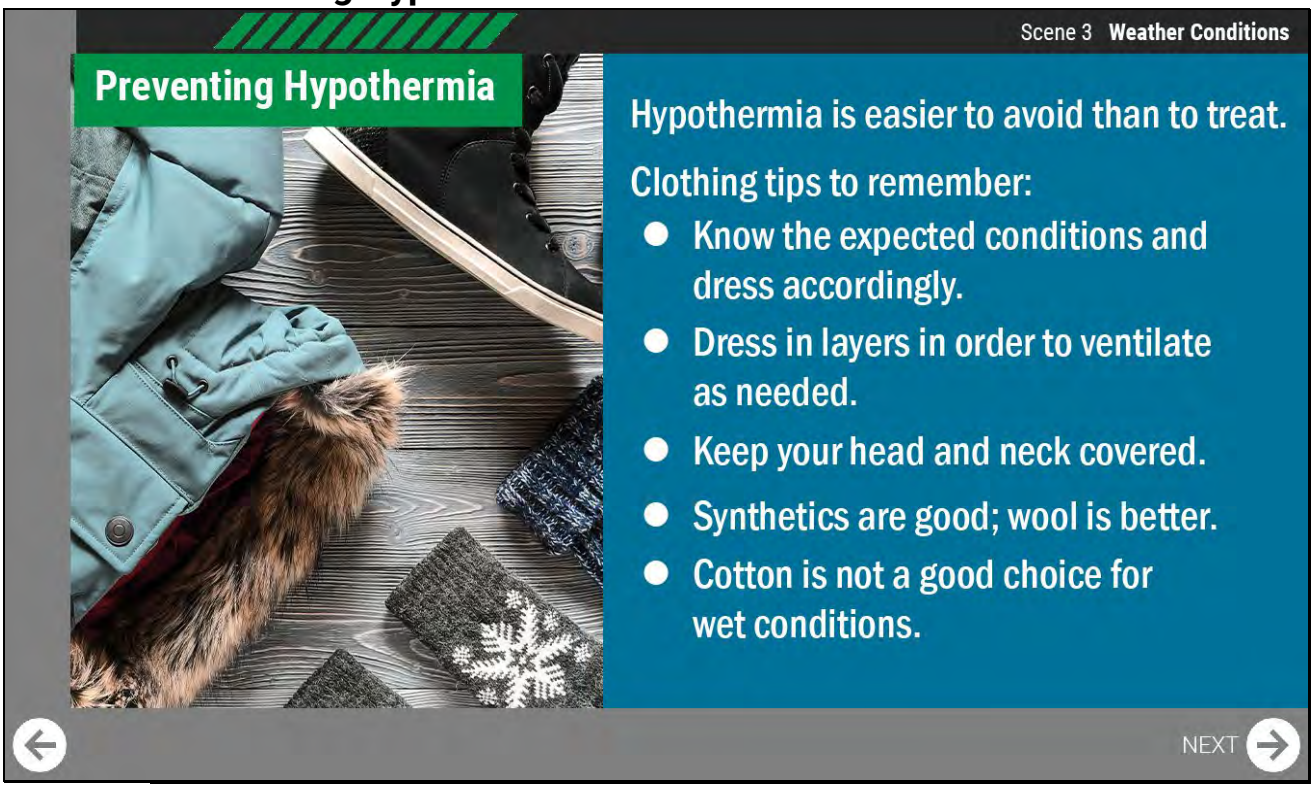
If a person's body temperature drops to about 95 degrees, they will start to experience hypothermia, which occurs when the body loses heat faster than it is produced.

Keep in mind that hypothermia is not something that only happens in freezing temperatures. The conditions for hypothermia can occur in relatively warm places. Working in water or in wet clothes for extended periods can draw off body heat fast enough to cause hypothermia. This can catch people off-guard if they are not watching for it.

A combination of cold, wet, and windy conditions can result in hypothermia if you are inadequately prepared.

Each person's physiology also affects their rate of heat loss.

Slide 97 - Preventing Hypothermia 1



Slide notes

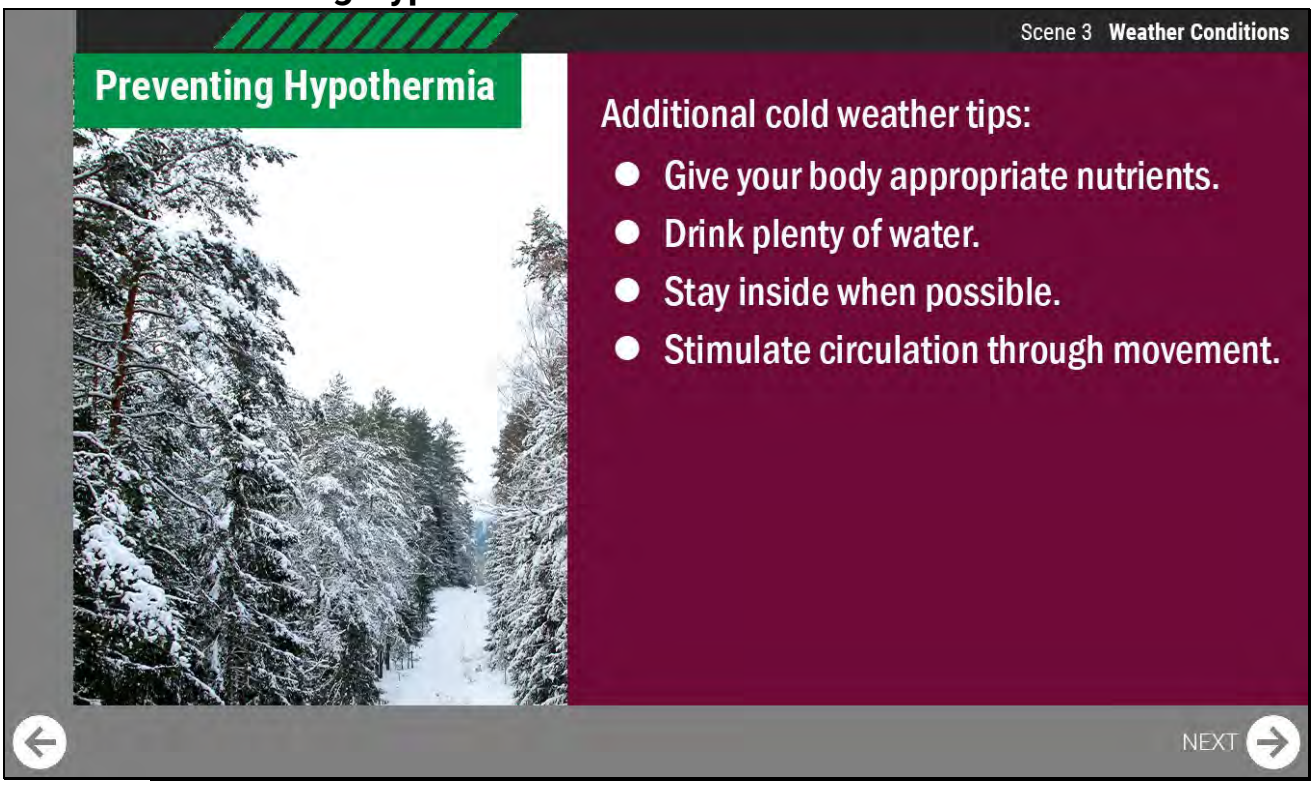
Preventing hypothermia is not difficult. It is much easier to avoid than to treat after the fact.

Here are some tips about clothing. Insulation helps the body preserve its heat. It helps to know the expected conditions so you can dress accordingly. Body temperature can be more easily regulated if clothing is layered. No matter how cold it is outside, if you work hard enough, you will start to sweat, and wet clothing is a poor insulator. By adding and removing layers you can ventilate as needed and better control your body temperature.

Because body heat is also lost through the head and neck, keep them covered when you don't want to lose heat. Let them breathe if you start to get too hot.

Synthetic cloth is really good at working in the cold. Wool has the advantage of continuing to insulate to a certain degree even when it gets wet. Cotton does not insulate when wet; in fact, it may do the opposite, and is not a good choice for working in wet conditions.

Slide 98 - Preventing Hypothermia 2



Slide notes

How else can you protect yourself from hypothermia?

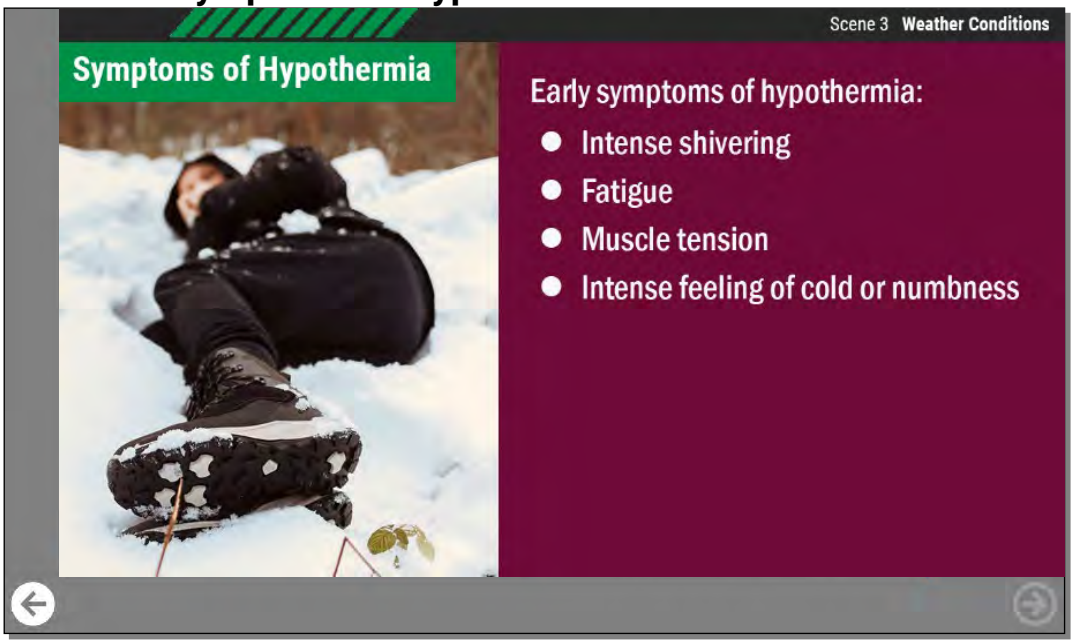
When working in the cold, give your body the appropriate nutrients. Make sure you are taking in enough calories. You burn a lot of calories generating body heat.

Drink plenty of water when you are working in the cold. Cold air is extremely dry, and moisture evaporates quickly.

A great way to avoid hypothermia, of course, is to stay inside when there is no need to be outside.

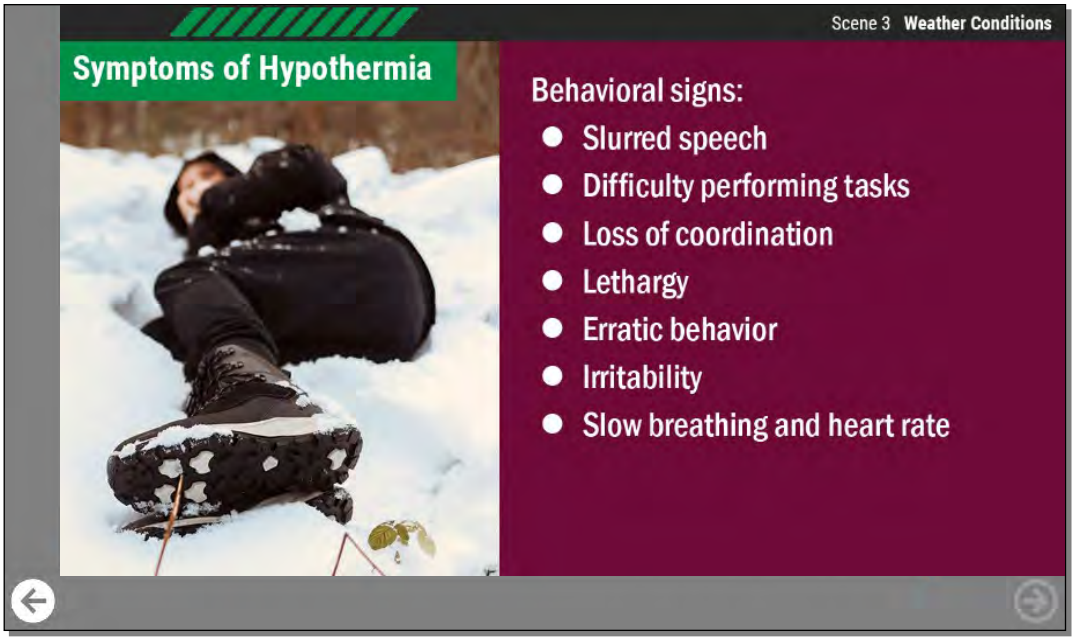
When that's not possible, you can help your body generate heat and keep your blood circulating by working your muscles-jog in place, shake your arms, and keep moving.

Slide 99 - Symptoms of Hypothermia



Slide notes

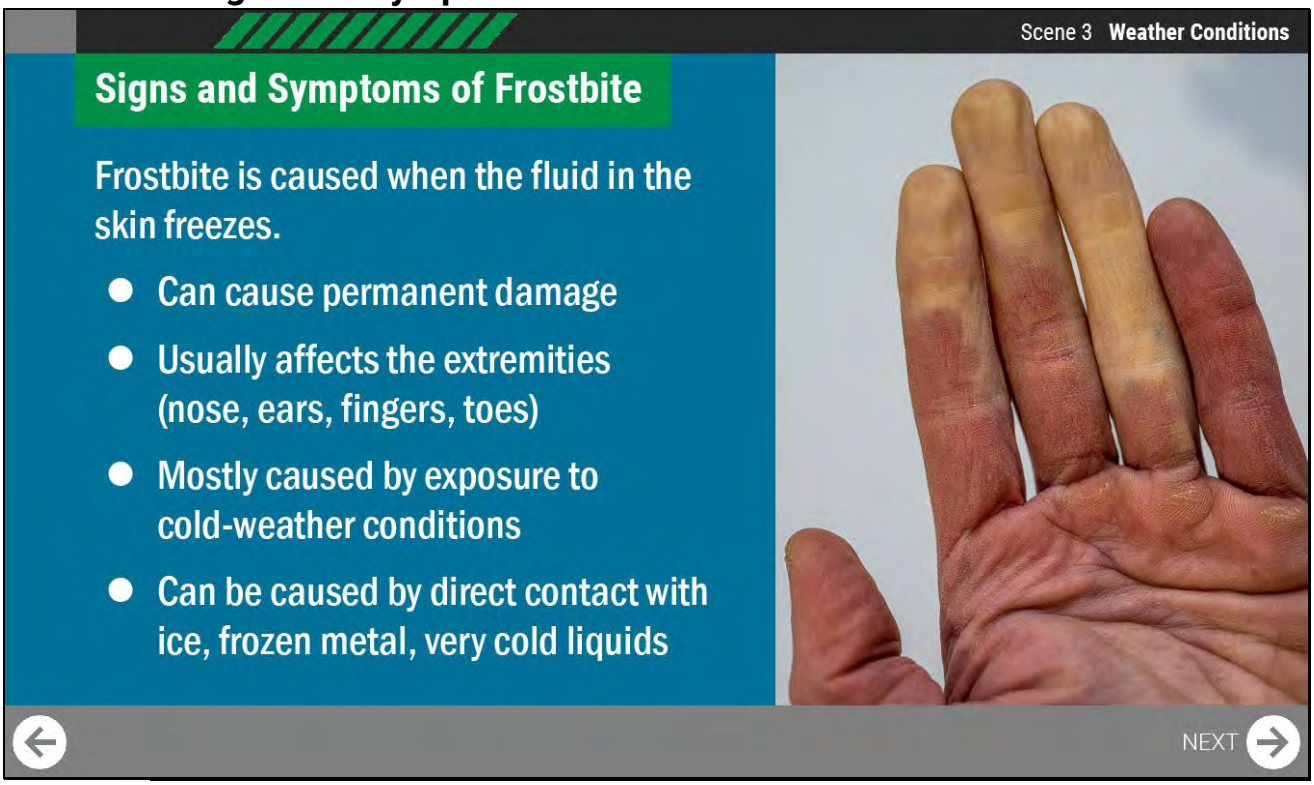
Some of the early symptoms of hypothermia include intense shivering, fatigue, muscle tension, and not surprisingly, intense feelings of cold or numbness. Ignoring any of these early signs can be very dangerous. If you or a co-worker start to experience symptoms, take action right away.



Slide notes

There are also behavioral signs when somebody may be suffering from hypothermia. These include slurred speech, difficulty performing tasks, loss of coordination, lethargy, erratic behavior, irritability, and slow breathing and heart rate.

Slide 100 - Signs and Symptoms of Frostbite 1



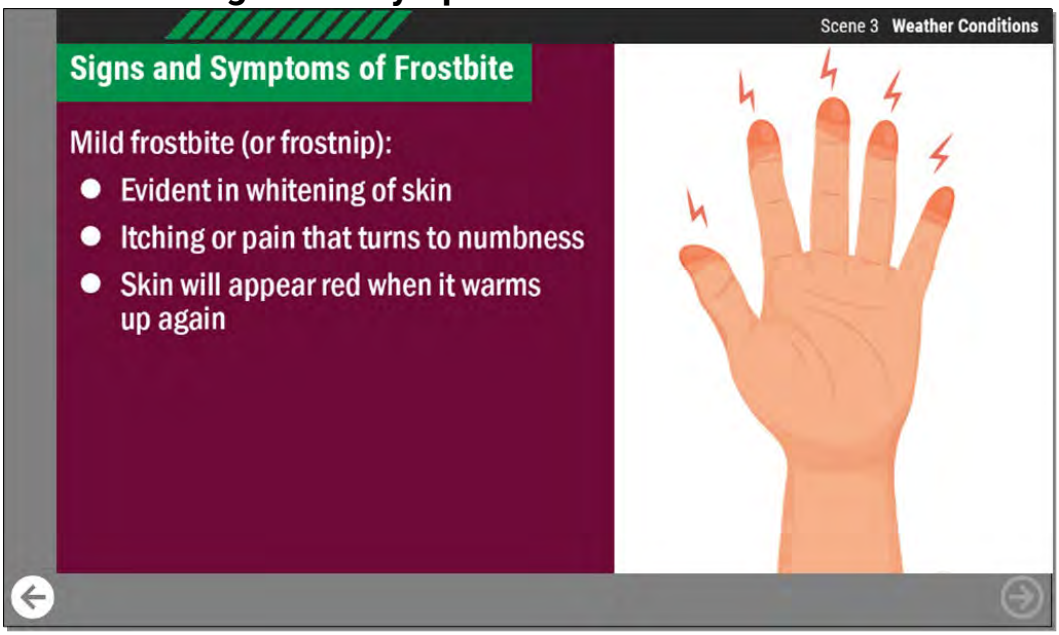
Slide notes

The other significant hazard in extreme cold is frostbite. Frostbite is caused when the fluid in your skin freezes, damaging skin cells. Because skin cells contain water, it can freeze when the temperature reaches 32 degrees.

Below freezing, blood vessels close to the skin start to constrict, which shunts blood away from the extremities. This mechanism helps the body preserve core body heat, but leaves the extremities with less circulation. The nose, ears, fingertips, and toes are the parts most likely to get frostbitten.

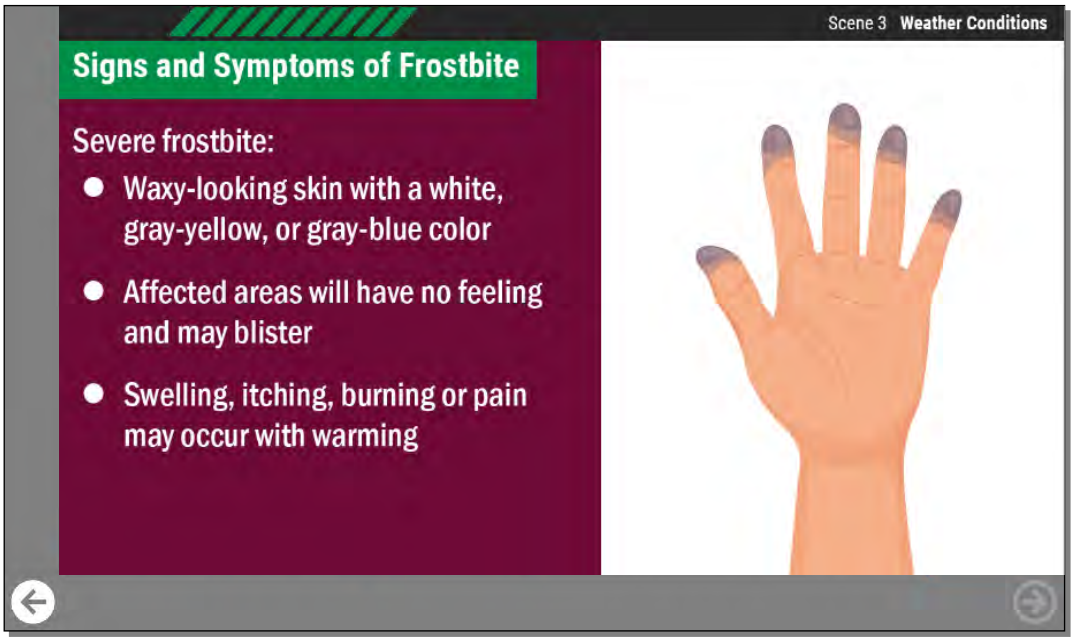
The most common cause of frostbite is exposure to cold-weather conditions, but it can also be caused by direct contact with ice, frozen metal, or very cold liquids.

Slide 101 - Signs and Symptoms of Frostbite 2



Slide notes

Mild frostbite, which is called *frostnip*, affects the outer skin layers, indicated by a blanching or whitening of the skin. At the onset there may be itching or pain, which later turns to numbness. Once the skin warms back up, it may appear red for several hours.



Slide notes

As the frostbite progresses deeper into the skin, it becomes much more severe. Second-degree frostbite results in blisters one or two days after the exposure. In cases of third- and fourth-degree frostbite, skin becomes waxy-looking and turns white, gray-yellow, or gray-blue. Affected areas will have no feeling. Other indications are swelling, itching, burning, or deep pain as the area is warmed.

Slide 102 - Frostbite Prevention

Slide notes

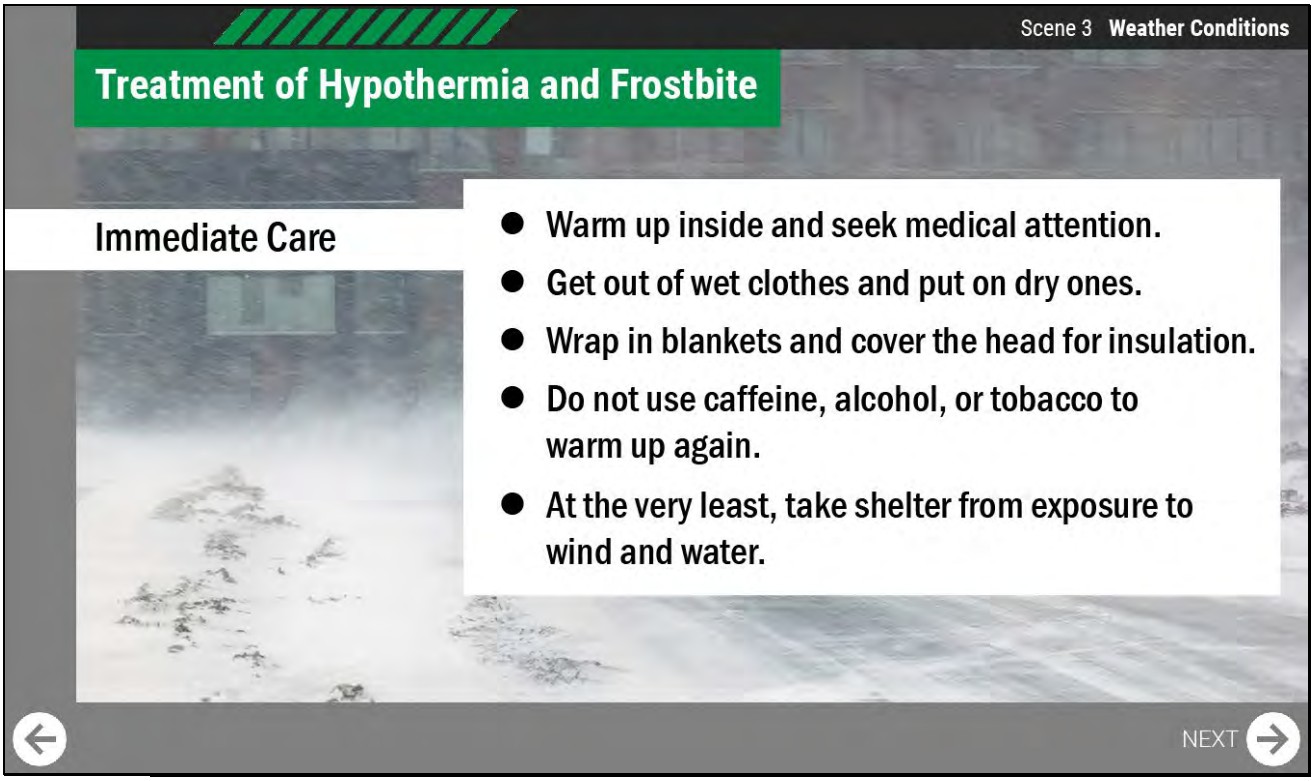
Like hypothermia, frostbite is far easier to prevent than to treat.

Wear clothing that protects skin from cold, especially the extremities. Protect your hands and feet. Wear clothing that will keep you dry in rain and snow and protect you from wind chill.

Cover your neck and head. Keep shoes or clothing loose to maintain good circulation.

Stay hydrated. Keep your circulation going; keep moving, don’t stand still. Take breaks to go inside and warm up your extremities. Never touch cold metal objects with bare hands.

Slide 103 - Immediate Care

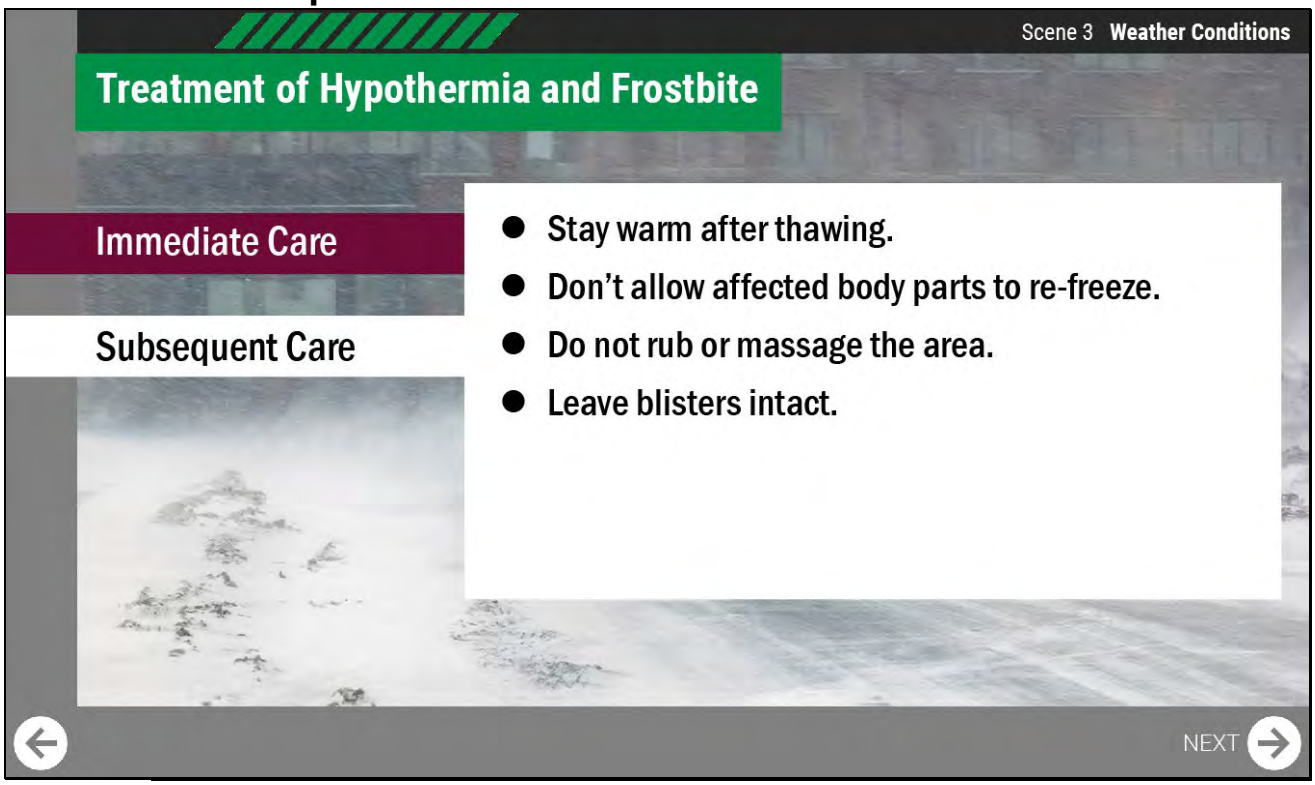


Slide notes

Take action at the first signs of hypothermia or frostbite.

The victim should be brought inside and warmed up. Notify a supervisor and immediately seek medical attention. The victim should get into dry clothes. Wrap the victim in blankets and cover the head to insulate it. As tempting as it may be, caffeine, alcohol, and tobacco should not be used. If it is not possible to go inside, prevent further heat loss by sheltering from exposure to wind and water.

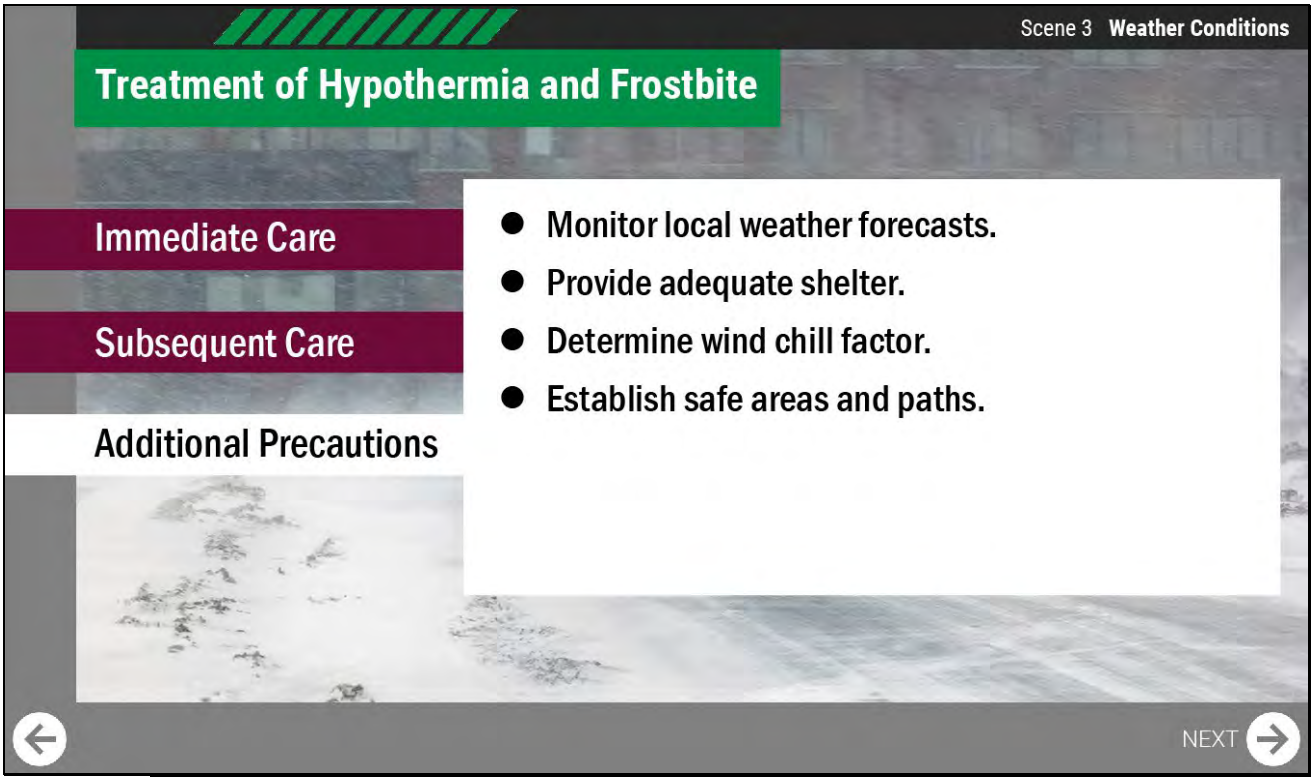
Slide 104 - Subsequent Care



Slide notes

Frostbitten areas should be re-warmed gradually. A frostbite victim needs to stay warm after thawing out. If affected body parts are permitted to re-freeze, much greater damage will result. Do not rub or massage the area. Leave blisters intact to avoid infection.

Slide 105 - Additional Precautions



Slide notes

Additional precautions include monitoring local weather forecasts, providing adequate warm shelter, and having a thermometer and wind meter, which is known as an anemometer, to determine wind chill factor. When visibility is restricted, safe areas and paths should be established to reduce the risk of a person getting lost.

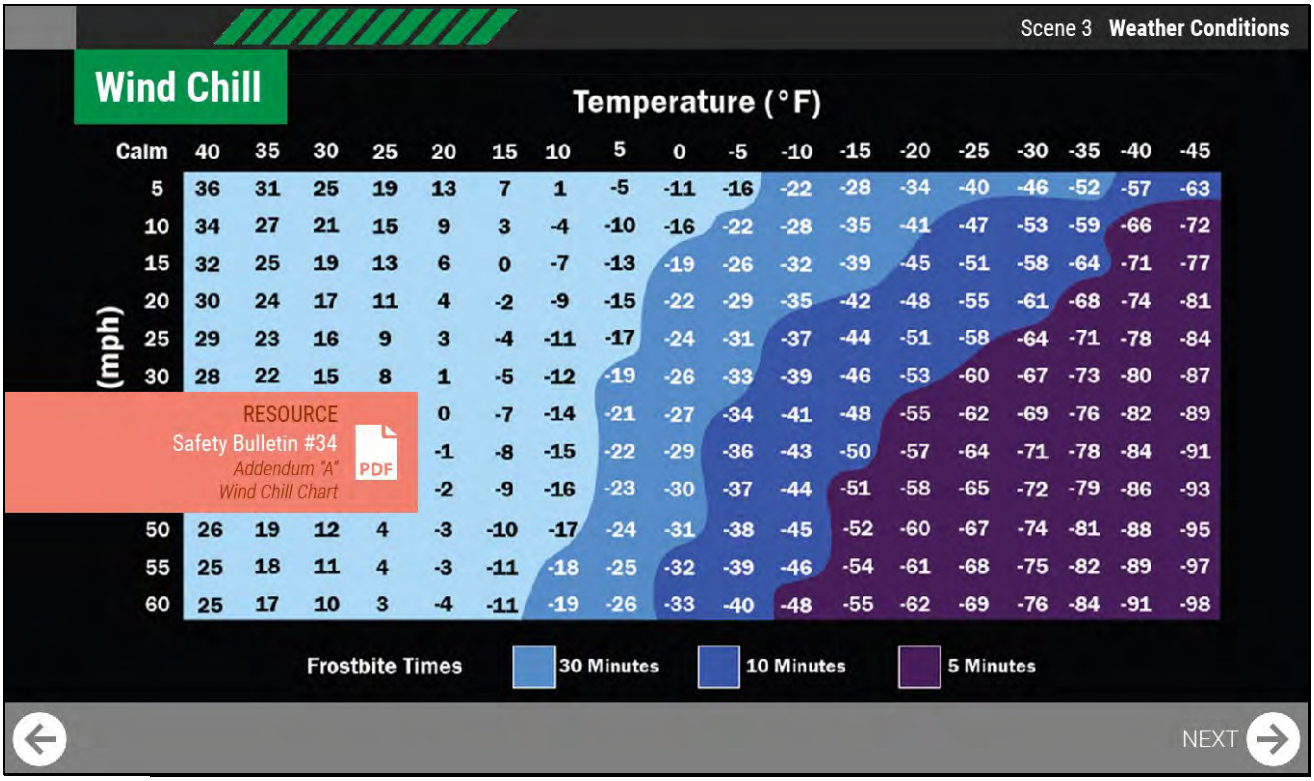
Slide 106 - Wind Chill 1

Slide notes

The wind chill temperature is important because it is the effective temperature experienced by your body. For example, if it's 40 degrees outside and the wind is blowing at 25 miles per hour, is that a concern? In those conditions the wind chill temperature is 29 degrees, a little below freezing.

So, the wind chill temperature is an important consideration to help prevent hypothermia and frostbite.

Slide 107 - Wind Chill 2

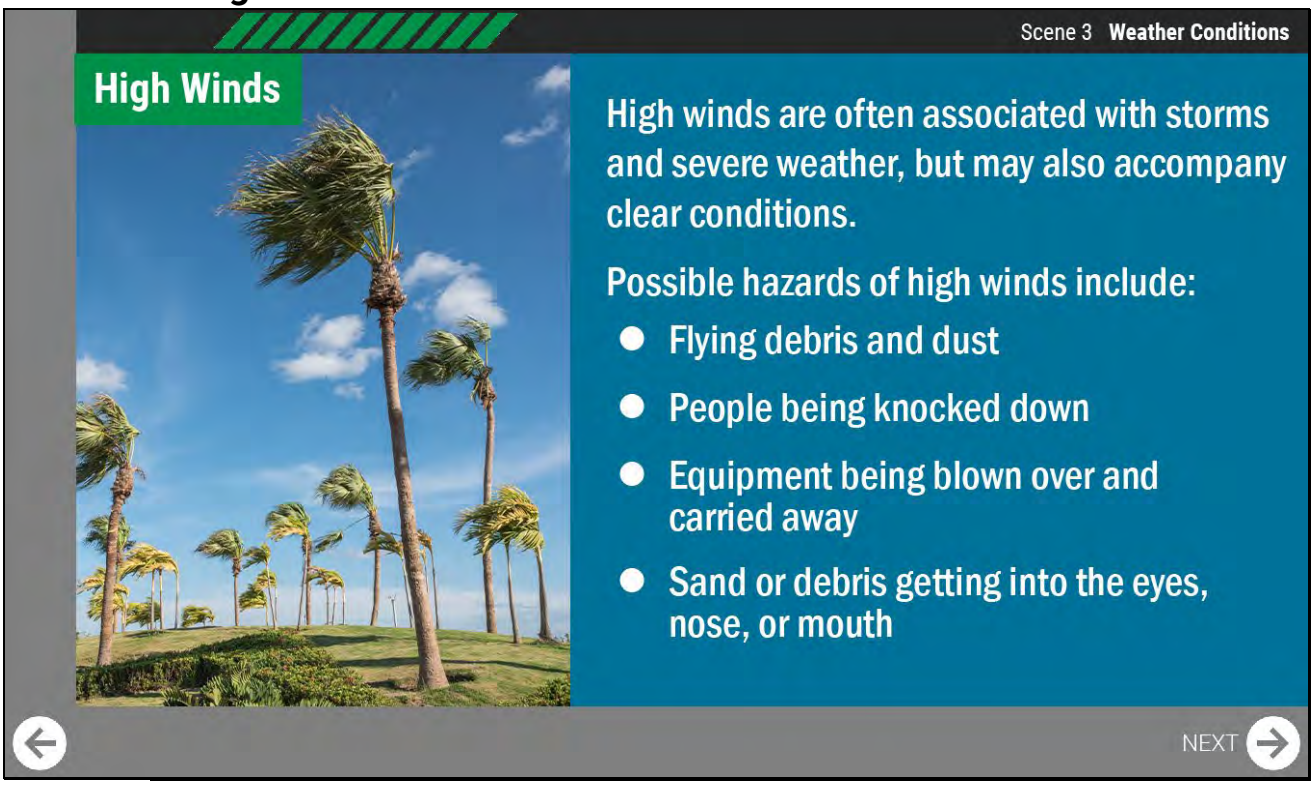


Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	27	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	26	20	13	5	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Slide notes

The National Weather Service Wind Chill Temperature index can be used to determine the effective temperature produced by the combined effect of air temperature and wind. This chart can be found in Appendix A of Safety Bulletin #34.

Slide 108 - High Winds 1



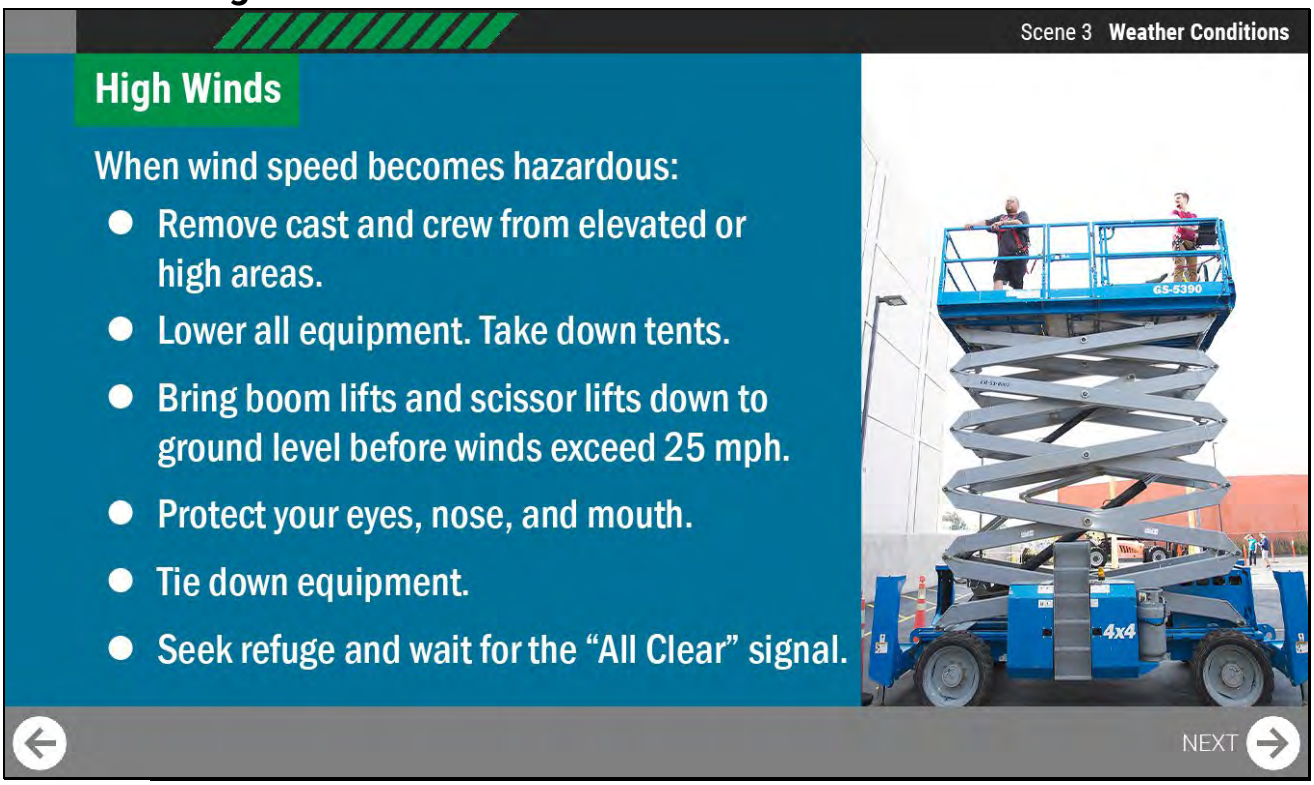
Slide notes

Let’s leave the cold behind now and turn to two other weather-related hazards, starting with high winds.

High winds are often associated with extreme weather such as thunderstorms, tornadoes, and hurricanes, but they can also accompany high-pressure systems and clear weather. For example, Santa Ana winds in the Southwestern U.S. are associated with high pressure and hot, clear weather; nonetheless, wind speeds can easily exceed 40 miles per hour.

Hazards associated with high winds include flying debris and dust; the possibility of wind knocking a person down; and the possibility of equipment being blown over, carried away, or falling on someone. When sand or debris gets picked up by the wind, it is likely to get into people’s eyes, noses, and mouths.

Slide 109 - High Winds 2



Slide notes

When wind speed becomes hazardous, bring all the cast and crew down from any elevated locations such as aerial lifts, sets, and scaffolding.

Lower any equipment that could be blown over, such as lights, large grip frames, and camera cranes. Take down tents.

No boom lift or scissor lift should be elevated in winds exceeding 25 miles per hour, whether occupied or not. When the equipment is up on cribbing and when grip frames are attached, the maximum permissible wind speed is even further reduced. It may be necessary to take down equipment at lower wind speeds depending on configuration.

Wear safety goggles to protect your eyes from blowing sand and dust. A bandana tied across your face helps keep sand out of your nose and mouth.

When it’s windy, tie down and secure any loose equipment. If equipment gets taken by the wind, it can cause damage and injury.

If the conditions become dangerous, crew may be directed to take refuge in a safe building. Workers should remain there until the production gives the all-clear to resume work.

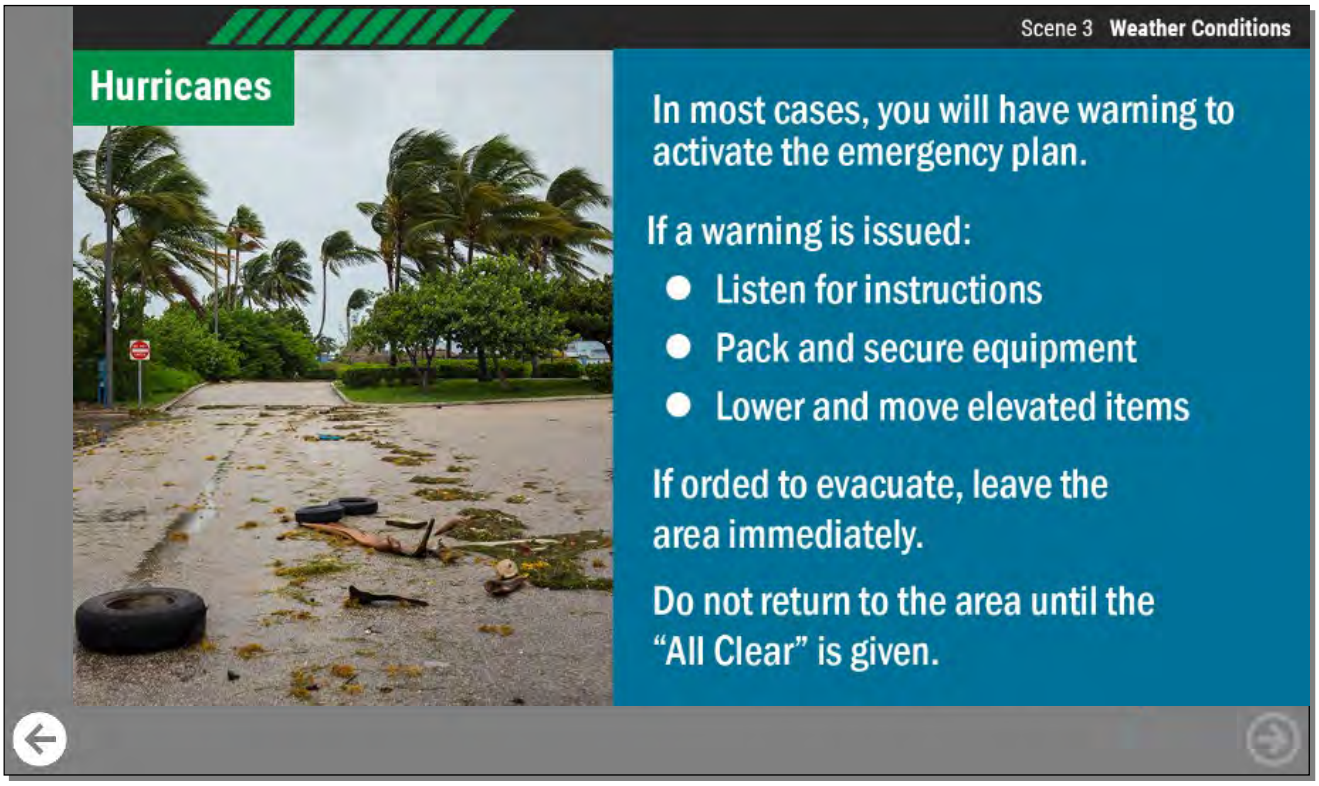
Slide 110 - Hurricanes

Slide notes

Another weather-related hazard are hurricanes (also known as cyclones or typhoons).

They are a slow developing tropical weather phenomenon that forms over the sea. The greatest impact is felt near or on shorelines of land.

The potential hazards from hurricanes are severe winds, rainfall, storm surges, and high waves; which may cause extreme flooding and damage to structures, roads, utilities, vehicles and boats. Plus, flying debris due to high winds poses a risk of severe injury.



Slide notes

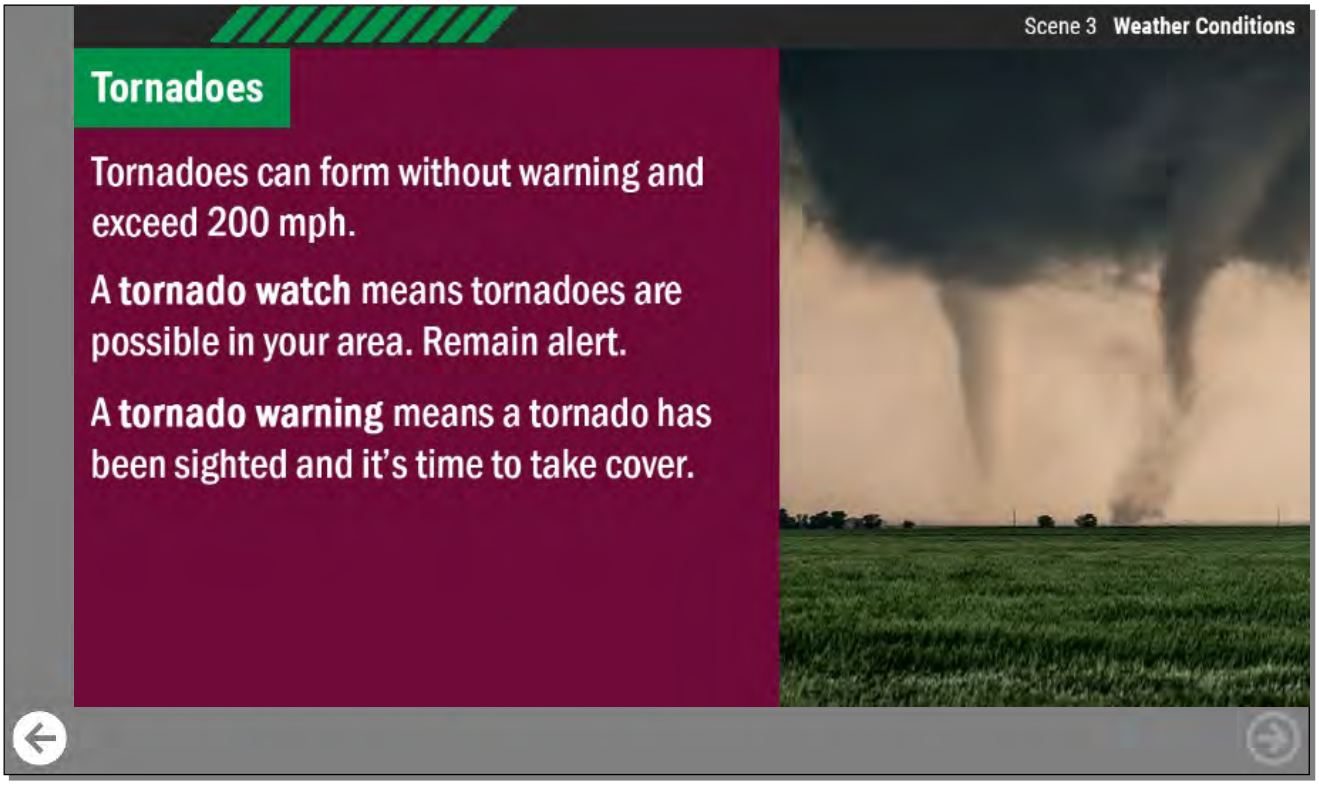
In most cases, you will have several days warning to activate your employer's emergency plan as hurricanes are tracked by the weather service with additional warnings given 36 to 48 hours before the hurricane reaches land.

Listen for instructions from your employer or local officials. Pack and secure all equipment. Lower aerial lifts, camera booms and other elevated items such as rain towers or scaffolds, and move them to a safe area.

If ordered to evacuate, leave the area immediately. Do not stay by the shoreline.

Do not attempt to return to the area until an "All Clear" signal has been given by a regulatory authority or production management.

Slide 111 - Tornadoes

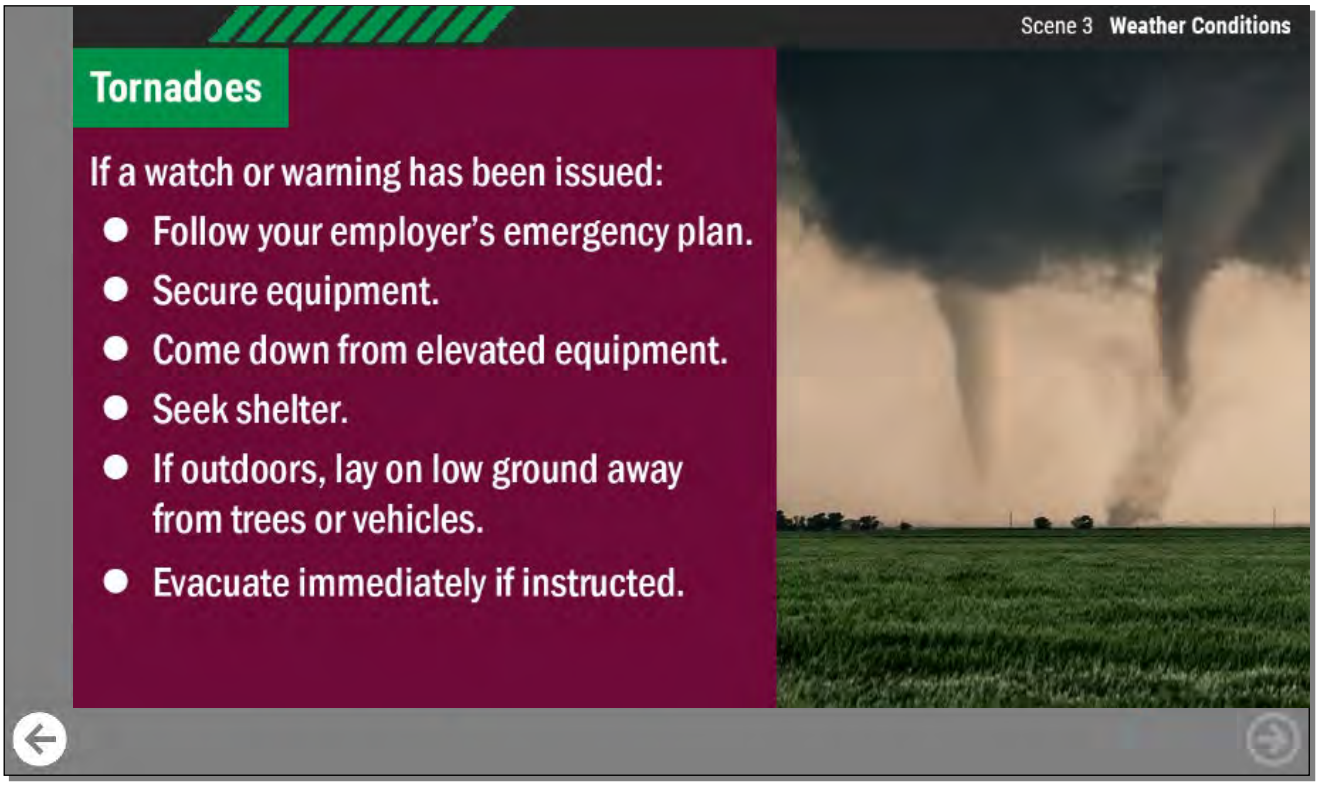


Slide notes

In many areas of the country, tornadoes are another hazard. Tornadoes are narrow, violently rotating columns of air that extend from the cloud base to the ground.

Tornadoes are unpredictable and may form without warning. The wind speed may exceed 200mph, potentially causing severe damage to structures and putting people at risk for serious injury or loss of life. Tornadoes can occur anywhere, but are most prevalent in Midwestern states.

During thunderstorms when conditions are right for tornadoes, the weather service issues tornado watches and warnings. A **Tornado Watch** means tornadoes are possible in your area. Remain alert for approaching storms. A **Tornado Warning** means a tornado has been sighted or indicated by weather radar and it is time to take cover.

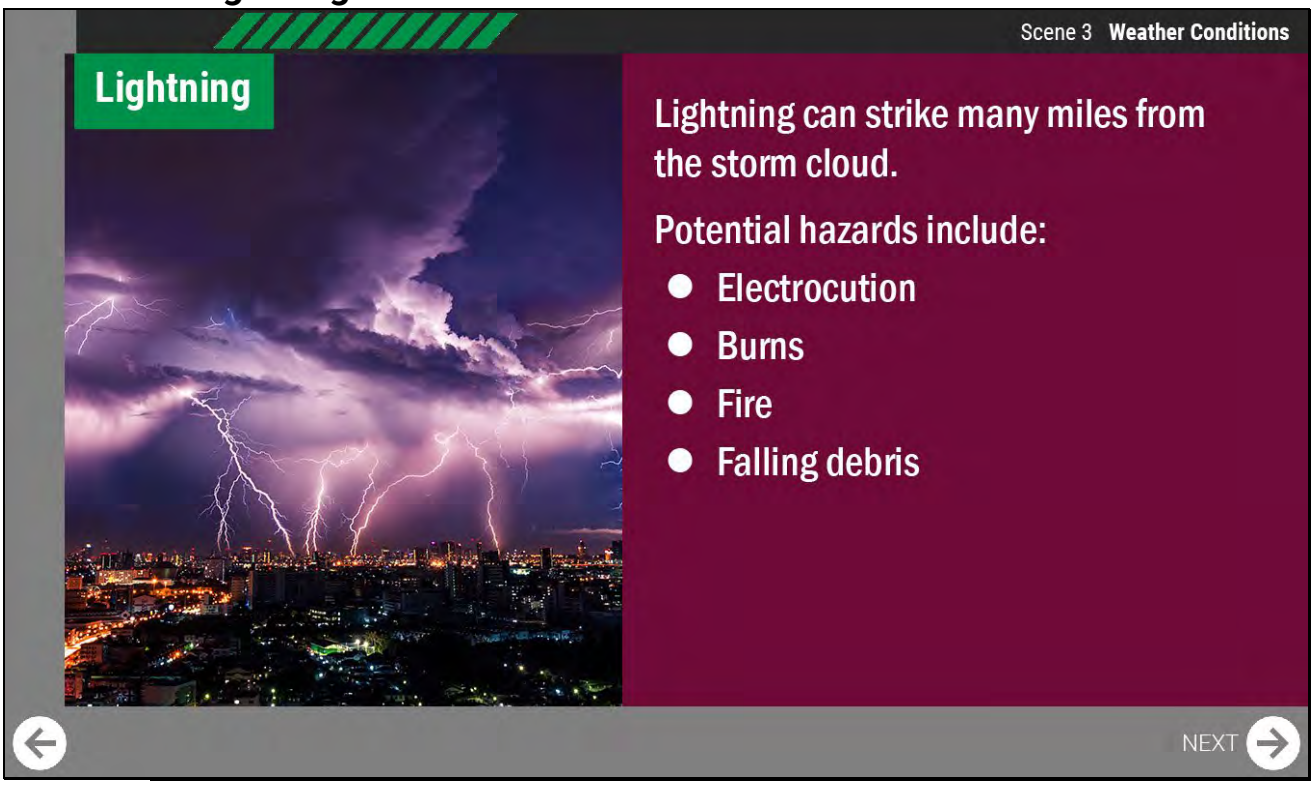


Slide notes

If a watch or warning has been issued, your employer's emergency plan should be activated. Follow the plan and any instructions given including securing equipment if there is time and it can be done safely. No one should be working on elevated equipment. Seek shelter in a designated storm shelter, or a basement or interior room of a permanent structure. If caught outdoors, lay flat and face-down on low ground, away from any trees or vehicles.

Evacuate the area immediately if instructed by a regulatory authority or your employer or supervisor. Do not attempt to return to the area until an "All Clear" signal has been given.

Slide 112 - Lightning



Slide notes

Lightning is another significant hazard associated with storms. Lightning is an electrostatic discharge of energy that builds up within clouds. You don't have to be standing directly under a thundercloud to be struck by lightning. It can strike many miles away from the actual storm.

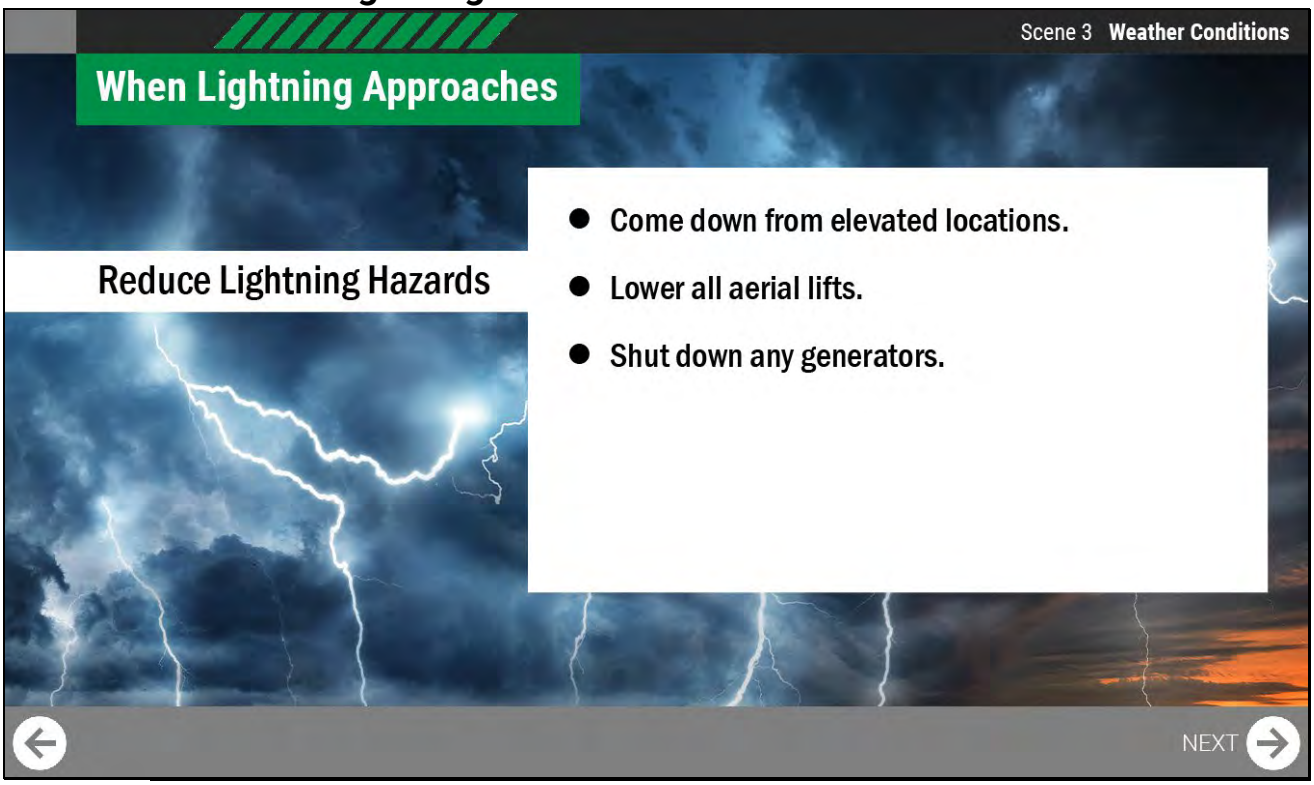
Potential hazards from lightning include electrocution, burns, fire, and falling debris if lightning strikes something above you.

Slide 113 - When Lightning Approaches

Slide notes

As with the other hazards we've covered, there are procedures to protect yourself from lightning.

Slide 114 - Reduce Lightning Hazards

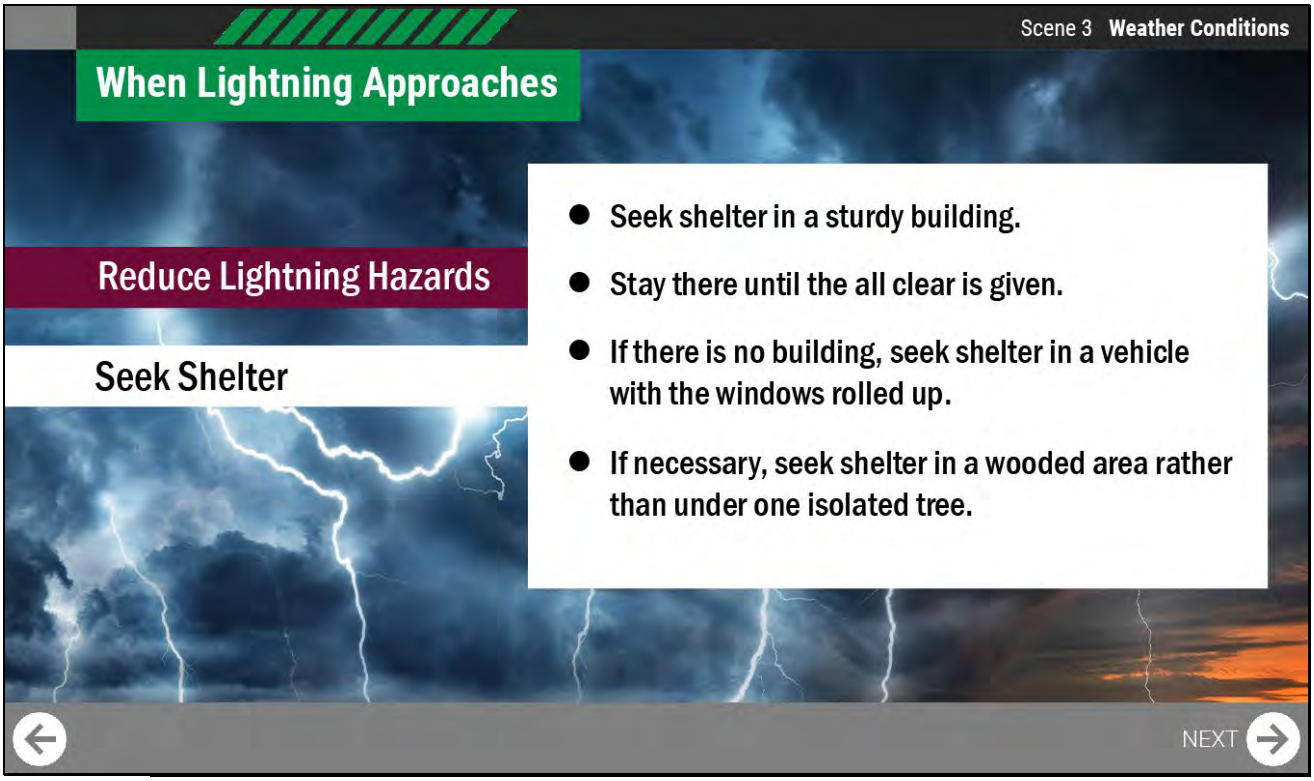


Slide notes

When lightning approaches, personnel should immediately come down from elevated positions such as aerial lifts, sets, and scaffolding.

Then, if safe to do so, lower all unmanned equipment and have a qualified person shut down generators.

Slide 115 - Seek Shelter



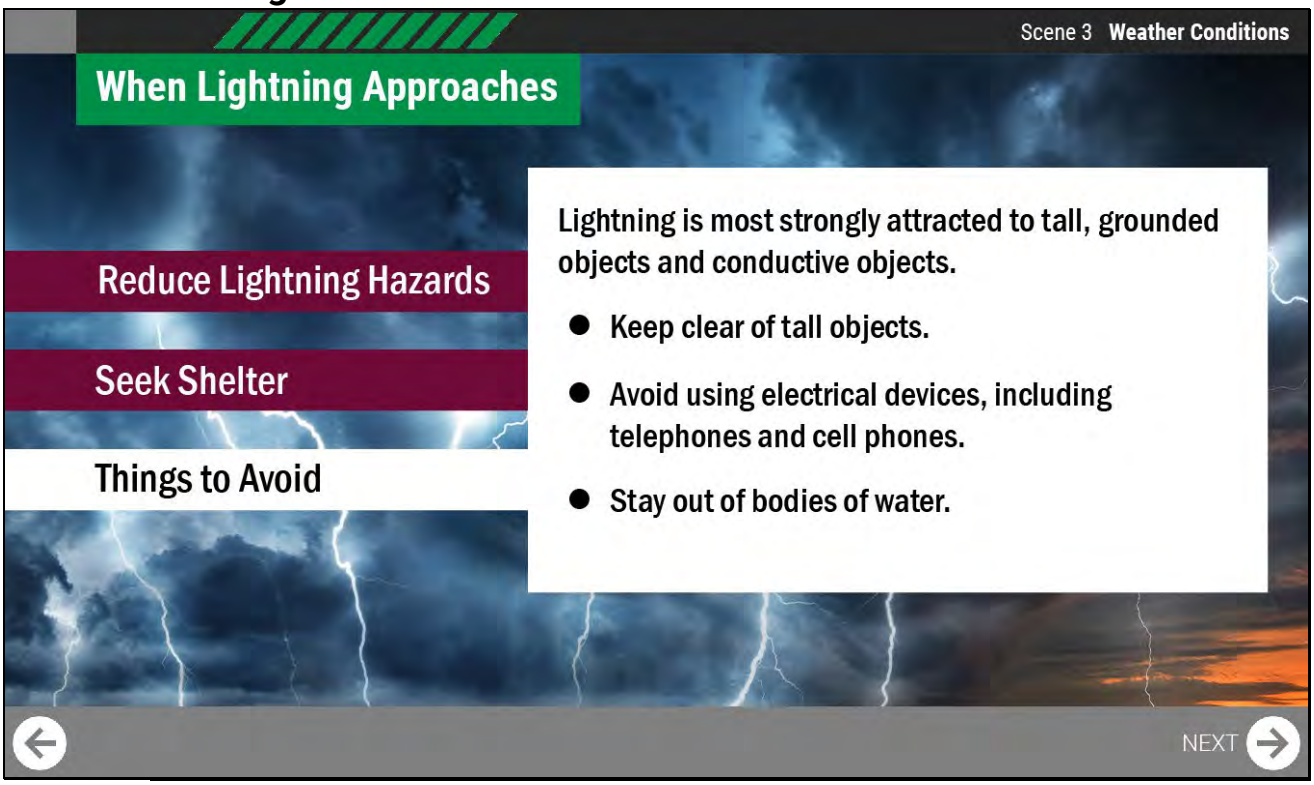
Slide notes

Seek shelter in a building.

If you're instructed to go to a designated safe area, stay there until the production gives you an all-clear to go back to work.

If there are no sturdy buildings around, get inside a hardtop car or truck with the windows rolled up. No buildings, cars, or trucks around? The best advice is to seek shelter in a wooded area with lots of thick, small trees. Don't stand under one isolated tree.

Slide 116 - Things to Avoid



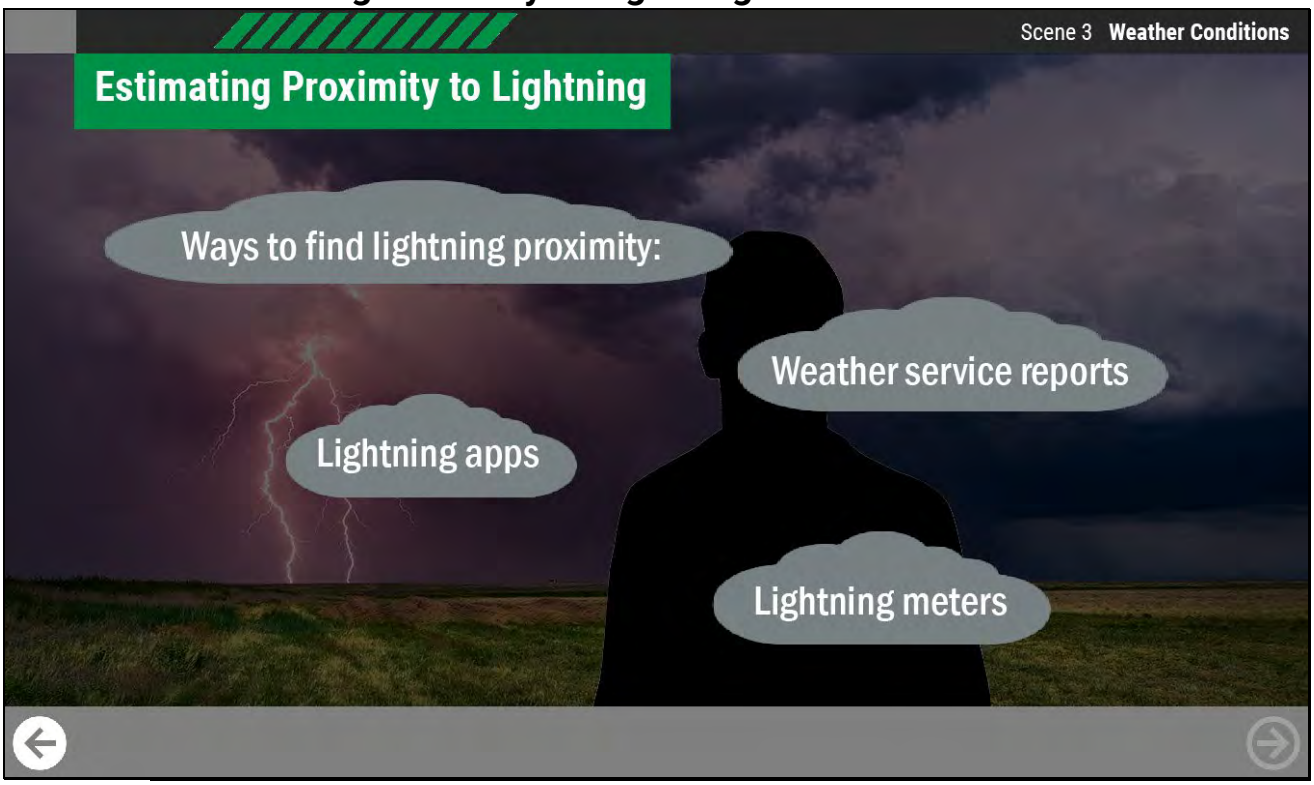
Slide notes

Lightning is complex and unpredictable, but generally it is most strongly attracted to tall, grounded objects and conductive objects near the ground, such as towers, aerial lifts, camera cranes, scaffolding, fences, tall grip stands, and other metal equipment. So avoid standing near these or touching them.

Avoid electrical devices, including telephones and cell phones.

Do not get into a body of water during a lightning storm. Water is conductive, and when you stand in a body of water, you're probably the tallest thing around.

Slide 117 - Estimating Proximity to Lightning 1

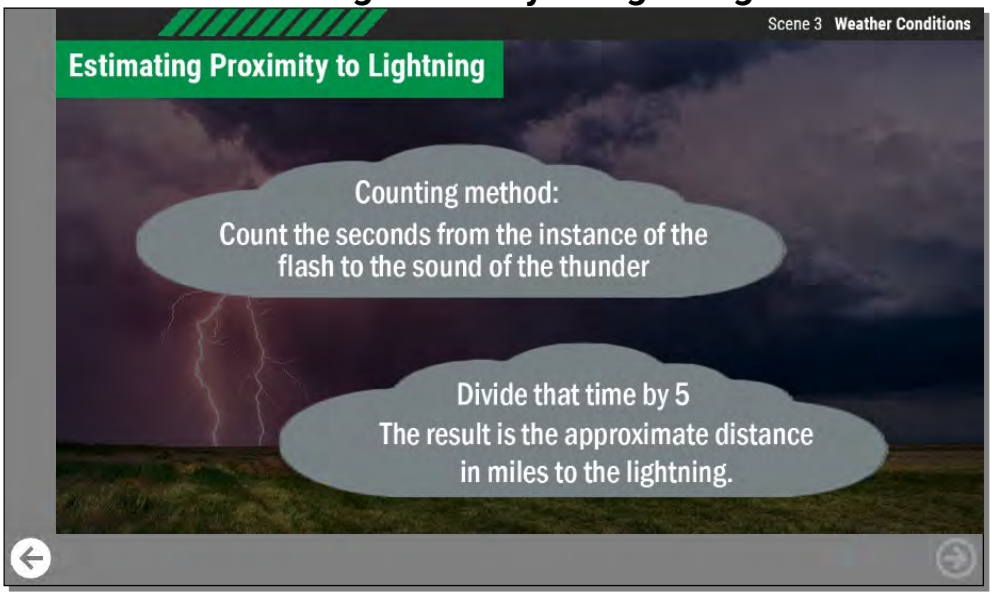


Slide notes

When lightning is seen or thunder is heard, it’s time to stop work and seek shelter.

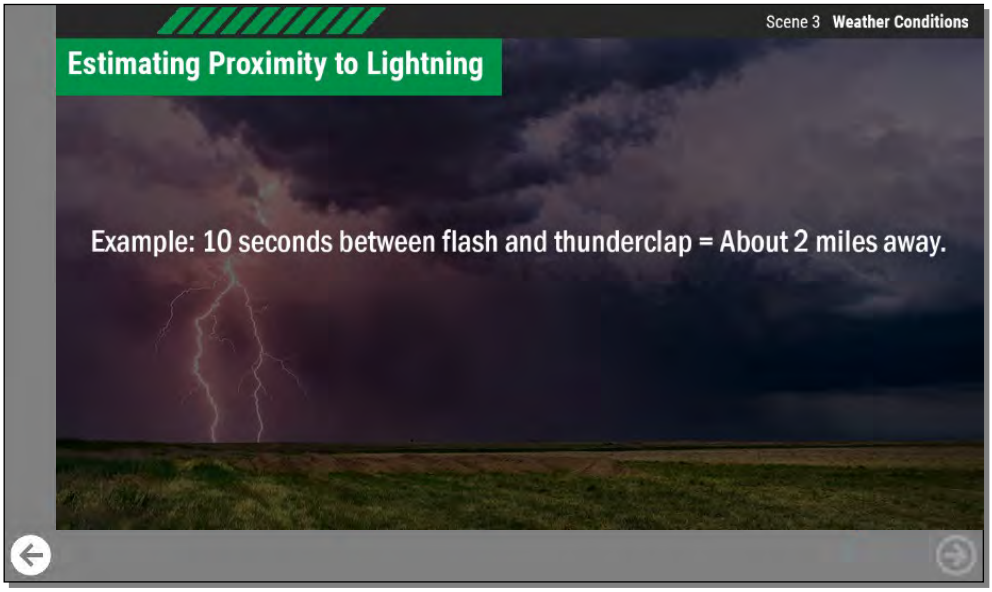
There are a variety of ways to get lightning proximity information. Weather radar, which detects lightning strikes, is reported by government weather services and through the media. A lightning app shows real-time lightning-strike locations and sends alert when lightning approaches a preselected location. A lightning meter gives an approximation of distance (however, some are significantly more accurate than others). Check with your safety representative for more information.

Slide 118 - Estimating Proximity to Lightning 2



Slide notes

Another method is to count the number of seconds from the instant of the flash to the sound of the thunder. Divide that time by five. The result is the approximate distance in miles to the lightning.



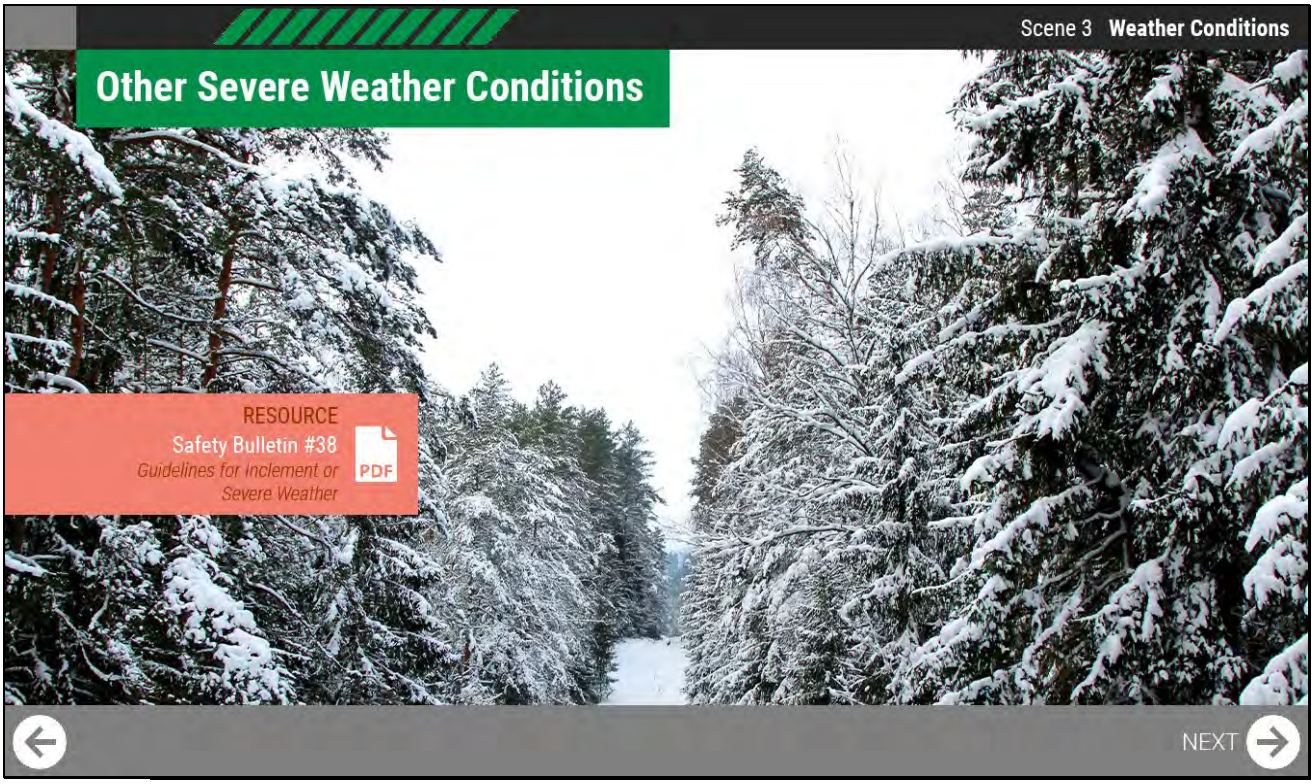
Slide notes

For example, if there are ten seconds between the flash and the thunder clap, then the lightning occurred about two miles away.

As we've said before, lightning is unpredictable and can strike outside the storm or even many miles from any rainfall.

When thirty minutes has passed without an audible thunderclap, then the "All Clear" can be given and it is safe for people to return to work.

Slide 119 - Other Severe Weather Conditions

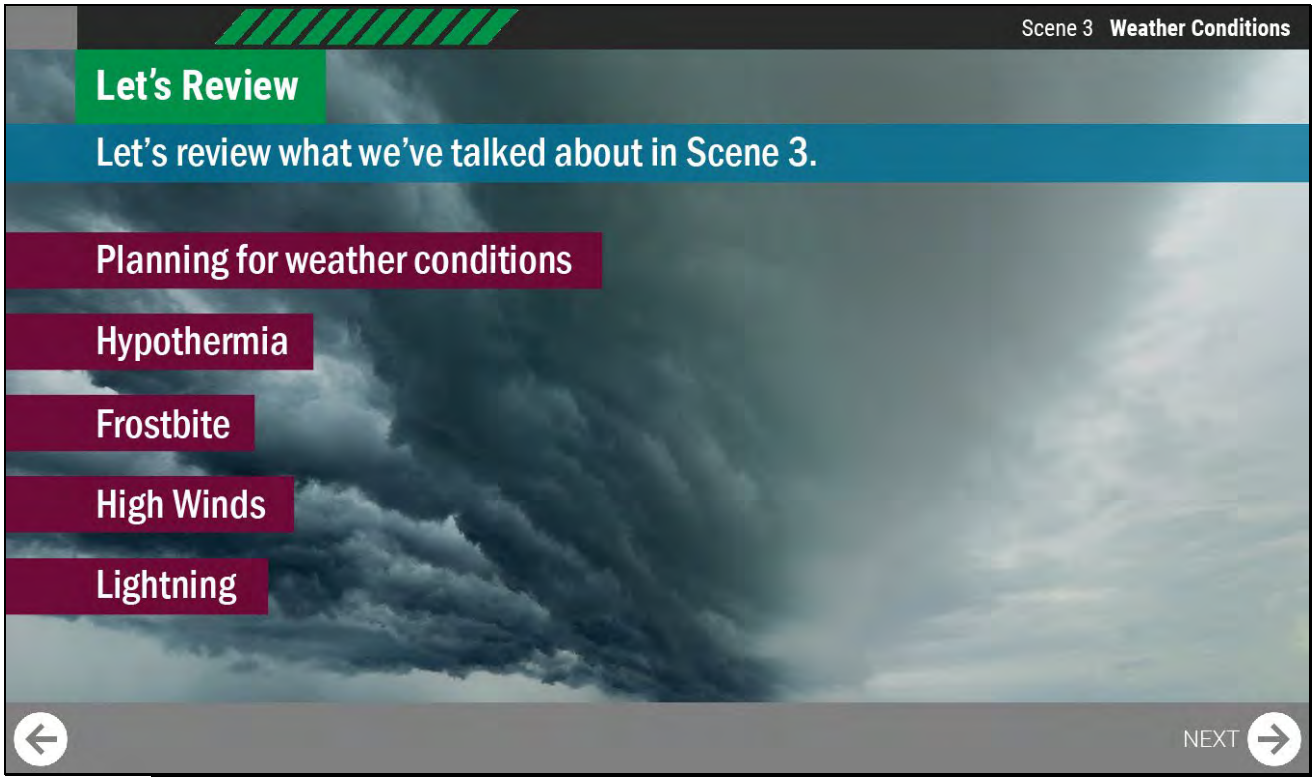


Slide notes

Of course, there are other kinds of severe weather conditions, such as blizzards, flash floods, and hailstorms. These events are beyond the scope of this course, but they are addressed in Safety Bulletin #38, *Guidelines for Inclement or Severe Weather*.

Check with your employer or studio safety representative for more information if you are working in areas prone to these weather conditions.

Slide 120 - Let's Review Scene 3



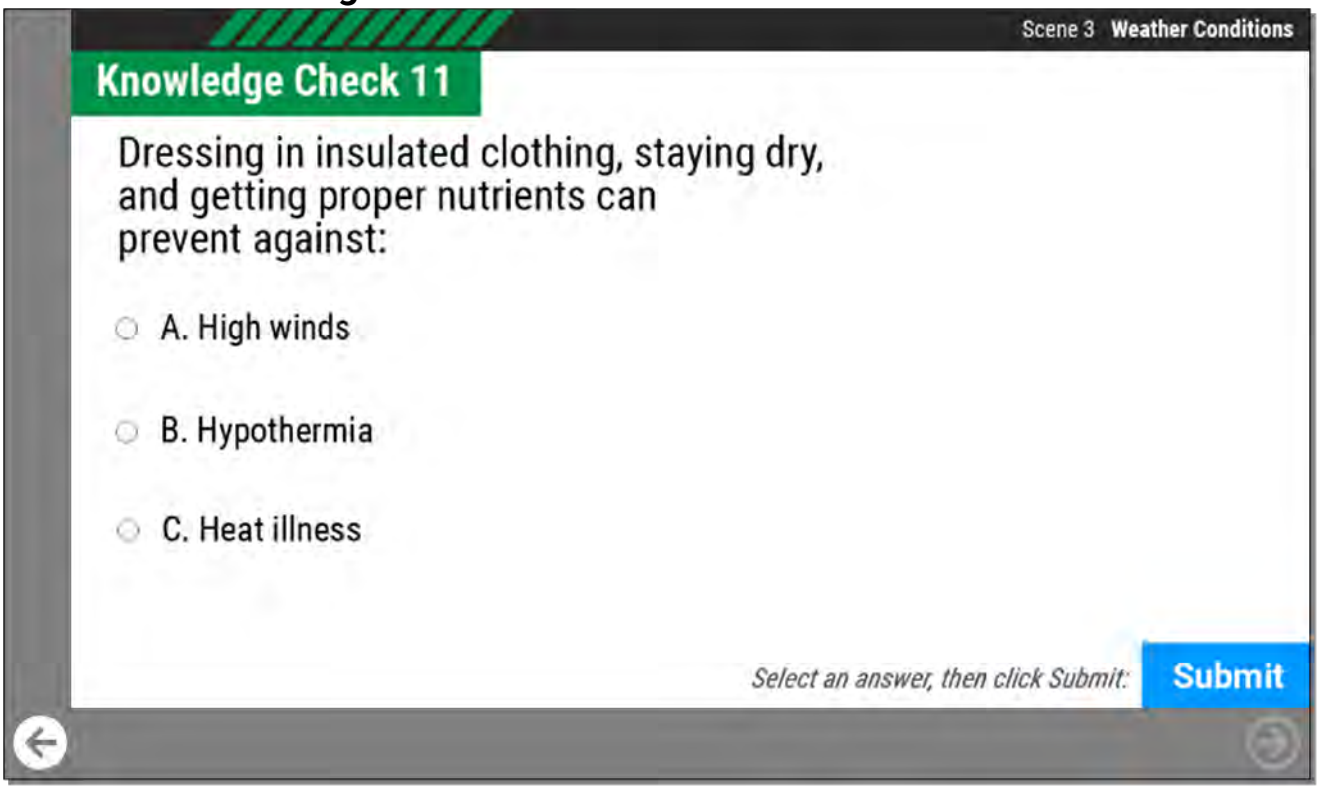
Slide notes

Let's briefly review what you should take away from this scene. We demonstrated why it is important to plan for severe weather, both individually and as a production. Hypothermia and frostbite are both hazards you could face in cold temperatures. These hazards can be avoided by regulating body temperature, protecting the extremities, and getting warm when needed. You can look after your co-workers by watching for symptoms of hypothermia and frostbite and reminding them of the prevention steps we've talked about.

In addition, you know what to do in the event of high winds, when to lower aerial equipment, and other precautions to consider to keep the set safe. And, you have learned that when lightning is seen or thunder is heard, it is time to seek shelter.

Let's check your knowledge.

Slide 121 - Knowledge Check 11

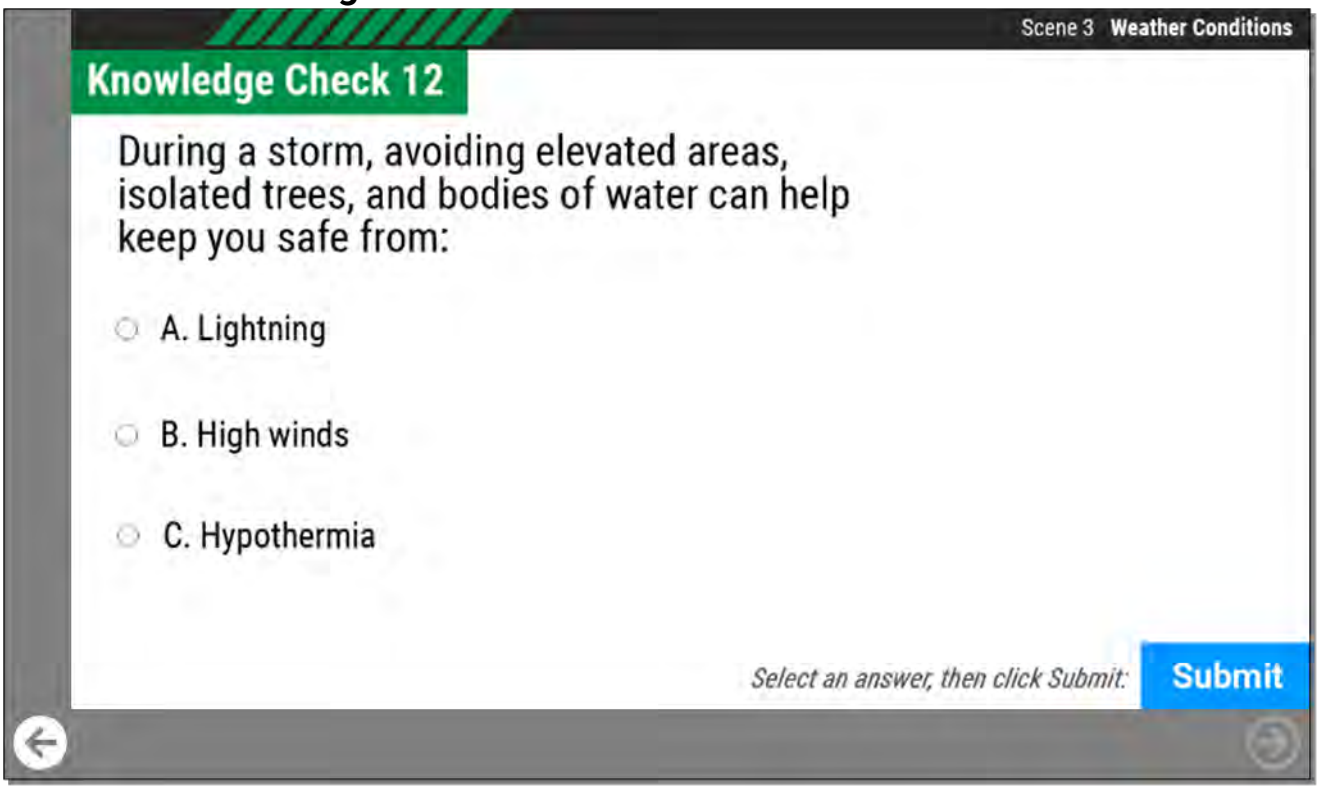


Slide notes

Knowledge Check 11

Question: Dressing in insulated clothing, staying dry, and getting proper nutrients can prevent against:

Slide 122 - Knowledge Check 12



Slide notes

Knowledge Check 12

Question: During a storm, avoiding elevated areas, isolated trees, and bodies of water can help keep you safe from:

Slide 123 - Disaster and Emergency

Slide notes

Scene Four. Disaster and Emergency Response.

Slide 124 - In This Scene

Slide notes

In this scene, we will cover pre-emergency safety planning, emergency reporting, evacuation procedures, medical emergencies, hazardous materials, earthquakes, and tsunamis.

Slide 125 - Introduction

Slide notes

In the past few scenes, we've covered how you can protect yourself from hazards and even prevent them in many cases. But often emergencies arise with little or no warning: fires, earthquakes, medical emergencies, and contamination by hazardous materials, for example. This scene starts with general precautions that apply to many different events that require an emergency response.

The objectives of this scene are for you to understand some elements of emergency planning, be familiar with procedures for reporting an emergency, and be able to follow an evacuation procedure. Upon completion of this scene, you'll know the basic steps for dealing with a medical emergency and hazardous spill. You'll know what to do in the event of an earthquake, and the hazards to watch for after the shaking stops.

Slide 126 - Pre-Emergency Safety Planning

Slide notes

The only way to protect against disasters and emergencies is to plan ahead and be prepared. For workers this means being familiar with the work area so you can find the way out when seconds count.

Slide notes

As film workers, our work location can change frequently. It’s a good idea to take a walk around a new work site at the beginning of the day to get familiar with it.

Slide notes

Know how to get to the two closest exits quickly and safely. Keep in mind that sets, equipment, and backings all move. The closest, fastest, and safest way to an exit yesterday may not be the same today.

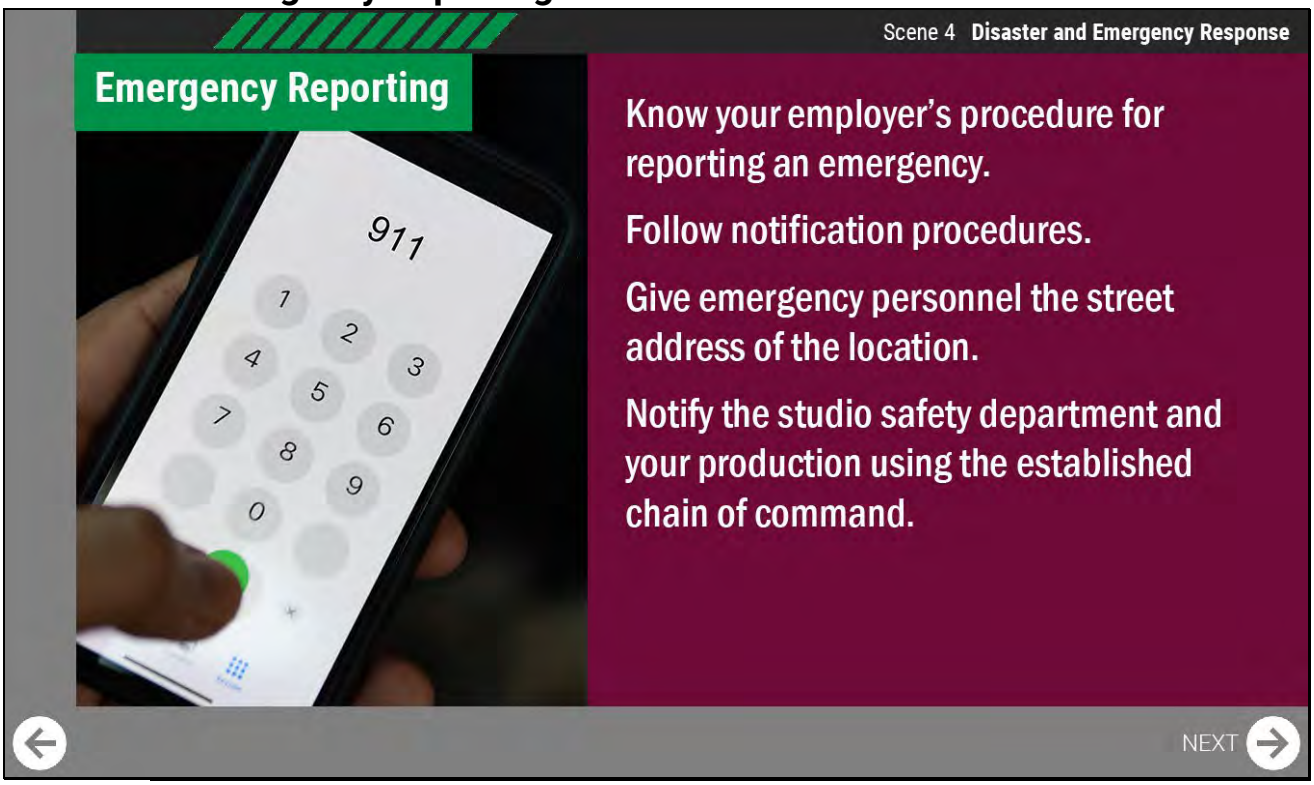
Whether you're working on the 20th floor of a high-rise or in a converted warehouse, make sure you can find all the exits.

Slide notes

You'll need to know where emergency phone numbers are listed and the location of the nearest medical assistance.

That could be the set medic, first aid station, an infirmary, a clinic, or a hospital emergency room.

Slide 127 - Emergency Reporting



Slide notes

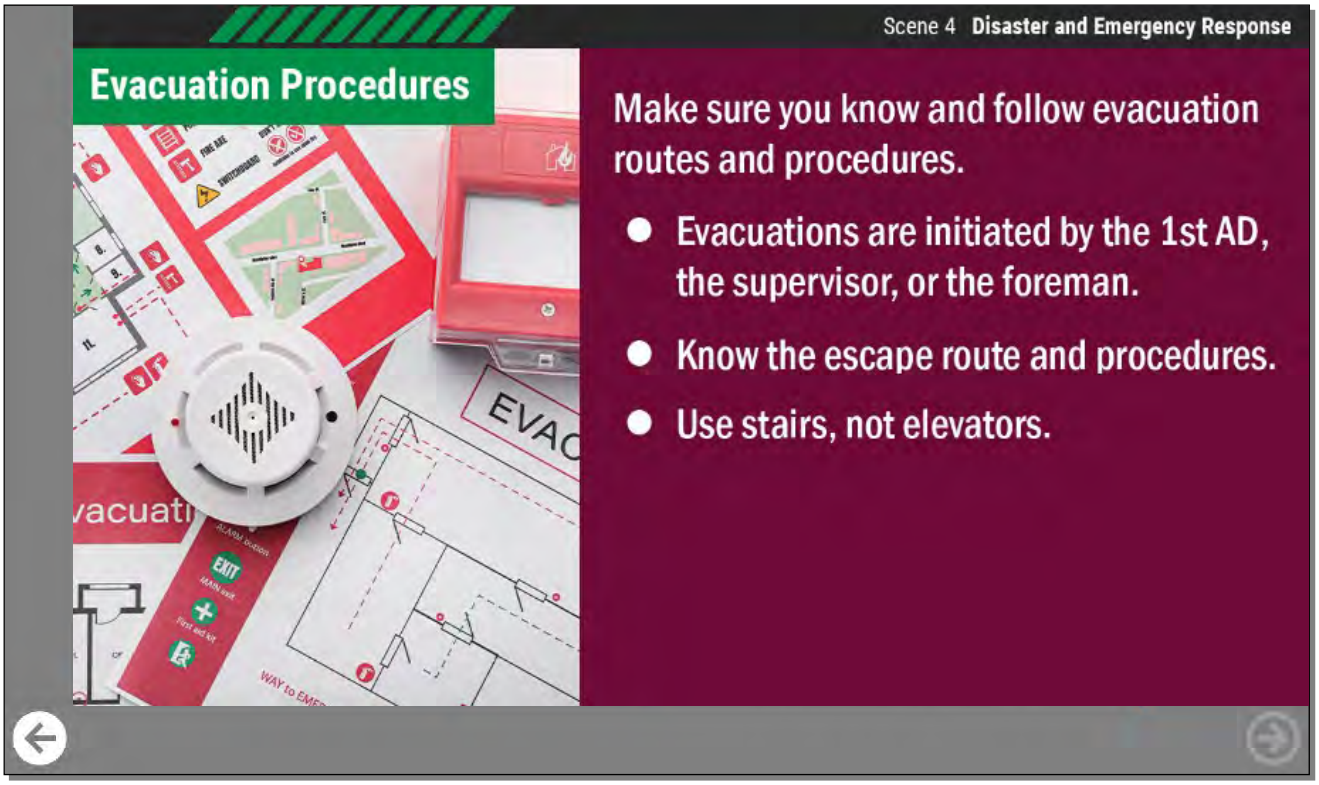
Know the employer's procedure for reporting an emergency, including a medical emergency or a hazardous material spill. This is especially important on location where you're less familiar with the available medical facilities.

Follow the employer's notification procedures, which may include calling the on-lot emergency number or 911, or notifying first aid.

When reporting any emergency, be sure you have the street address of the location to direct emergency personnel-it should be on the call sheet.

You'll also need to notify the studio safety department and your own production using the established chain of command.

Slide 128 - Evacuation Procedures

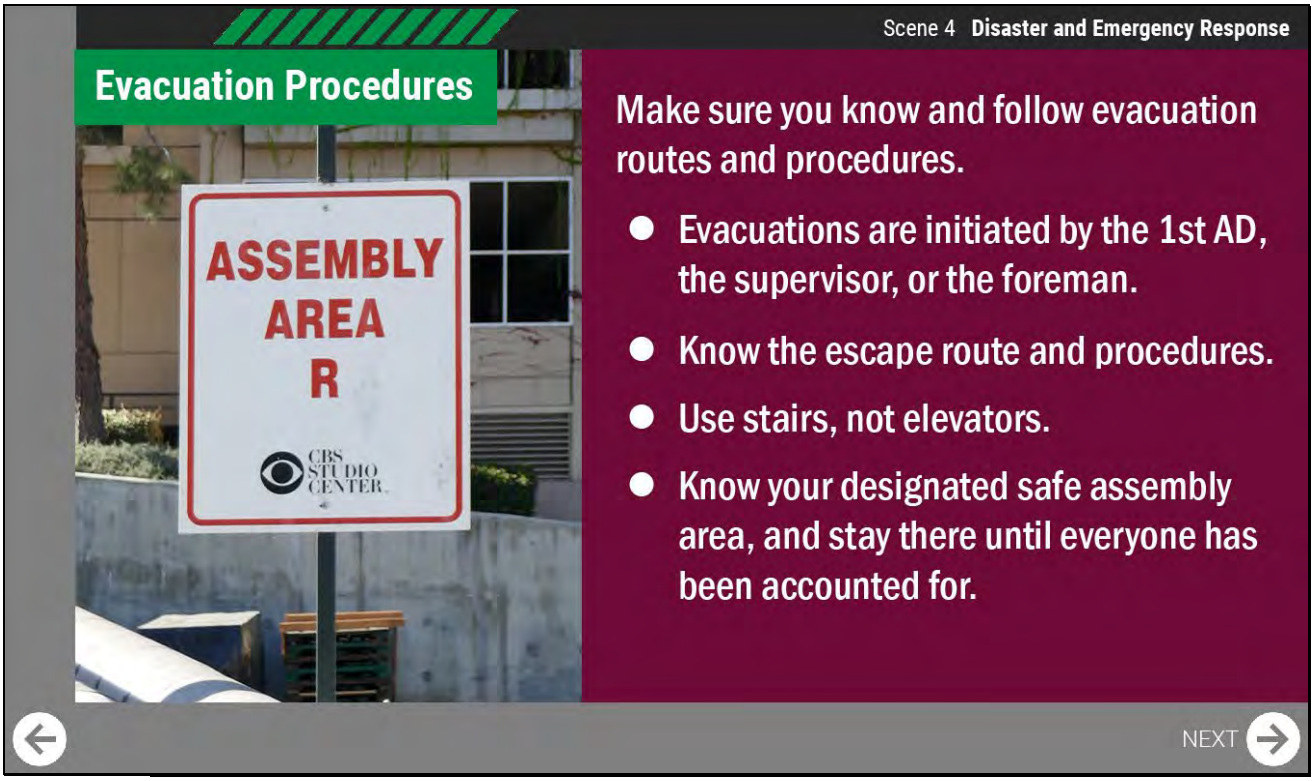


Slide notes

Your production should establish and review the evacuation procedure with you.

On a shooting set, the first assistant director is responsible for initiating the evacuation. Off production, the supervisor or foreman may be the one with this responsibility.

If an evacuation is necessary, stay calm and follow the established routes and procedures. Use staircases, not elevators.

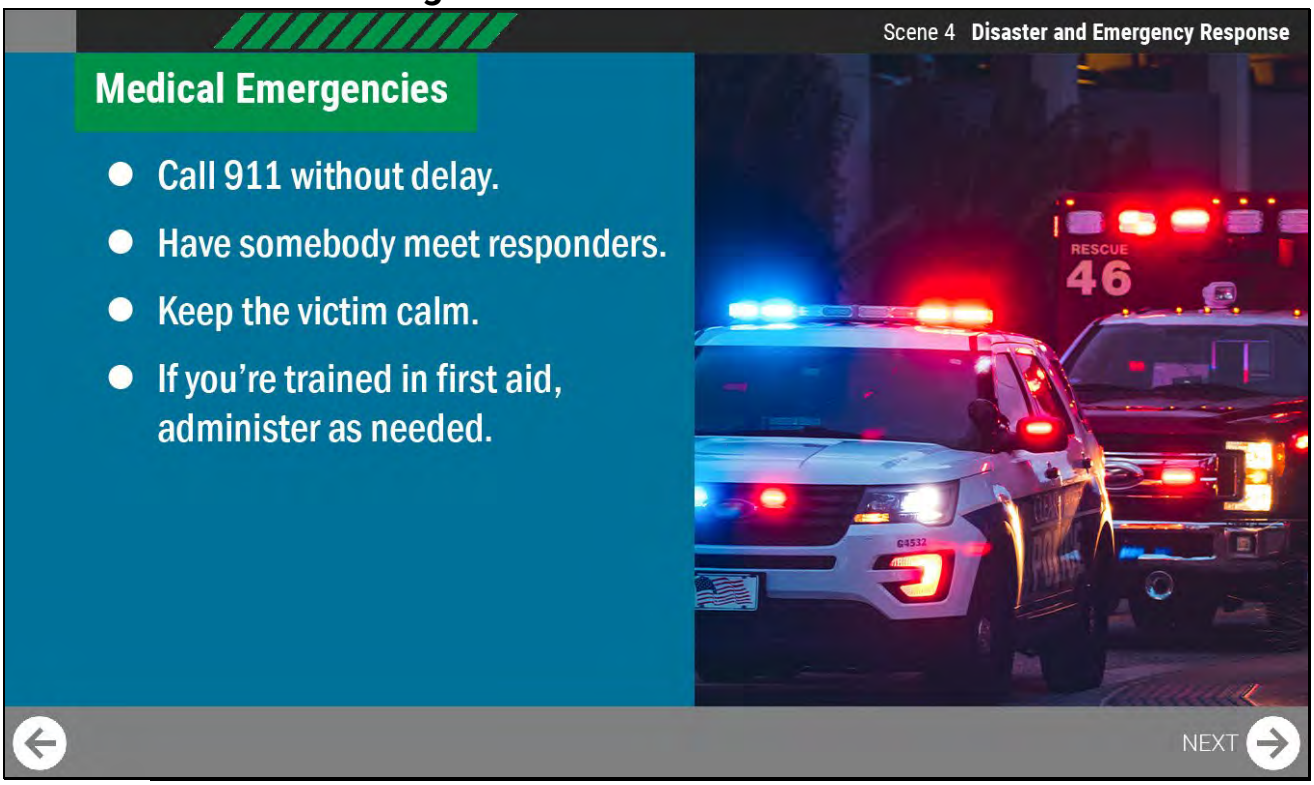


Slide notes

The emergency plan designates the safe assembly area, a location that is away from the building and not under power lines. As people exit the building, they should report immediately to the designated assembly area. A person in each department will be assigned the responsibility of accounting for everyone in their department.

Remain at the safe assembly area until everyone has been accounted for. If you leave, it may be assumed that you are still inside, and people may unnecessarily put themselves at risk to find you.

Slide 129 - Medical Emergencies

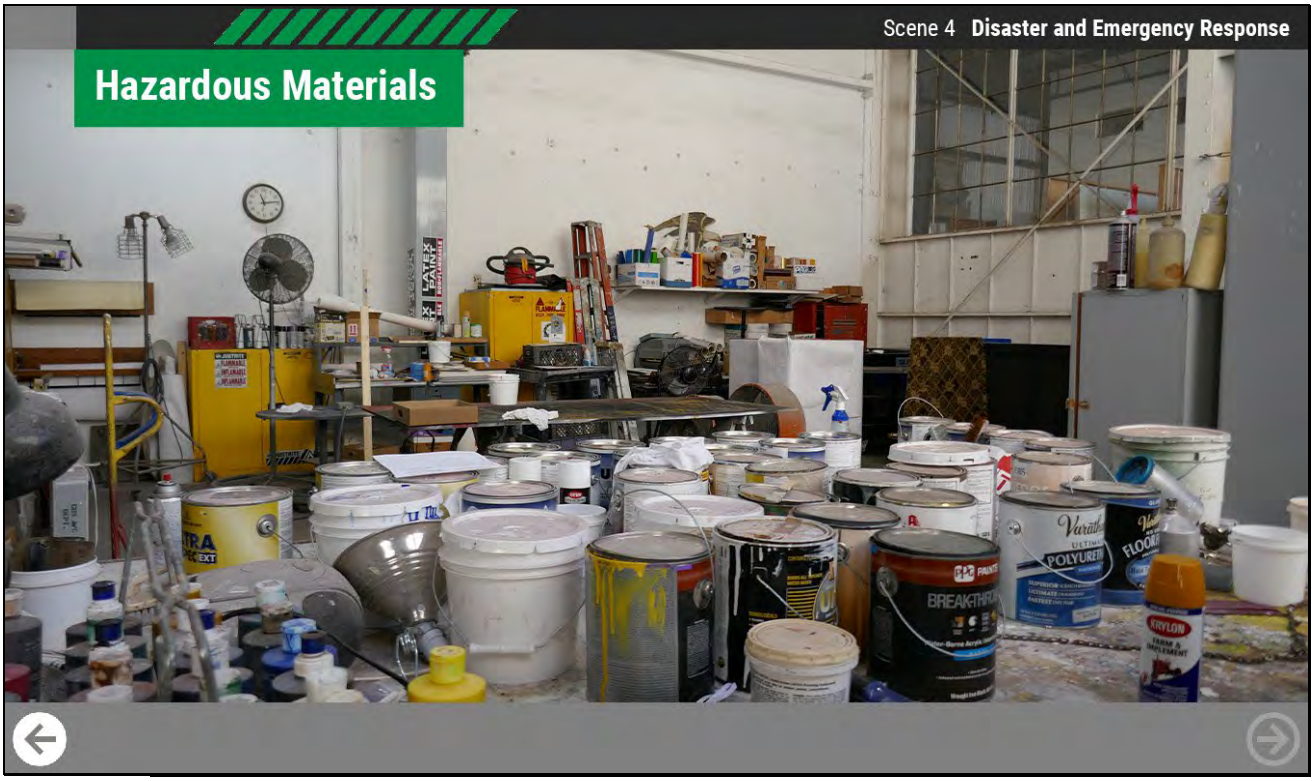


Slide notes

If there's a medical emergency on a job site, call 911 without delay. Have somebody meet the emergency responders to lead them to the victim. Try to keep the victim calm.

If you're trained in first aid, administer aid as needed.

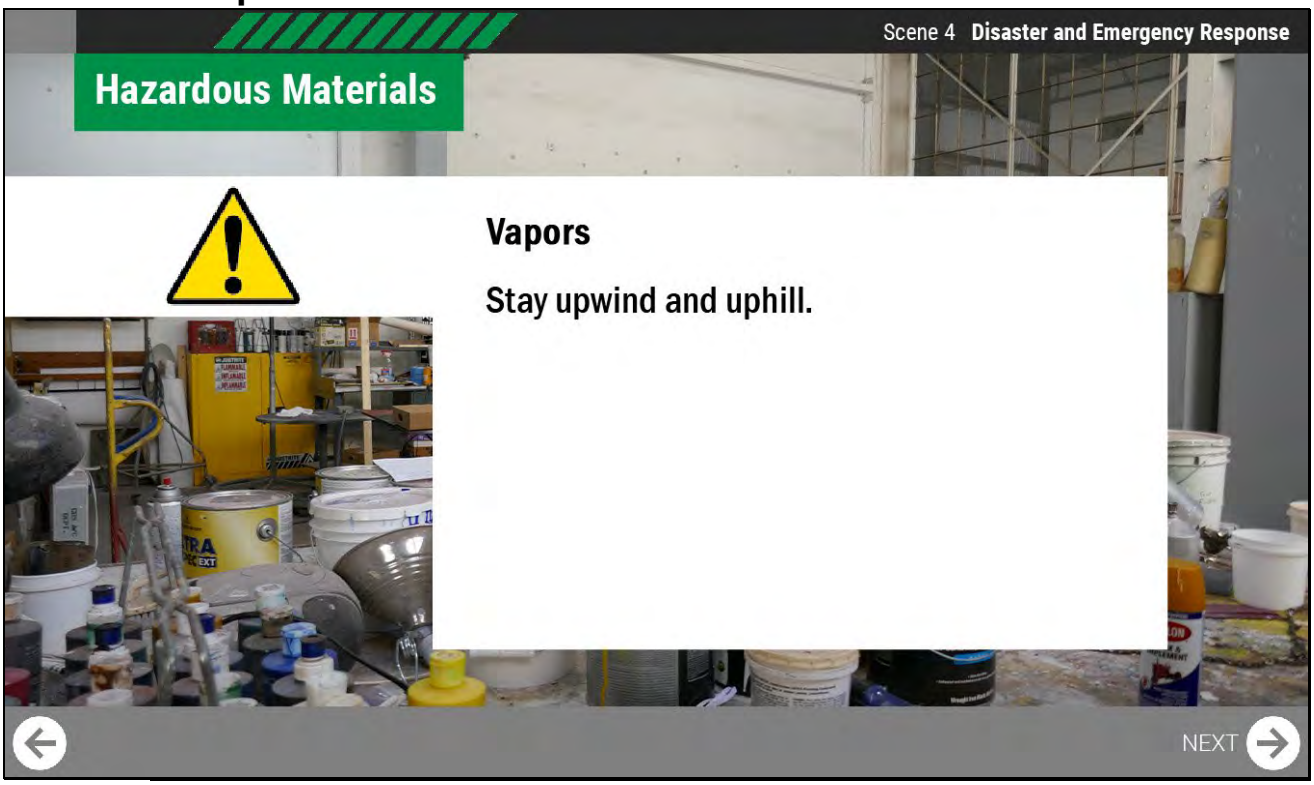
Slide 130 - Hazardous Materials



Slide notes

Check with your employer or safety department for specific guidelines regarding hazardous material spills.

Slide 131 - Vapors

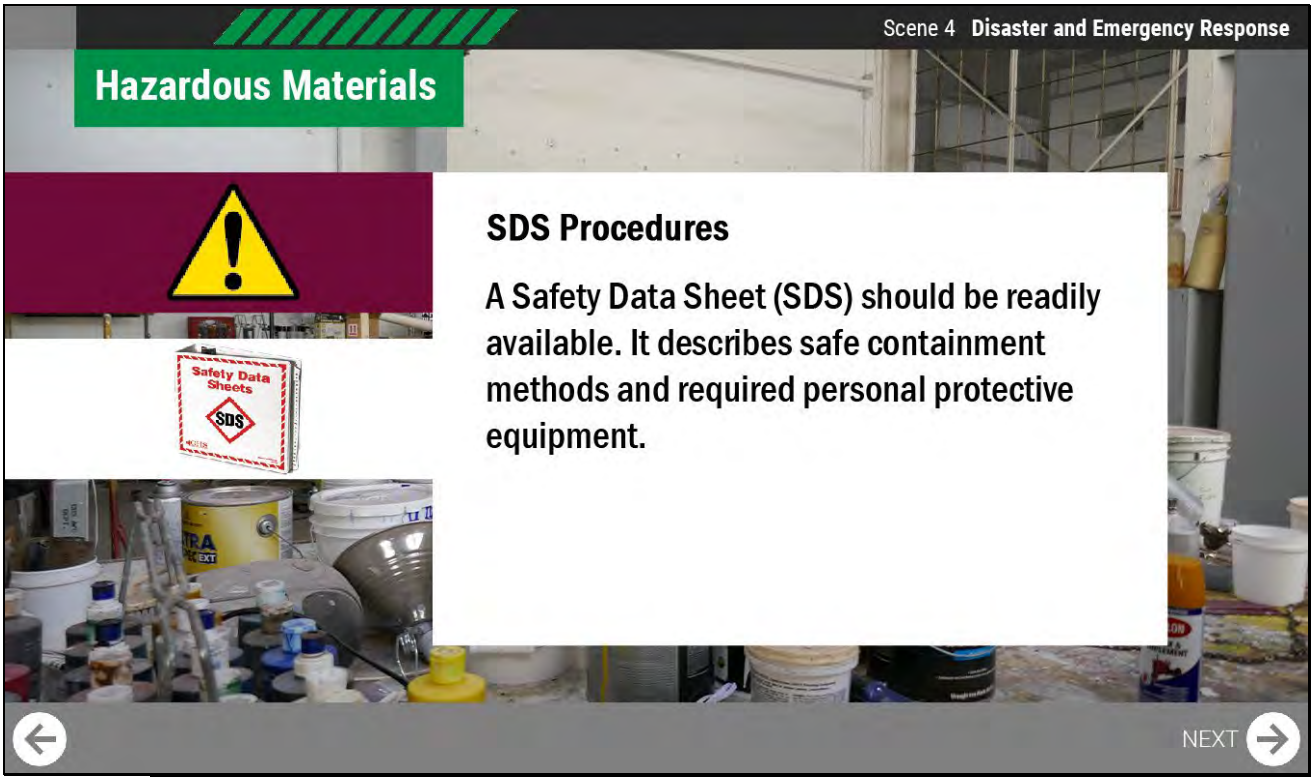


Slide notes

Vapors

If a hazardous material is spilled, if possible stay upwind and uphill from the spill so you're not affected by the vapors.

Slide 132 - SDS Procedures

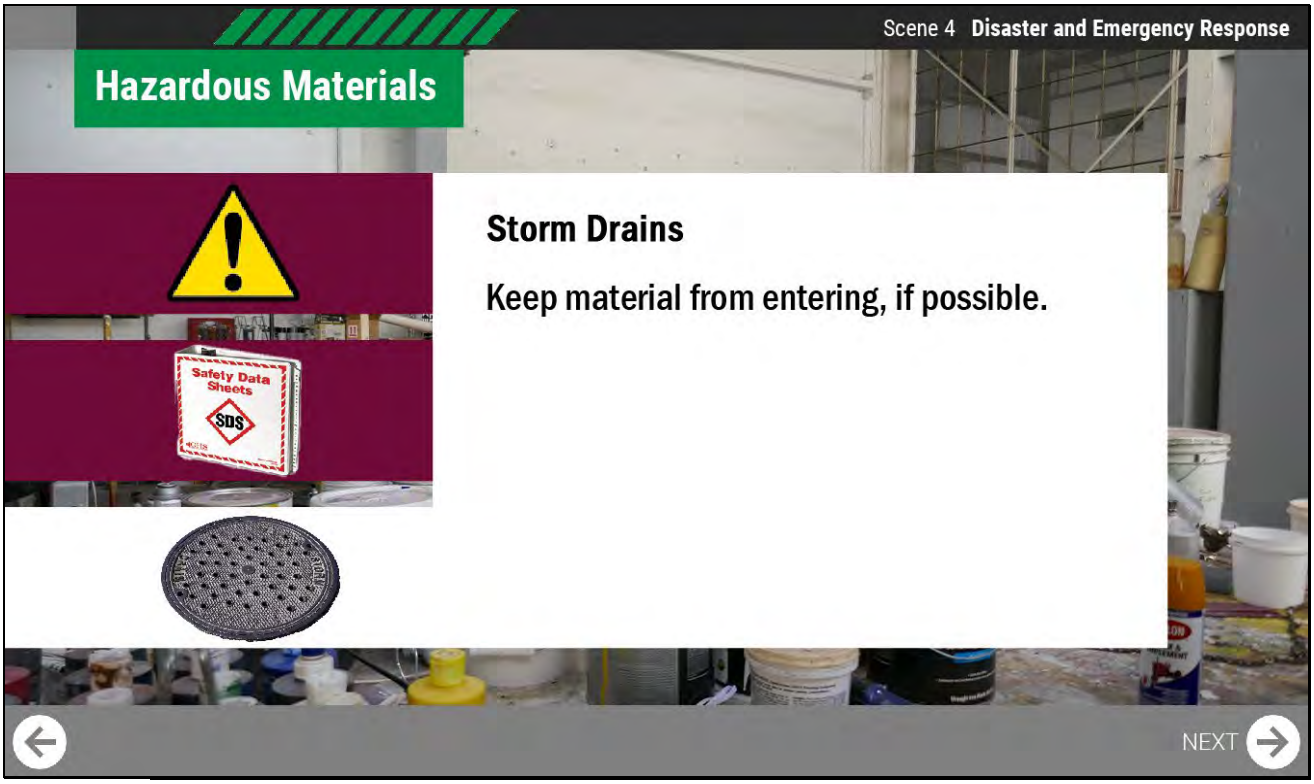


Slide notes

SDS Procedures

If the material is classified as hazardous, a Safety Data Sheet, or SDS, should be readily available. The SDS describes safe containment methods and required personal protective equipment. Some studios have a hazardous materials spill team that can be called in. If it's accessible, have the SDS available for the emergency responders.

Slide 133 - Storm Drains

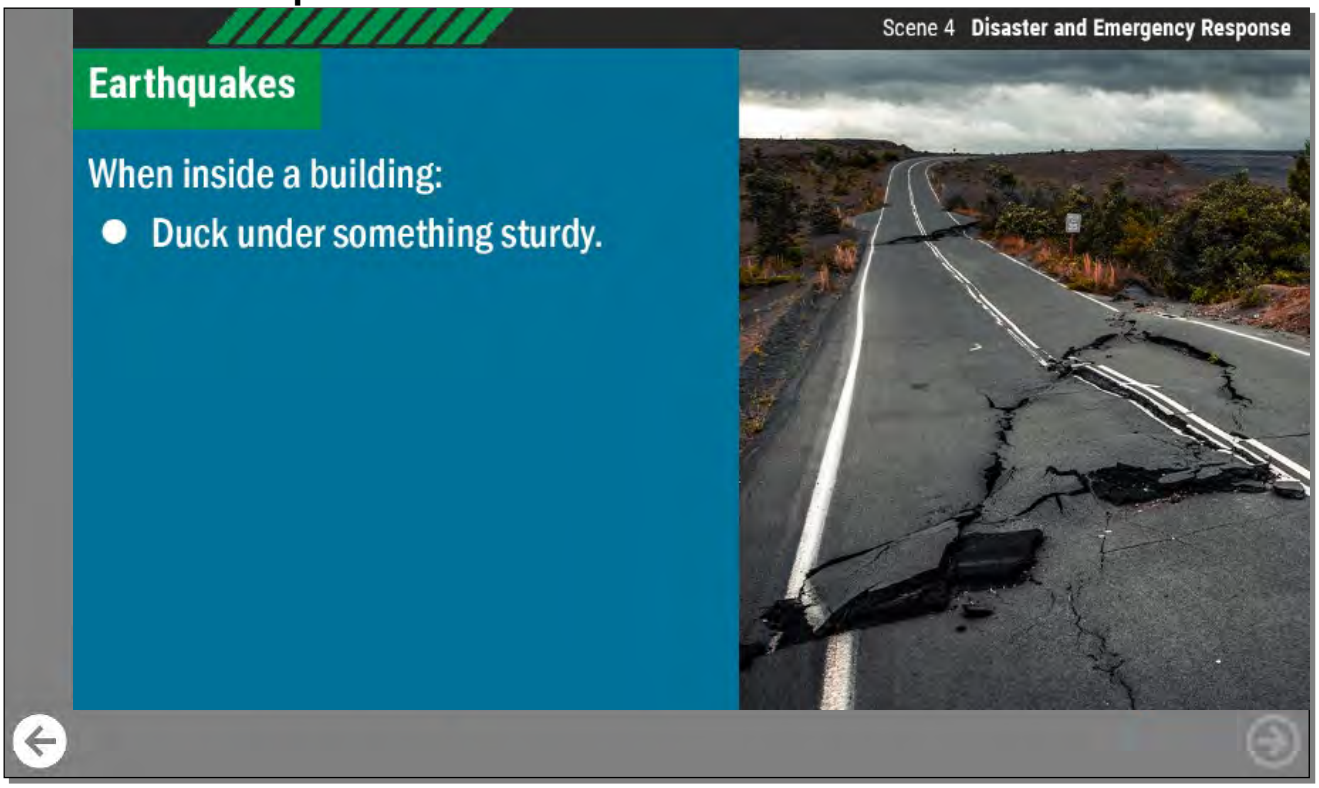


Slide notes

Storm Drains

If possible, keep the material from entering a storm drain, but do not risk your own safety.

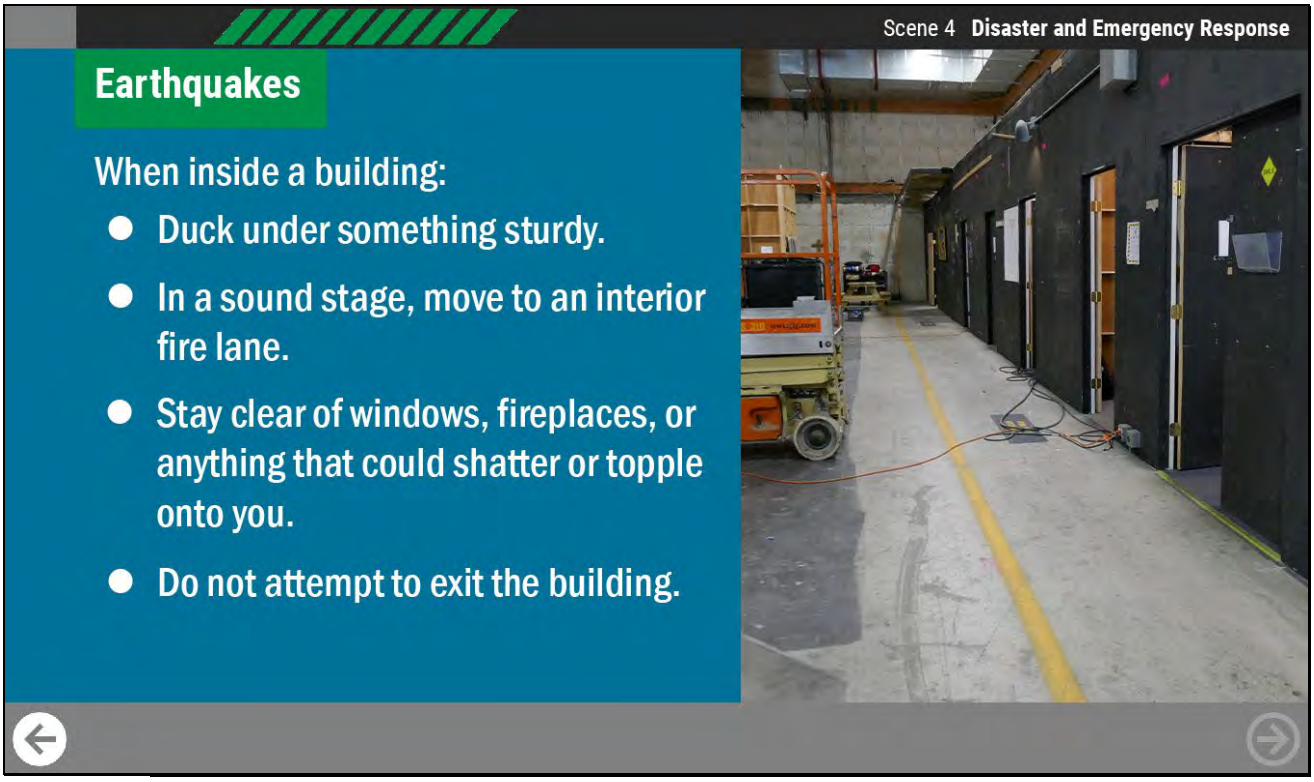
Slide 134 - Earthquakes 1



Slide notes

Because earthquakes do happen in California and, surprisingly, in other parts of the country as well, it's important to know how to respond no matter where you are when the earthquake hits.

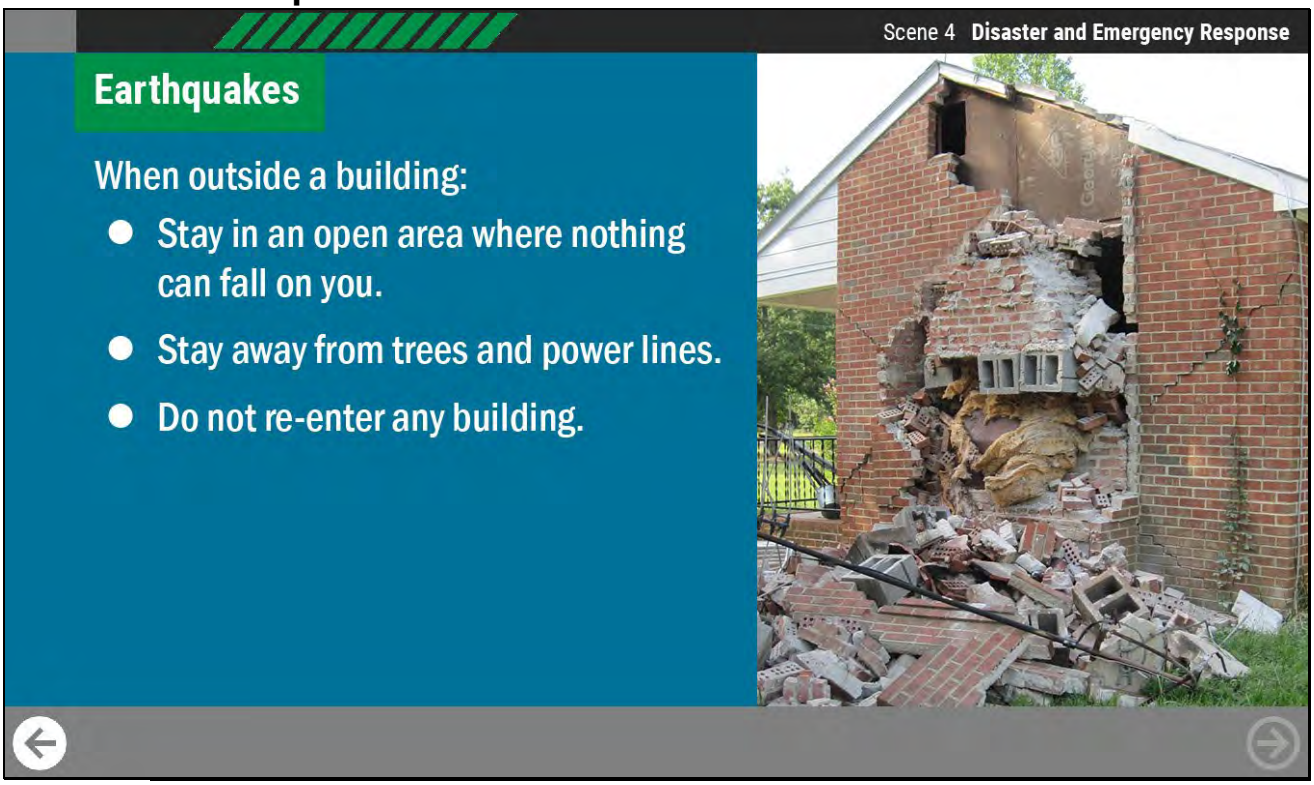
In the event of an earthquake, duck under something sturdy. Find a desk or a table, get underneath, hold onto it, and don't come out until the shaking stops. Cover your head.



Slide notes

When working on a sound stage, move to the 4-foot fire lane along the interior perimeter wall. Avoid standing near a window or fireplace, or anything else that could shatter or topple over on you. If you're inside a building during an earthquake, stay there. Don't run down stairs or rush outside. There is danger of injury from falling down or being hit by falling glass or debris. Wait until the shaking stops before you exit.

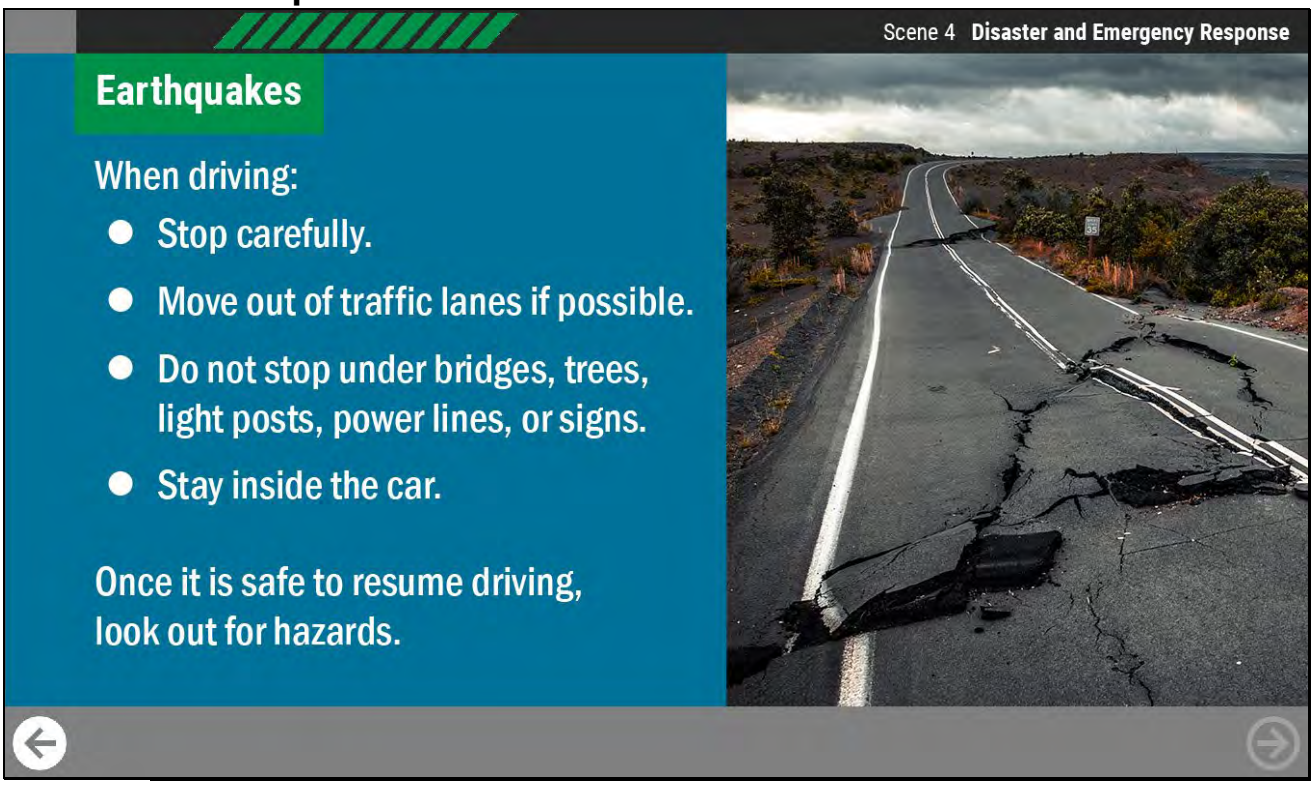
Slide 135 - Earthquakes 2



Slide notes

If you're outside during an earthquake, stay out in the open where nothing can fall on you. Watch for trees and power lines. Once the shaking stops, do not attempt to re-enter any building until it has been checked and cleared.

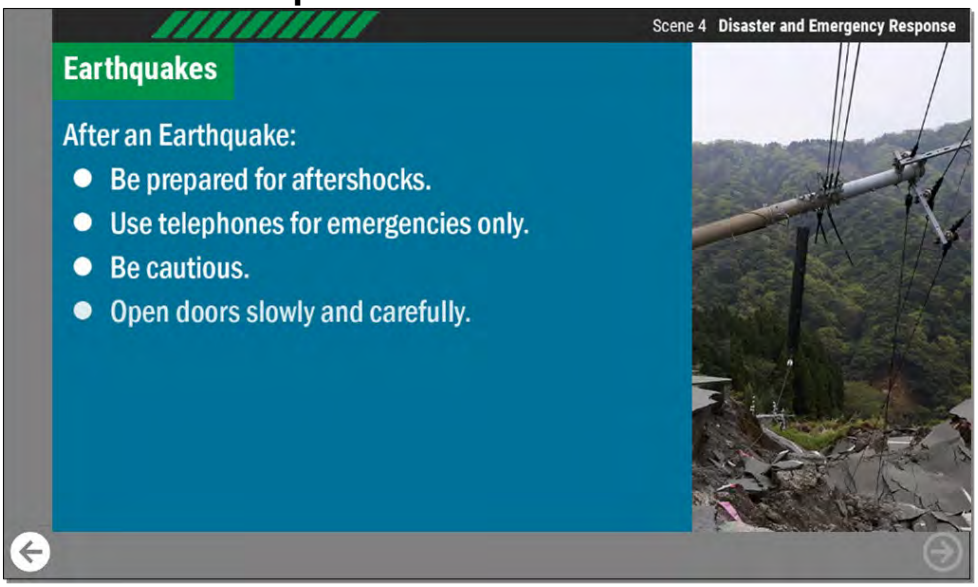
Slide 136 - Earthquakes 3



Slide notes

If you are driving during an earthquake, don’t slam on the brakes-pull over carefully onto the side of the road. Make sure you don’t stop under bridges or overpasses, or under trees, power lines, or signs that could fall onto the vehicle. Stay inside your car until the shaking stops. Once it is safe to resume driving, watch out for breaks in the road, fallen rocks, and bumps in the approaches to bridges and overpasses.

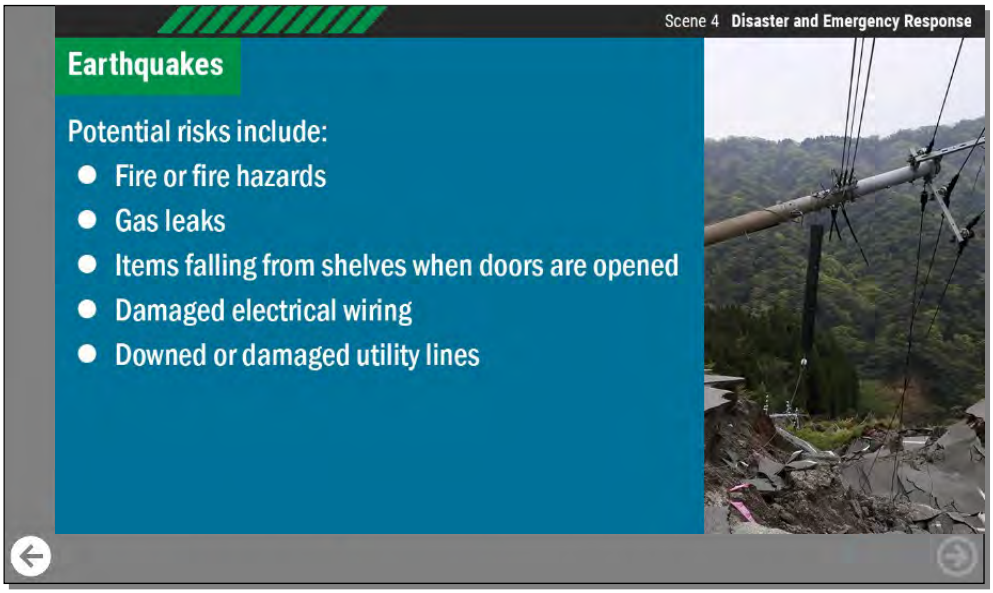
Slide 137 - Earthquakes 4



Slide notes

After an earthquake, be prepared for aftershocks. Use telephones for emergency calls only. Switchboards can get overloaded with calls after earthquakes.

Be careful when opening cupboards and storage units, as items are likely to fall out. Glass jars and chemical containers may have fallen over, broken, or spilled. Open doors slowly and carefully.

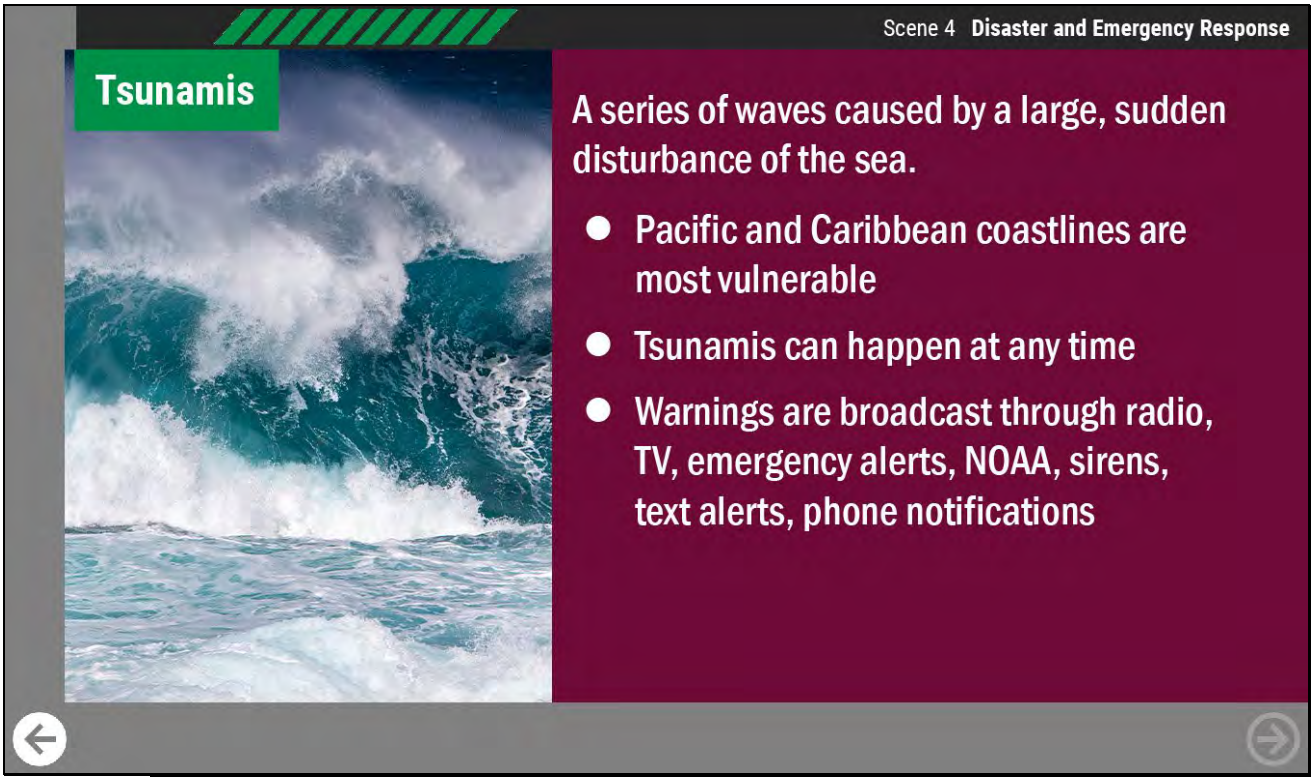


Slide notes

There's a possibility of fire and fire hazards, gas leaks, damaged electrical wiring, and downed or damaged utility lines. Do not approach or touch downed power lines or any object touching them.

If you discover any of these hazards or there are other safety concerns, evacuate the area immediately and notify a supervisor, the safety department, or the appropriate authority.

Slide 138 - Tsunamis



Slide notes

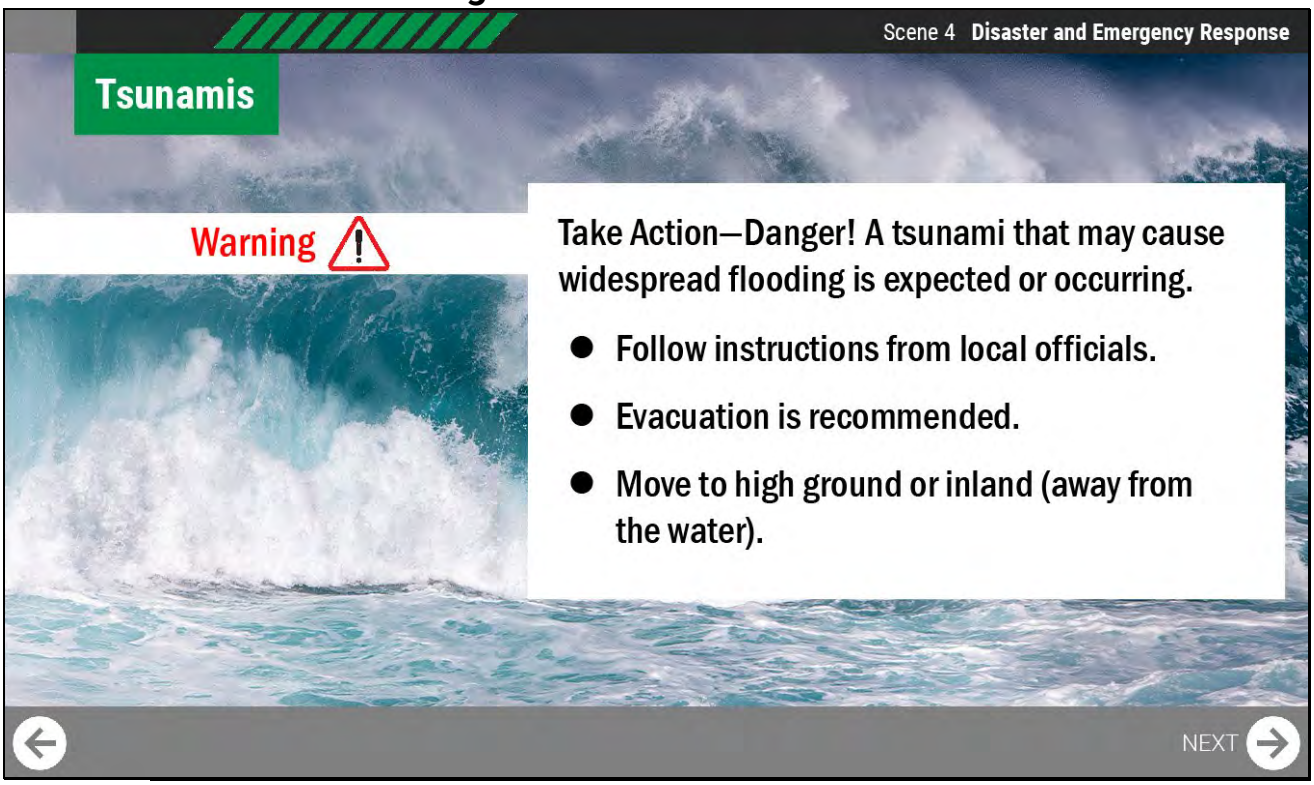
A tsunami is one the most powerful and destructive natural forces. It is a series of waves (not just one) caused by a large and sudden disturbance of the sea, most often an undersea earthquake. While a tsunami can happen on any coast, low-lying coastal areas along the Pacific and Caribbean coastlines are most vulnerable.

Even though tsunamis do not occur very often, and most are small and nondestructive, it is important to be prepared because, like earthquakes, tsunamis can happen at any time.

Tsunami warnings are broadcast through local radio and television, wireless emergency alerts, and NOAA Weather Radio. They may also come through outdoor sirens, local officials, text message alerts and phone notifications.

The National Weather Service issues four levels of tsunami alerts:

Slide 139 - Tsunami Warning

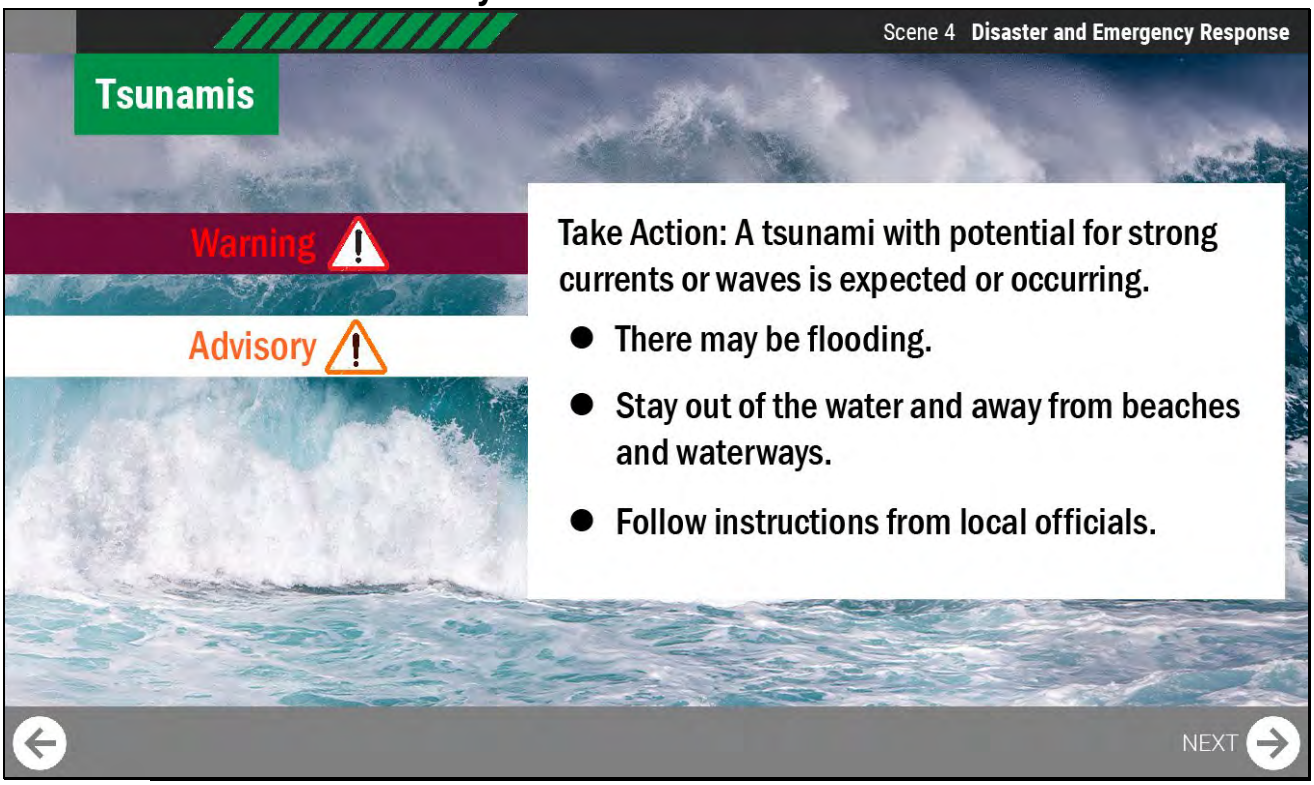


Slide notes

Tsunami Warning: Take Action- Danger! A tsunami that may cause widespread flooding is expected or occurring. Dangerous coastal flooding and powerful currents are possible and may continue for several hours or days after initial arrival.

Follow instructions from local officials. Evacuation is recommended. Move to high ground or inland (away from the water).

Slide 140 - Tsunami Advisory

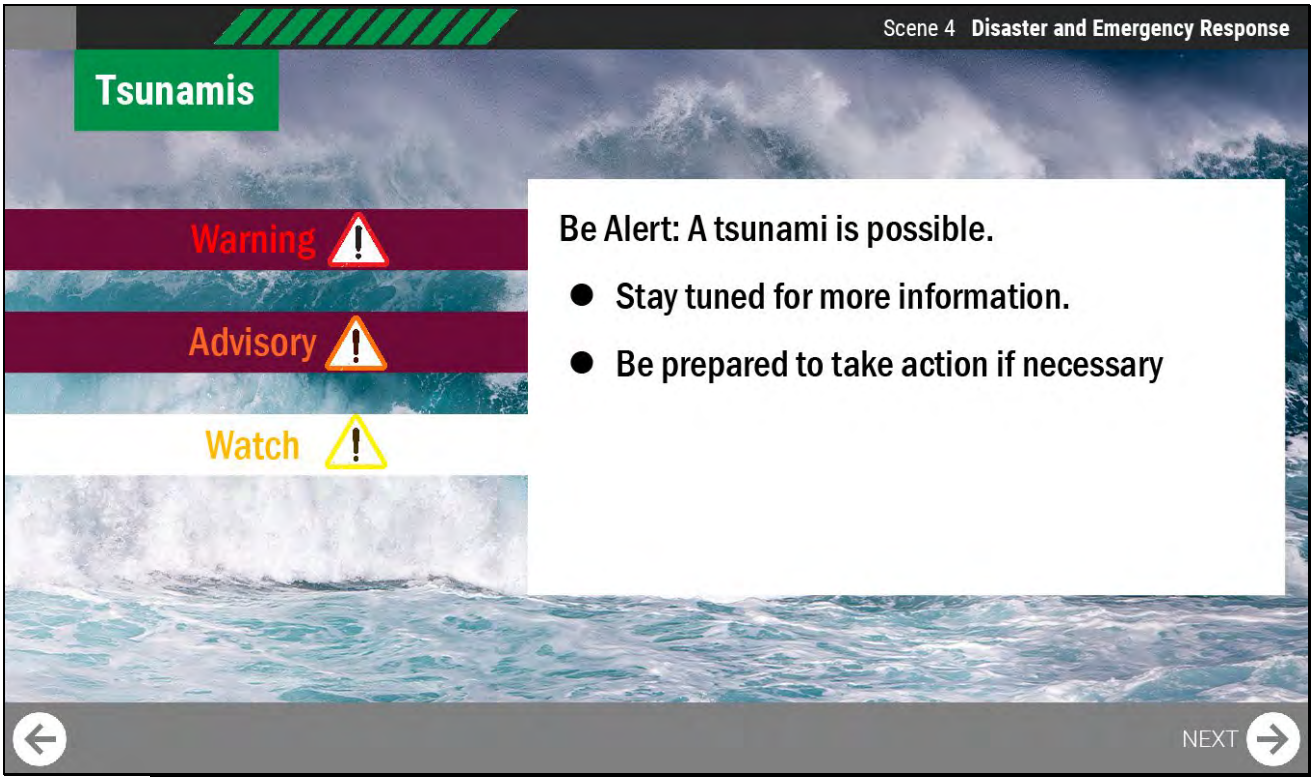


Slide notes

Tsunami Advisory: Take Action- A tsunami with potential for strong currents or waves dangerous to those in or very near the water is expected or occurring. There may be flooding of beach and harbor areas.

Stay out of the water and away from beaches and waterways. Follow instructions from local officials.

Slide 141 - Tsunami Watch

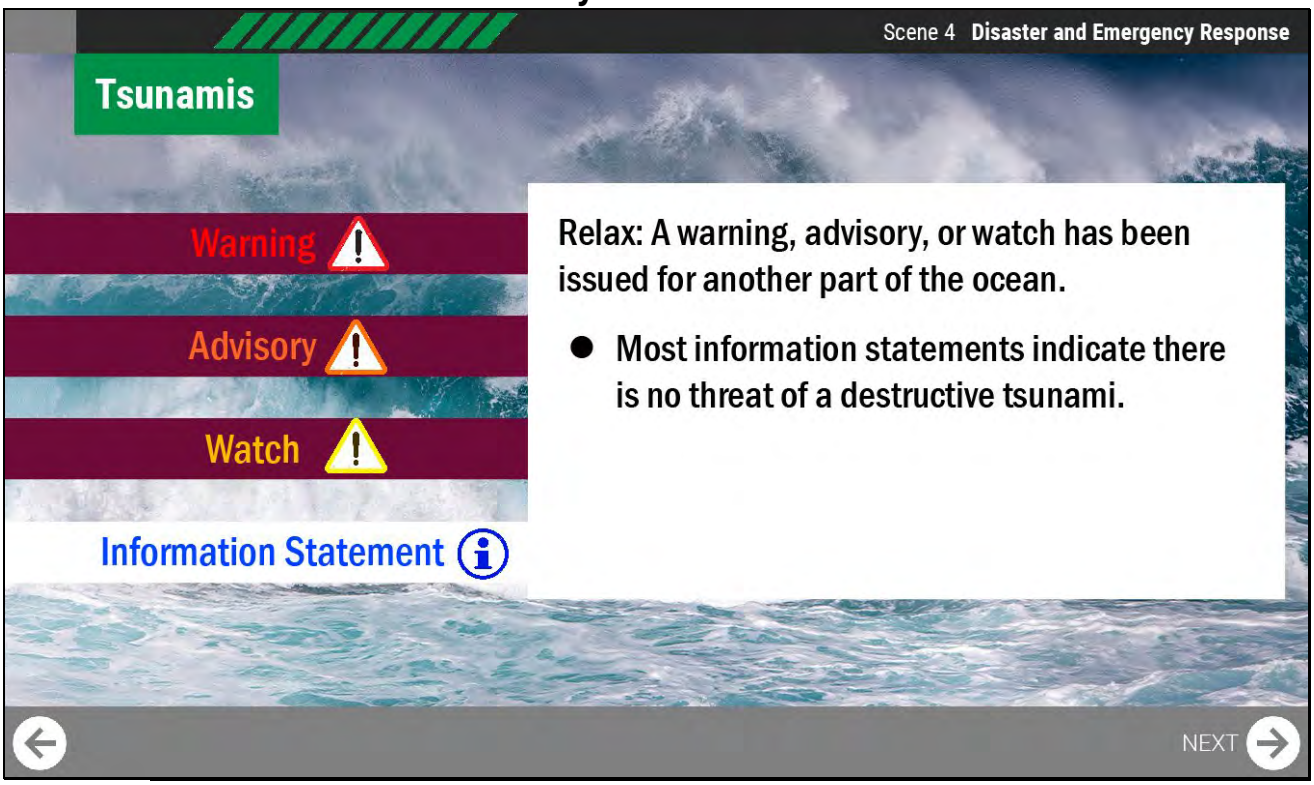


Slide notes

Tsunami Watch: Be Alert- A distant earthquake has occurred. A tsunami is possible.

Stay tuned for more information. Be prepared to take action if necessary.

Slide 142 - Tsunami Information System



Slide notes

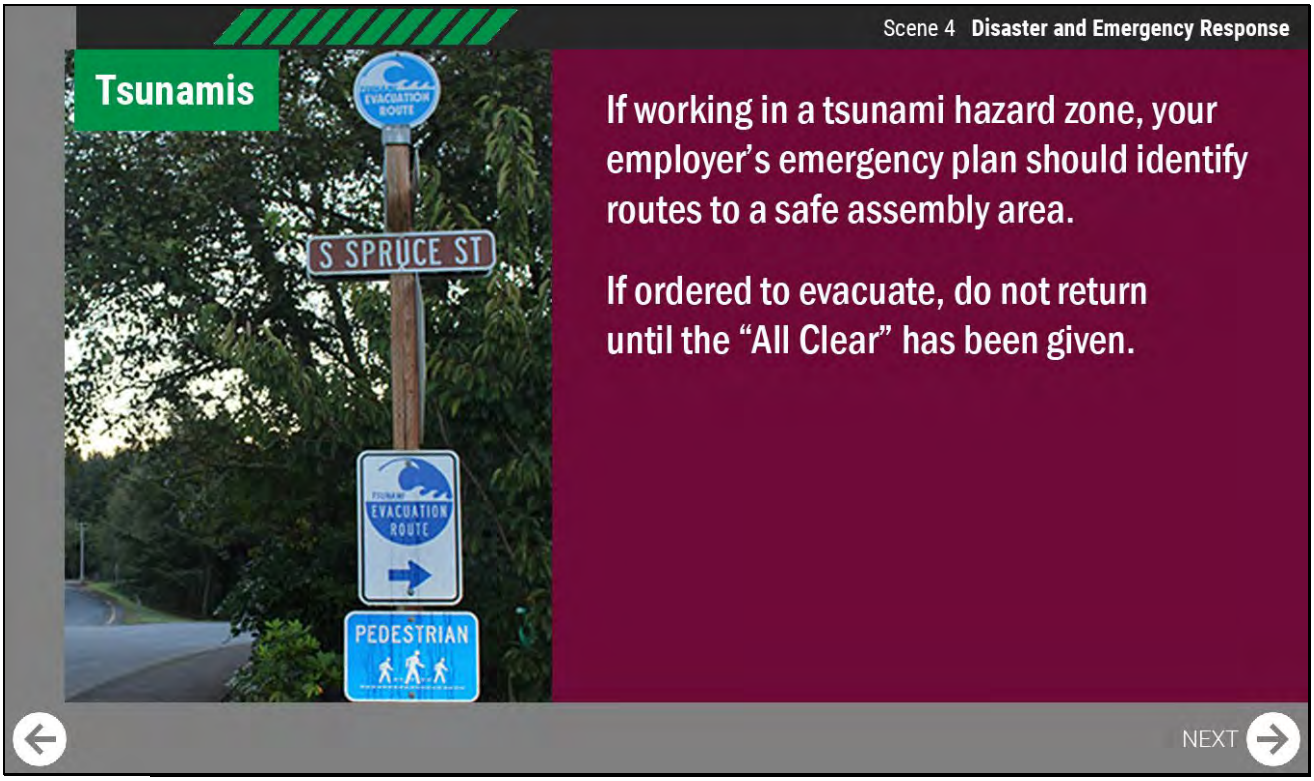
Tsunami Information Statement: Relax- An earthquake has occurred, or a tsunami warning, advisory or watch has been issued for another part of the ocean. Most information statements indicate there is no threat of a destructive tsunami.

Slide 143 - Tsunamis | Natural Warnings

Slide notes

There may not always be enough time for an official warning, so it is important that you understand natural warnings. If you are at the coast and feel a strong or long earthquake, see a sudden rise or fall of the ocean or hear a loud roar from the ocean, a tsunami may follow. This is your warning. Take action and move to a safe place. Do not wait for official instructions.

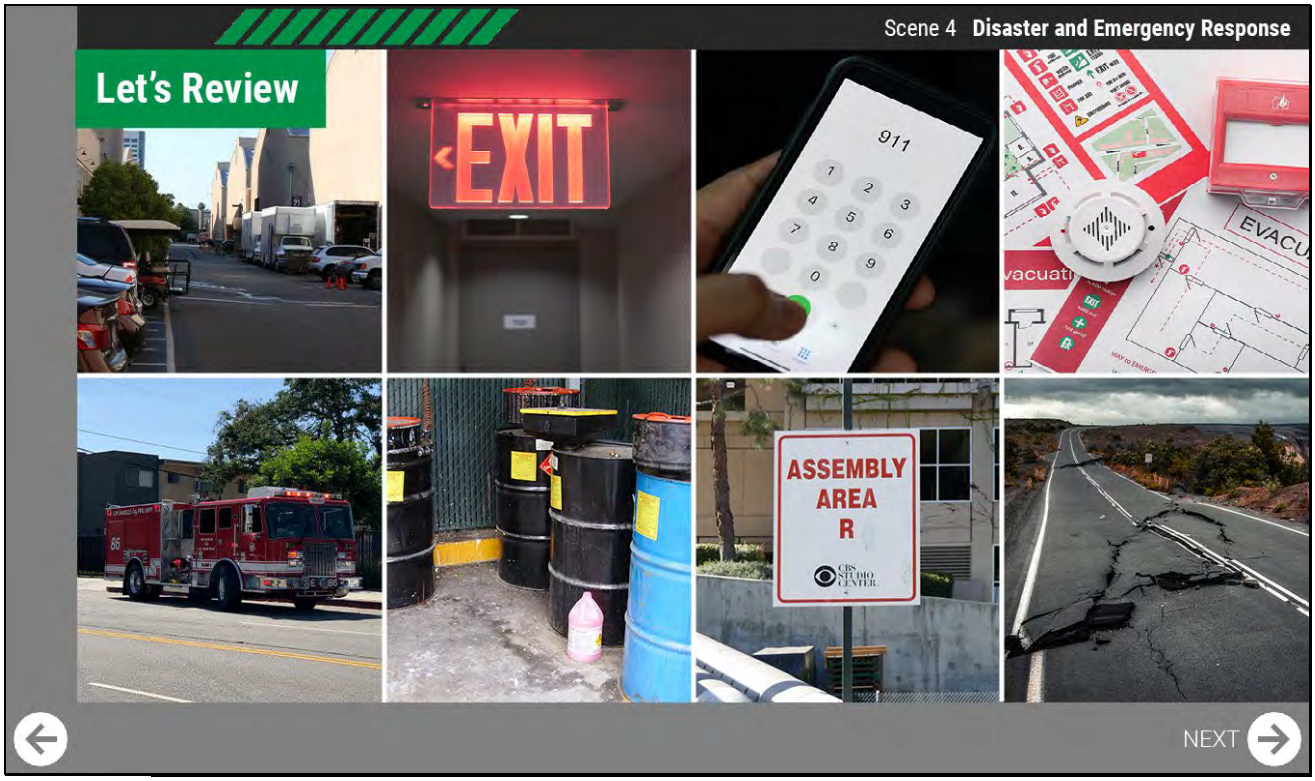
Slide 144 - Tsunamis | Evacuation



Slide notes

If working in an area that is within a tsunami hazard zone, your employer's emergency plan should identify evacuation routes to a safe assembly area on high ground or outside the hazard or evacuation zone. If ordered to evacuate, do not attempt to return to the area until an "All Clear" signal has been given.

Slide 145 - Let's Review Scene 4



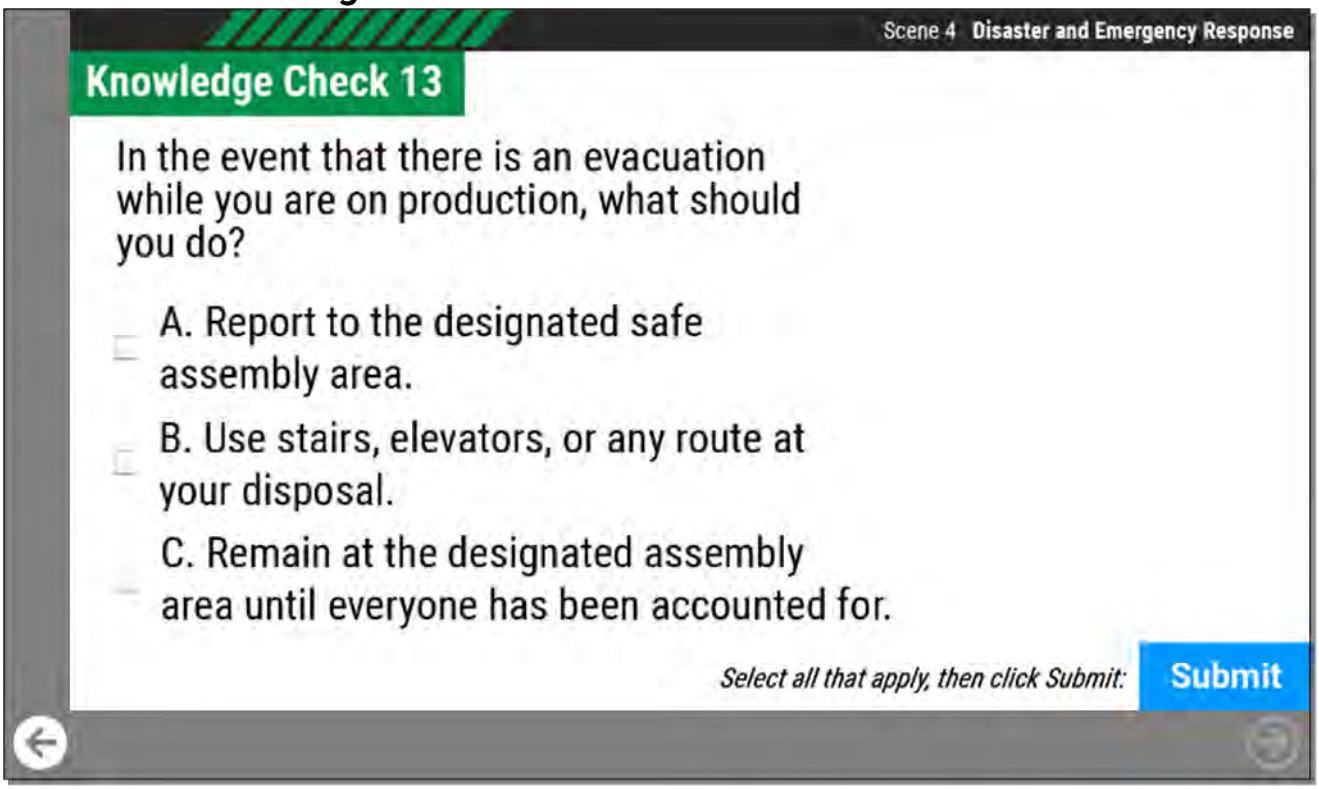
Slide notes

The next time you report for work, start the day with a little personal emergency planning. Take a walk around the work site and identify the emergency routes and exits. Take what we've discussed about pre-emergency safety planning and put it into practice. Find the emergency phone numbers. Think about what you would do if you had to evacuate the building, if you had a medical emergency, or if a hazardous material were spilled. Take a look at the designated assembly area. Think about where you would find cover in an earthquake and what hazards might arise in the aftermath at that particular work site.

Disasters and emergencies often come without warning, but your preparedness can make the difference between a close call and a catastrophe.

Let's check your knowledge.

Slide 146 - Knowledge Check 13



Slide notes

Knowledge Check 13

Question: In the event that there is an evacuation while you are on production, what should you do?

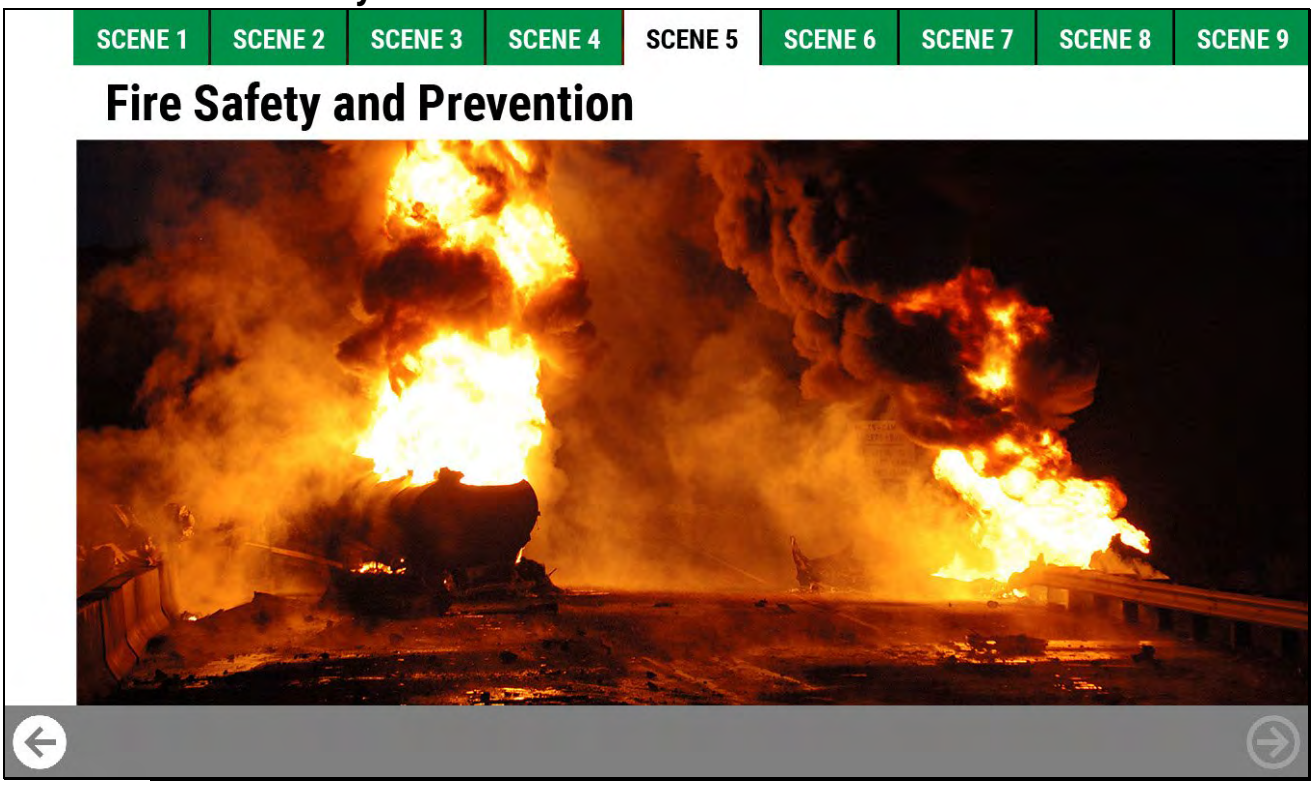
Slide 147 - Need a Break?

Slide notes

You're about halfway through the course. It might be a good time to take a break, stretch your legs, get a cup of coffee, and clear your head.

When you're ready, we'll get started on the next topic.

Slide 148 - Fire Safety



Slide notes

Scene Five. Fire Safety and Prevention.

Slide 149 - In This Scene

Slide notes

In this scene, we will cover fire safety, fire prevention, fire emergency guidelines, and fire extinguishers.

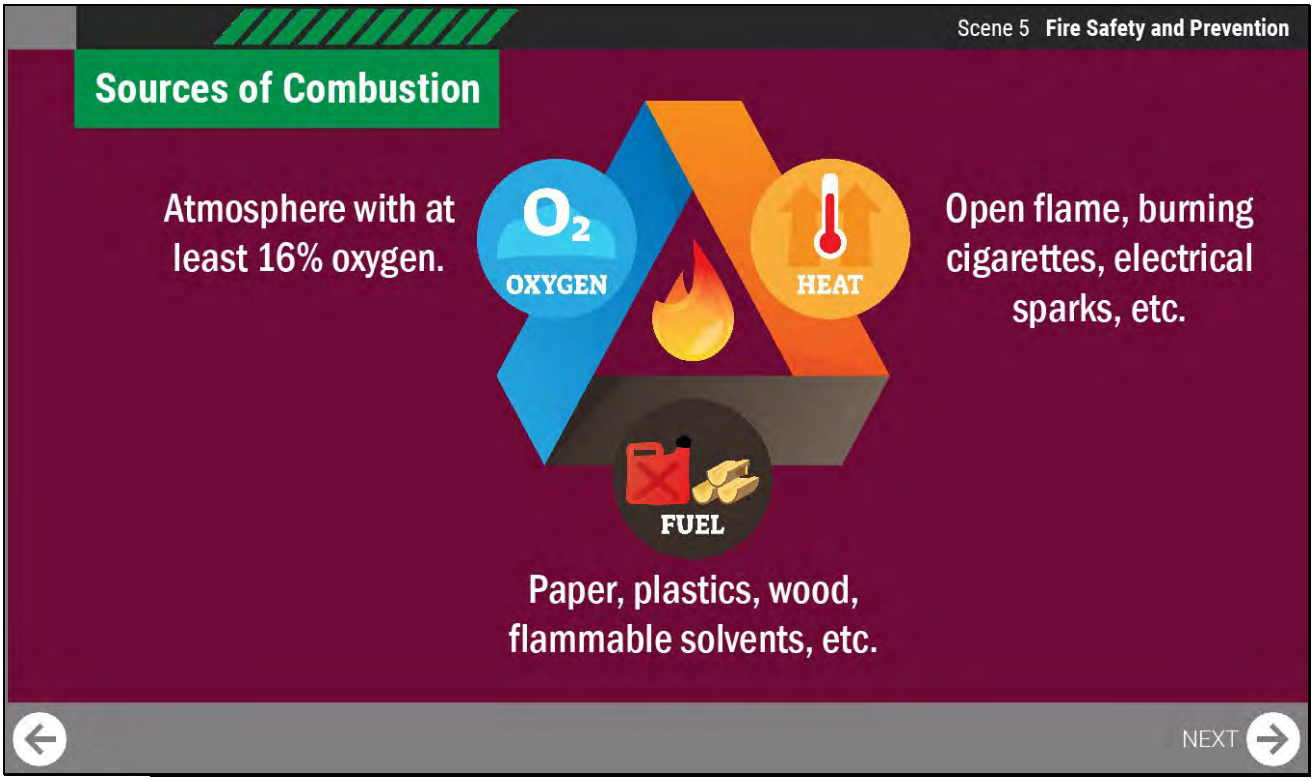
Slide 150 - Introduction

Slide notes

Fire safety is always one of the fundamental safety concerns at any facility or location. Because this is so important, we're going to take a full tour of the subject, starting with understanding combustion elements, sources of ignition, and guidelines for fire prevention. When we've completed this scene, you'll be able to identify materials that are considered fire hazards and be familiar with work practices to store and dispose of them safely. You'll know some of the important fire issues that come up when working on stage and on location.

You'll also know how to respond to a fire emergency, including basic precautions to take if you have to get out of a burning building. You'll be able to identify the proper fire extinguisher to use on a small, localized fire, and be introduced to the basics of operating one.

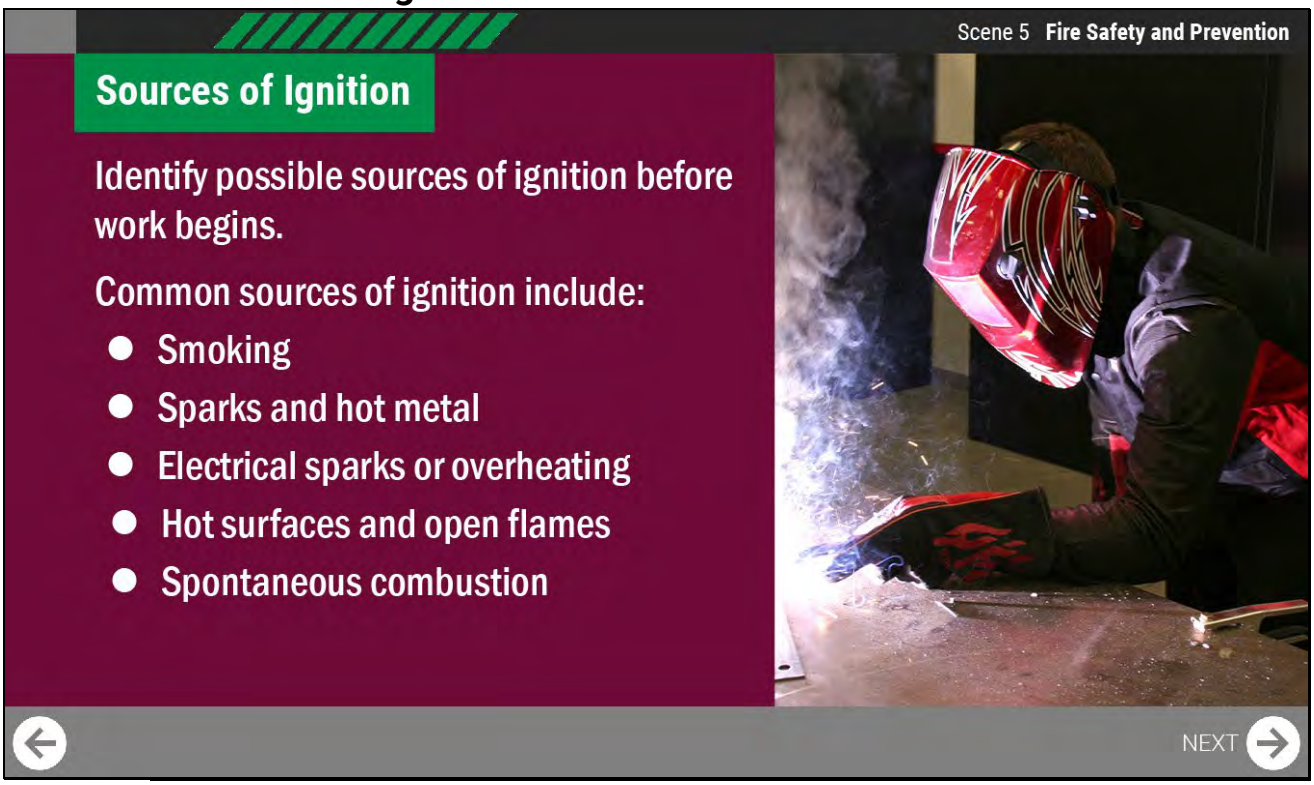
Slide 151 - Sources of Combustion



Slide notes

For a fire to burn, three elements must be present: a fuel, a source of heat, and oxygen. If you take away any one of those three elements, you take away a fire's ability to ignite or to continue to burn.

Slide 152 - Sources of Ignition

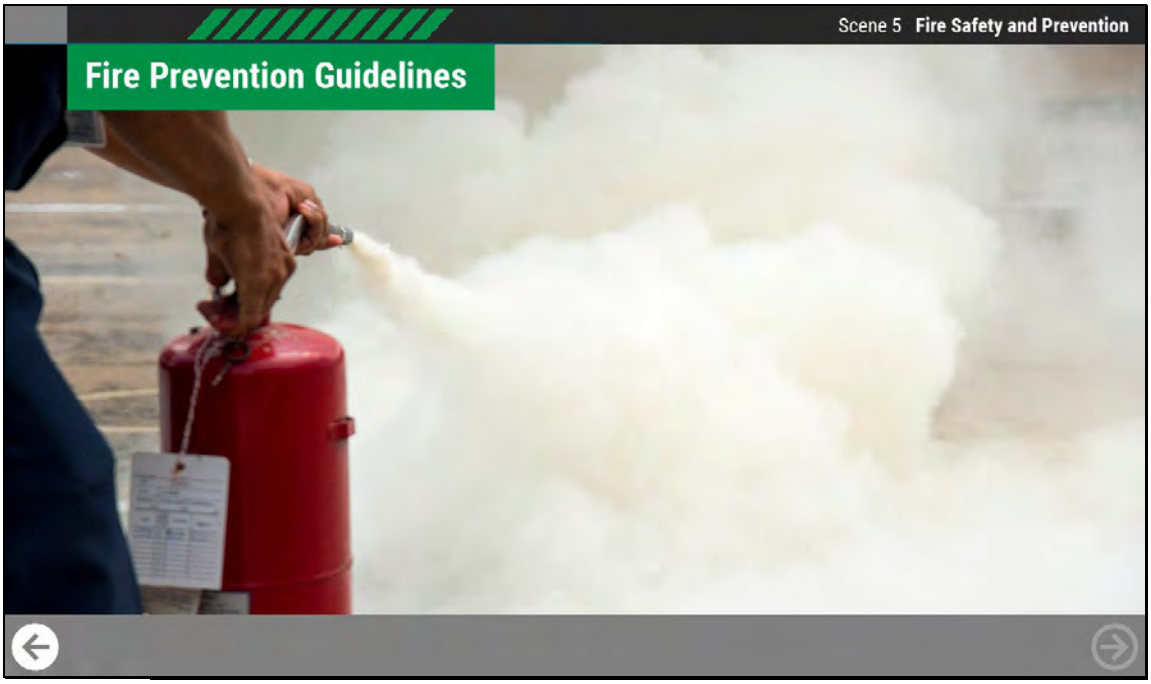


Slide notes

Common sources of ignition for fires on the job site include smoking; sparks and hot metal, such as from grinding or welding; overheated or sparking electric components; hot surfaces and open flames; and finally, spontaneous combustion.

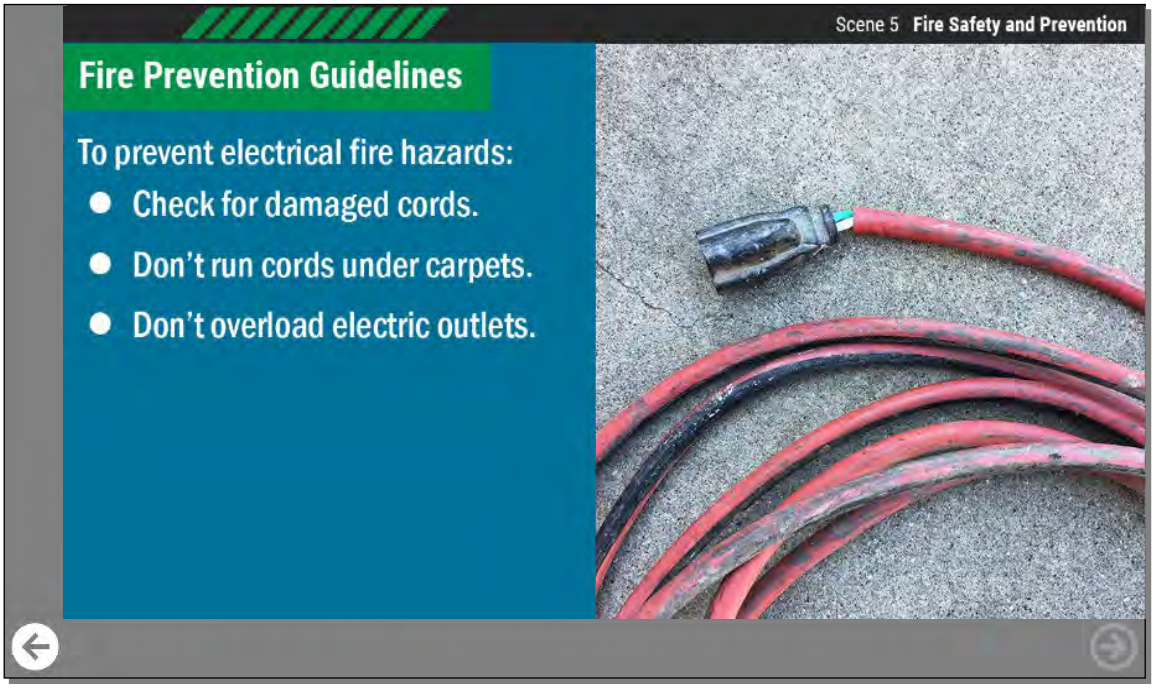
What sources of ignition are related to the kind of work that you do?

Slide 153 - Fire Prevention Guidelines



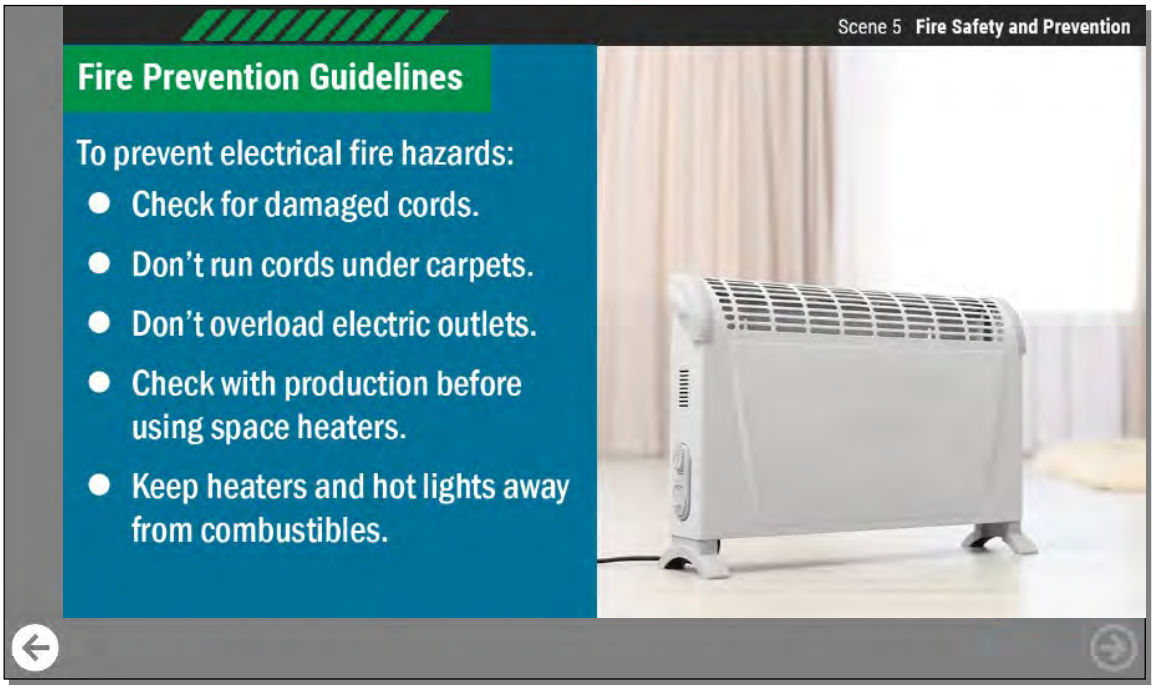
Slide notes

How can we avoid fire hazards with the equipment and supplies we use daily?



Slide notes

Check for damage on electrical cords. Do not run electrical cords under carpets or chair pads. Don't overload electric outlets. Turn off or unplug appliances when not in use.

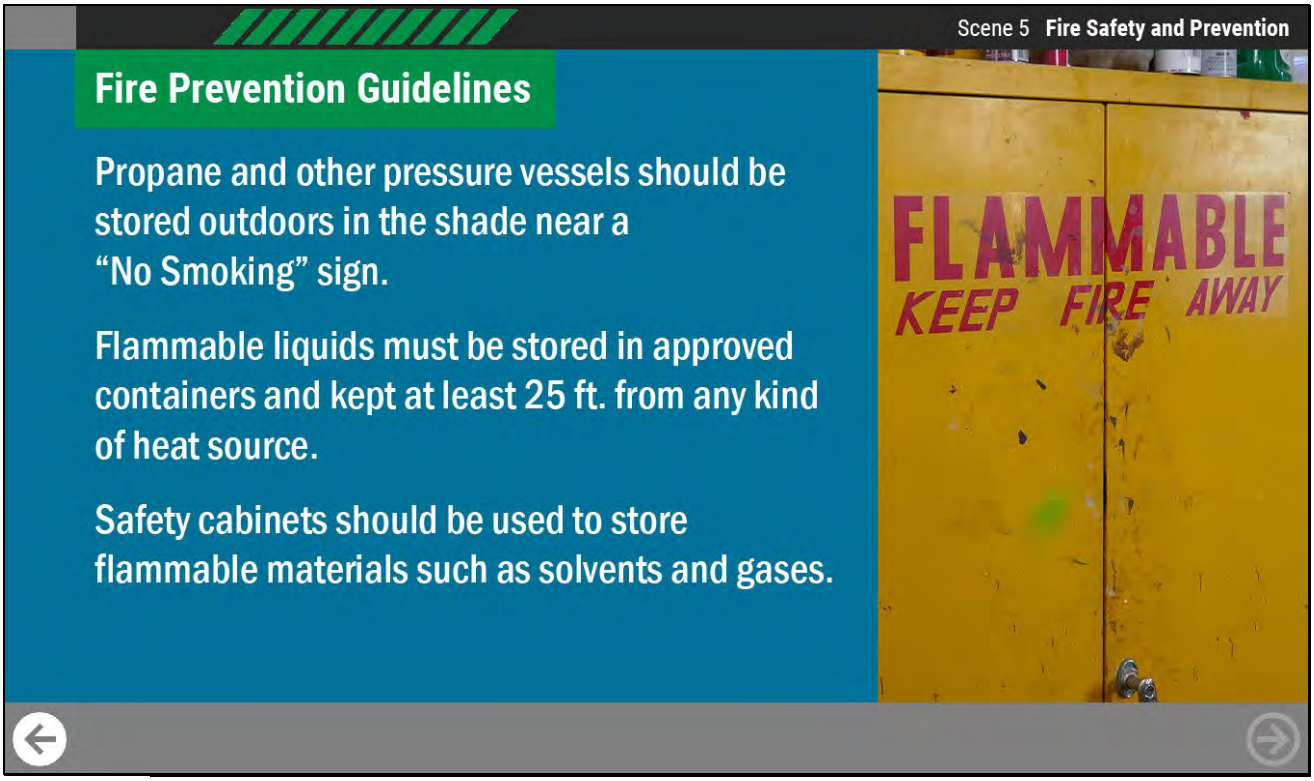


Slide notes

Check with your production for their policy regarding space heaters. If they are allowed, only use models that have tip-over controls. Make sure that the heater is clear of any combustible materials or trash.

Keep hot lights separated from combustible materials and surfaces.

Slide 154 - Fire Prevention Guidelines 1



Slide notes

Propane and other pressure vessels should be stored outdoors in the shade. The area must be marked with "No Smoking" signs.

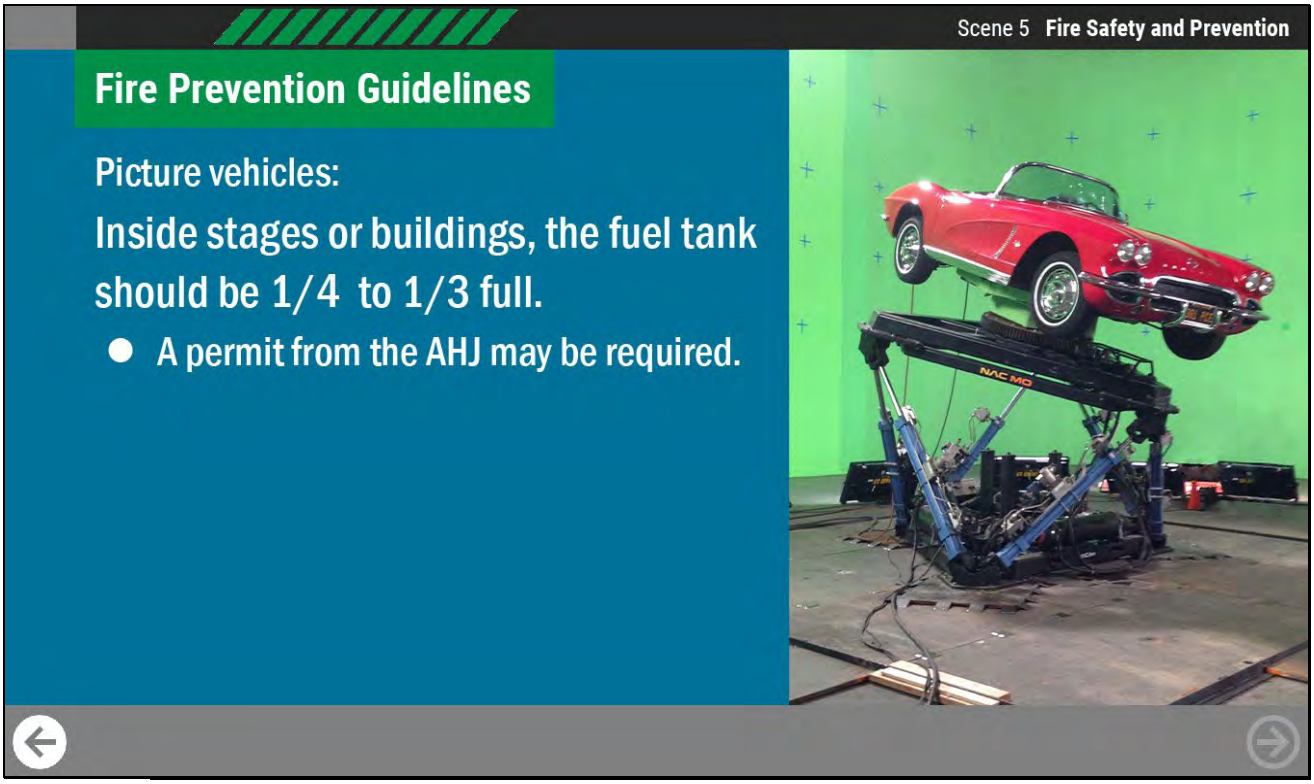
All flammable liquids must be stored in approved containers-not allowed to accumulate- and must be at least 25 feet from any heat source, including generators. Safety cabinets should be used to store flammable materials such as solvents and gases.

Slide 155 - Fire Prevention Guidelines 2

Slide notes

Waste rags contaminated with ignitable solvents should be disposed of in a container that's equipped with a self-closing lid and bottom vents to disperse the heat. These rags must be stored separately from other solid waste. If the rags ignite by spontaneous combustion, other waste could provide fuel to start a much bigger fire. Waste rags should be cleared from the set or stage at the end of the work day and transferred to the primary storage container located in the accumulation area.

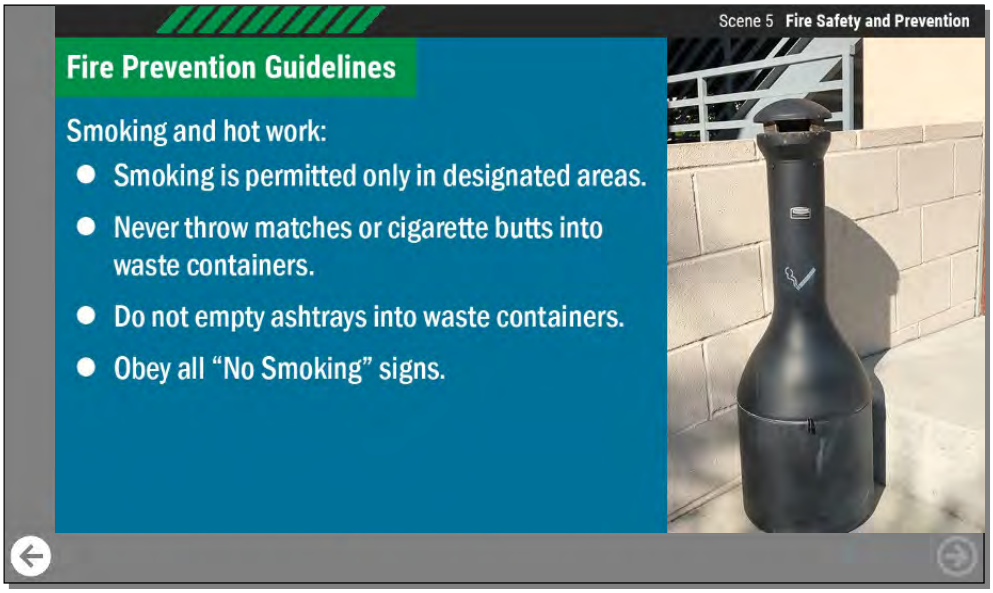
Slide 156 - Fire Prevention Guidelines 3



Slide notes

Whenever a picture vehicle is brought into a sound stage or building, the fuel tank should be between one quarter and one third full. A permit from the authority having jurisdiction may be required.

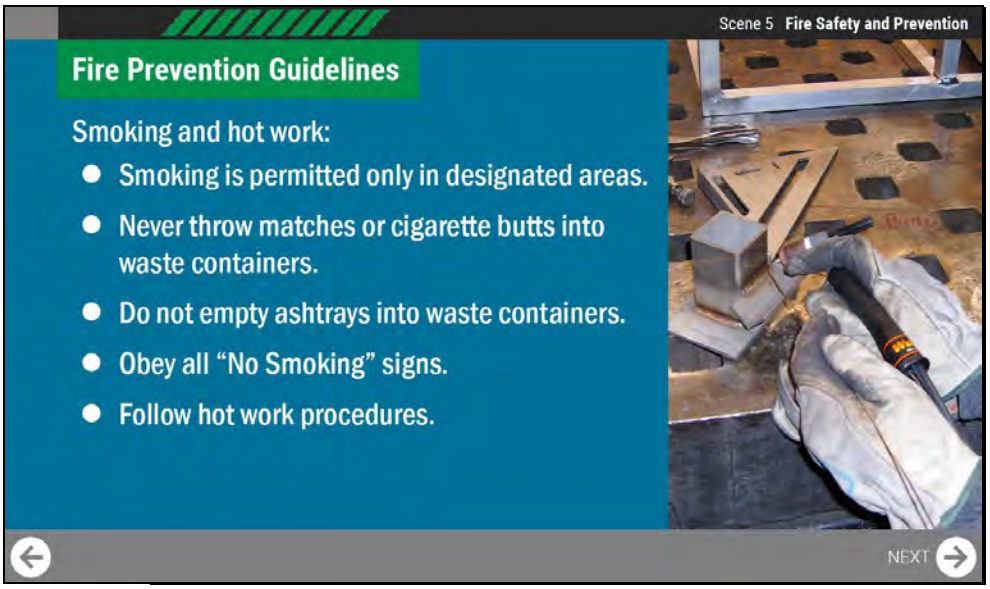
Slide 157 - Fire Prevention Guidelines 4



Slide notes

With exception of actors smoking in a scene, smoking is only permitted in designated areas.

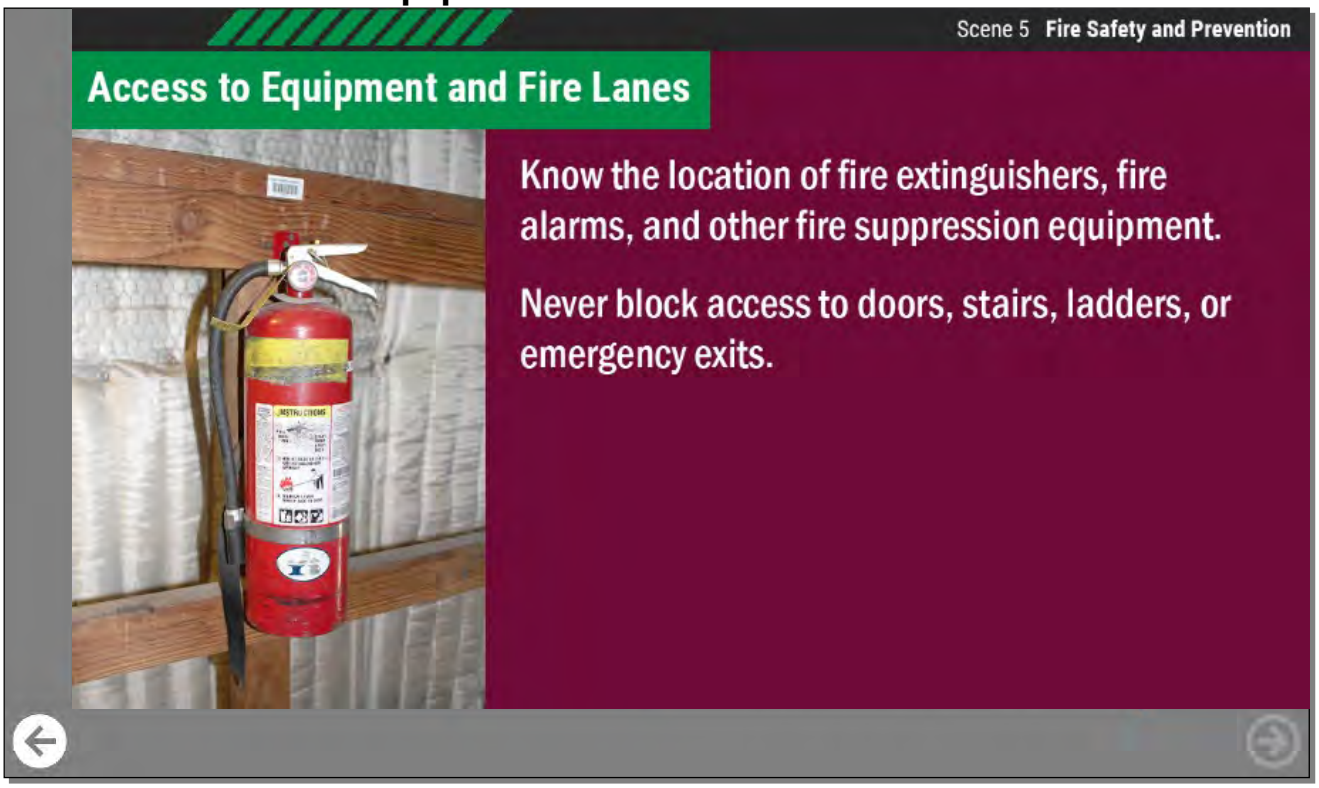
If you smoke, be careful not to throw matches or cigarette butts into waste containers. Do not empty ashtrays into the trash unless you ensure the contents are extinguished. Using butt cans with water in the bottom helps reduce the risk of igniting trash dropped into the butt can by mistake. Obey all the “no smoking” signs wherever you are working.



Slide notes

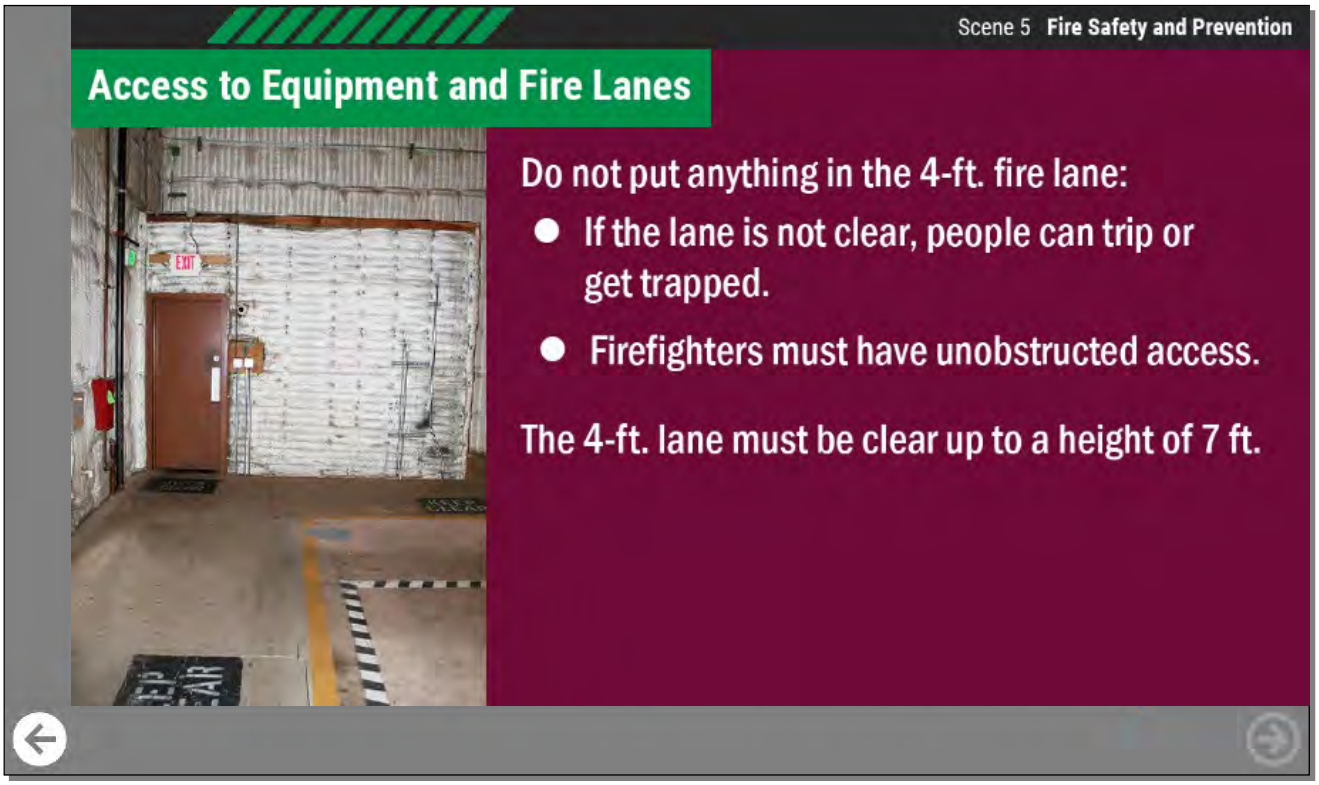
Anyone performing “hot work” such as welding, cutting, or grinding must follow the employer’s hot work procedures, including a 30-minute fire watch once the work is finished. Failure to adhere to these procedures could result in a fire.

Slide 158 - Access to Equipment and Fire Lanes



Slide notes

Be aware of the location of fire extinguishers, fire alarms, and any other fire suppression equipment. Never block access to emergency equipment or restrict access to doors, stairways, ladders, or emergency exits.



Slide notes

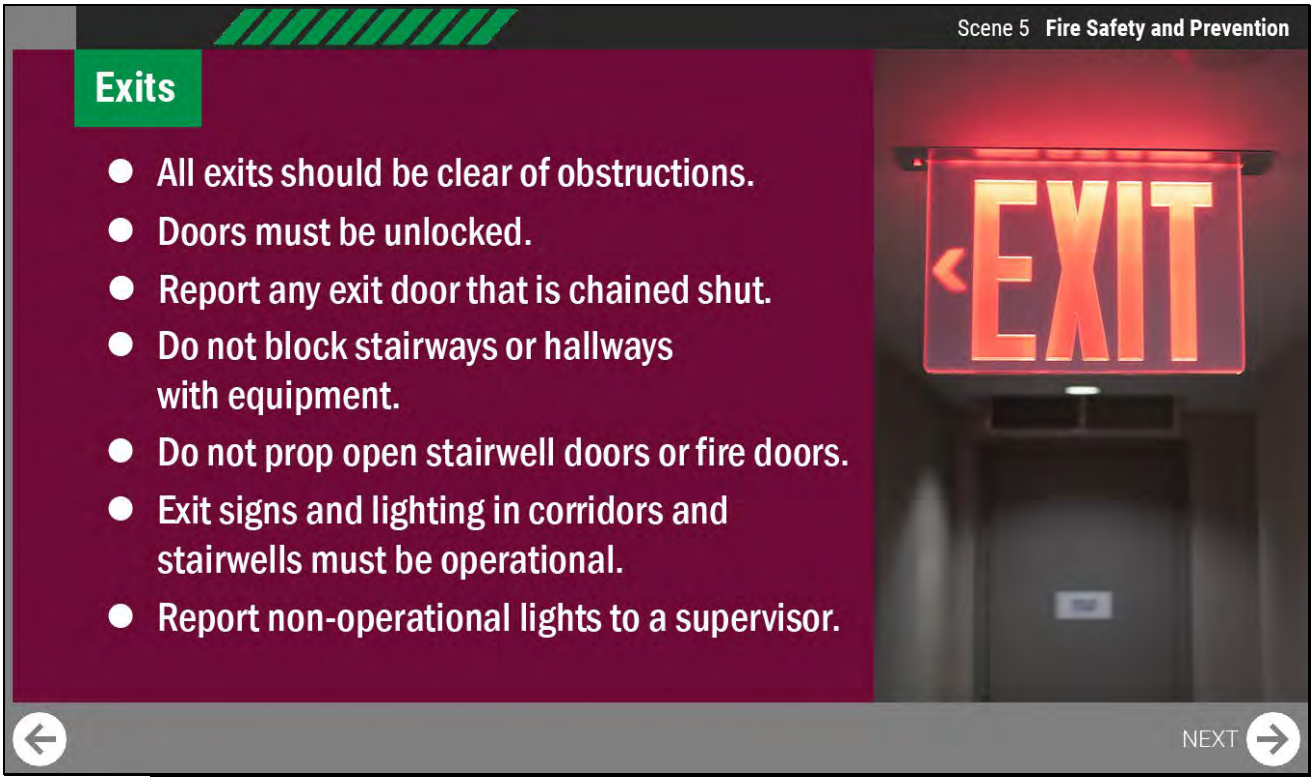
Inside the sound stage, there is a fire lane typically marked with a stripe running around the stage four feet away from the exterior walls. Do not put equipment, furniture, or anything else in that four-foot lane, for two important reasons.

The first is to help people get out of the building if there's a fire. If the fire lane is not clear, people are liable to trip, knock things over, or get injured or trapped. This further obstructs the exit route, preventing others from getting out.

The second reason is to give the firefighters unobstructed access to get in and fight the fire.

The four-foot lane must be cleared up to a height of seven feet, so wall bracing or hanging items have to be above that.

Slide 159 - Exits

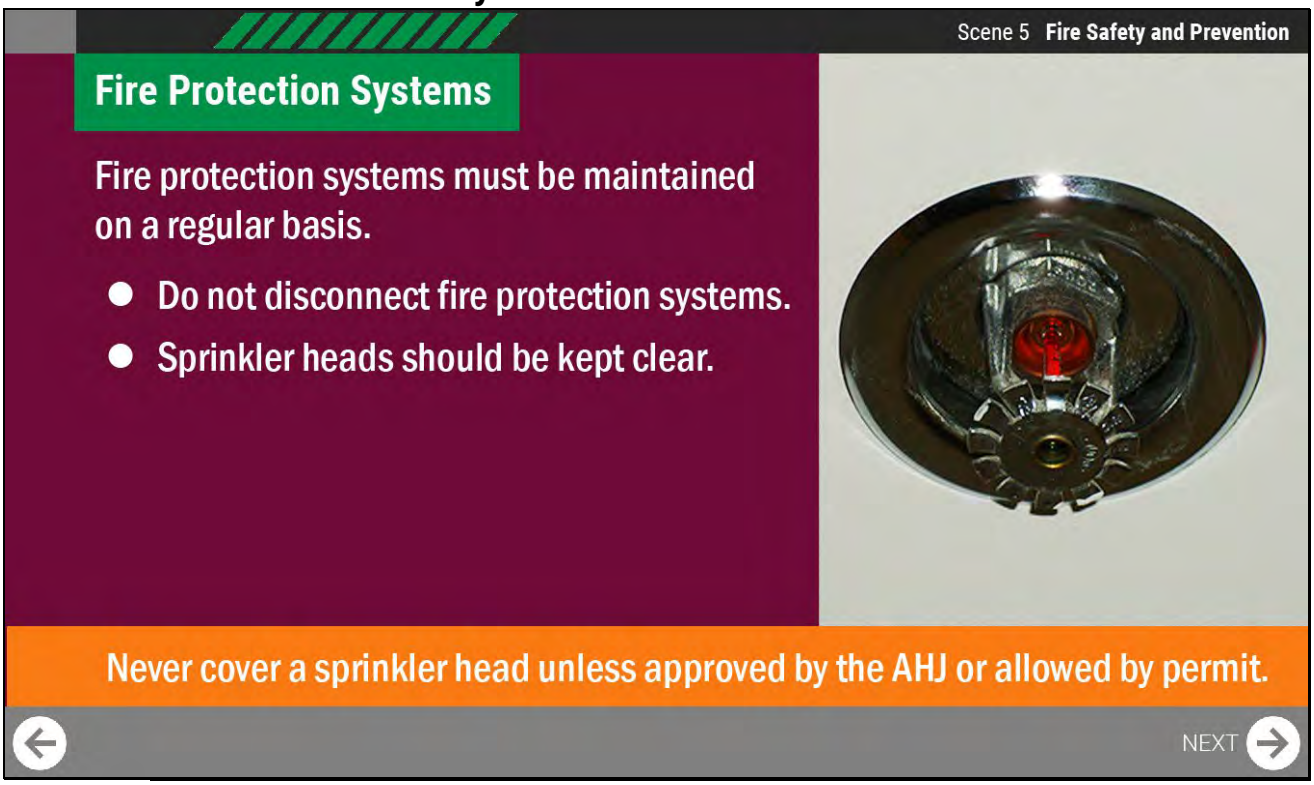


Slide notes

All exits should be clear of obstructions. Exit doors must remain unlocked when employees are working. If you come across an exit door that is chained shut, tell the locations department about it immediately. Don’t block stairways, hallways, or passageways with equipment. Don’t prop open stairwell doors, hallway doors, or especially fire doors. Exits should be clearly marked. Corridor and stairway lighting should be operational.

Report malfunctioning lights to a supervisor.

Slide 160 - Fire Protection Systems



Slide notes

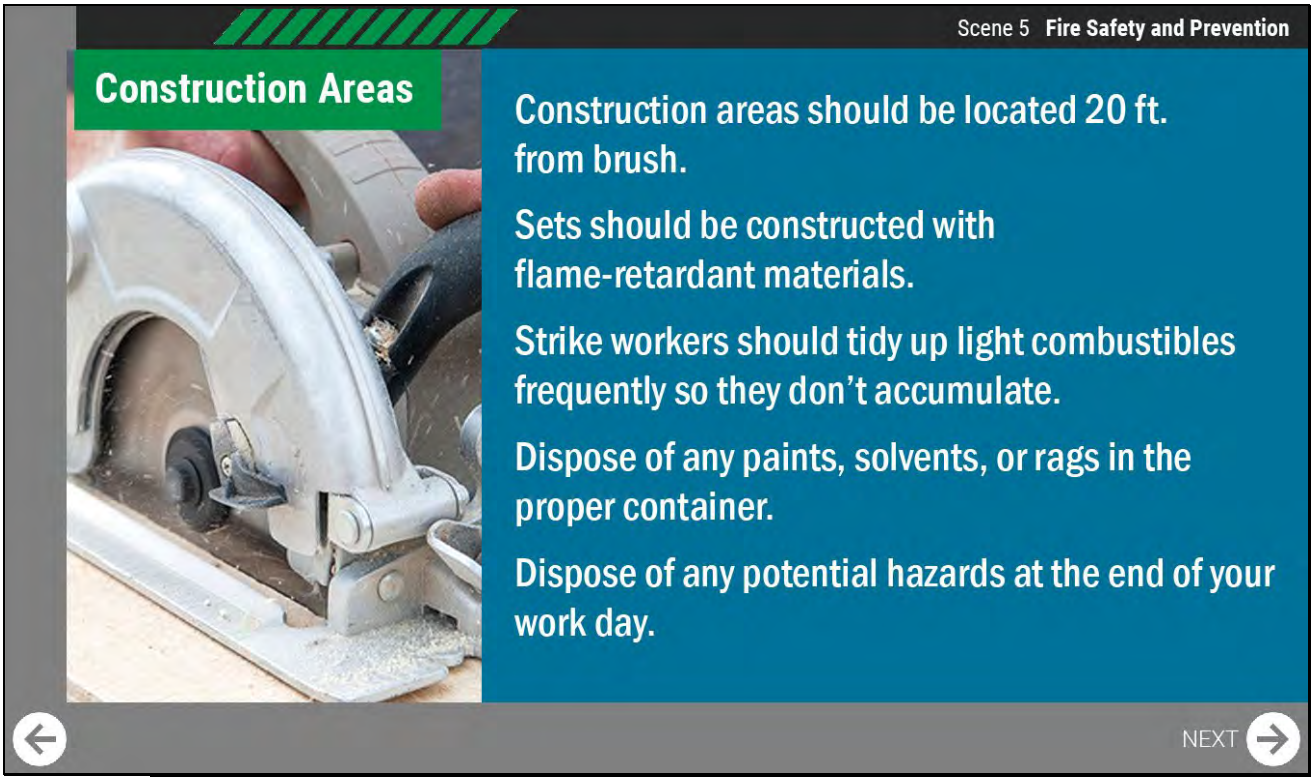
Fire protection systems, such as fire alarms and sprinkler systems, must be maintained on a regular basis.

Do not disconnect any fire protection system without permission from the local fire department.

Sprinkler heads should be kept clear of obstructions. Do not use sprinkler systems for other purposes such as hanging clothing, cords, or lighting equipment.

Never cover a sprinkler head with a cup, foil, plastic, or any other material, unless approved. For example, do not place a hot light under a sprinkler head unless the authority having jurisdiction approves covering the sprinklers.

Slide 161 - Construction



Slide notes

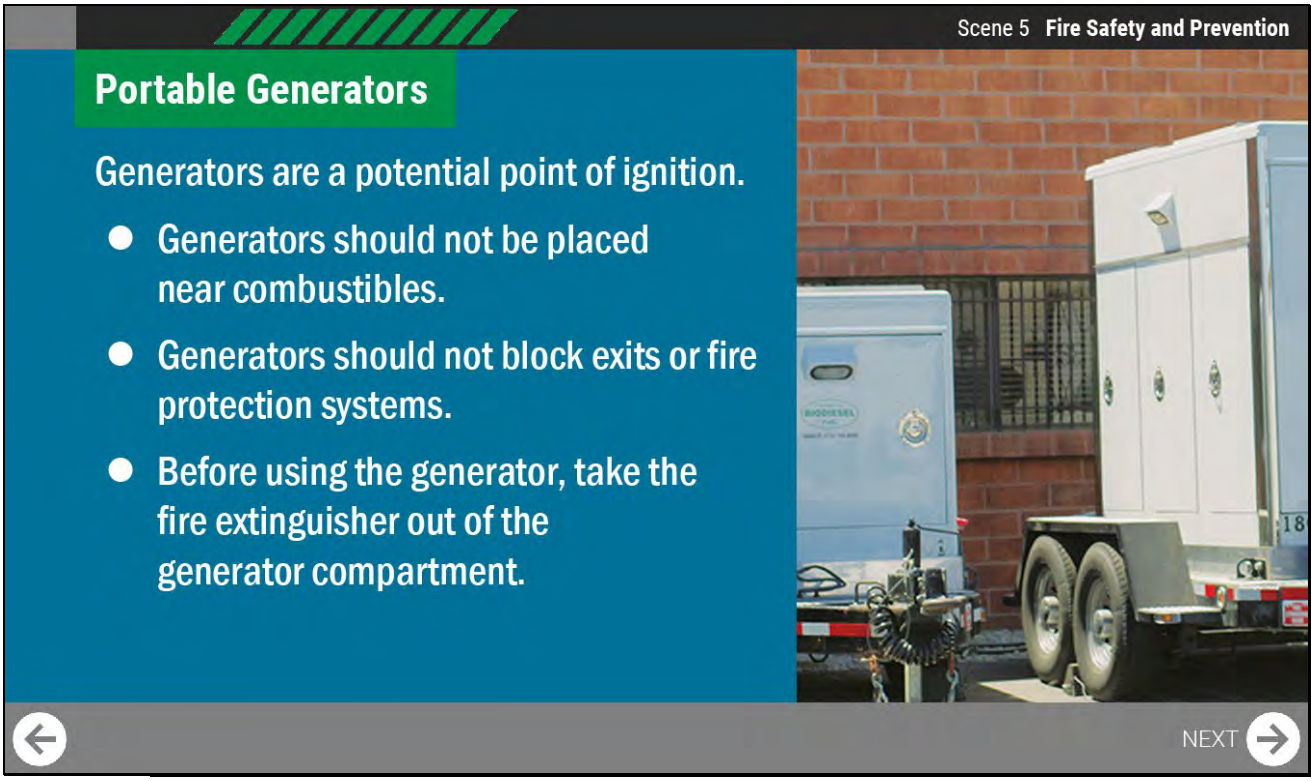
The construction area should be a minimum of 20 feet away from brush to reduce the risk of sparks from a construction tool starting a fire.

Sets should be constructed with flame-retardant materials, when practical or required.

Workers should tidy up off-cuts, sawdust, and other light combustibles frequently so they don't accumulate.

Safely dispose of any paints, solvents, or rags in the proper container. If anything you are using on a job site could be considered fuel for a fire, make sure it's disposed of at the end of your work day.

Slide 162 - Portable Generators

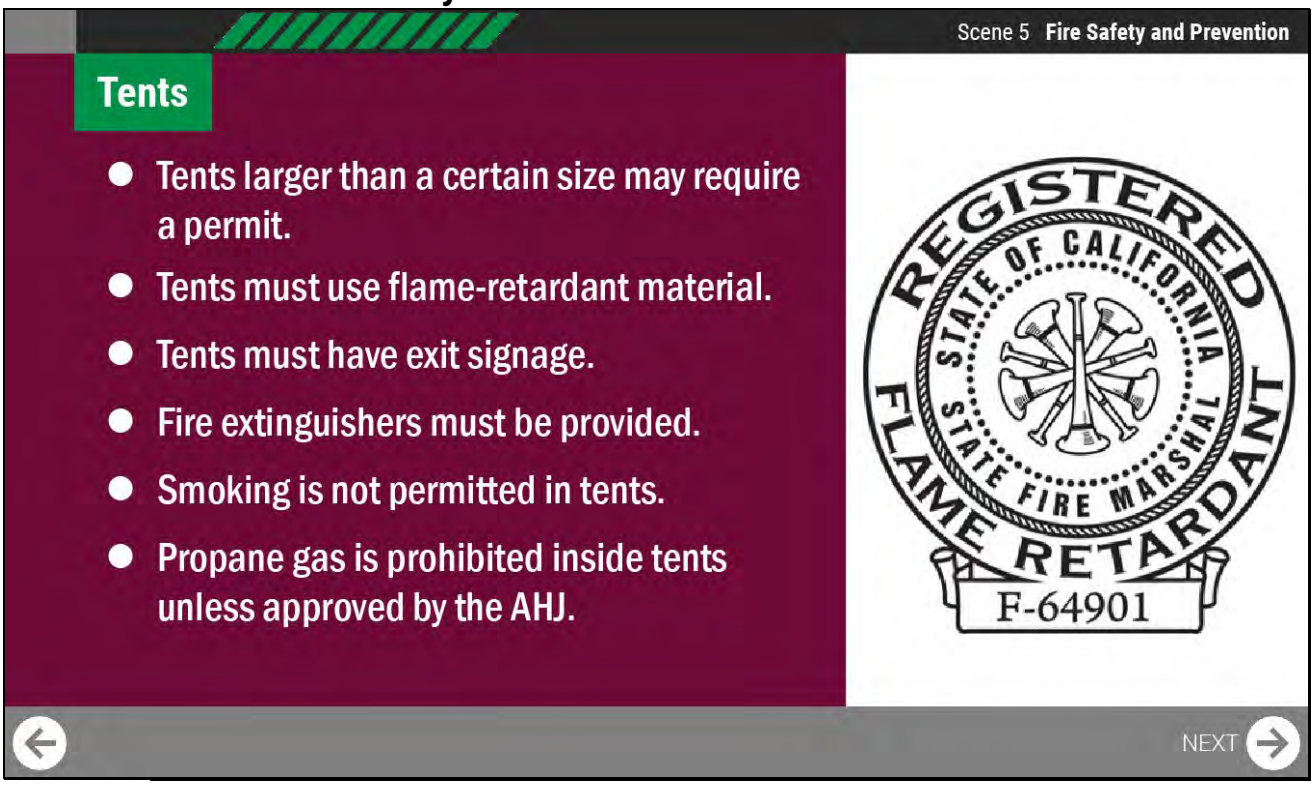


Slide notes

Generators should not be operated near combustible materials, including tents, wardrobe, and sets. They should not be placed where they block fire protection systems or exits.

Before using the generator, take the fire extinguisher out of the generator compartment.

Slide 163 - Tent Fire Safety



Slide notes

Tents are also a concern for fire safety. Tents and shade canopies over a certain size may require a permit. For example, Los Angeles County requires a permit for tents larger than 400 square feet, and in the city of Los Angeles, a permit is required for tents larger than 450 square feet. Consult the authority having jurisdiction for specific requirements for your municipality.

All tents and shade canopies have to be treated with flame retardant. The registered flame retardant is marked on the tag or stenciled on the fabric, as in the example shown here.

Tents must have proper exit signage, and fire extinguishers must be provided. Smoking is not permitted inside any tent. “No Smoking” signs must be clearly posted inside.

On cold nights we sometimes use propane heaters. Liquid propane gas is prohibited inside tents unless approved by the AHJ or allowed by permit.

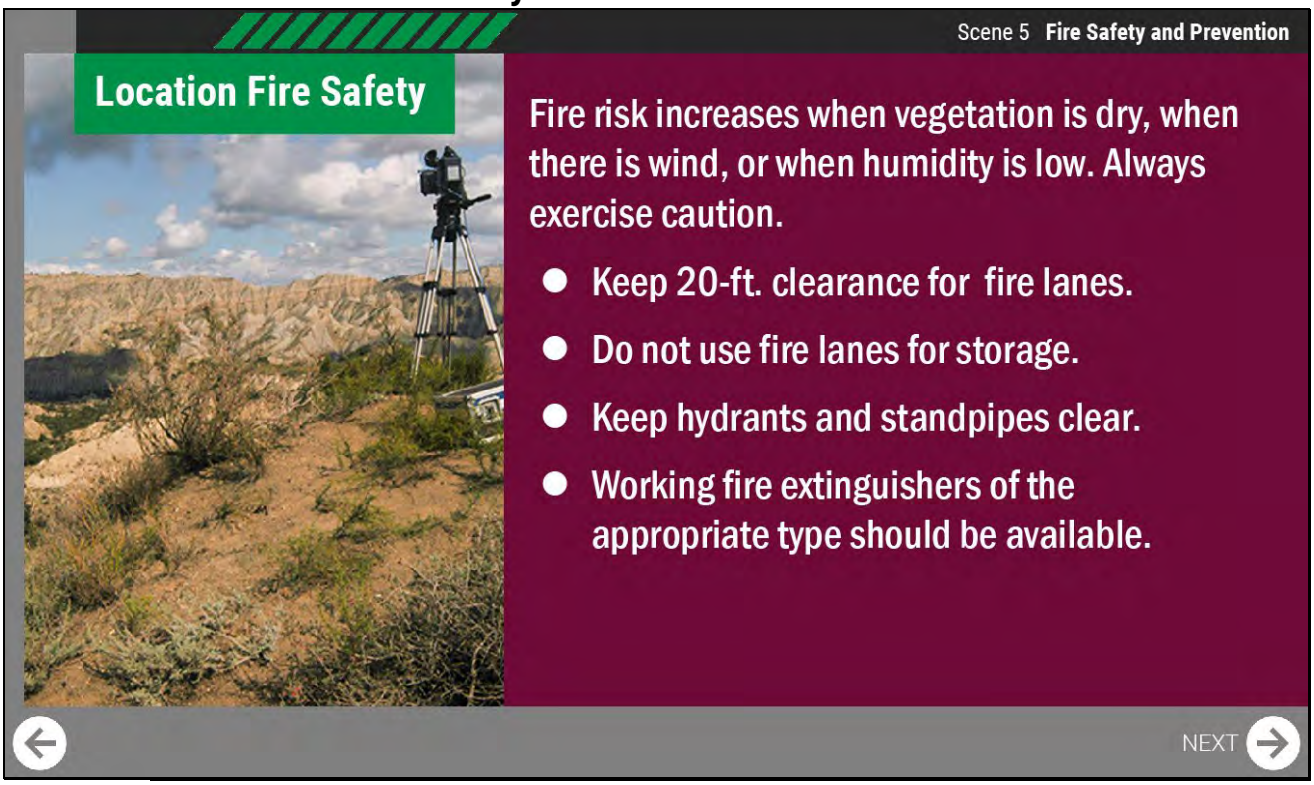
Slide 164 - Catering Vehicles

Slide notes

All catering vehicles must have a fully charged fire extinguisher readily available. This is true on location as well. Fire extinguishers must be in good working order and appropriate to the types of materials found at that location.

Cooking with liquid propane gas inside buildings is prohibited, unless approved by permit or by the AHJ. For example, it is illegal to park the catering truck or run a propane grill inside a warehouse to get out of the rain.

Slide 165 - Location Fire Safety



Slide notes

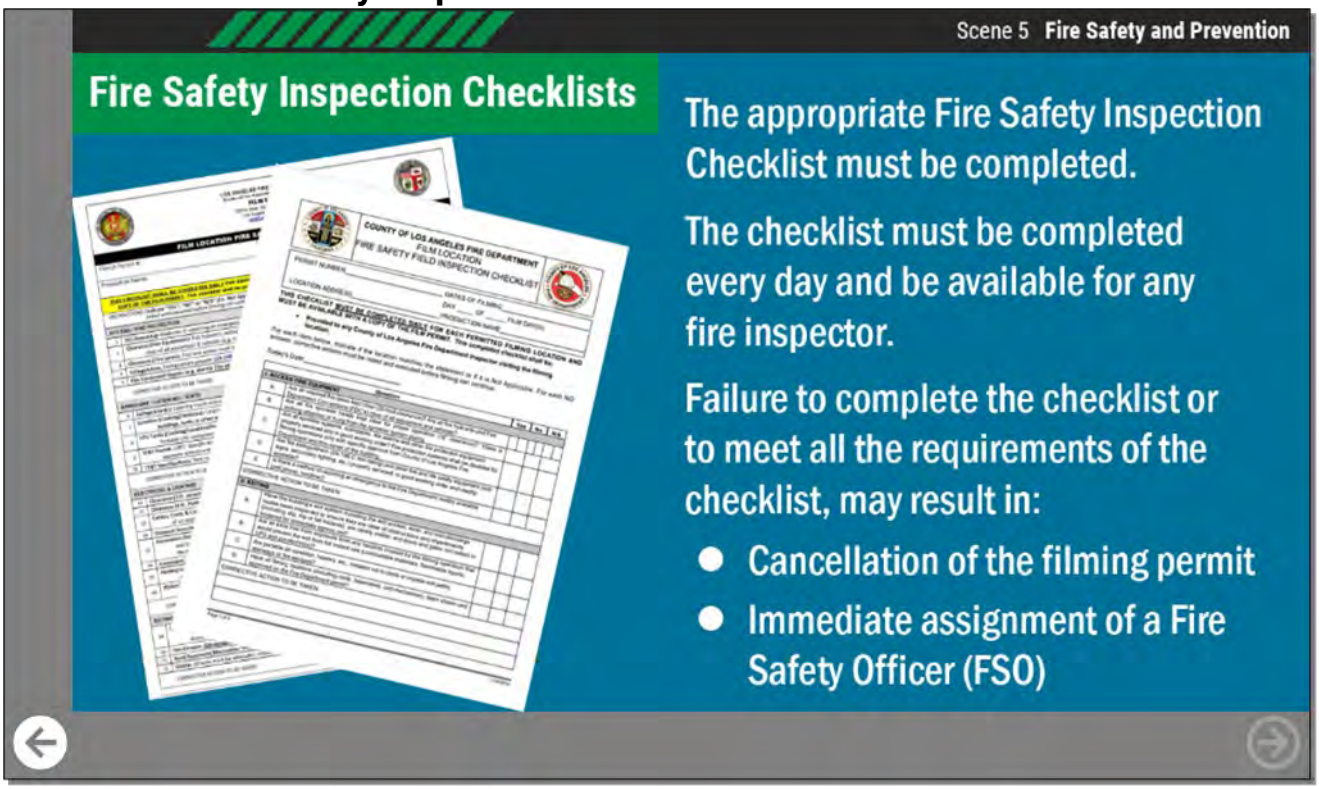
Dry vegetation, wind, and low humidity increase the risk of starting a brush fire.

Base camp fire lanes must provide appropriate clearances. In Los Angeles City and County, 20 feet of clearance is required for fire lanes so that fire trucks and emergency equipment have access. A minimum of 20 feet must be maintained between the base camp vehicles and dry brush. Do not use the fire lanes for storage. Other municipalities will have similar requirements-check with your employer or the local AHJ for specifics.

Keep fire hydrants and standpipes clear of vehicles, equipment, and obstructions.

Working fire extinguishers should be available on location and be the appropriate type for the fire hazards found at the location.

Slide 166 - Fire Safety Inspection Checklist



Slide notes

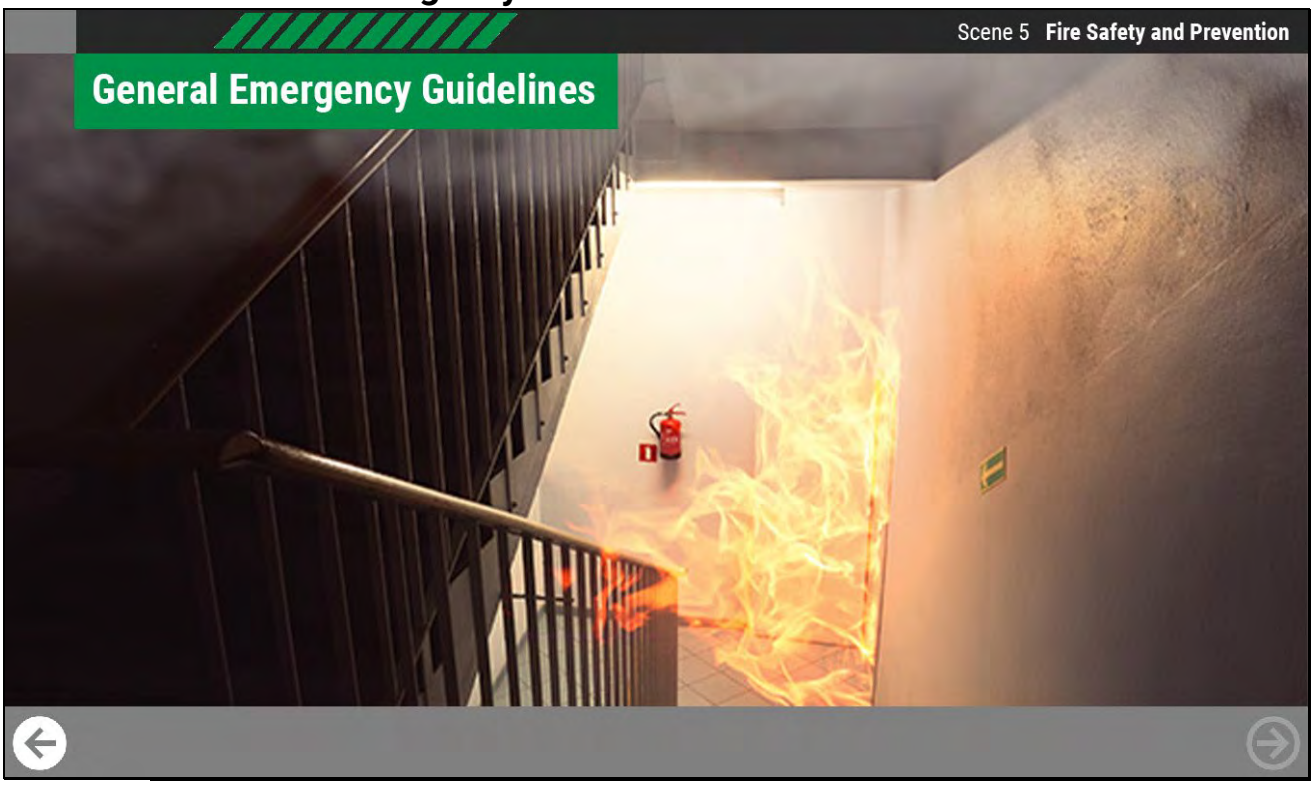
Use the Resources icon to find the Los Angeles City and County Fire Safety Inspection checklists. They were developed to assist crew members during production. Other jurisdictions may adopt similar measures.

As a condition of the film permit, the appropriate checklist must be completed daily. If there is a company move, a second checklist must be completed for the new location. A copy must be available for the fire safety inspector at the film site and kept with the film permit.

Department heads or crew members may be called upon to assure compliance with the checklist. It's important that everything on that checklist be checked off before the fire safety inspector arrives.

Failure to complete or meet all the requirements on the checklist may result in a cancellation of the film permit, or the immediate assignment of a fire safety officer. If production personnel come to you with questions about items on the fire safety checklist, take the two or three minutes and make sure everything on the list is covered.

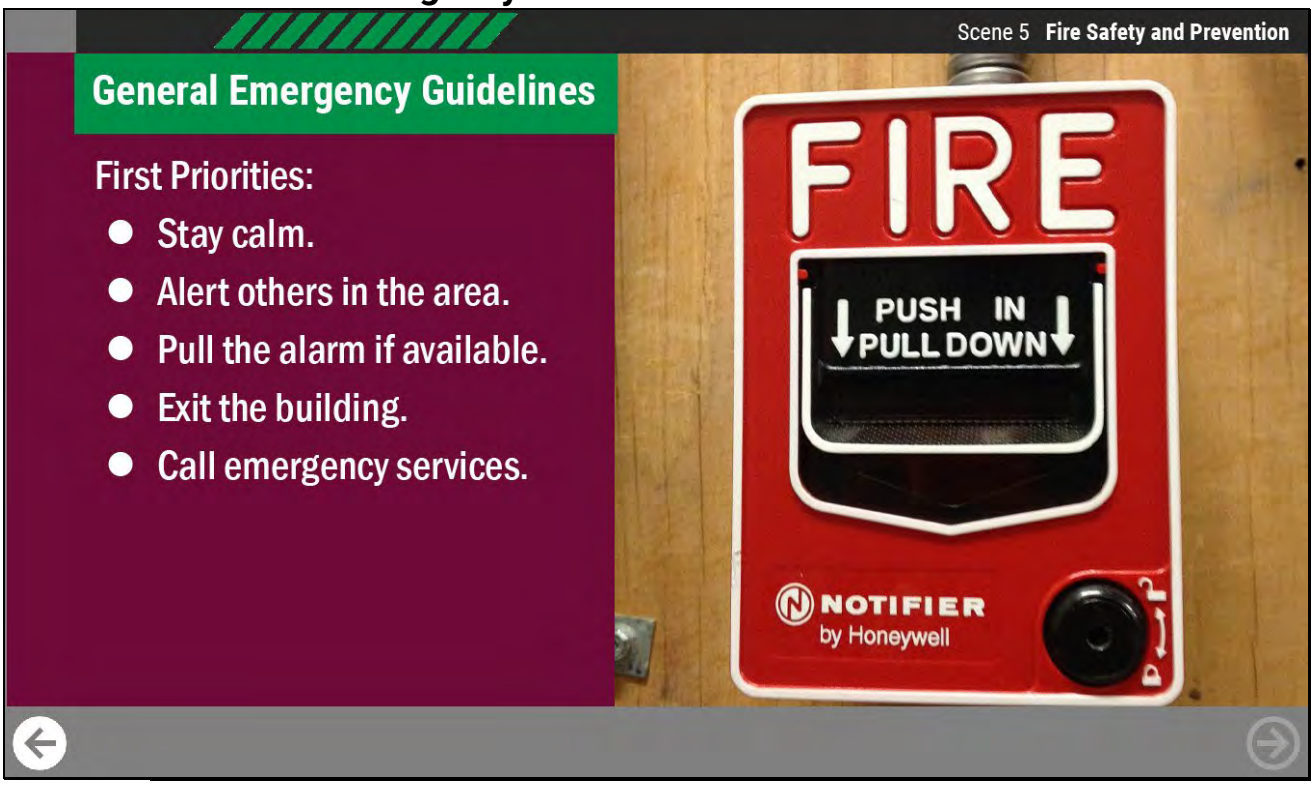
Slide 167 - General Emergency Guidelines 1



Slide notes

So far we have been discussing fire prevention. Now, let’s consider what you should do if there is a fire in a building.

Slide 168 - General Emergency Guidelines 2

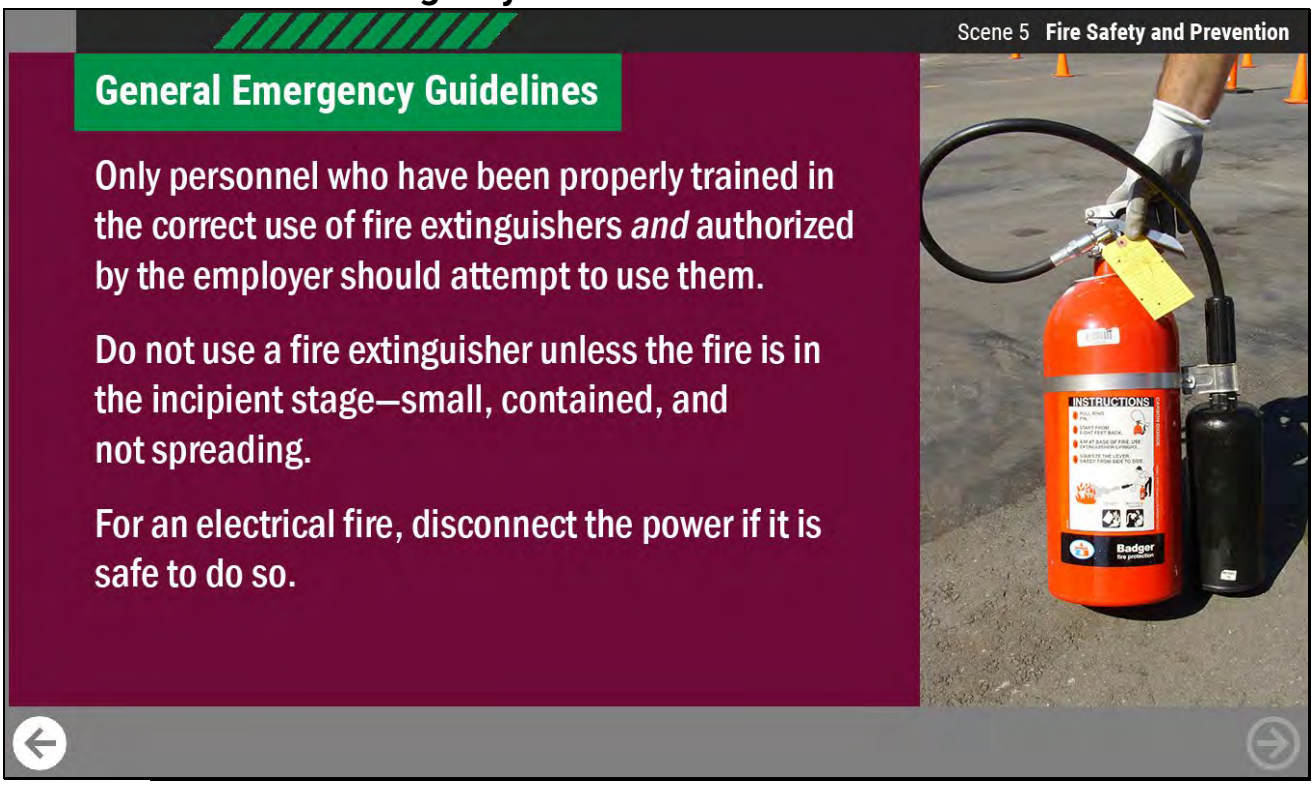


Slide notes

In the event of a fire at the job site, stay calm. Do not panic. Remember, personal safety is of primary importance. If you discover a fire, alert the other people in the area, pull the fire alarm if available, and exit the building.

Someone must make the emergency call, which may include calling the local fire department, the lot emergency number, or 911. People sometimes make the mistake of assuming someone else is taking care of this, and no one makes the call. If you're the one making the call, be prepared to provide the exact location of the fire. Describe the fire and the situation.

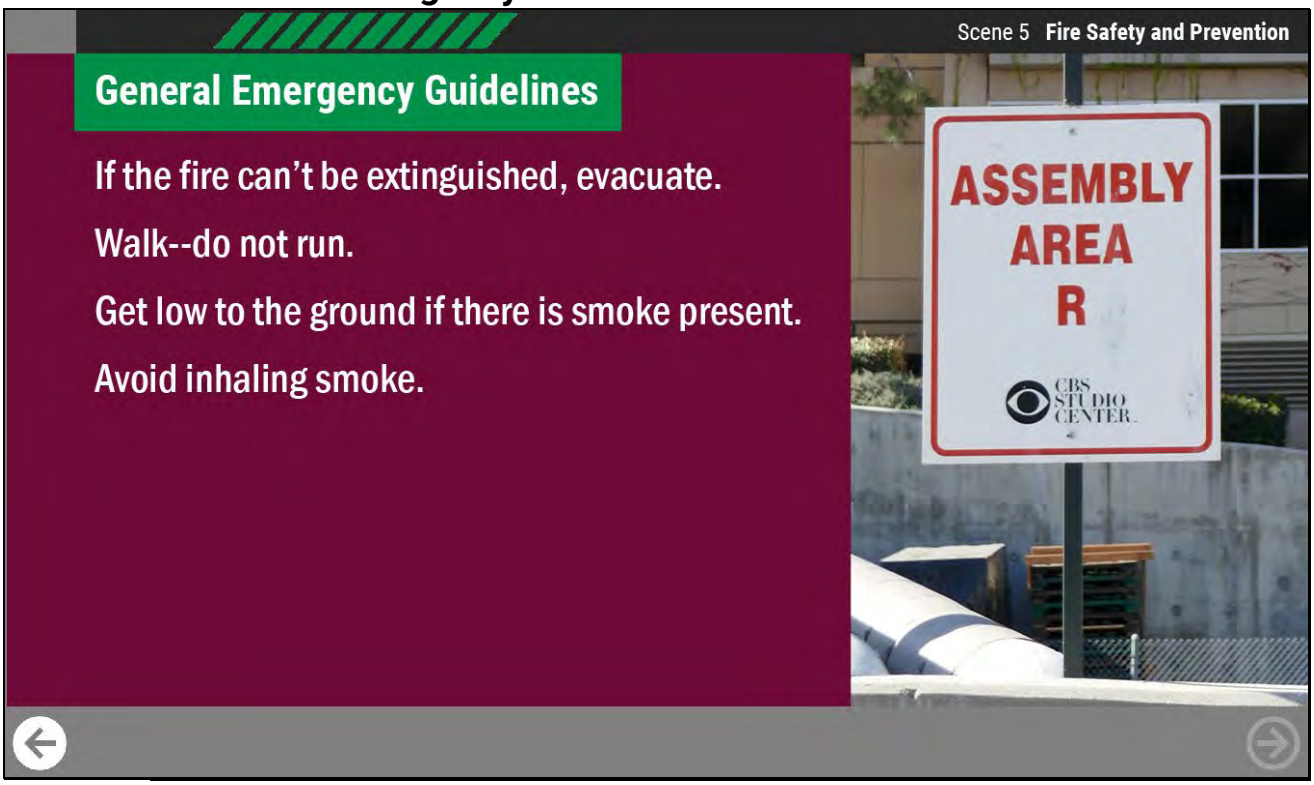
Slide 169 - General Emergency Guidelines 3



Slide notes

Only personnel who are trained and authorized to use a fire extinguisher should attempt to put out a fire. All others should evacuate to the designated safe assembly area. Even trained personnel should only attempt to use an extinguisher if the fire is still in the incipient stage-that is, small, contained, and not spreading. For an electrical fire, if it's safe to do so, disconnect the power.

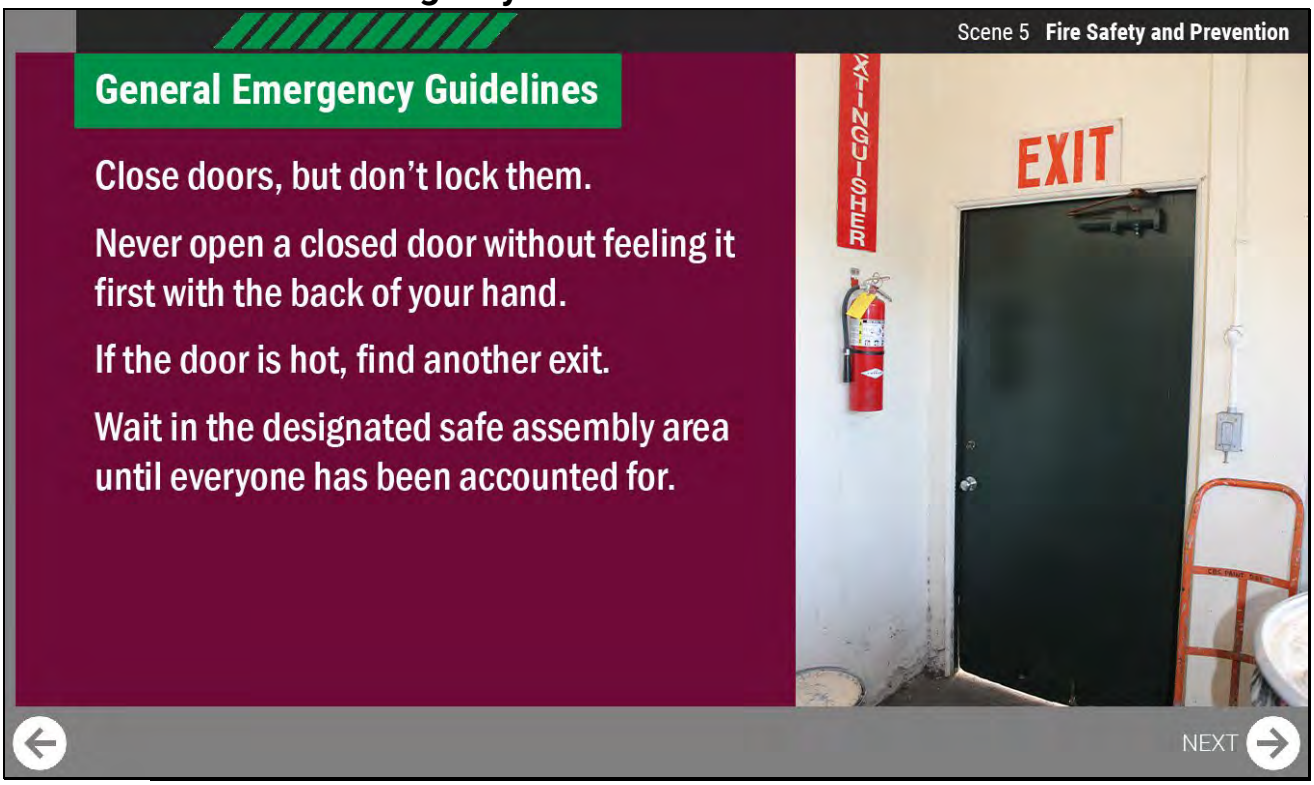
Slide 170 - General Emergency Guidelines 4



Slide notes

If the fire can't be extinguished, evacuate to the designated safe assembly area. Walk, do not run. If there's smoke present during the evacuation, get down low to the ground. You may need to get on your hands and knees and crawl out underneath the smoke. Avoid inhaling smoke because that is how people become incapacitated.

Slide 171 - General Emergency Guidelines 5

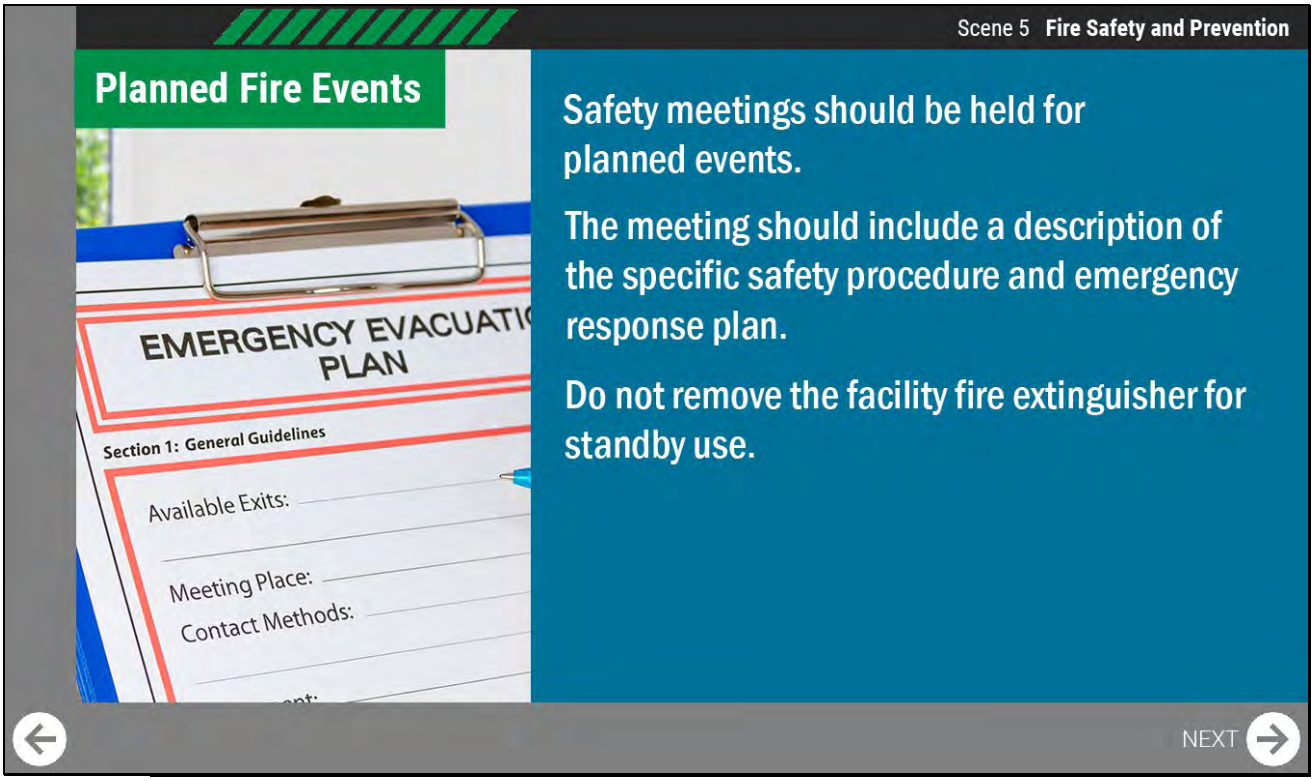


Slide notes

While exiting, close doors behind you as you go, unless for some reason that is unsafe. It'll help prevent the spread of the flames and smoke. Don't lock the doors, because other people may be behind you. In a burning building, don't open a closed door without first feeling it with the back of your hand. If you feel heat coming from the other side of that doorway, find another exit.

Once outside, wait in the designated safe assembly area until everyone has been accounted for.

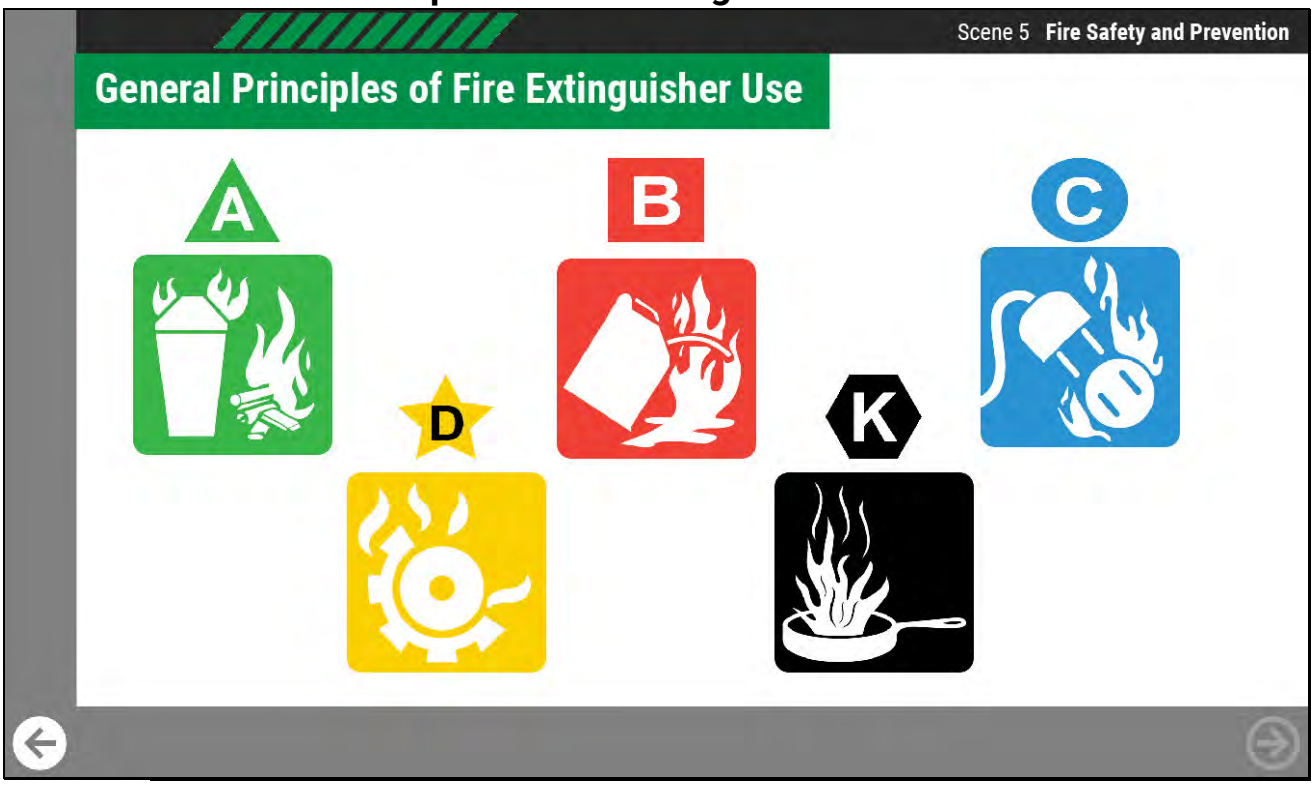
Slide 172 - Planned Fire Events



Slide notes

When flame or fire is part of a shot or other planned event, a safety meeting will be held and everyone will be informed of the specific safety procedures and the plan for emergency response. For planned events, do not remove the facility fire extinguisher for standby use. The special effects crew should provide sufficient extinguishers of the proper type for the circumstances.

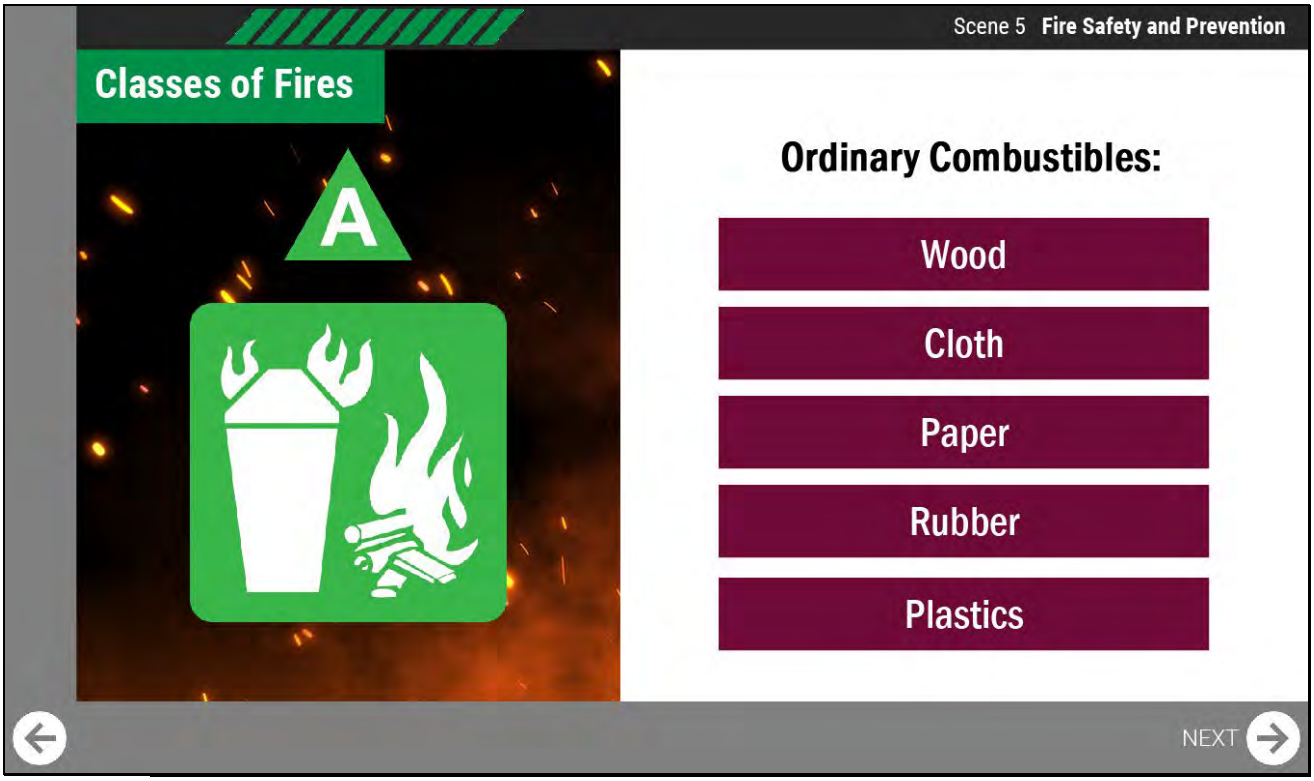
Slide 173 - General Principles of Fire Extinguisher Use



Slide notes

Fires are classified by type: A, B, C, D, or K. Fire extinguishers are required to be clearly marked or labeled with the classes of fires they are designed to fight. Unmarked fire extinguishers should not be used.

Slide 174 - Classes of Fires A

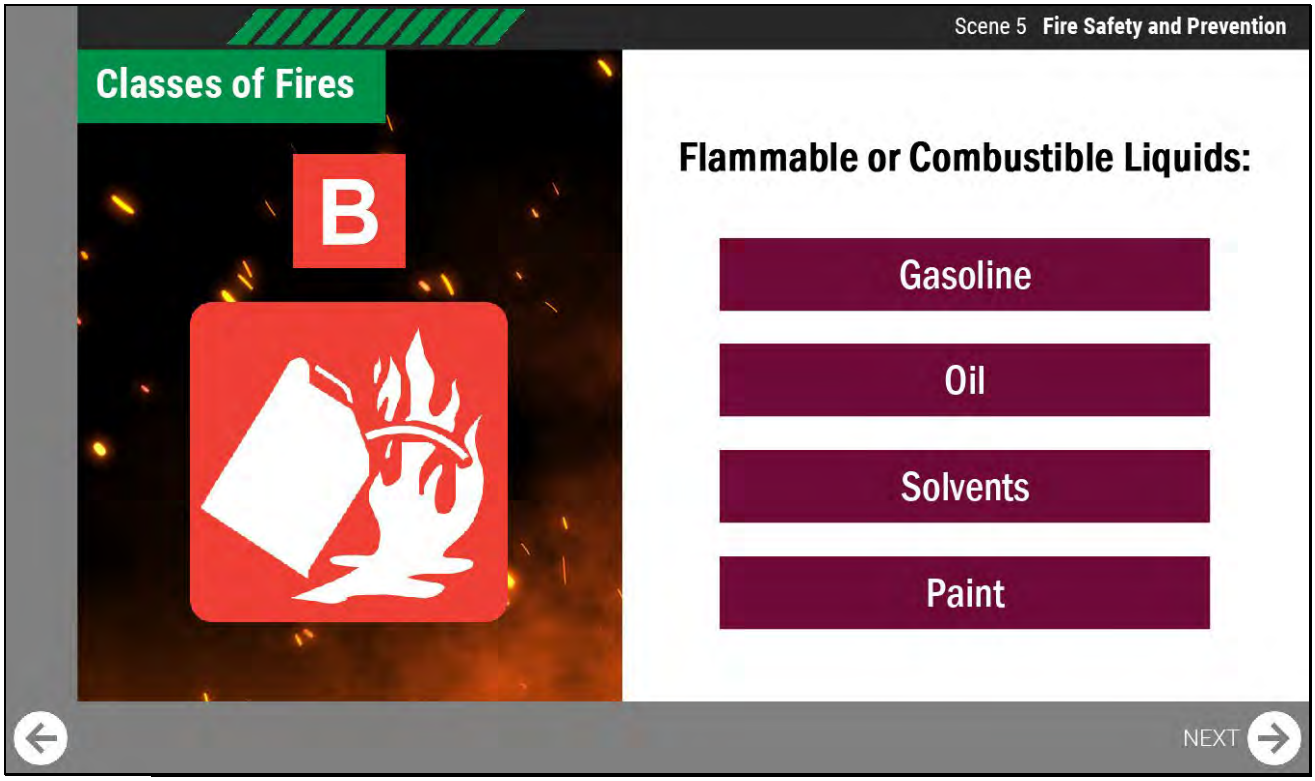


Slide notes

Fire is a real possibility in our industry so it's crucial to know how to prevent it. Let's review different types of fires.

Class A fires are fueled by ordinary combustible materials such as wood, cloth, paper, rubber, and some plastics.

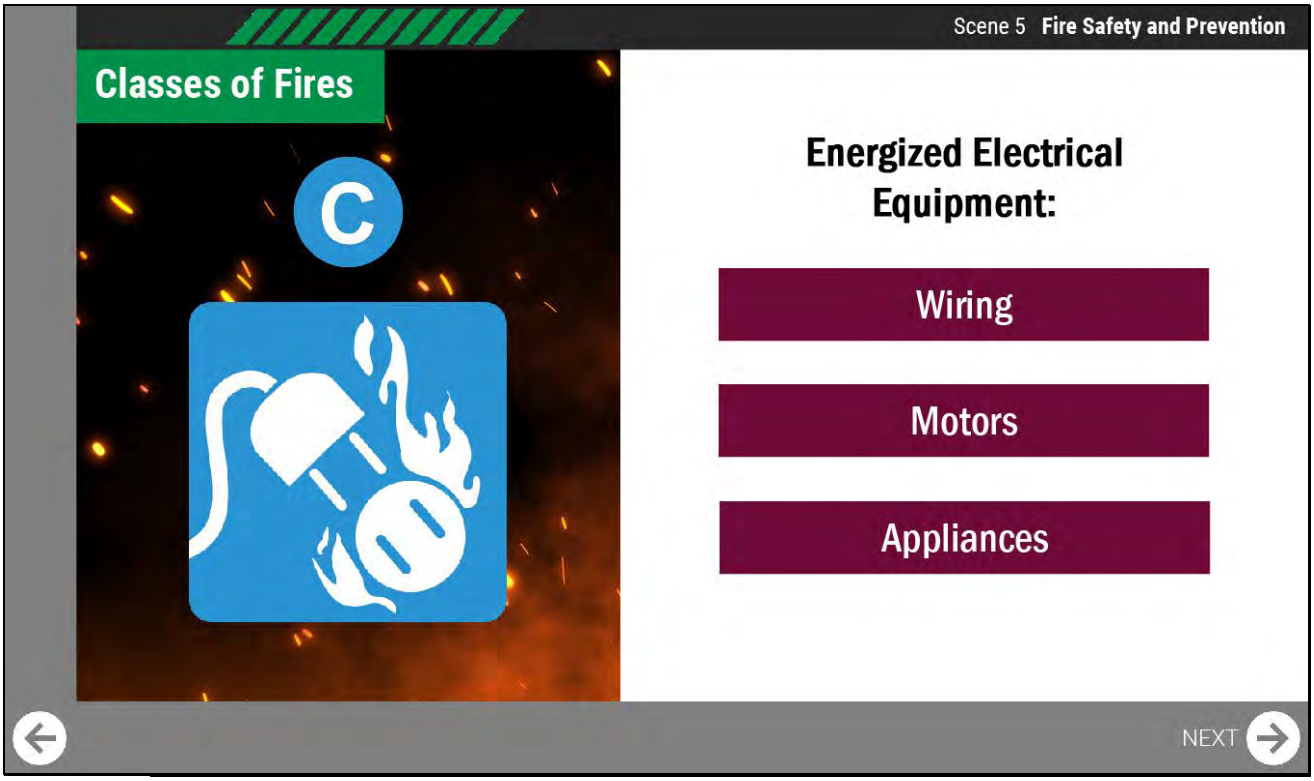
Slide 175 - Classes of Fires B



Slide notes

Class B fires are fueled by flammable or combustible liquids such as, gasoline, oil, solvents, and paint.

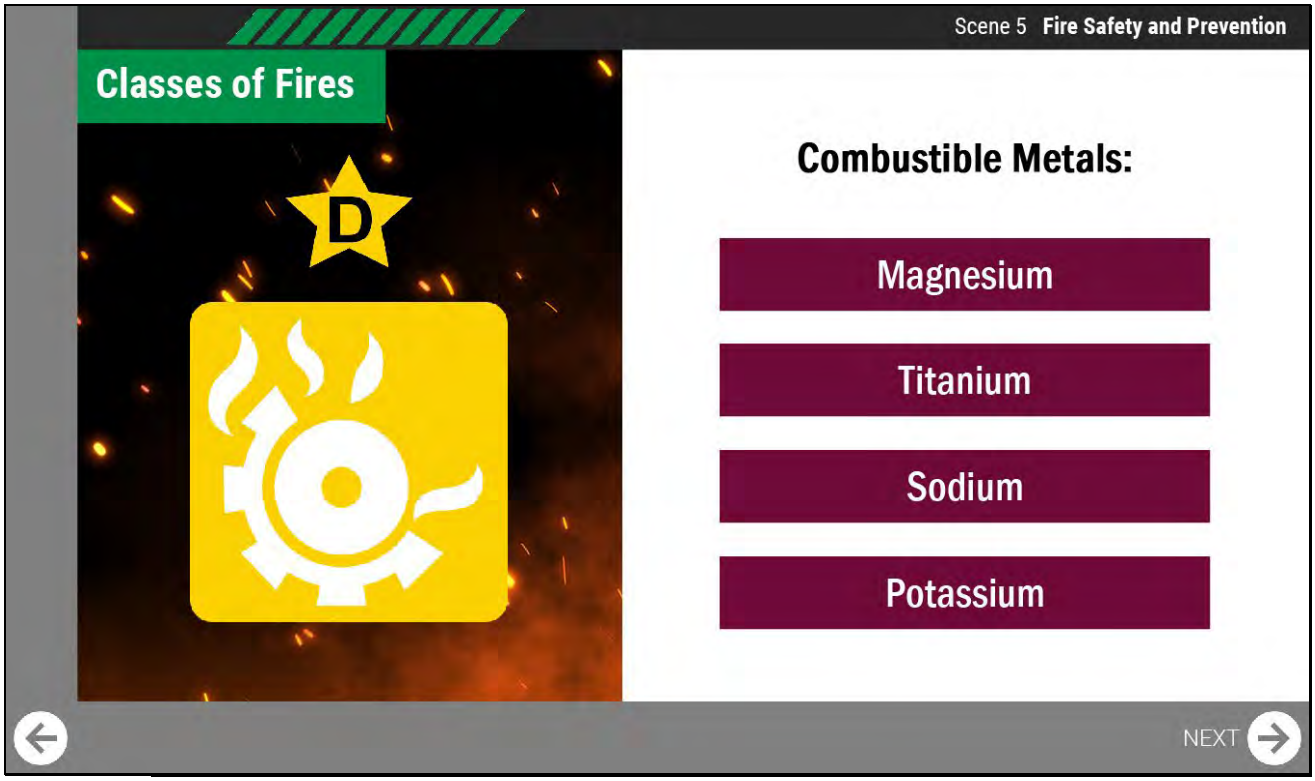
Slide 176 - Classes of Fires C



Slide notes

Class C fires are fueled by energized electrical equipment such as wiring, motors and appliances.

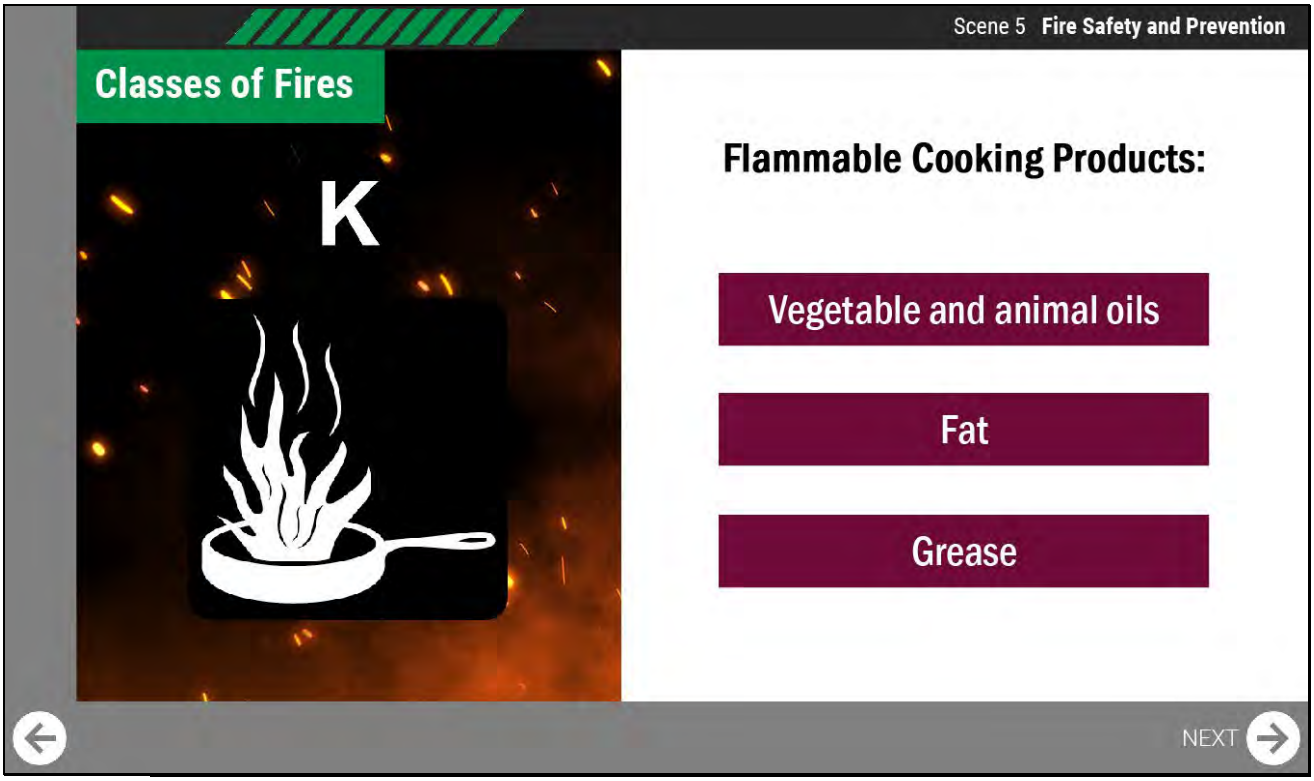
Slide 177 - Classes of Fires D



Slide notes

Class D fires are fueled by combustible metals such as magnesium, titanium, sodium, and potassium.

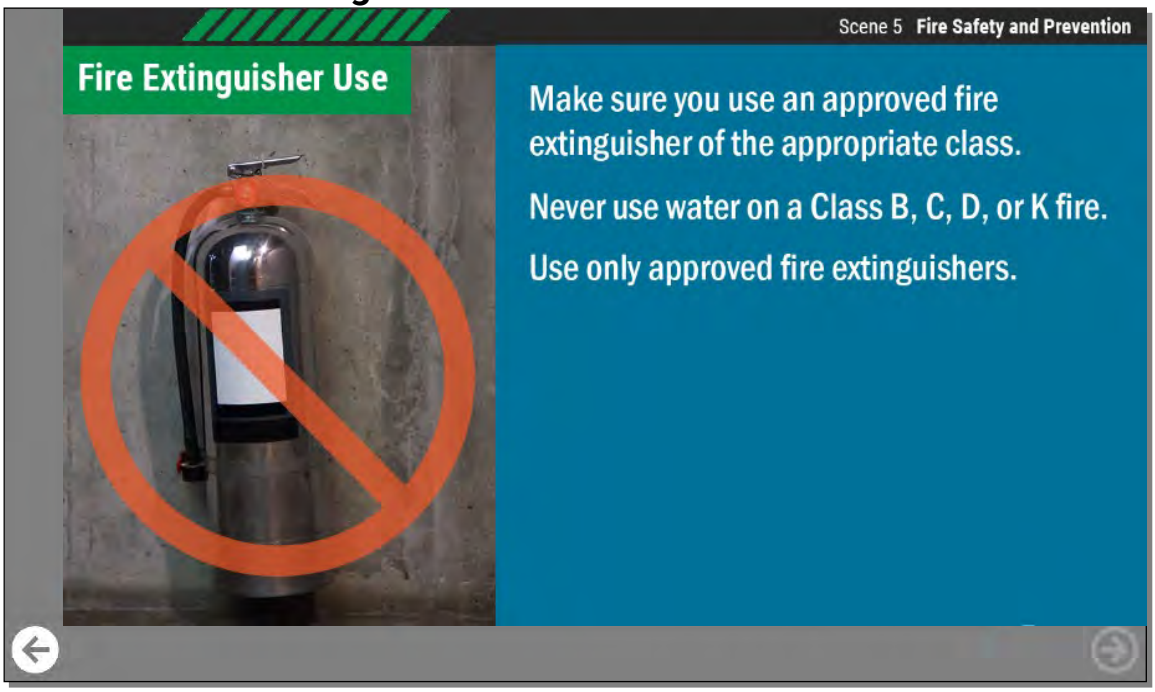
Slide 178 - Classes of Fires K



Slide notes

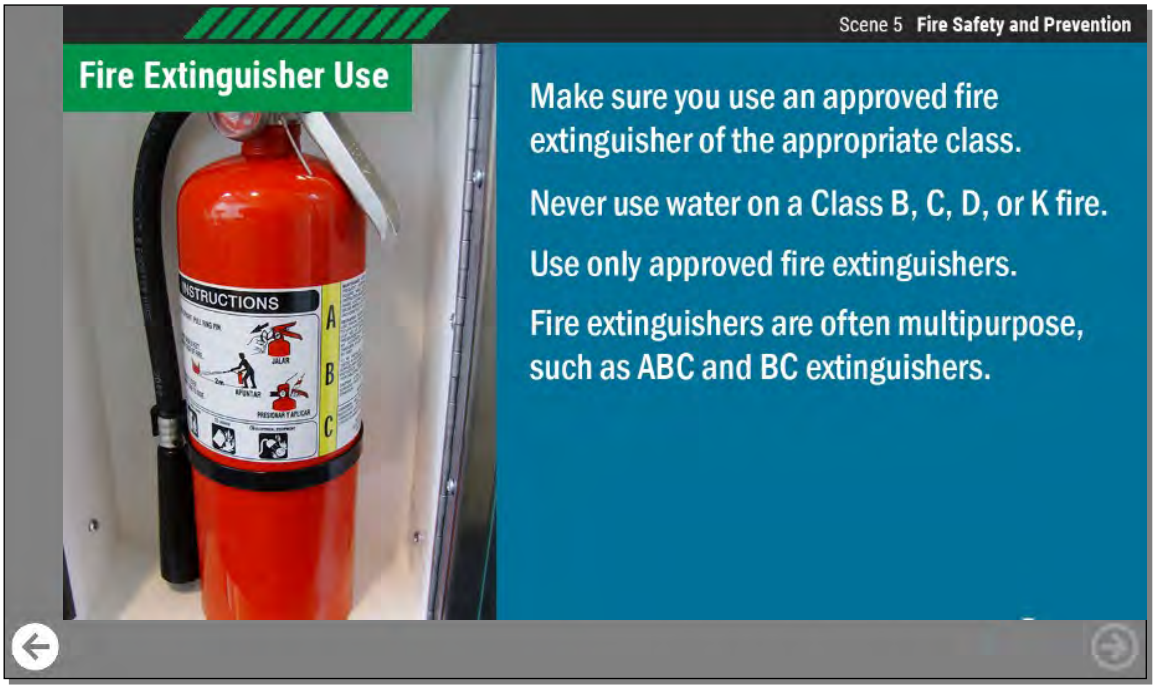
Class K fires are fueled by flammable cooking products such as vegetable and animal oils, fat, and grease.

Slide 179 - Fire Extinguisher Use



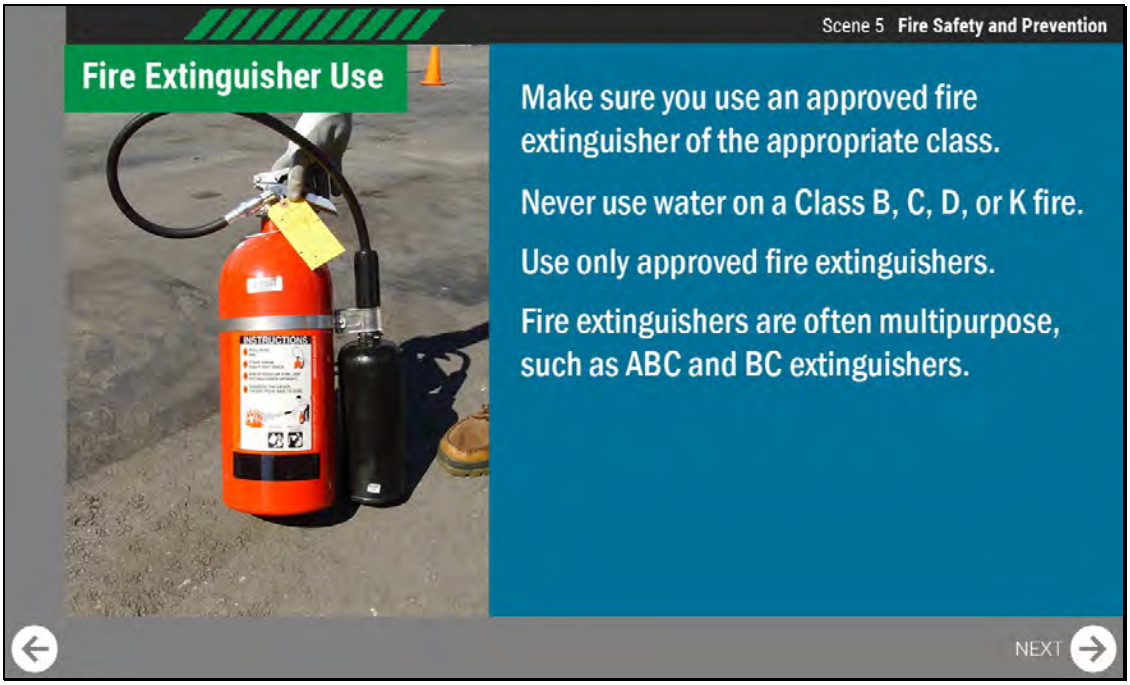
Slide notes

Never use water to fight a Class B, C, D, or K fire. Use water only on Class A fires.



Slide notes

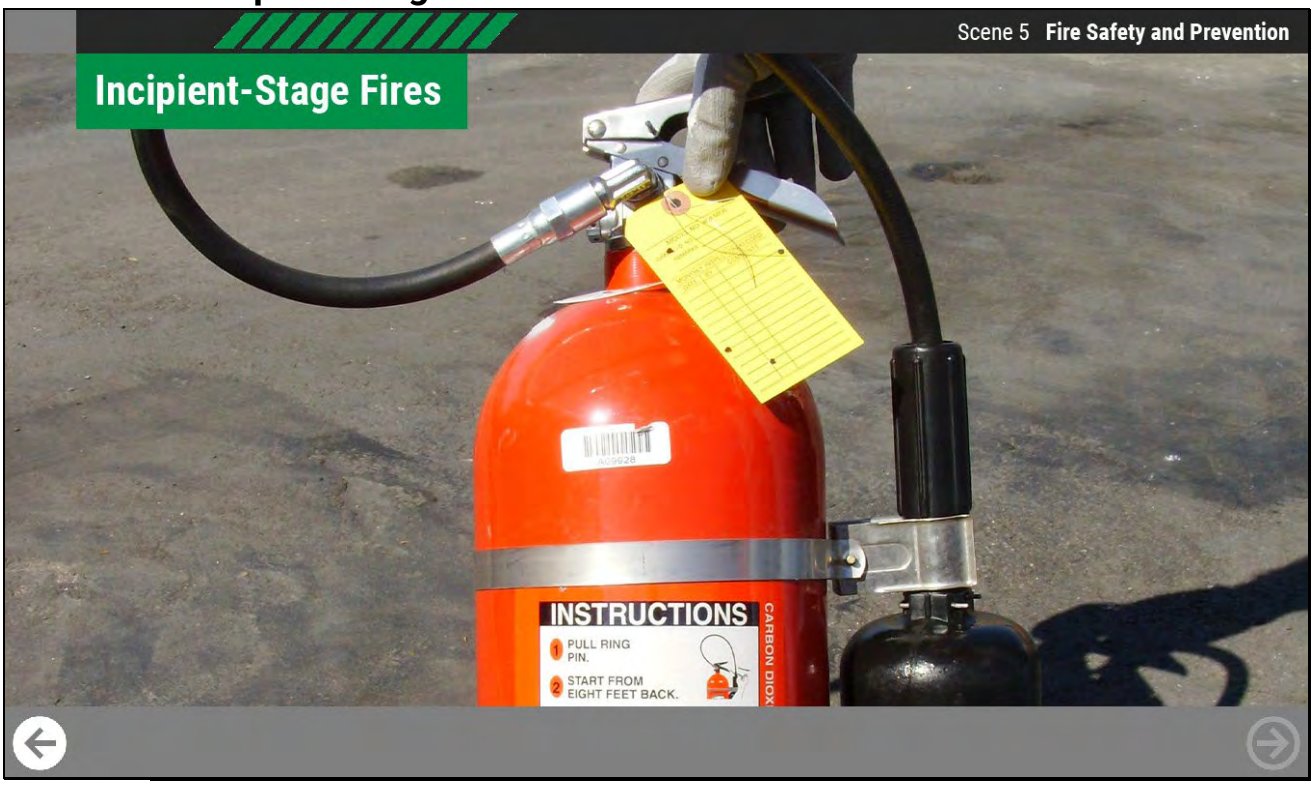
Typically fire extinguishers are multipurpose, such as ABC and BC extinguishers. An ABC extinguisher is approved for fighting fires involving ordinary combustible materials, flammable liquids, and electrical equipment.



Slide notes

Class BC extinguishers, for fires involving flammable liquids and electrical equipment, are the type you'll commonly find in gasoline or diesel-fueled trucks and generators, on locations, and on the set. These are the most common types of fire extinguisher you'll find at work and at home.

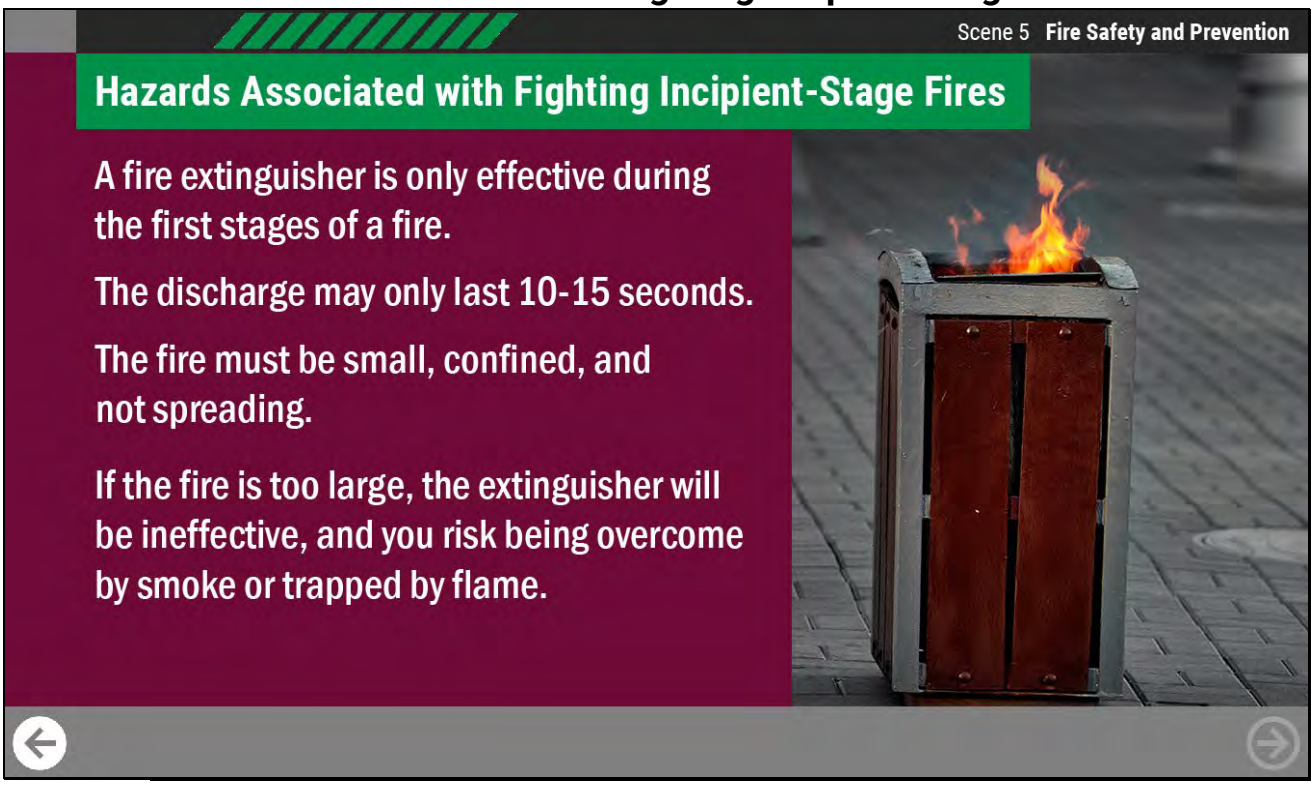
Slide 180 - Incipient-Stage Fires



Slide notes

Remember, your personal safety is more important than putting the fire out. Keep the following guidelines in mind to help determine if you should attempt to fight the fire. If in doubt, get to safety.

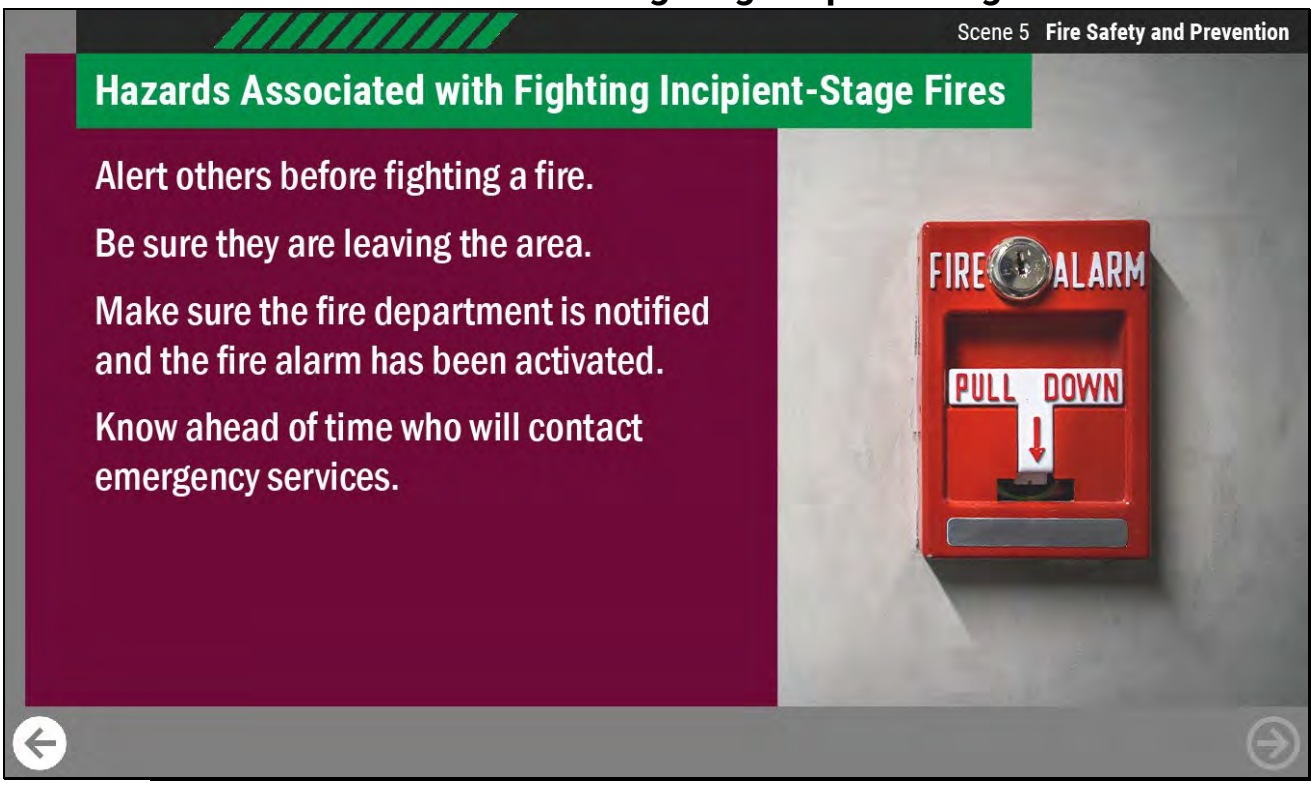
Slide 181 - Hazards Associated with Fighting Incipient-Stage Fires 1



Slide notes

A fire extinguisher has maximum effectiveness only during the very first stages of the fire, normally within the first two minutes after ignition. Depending on the size of the extinguisher, the discharge may last only ten to fifteen seconds before it is depleted. The fire has to be small, confined, and not spreading to be put out with an extinguisher. If the fire has become too large, the extinguisher may not be effective, and as the fire spreads, you could get trapped by the flames or overcome by the smoke.

Slide 182 - Hazards Associated with Fighting Incipient-Stage Fires 2

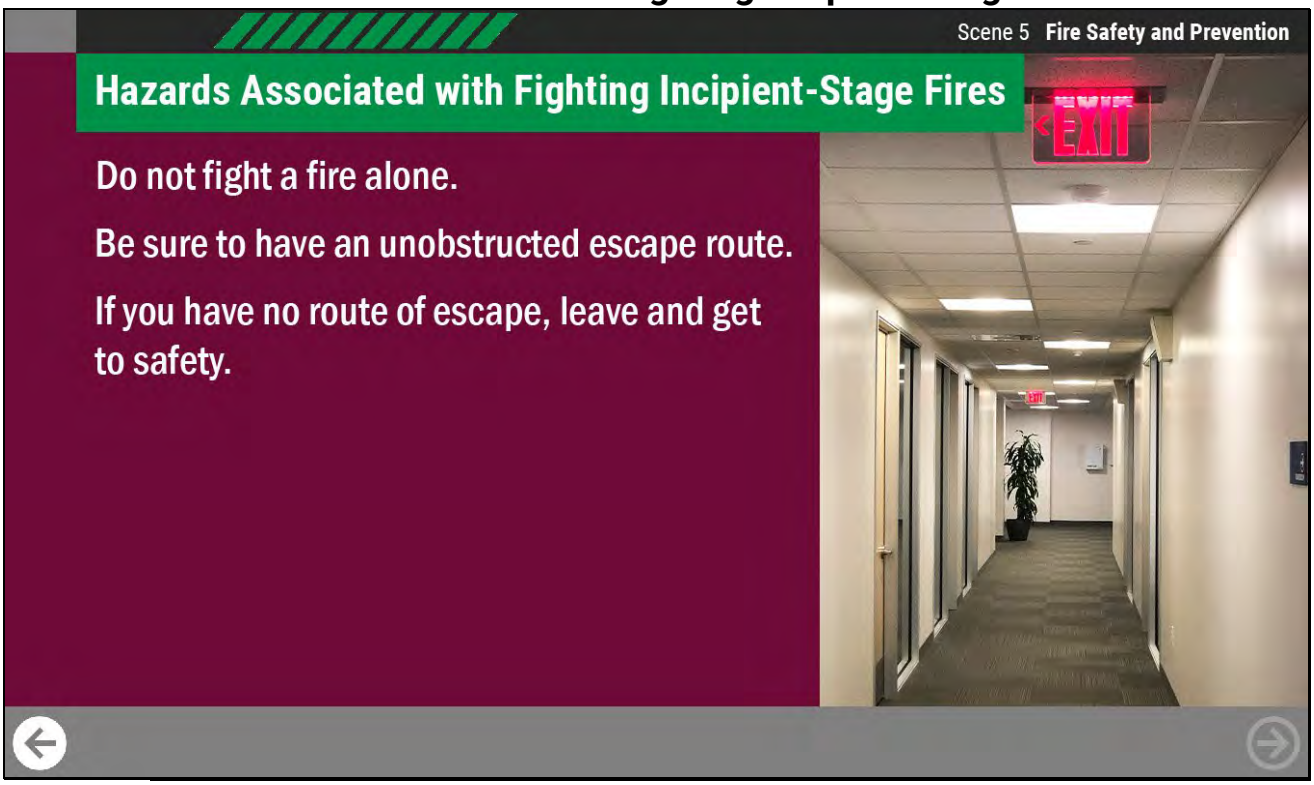


Slide notes

Before fighting a fire, be sure to alert others that there is a fire and be sure they are leaving the area. Failing to do this could put many people in danger.

Additionally, make sure someone notifies the fire department and activates the fire alarm. Be clear about who is taking care of this. A delay in contacting emergency services increases the risk of damage and loss of life. Don't assume someone else has already made the call.

Slide 183 - Hazards Associated with Fighting Incipient-Stage Fires 3



Slide notes

It is not a good idea to attempt to fight a fire while alone. You need someone with you to watch your back and ensure that a route of exit remains available.

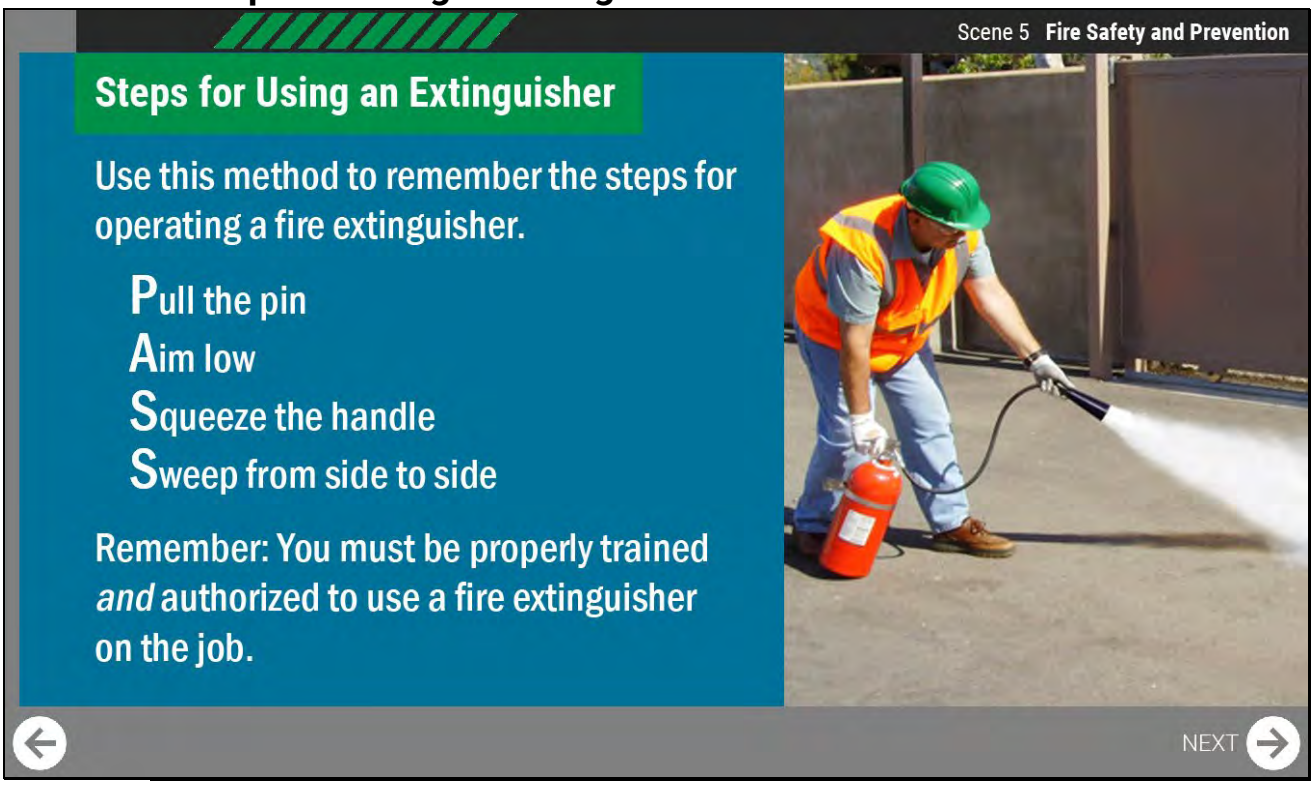
Be sure you have an unobstructed escape route. Don't fight a fire from a position where you could get trapped. If you can't fight the fire and maintain a route of escape, don't attempt it, and get to safety.

Slide 184 - Hazards Associated with Fighting Incipient-Stage Fires 4

Slide notes

Using the wrong type of fire extinguisher puts you at greater risk. It delays your leaving the building, and could actually make the fire worse. If you don't know what material is burning, or if you know but don't have the right class of fire extinguisher, you should not fight the fire.

Slide 185 - Steps for Using an Extinguisher-PASS



Slide notes

To remember the steps for operating a fire extinguisher, just remember PASS - P-A-S-S.

Pull the pin. Extinguishers are stored with a pin that prevents the extinguisher from being activated accidentally. Grab it and pull it out.

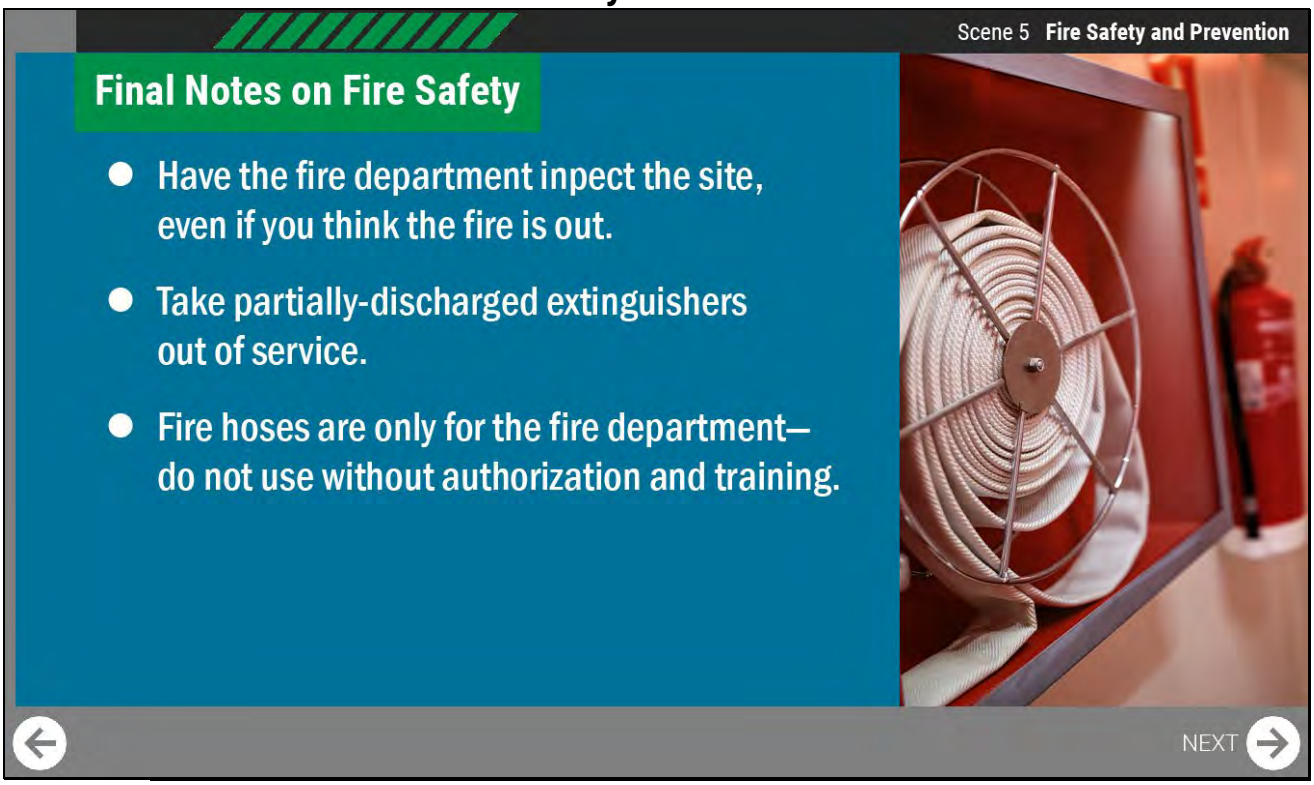
Aim low. Don’t aim the fire extinguisher at the flames themselves; aim for the base of the flames where the fuel is actually burning.

Squeeze the handle. This releases the fire suppressant.

Sweep from side to side. Start at one side of the fire and sweep across a narrow region until that part is out. Then move over and concentrate on the next region, until the whole fire is extinguished. If the fire flares back up, go back and sweep over that area again.

Taking this training does not authorize you to use a fire extinguisher on the job. Your employer must authorize that. Attempting to use a fire extinguisher without proper training can put you at greater risk.

Slide 186 - Final Notes on Fire Safety



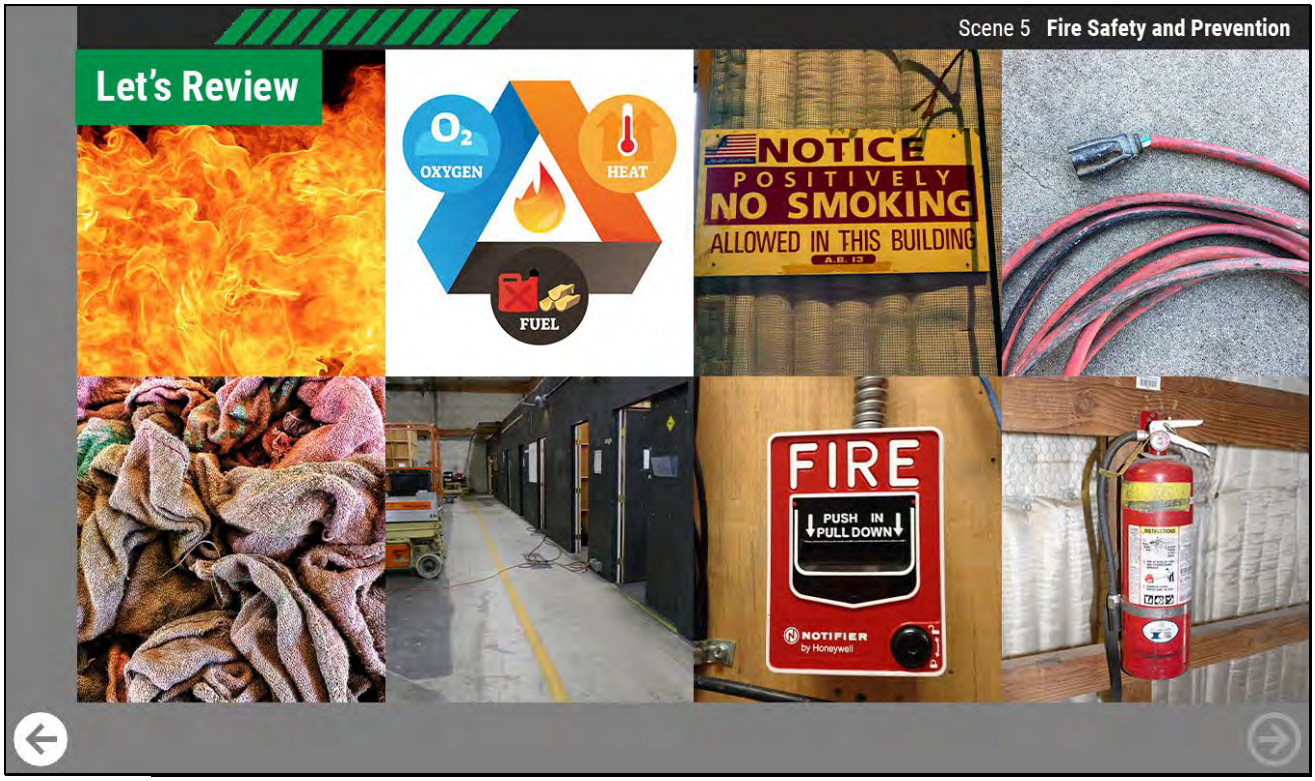
Slide notes

Have the fire department inspect the site, even if you think the fire has been extinguished. They have infrared equipment to locate any embers or hotspots.

Partially-discharged extinguishers must be taken out of service and recharged or replaced.

The fire hoses you often see in office buildings and on sound stages are for the exclusive use of trained firefighters. Do not attempt to use a fire hose unless specifically trained and authorized by your employer.

Slide 187 - Let's Review Scene 5



Slide notes

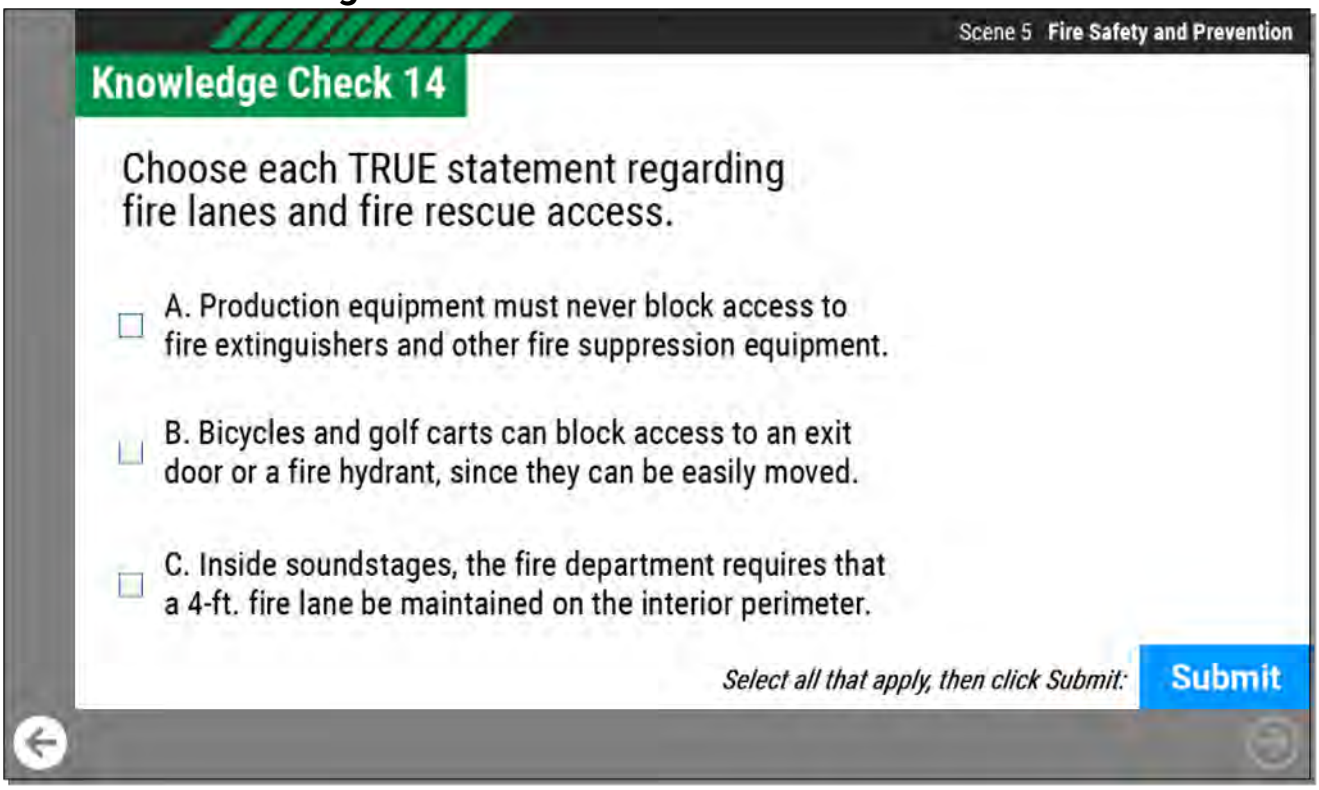
As you can see, every department on a film production plays a role in fire prevention, whether by considering combustion elements and sources of ignition associated with their work; obeying no-smoking restrictions; inspecting electrical cords and using them in a safe manner; disposing of ignitable rags in a safe container; or simply by maintaining clear exits and access to fire-fighting equipment. Incorporate fire safety as appropriate for your job and the location in which you are working.

If a fire breaks out, remember: your primary concern is to get yourself to safety. Your role may also be to call 911 or pull the fire alarm. If you are trained and authorized, and the situation meets all the criteria we've talked about, you could use a fire extinguisher to put out the fire.

You can apply these fire safety guidelines in your daily work activities.

Let's check your knowledge.

Slide 188 - Knowledge Check 14

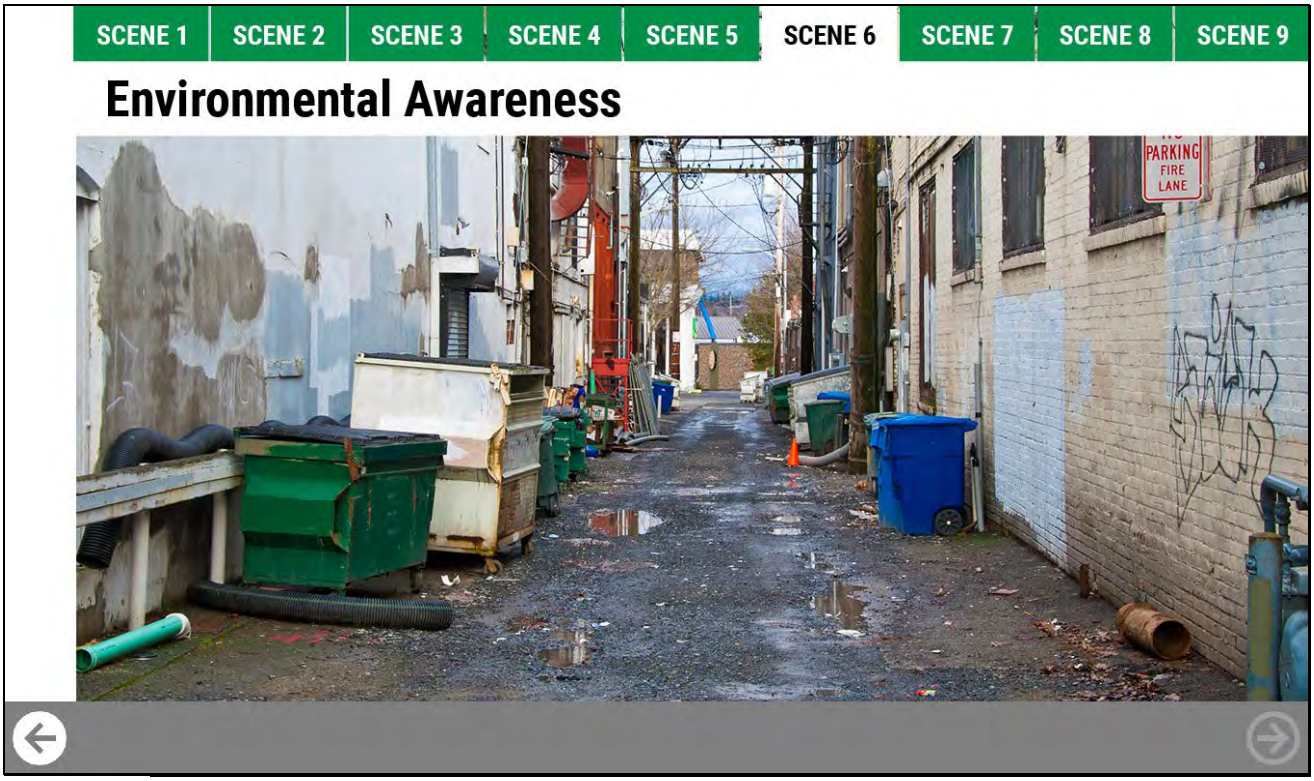


Slide notes

Knowledge Check 14

Question: Place a checkmark next to each true statement with regard to fire lanes and fire/rescue equipment access.

Slide 189 - Environmental Awareness



Slide notes

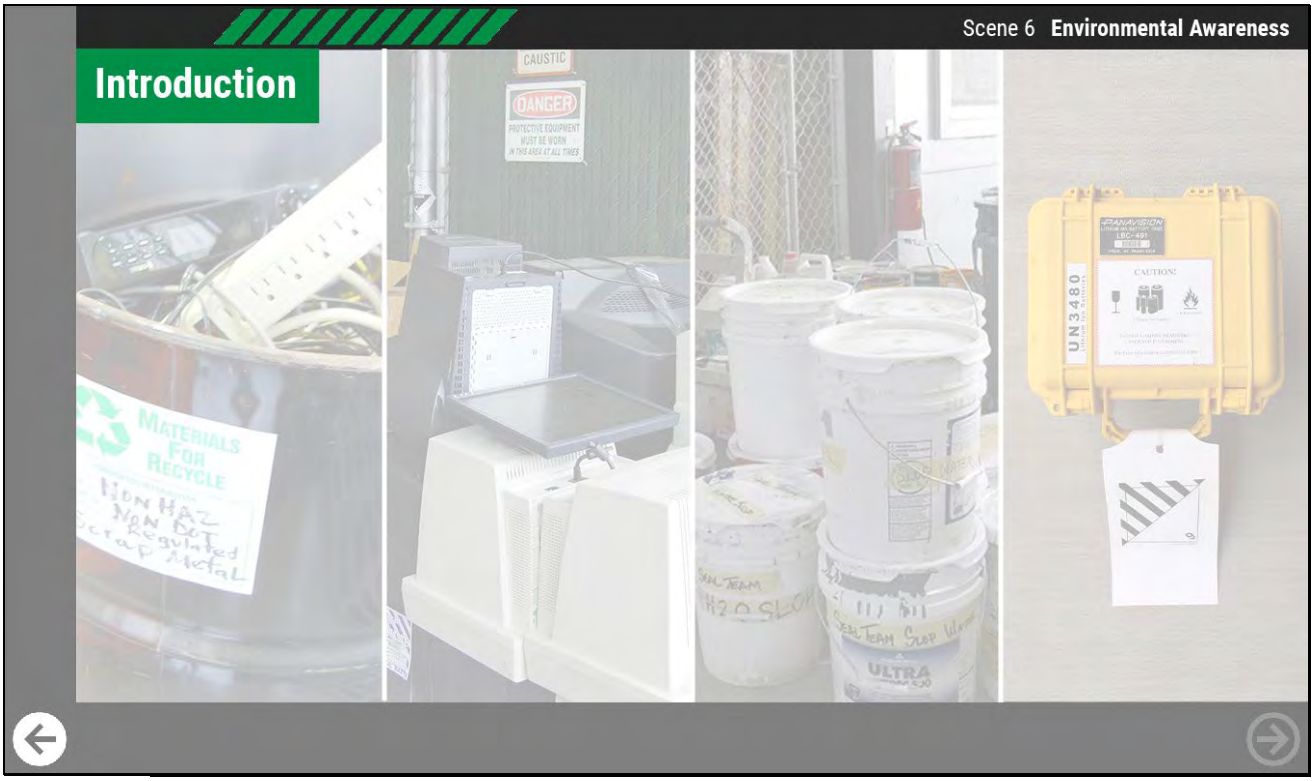
Scene Six. Environmental Awareness.

Slide 190 - In This Scene

Slide notes

In this scene, we will cover universal waste, recycling, hazardous waste, and transporting dangerous materials.

Slide 191 - Introduction

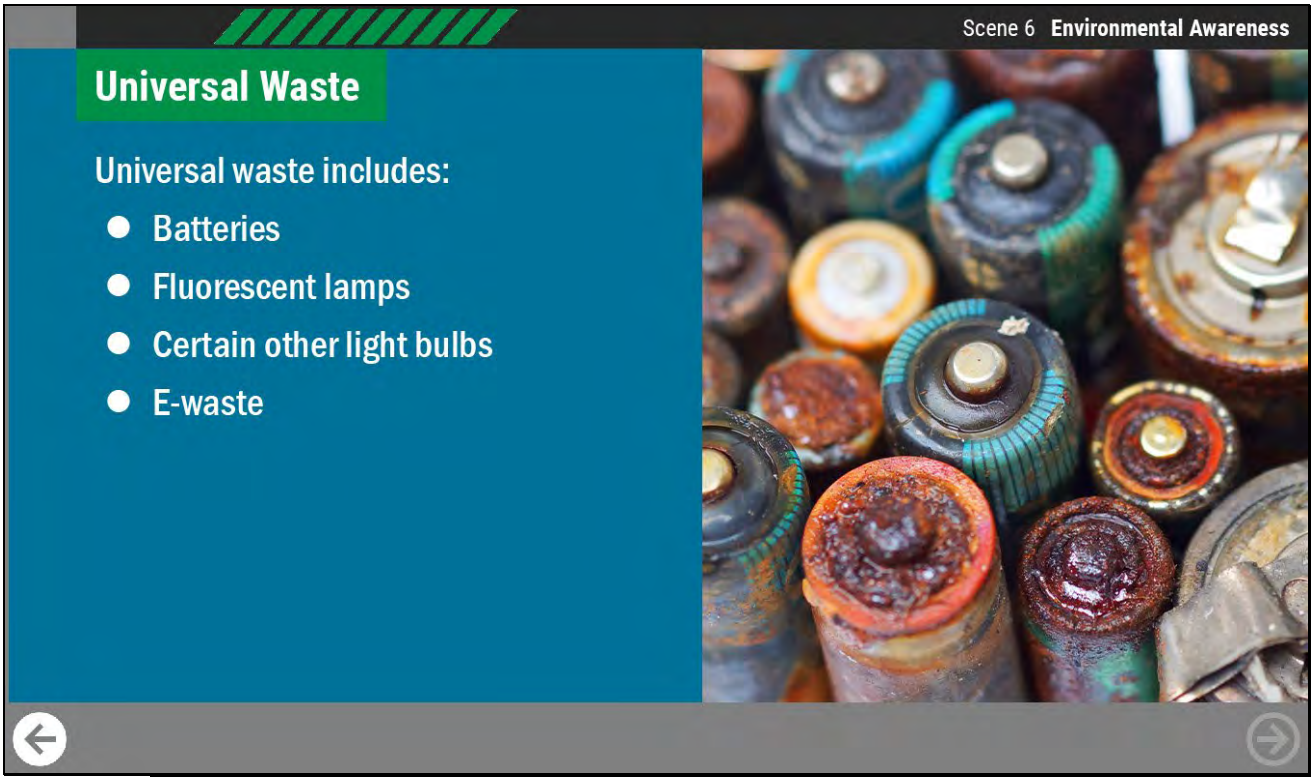


Slide notes

If you need to throw out an old computer monitor or half a can of paint, you can't just throw those things in the trash. You need to know how to dispose of them safely, legally, and in a way that is environmentally responsible.

There are three different categories of waste items we'll discuss in this scene: universal waste, recycling, and hazardous waste. In addition, it is not legal to ship certain hazardous materials, so we'll also discuss safely transporting hazardous goods.

Slide 192 - Universal Waste 1



Slide notes

Universal waste includes batteries, fluorescent lamps and certain other light bulbs, and E-waste.

Slide 193 - Universal Waste 2

Slide notes

E-waste is a term for electronic products that have passed the end of their useful life: TVs, computers, computer monitors, DVD players, MP3 players, cell phones, electric motors, and other electrical devices.

Slide 194 - Universal Waste 3

Slide notes

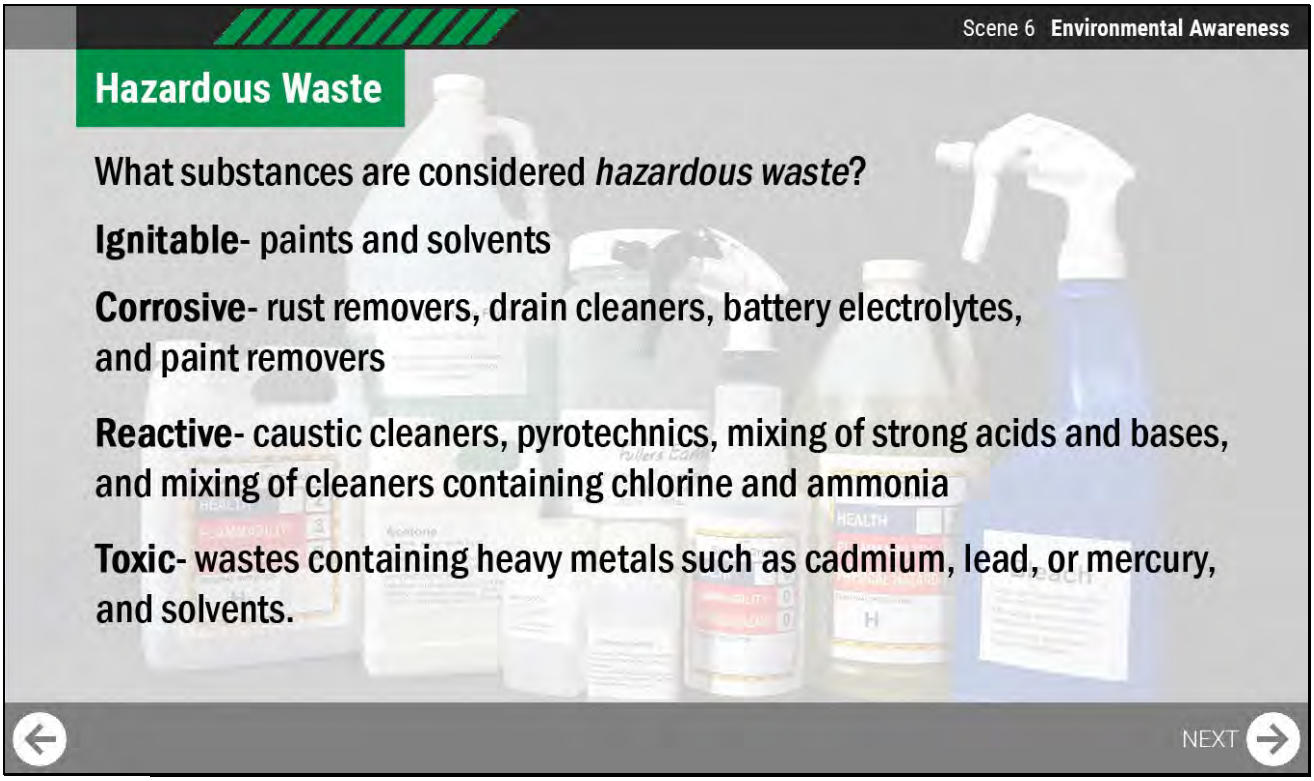
Universal waste may contain hazardous materials, predominantly lead and mercury, which will create a health hazard if they are put into landfills. Do not place universal waste in a normal trash can. Universal waste also contains many materials that can be recycled. Speak to your employer, your supervisor, or the studio safety department to find out about their arrangements for disposal of universal waste.

Slide 195 - Recycling

Slide notes

The goal of recycling is to divert waste material away from landfills and back into useful applications. Every studio has a comprehensive recycling program for waste generated on set, which includes aluminum cans, glass bottles, plastic bottles, construction waste, and paper products-including call sheets, scripts, cardboard, newspapers, and magazines.

Slide 196 - Hazardous Waste



Slide notes

Waste is considered hazardous if it’s ignitable, corrosive, reactive, or toxic.

It’s a violation of federal law to dispose of any hazardous waste in a trash container, sewer, or sink.

Slide 197 - Storing Hazardous Waste 1

Slide notes

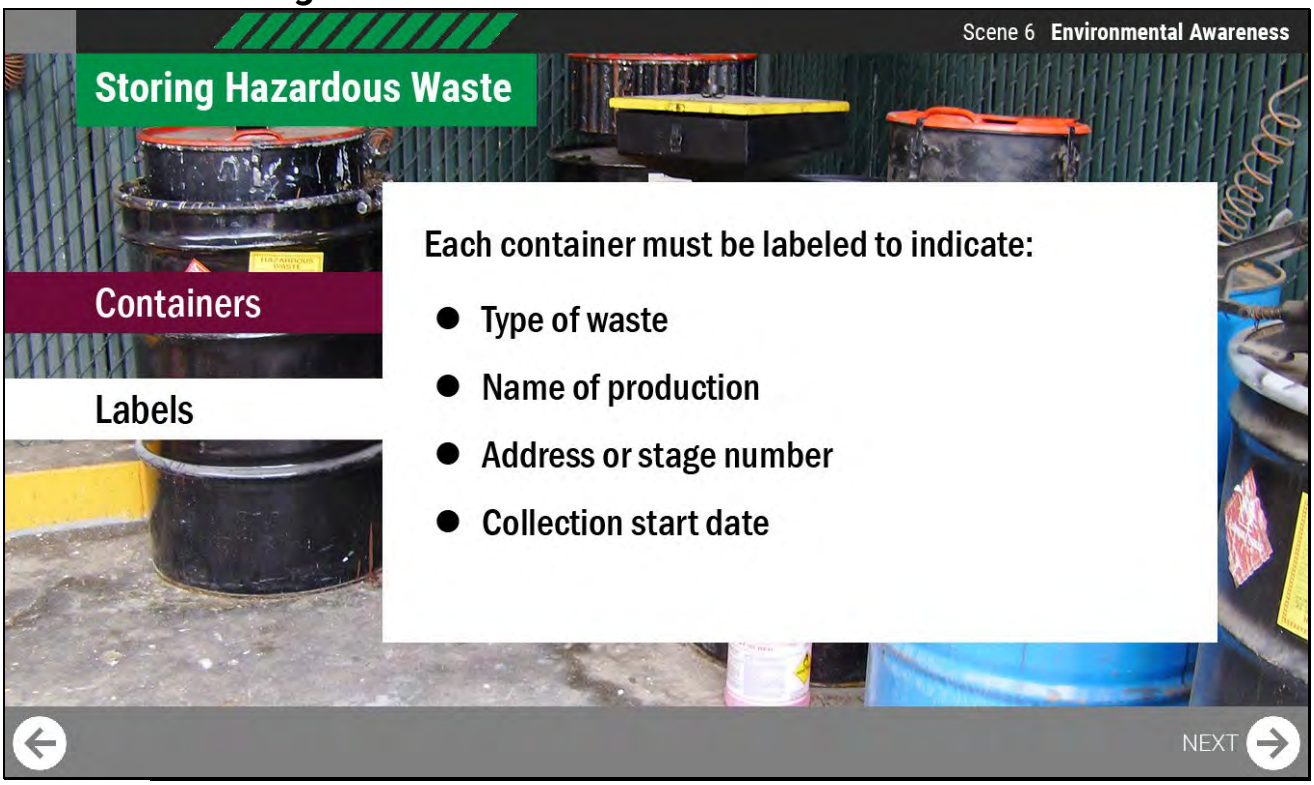
It's important for hazardous wastes to be stored properly so they don't pose a threat to anyone at work.

Slide 198 - Storing Hazardous Waste 2

Slide notes

Productions are responsible for properly storing their hazardous wastes in a designated accumulation area. They have to keep each type of waste in its own primary container with spill containment-big metal drums and 55-gallon barrels are examples of primary containers. This all has to be supervised by someone who is trained and authorized to handle these kinds of materials.

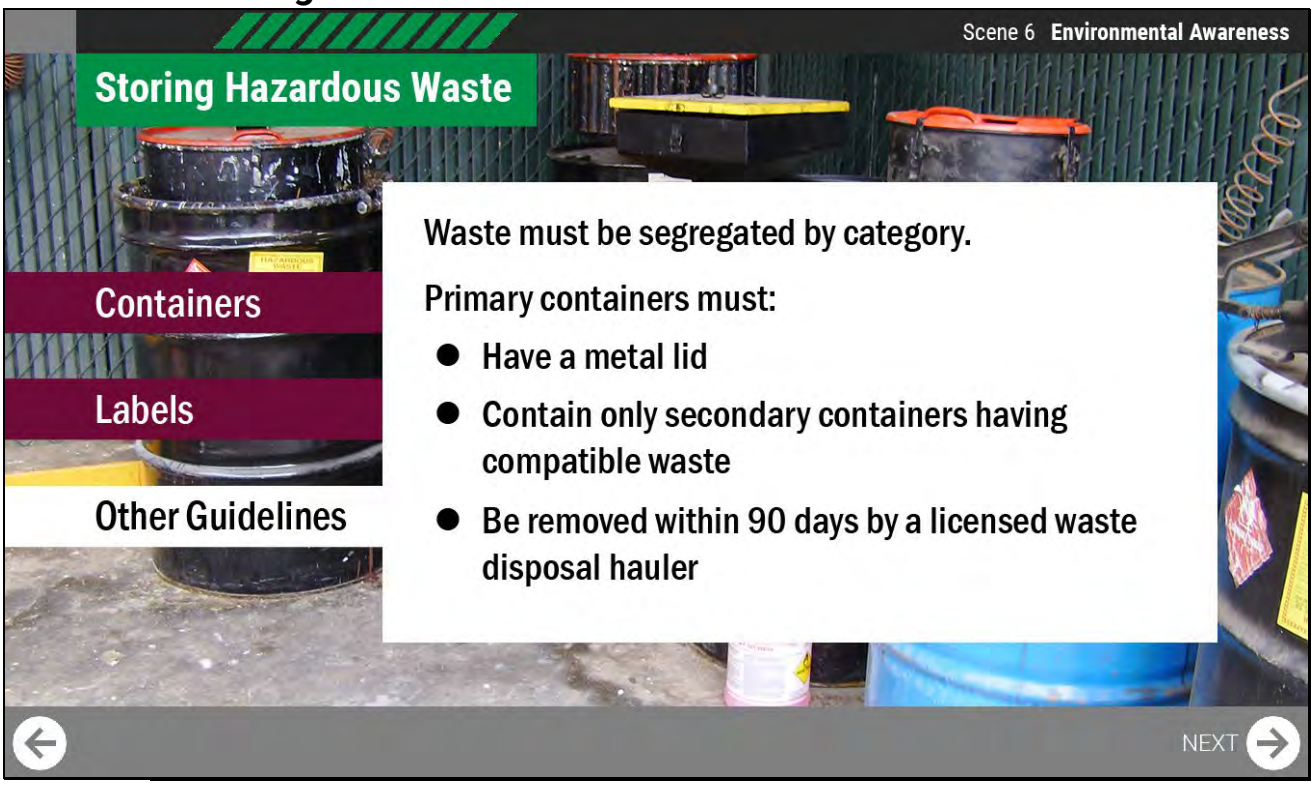
Slide 199 - Storing Hazardous Waste 3



Slide notes

Each primary container has to have a label specifying what type of waste is being stored in that container. Each container must indicate the name of the production and the address or stage number that the waste came from so it can be traced back to its source. The label must also have a collection start date on it, which is the date the container was first filled with that waste. We can only accumulate waste for up to 90 days, so the start date is like a countdown to when it must be removed.

Slide 200 - Storing Hazardous Waste 4



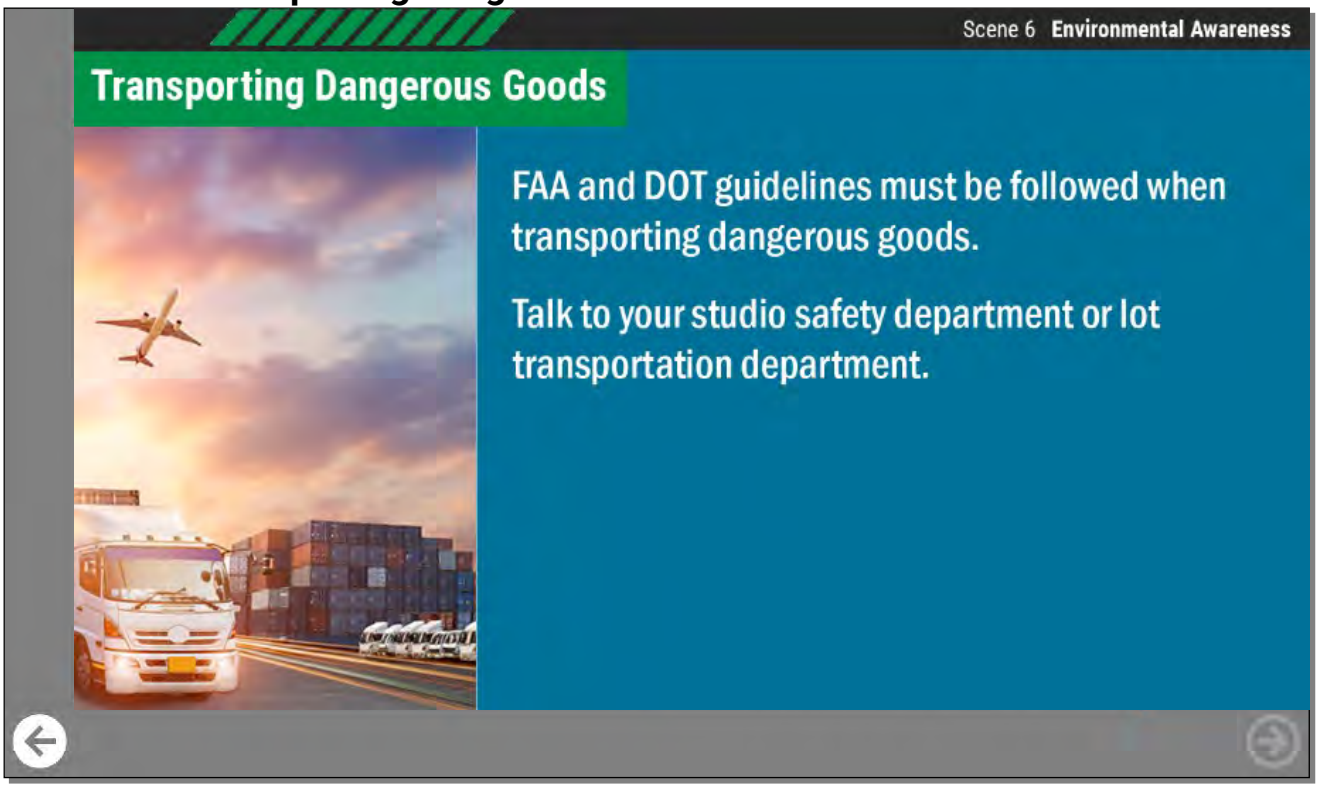
Slide notes

Waste must be segregated by category. For example, water-based paint waste must be separate from oil-based paint waste. Liquid waste must be separate from aerosol cans and solid waste.

Each primary container has to have a metal lid so that its contents don't evaporate or spill out. When secondary containers of hazardous waste are put in the primary container, their contents must be compatible.

Within 90 days, a licensed waste disposal hauler must take the waste to a reprocessing center. When the truck for the reprocessing center is loaded up, there will be a manifest that should be signed by the authorized personnel only.

Slide 201 - Transporting Dangerous Materials



Slide notes

There are also important guidelines set by the Federal Aviation Administration and the Department of Transportation which must be followed when transporting dangerous goods. These are all enforceable by law. If you need information, talk to your studio safety department or the lot transportation department.

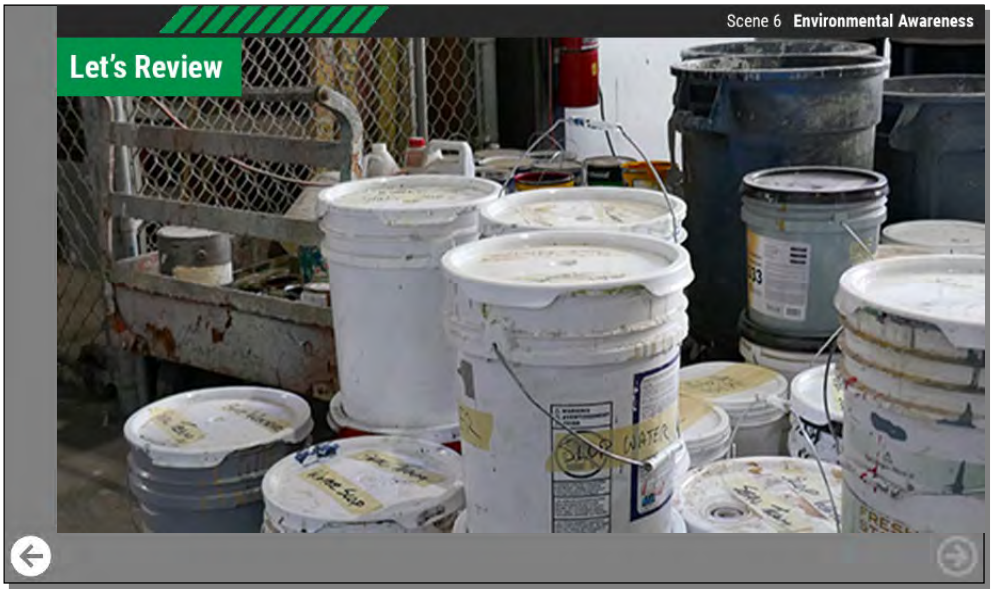
Slide notes

Examples of dangerous goods are pyrotechnic materials, aerosol canisters, flammable or combustible liquids, gases or solvents, camera batteries, paint, sludge, and chemical waste.

It's unlawful to ship dangerous materials without telling anyone what's inside. FedEx, DHL, or UPS, for example, will ship these kinds of goods, but they have to know what they are dealing with, in case it starts to leak or spill while in transit.

Restrictions apply to shipping by carriers, and to any items you ship in your personal luggage. Before shipping, check with a supervisor, the production office, or a safety representative for guidelines and assistance.

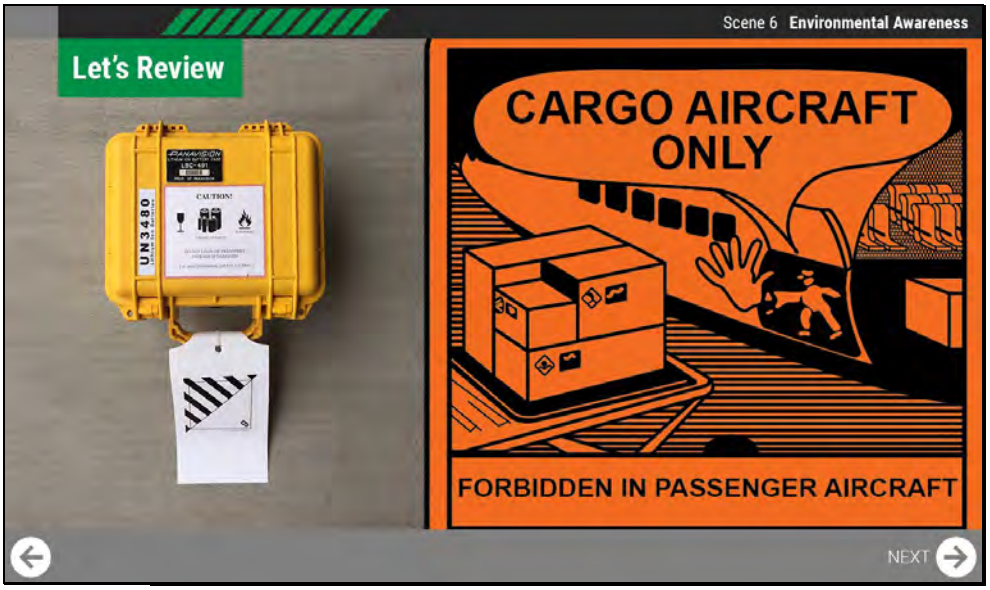
Slide 202 - Let's Review Scene 6



Slide notes

The takeaway from our scene on environmental awareness is pretty straightforward: certain types of waste should not be placed in the regular trash.

Each employer may handle waste a little differently, so you'll want to ask about and get familiar with their procedures and requirements.

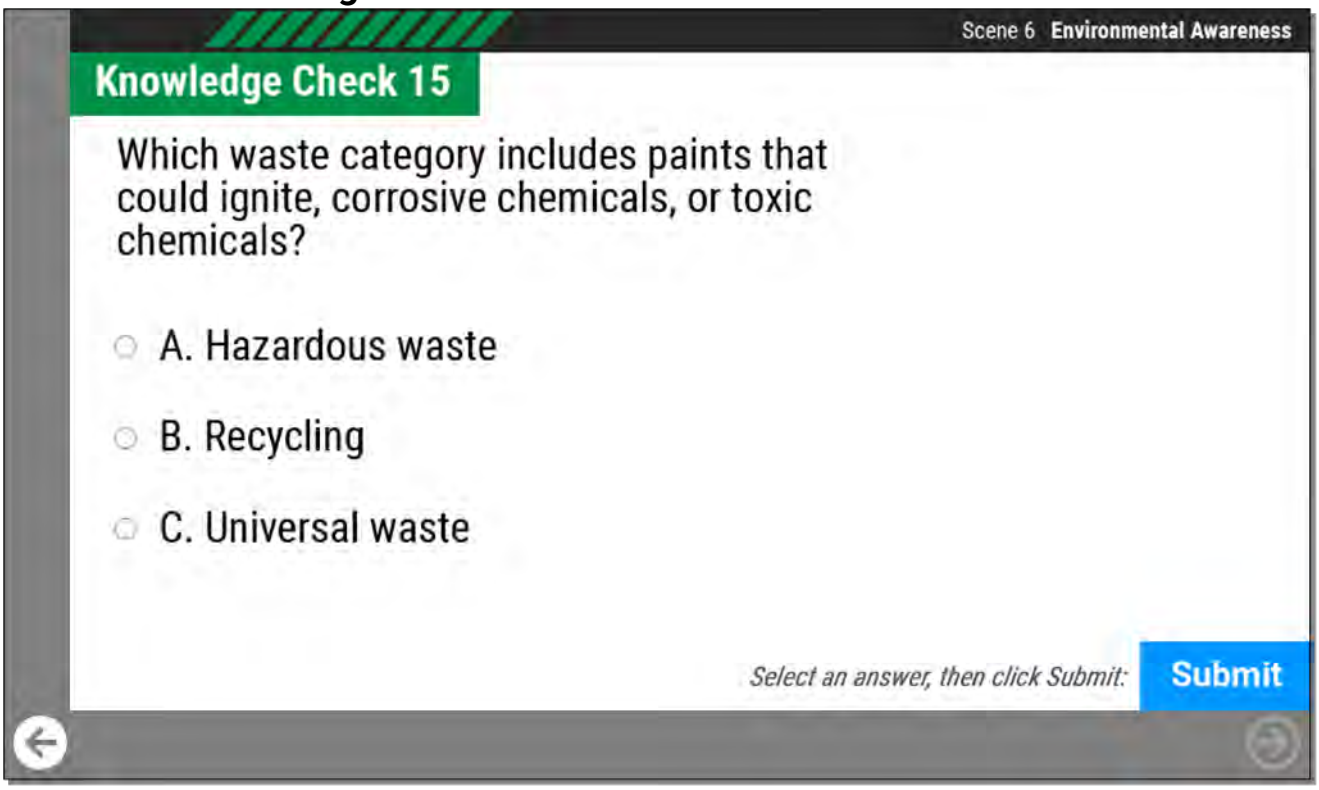


Slide notes

If you need to ship or transport hazardous materials or dangerous goods, DOT and FAA regulations must be followed. Get assistance and guidelines from the studio safety department, a supervisor, or your production department.

Let's check your knowledge.

Slide 203 - Knowledge Check 15

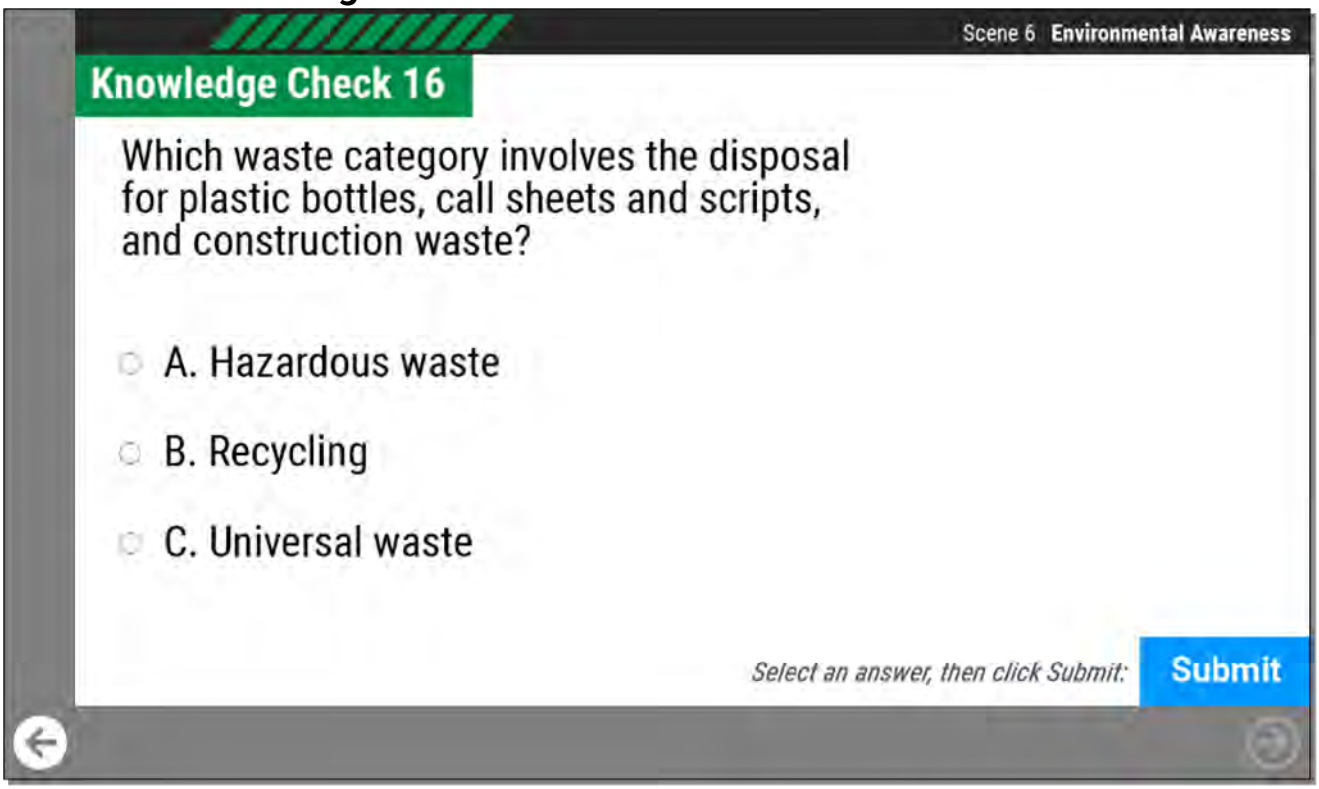


Slide notes

Knowledge Check 15

Question: Which waste category includes paints that could ignite, corrosive chemicals, or toxic chemicals?

Slide 204 - Knowledge Check 16

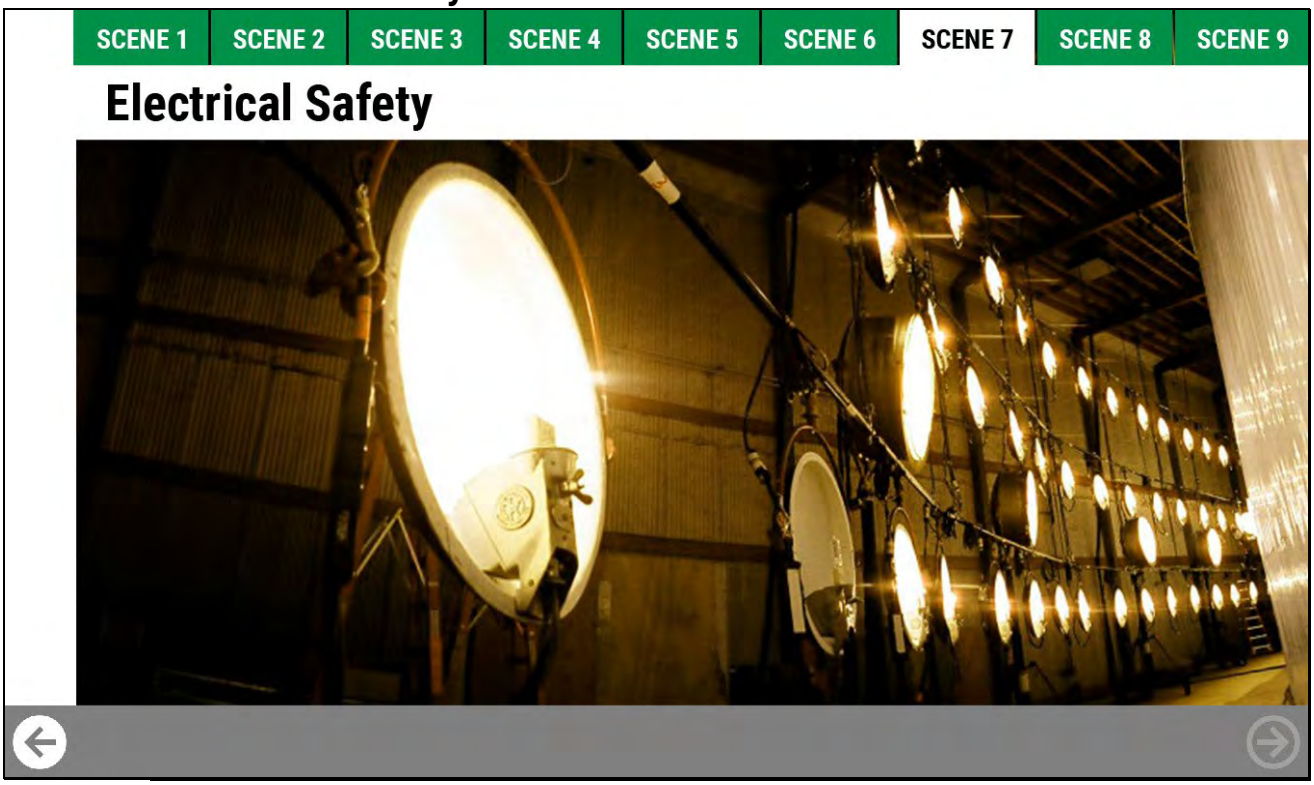


Slide notes

Knowledge Check 16

Question: Which waste category involves the disposal of plastic bottles, call sheets and scripts, and construction waste?

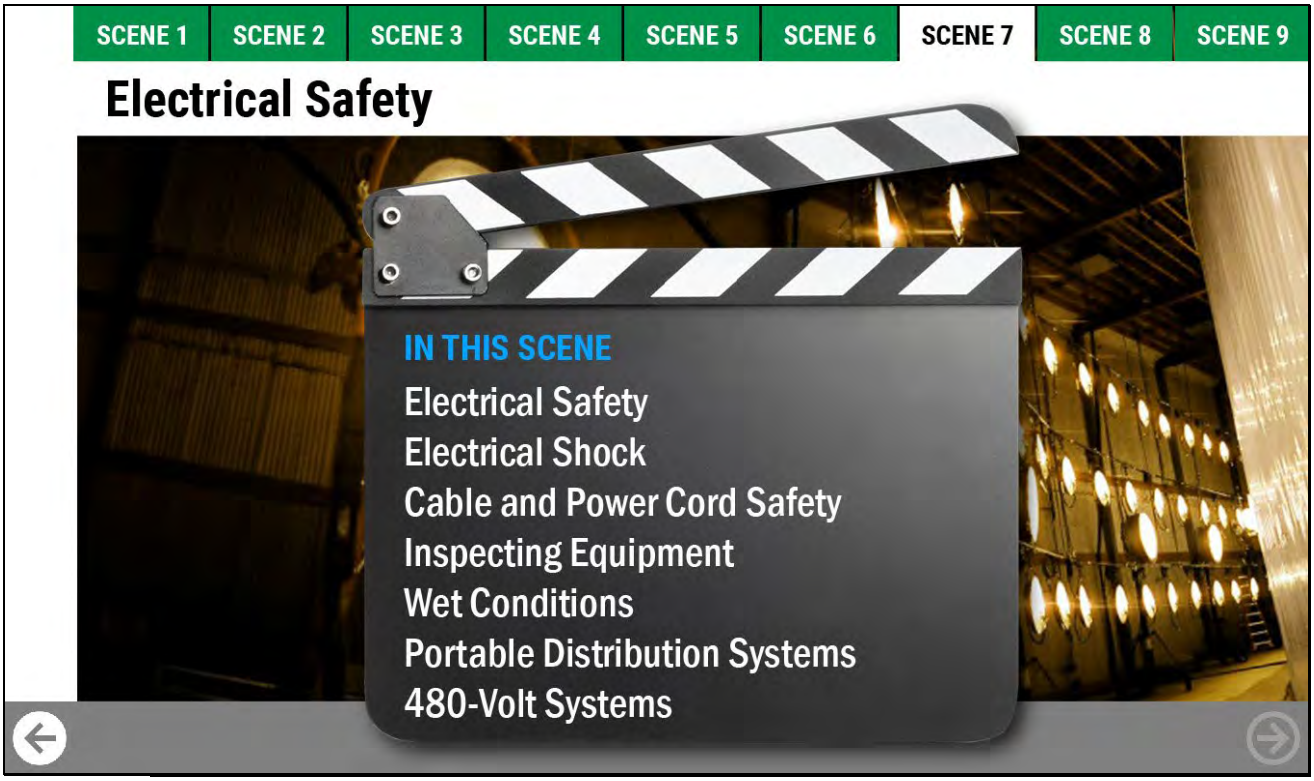
Slide 205 - Electrical Safety



Slide notes

Scene Seven. Electrical Safety.

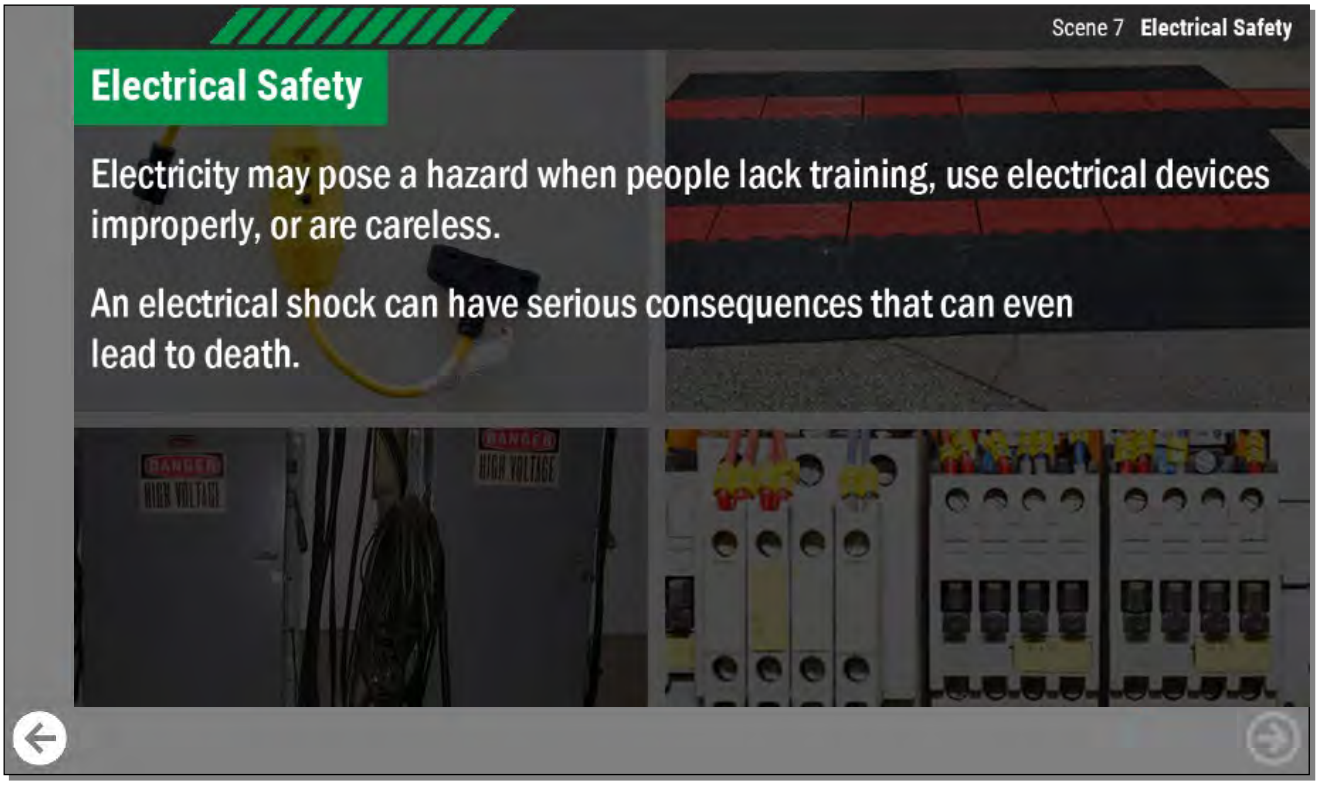
Slide 206 - In This Scene



Slide notes

In this scene, we will cover electrical safety, electrical shock, cable and power cord safety, inspecting equipment, wet conditions, portable distribution systems, and 480-volt systems.

Slide 207 - Introduction



Slide notes

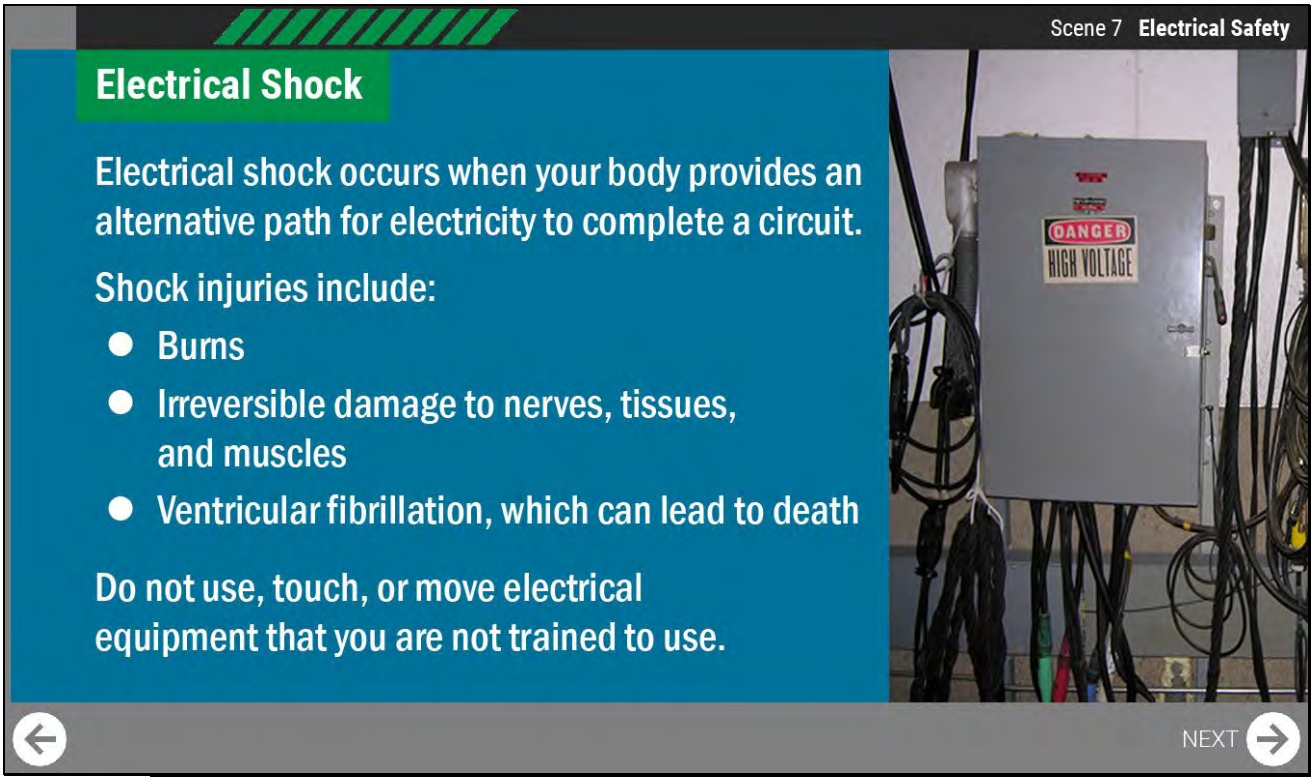
Every department of a film production uses electricity. Electricity may pose a hazard when people lack training, use electrical devices improperly, or are careless. An electrical shock can have serious consequences that can even lead to death. The goal of this scene is for you to understand safe use of everyday electrical equipment, as well as general guidelines regarding gear used exclusively by set lighting or other qualified individuals.

Slide notes

If you encounter a smoldering wire, smell that acrid smell of rubber or plastic burning, or if an electrical device seems too hot, there could be a hazard. Notify the Electrical or Set Lighting Department immediately if you have a safety concern about electrical equipment.

You can find additional electrical safety guidelines in Safety Bulletin #23, *Guidelines for Working with Portable Power Distribution Systems and Other Electrical Equipment*.

Slide 208 - Electrical Shock



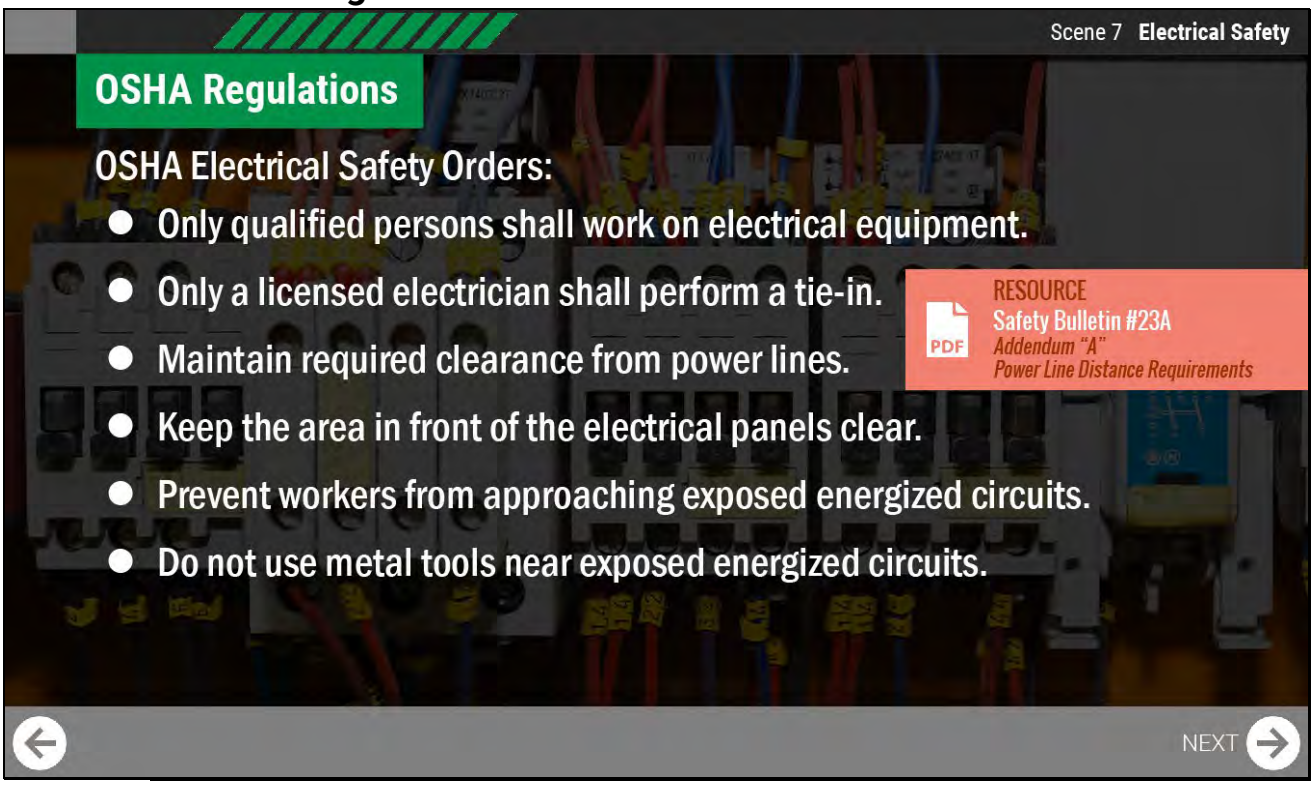
Slide notes

Electrical shock occurs when your body provides an alternative path for electricity to complete a circuit.

Electrical shock injuries include burns, irreversible damage to nerves, tissues, and muscles, and ventricular fibrillation, which can cause death. The amount of electricity used by a common 25-watt household bulb is enough to interrupt your normal heartbeat. During ventricular fibrillation, the heart muscle cannot pump normally, and lack of oxygen to the brain can cause death. In addition, a shock causes muscles to contract, which can cause the hand to clamp onto the energized part, and this greatly increases the length of time and the extent of the injury.

Don’t use, touch, or move any electrical equipment that you’re not trained to use. Placing drinks on this equipment poses a potential electrical hazard. Do not set any items on electrical equipment.

Slide 209 - OSHA Regulations



Slide notes

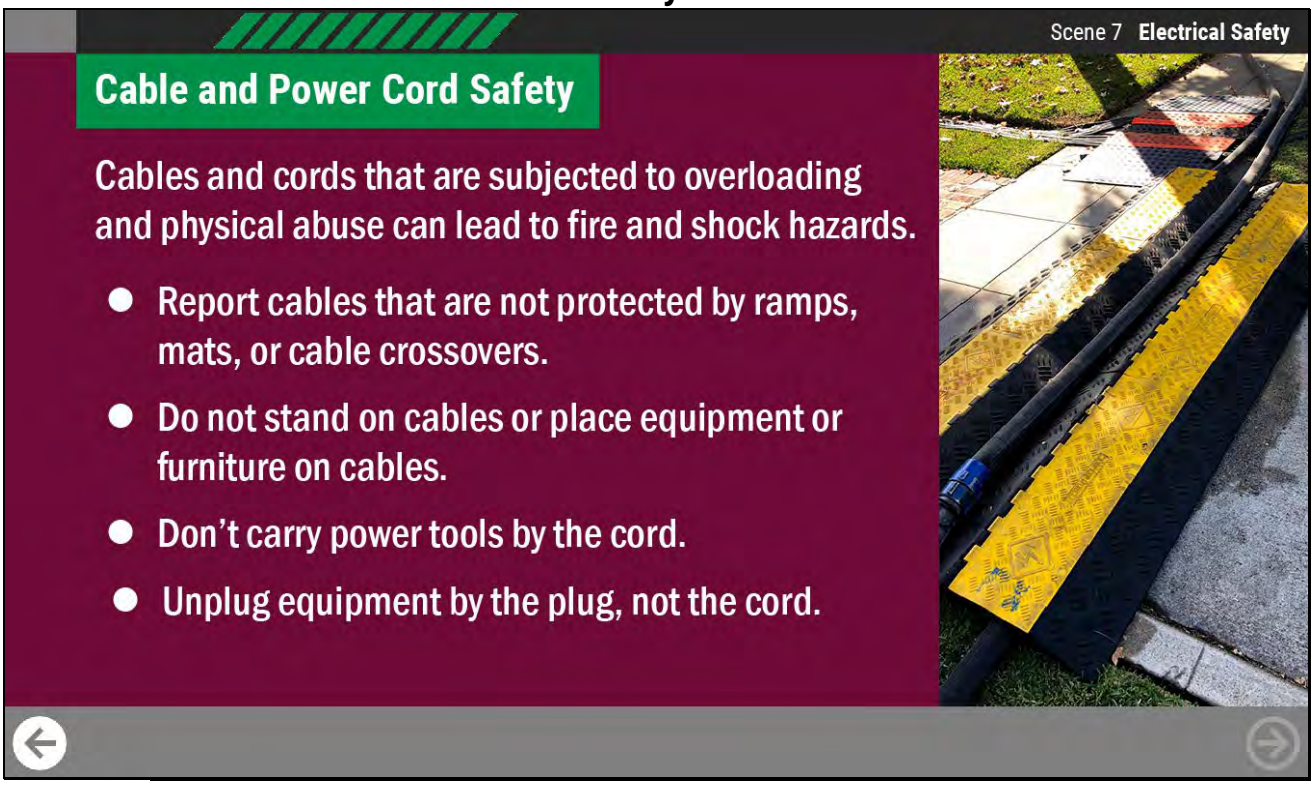
OSHA Electrical Safety Orders require that only trained and experienced persons are permitted to work on any electrical systems or equipment. Only a licensed electrician who's been issued a permit is permitted to tie an electrical system into house power at a location.

When a person is working or an object is being used in proximity to overhead power lines, minimum clearance distances must be maintained. This includes vehicles, lifts, scaffolds, camera cranes, lengths of pipe, and metal frames. Overhead power lines usually have no insulation. If you are riding in a scissor lift and you get too close to the power lines, electricity can arc through the air to the metal frame of the vehicle. The minimum required clearance distances are listed in Safety Bulletin #23A on the CSATF website. For example, in California for voltage levels below 50,000 volts, the minimum required clearance distance is 10 feet when working in an aerial or scissor lift.

All electrical panels must have at least a 3-foot unobstructed clearance around them.

Barriers or barricades must be installed any time there is an open electrical enclosure, such as when a tie-in has been performed, or when a maintenance electrician is performing work. Metal measuring tapes, wire ropes, conductive tools, and similar conductive items are not permitted when working on or near exposed energized conductors or circuit parts.

Slide 210 - Cable and Power Cord Safety 1



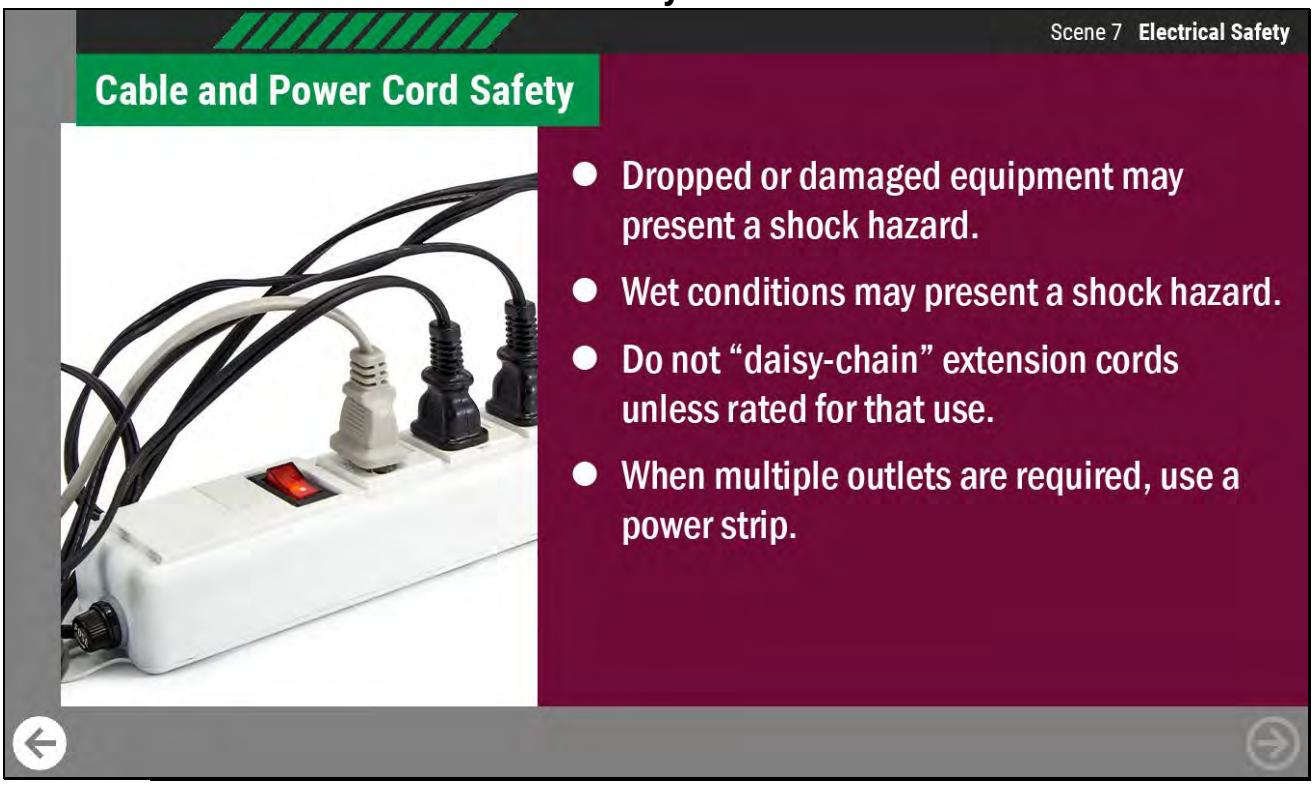
Slide notes

If cables or cords are subjected to overloading and physical abuse, the insulation can fail, which is likely to lead to fire and shock hazards.

Cables should be protected by ramps, mats, or cable crossovers where there is pedestrian or vehicular traffic. Report cables that are not properly protected. Standing on cables is not allowed because the cable is apt to roll underfoot and cause a fall, and because it damages the cable. Take care not to place equipment or furniture on top of cables.

Cords often get abused on devices like power tools, hair dryers, toasters, coffeepots, and so on. Do not carry power tools or appliances by the cord, as this can damage the insulation. It also puts undue strain on the wires and terminals, which damages them and leads to overheating, short circuits, and equipment failure. When unplugging electrical equipment, don’t yank on the cord; always grasp the plug itself.

Slide 211 - Cable and Power Cord Safety 2



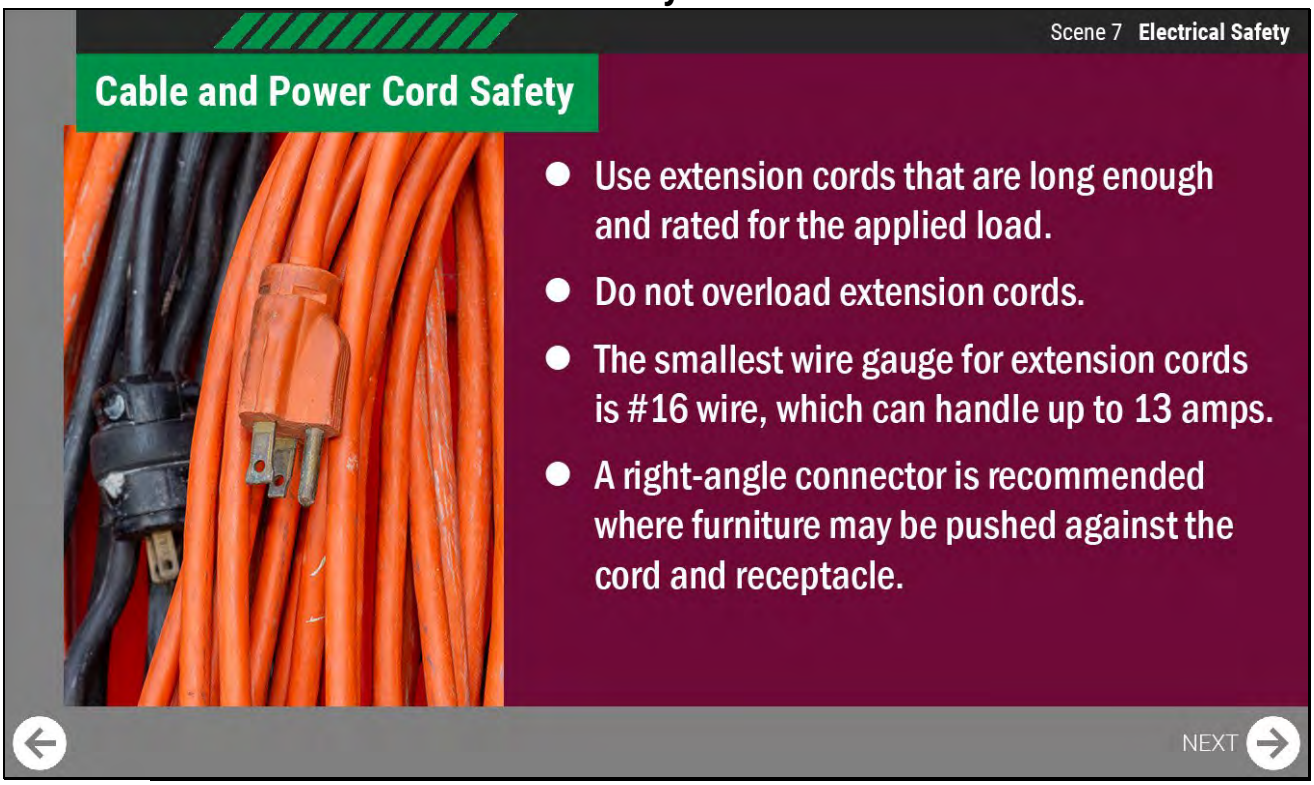
Slide notes

If tools or electrical devices get dropped or otherwise damaged, there is risk that wiring may be broken and cause a shock hazard. For example, a metal light fixture with a weak internal ground fault will shock any person who touches it and will not necessarily trip the circuit breaker. Additionally, wet conditions present a greater risk of a shock.

Do not plug one extension cord into another, also known as daisy chaining, unless they’re rated for such use.

When multiple outlets are required, use a listed power strip.

Slide 212 - Cable and Power Cord Safety 3



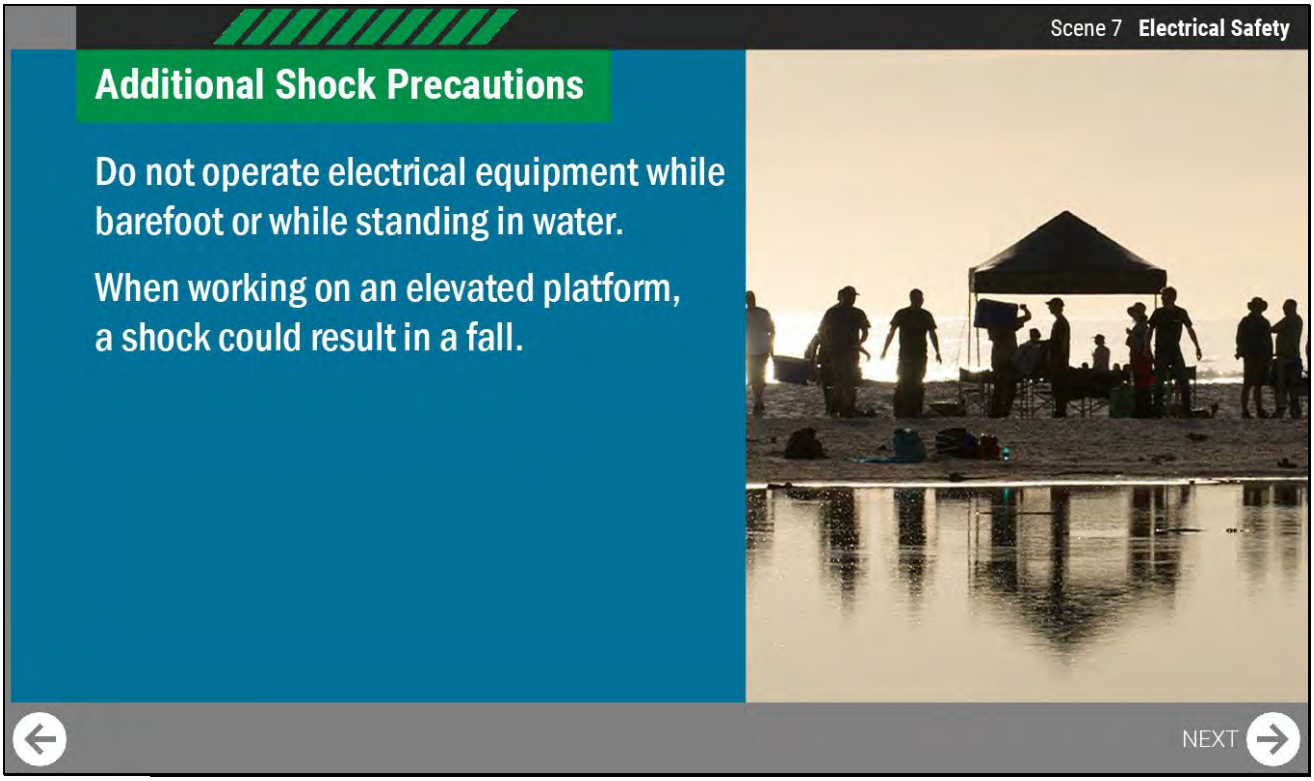
Slide notes

Do not string cords such that they could pose a trip hazard. This is known as a “clothes-line” cable. When a cord is not long enough to reach the outlet and remain flat on the ground, use an extension cord.

Don’t overload extension cords. The minimum wire gauge for extension cords is 16, which can handle up to 13 amps, or a total of 1,560 watts. Don’t use 18-gauge extension cords (which look like lamp cords).

Use an angled connector where furniture or equipment may be pushed against a cord that is plugged in.

Slide 213 - Additional Shock Precautions

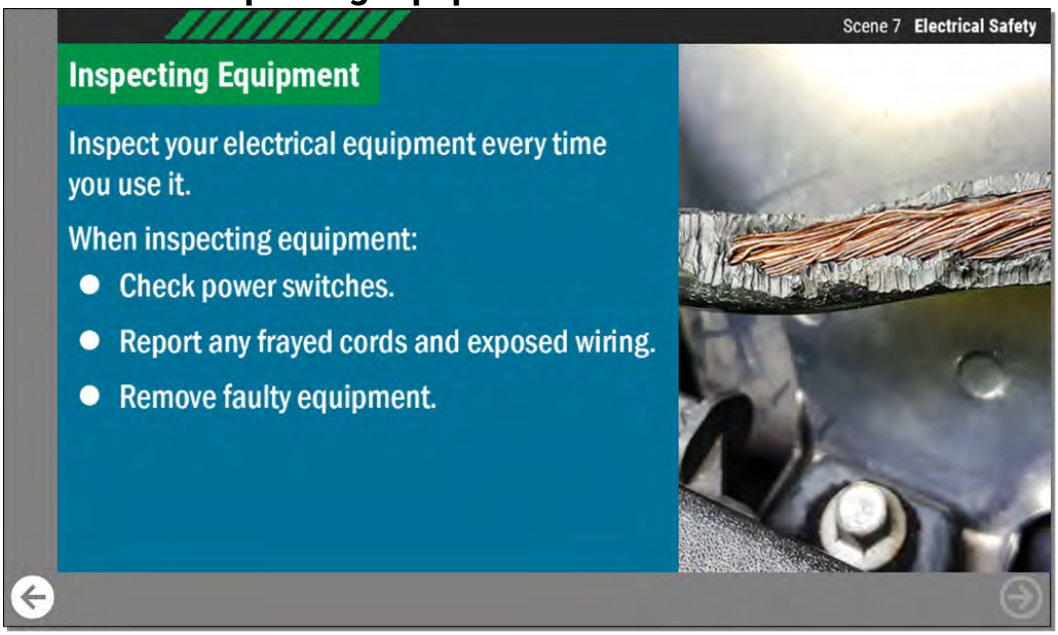


Slide notes

Do not operate electrical equipment when you're barefoot or standing in water.

If you are using electrical equipment when you are elevated, practice extra caution. All it takes is a mild shock to cause your muscles to involuntarily contract, which can cause a fall. Often, injuries and deaths associated with electric shock are the result of a fall, rather than the shock itself.

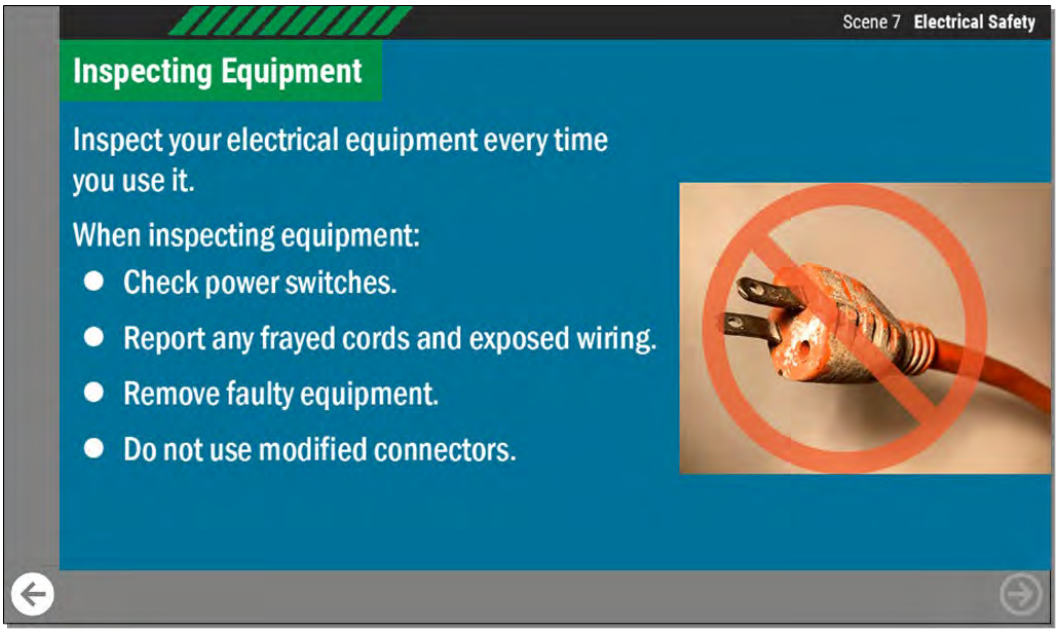
Slide 214 - Inspecting Equipment



Slide notes

Inspect your electrical equipment every time you use it. Check that the power switches are working properly.

Always report wiring that looks potentially dangerous, such as frayed or damaged insulation, or where bare copper is visible. Don't use equipment if the connector is broken. Immediately remove any faulty equipment from service and have it repaired or replaced.



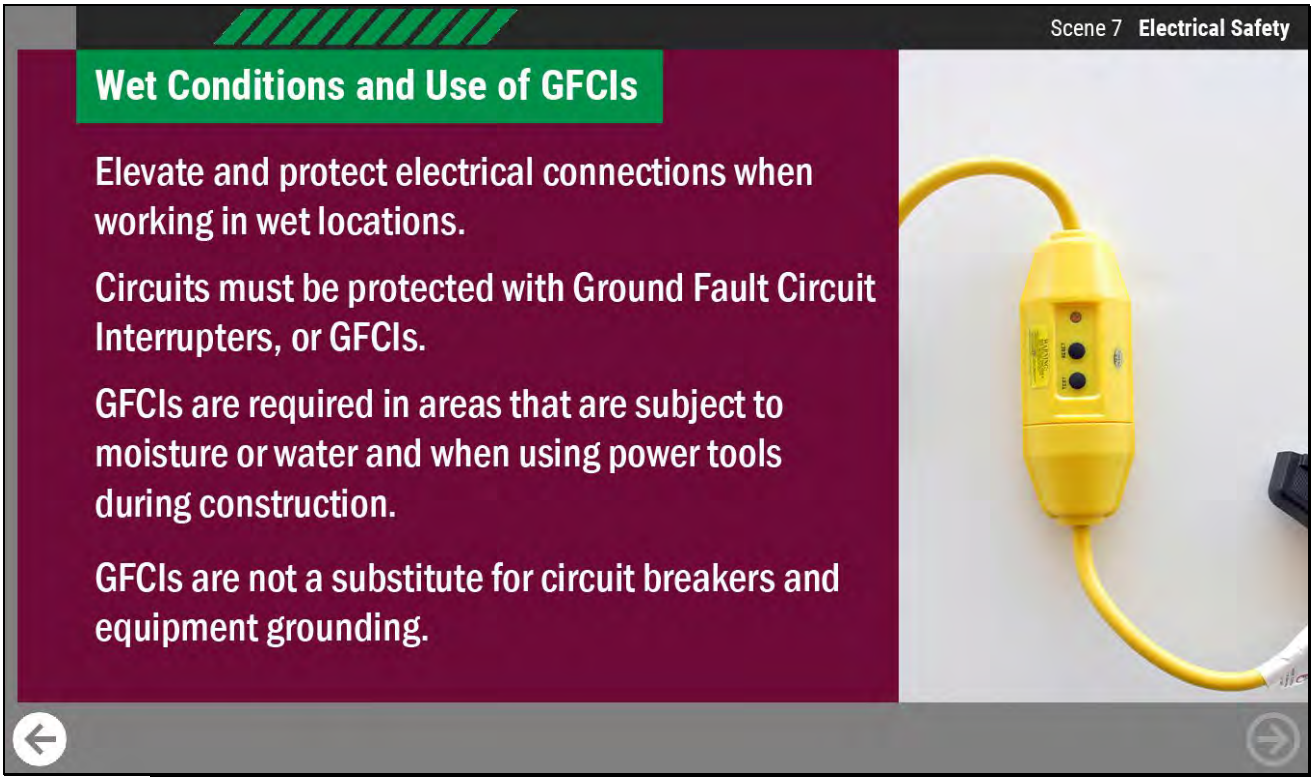
Slide notes

Electrical devices that have a third prong on the connector require a grounded outlet. Do not use equipment if the connector has been modified to defeat the ground or polarity.

Slide 215 - Wet Conditions and Use of GFCI

Slide notes

Precautions must be taken when electrical devices are used in wet locations. Electrical connection points should be elevated and protected to prevent ingress of water.



Slide notes

Circuits must be protected with Ground Fault Circuit Interrupters, or GFCIs. A GFCI is an electrical device that limits dangerous leakage current by tripping if it senses a dangerous amount of current is finding an alternative path.

Unlike a circuit breaker, a GFCI is designed to protect people from a dangerous shock. GFCI devices are required to be used in areas that are subject to moisture or water and when using power tools during construction.

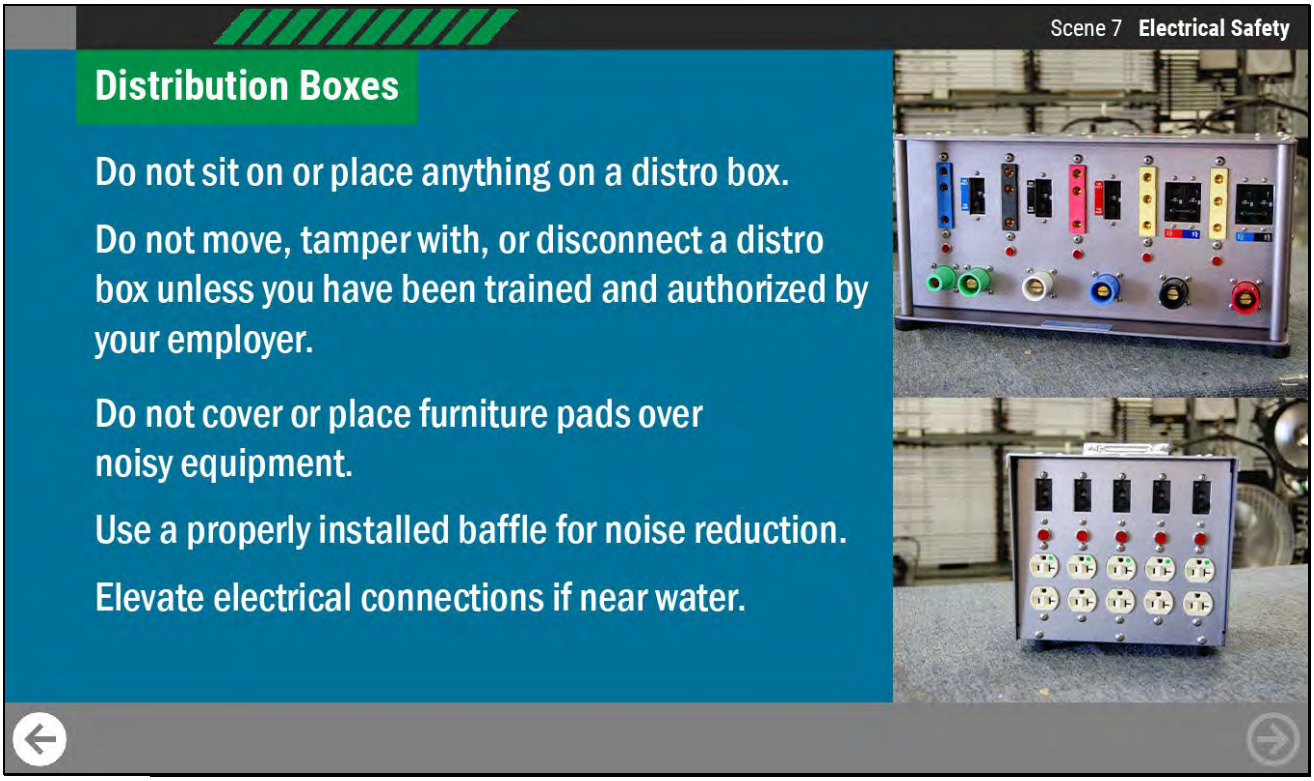
GFCIs are not a substitute for circuit breakers and equipment grounding. They perform different and equally important functions.

Slide 216 - Portable Distribution Systems

Slide notes

A portable distribution system includes the cables and distribution boxes that power set lighting and base camp. Use of portable distribution equipment, dimmer rooms, fuses, circuit breakers, and generators is restricted to individuals who are trained and authorized.

Slide 217 - Distribution Boxes



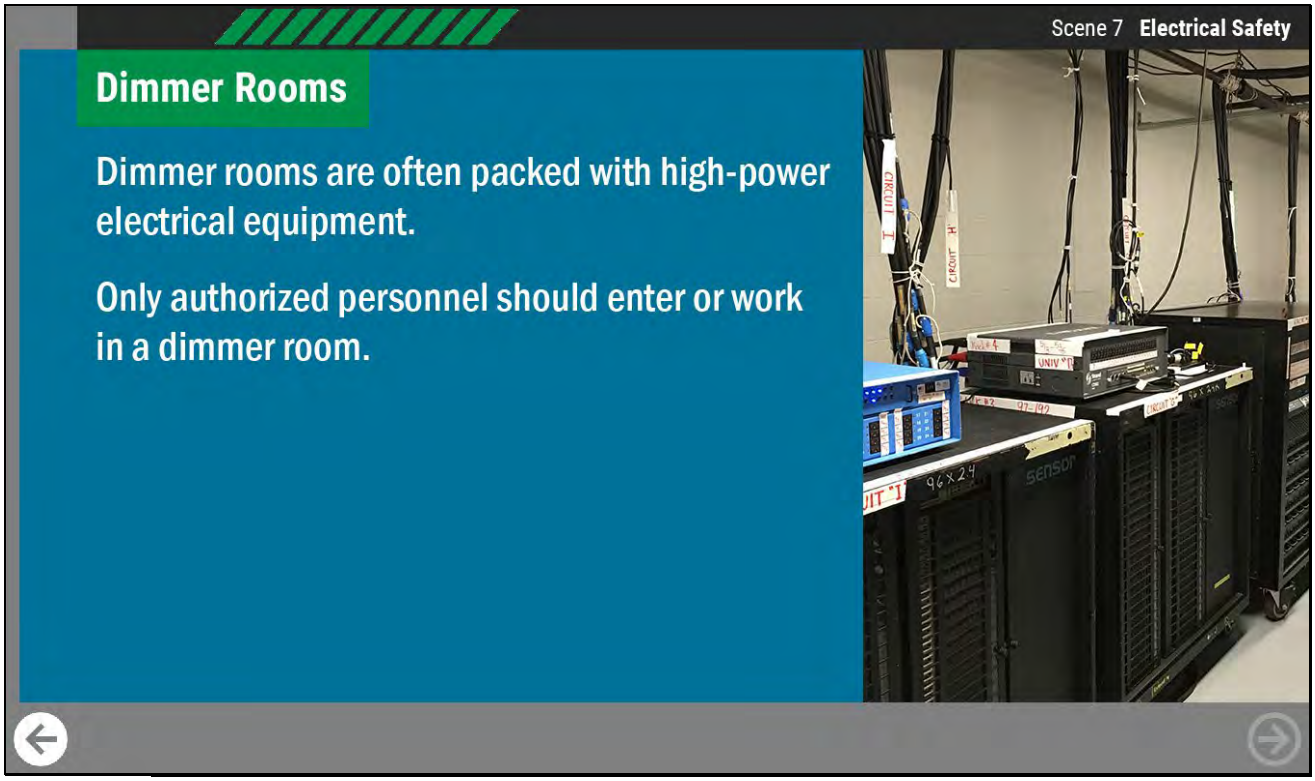
Slide notes

A distribution box is not a coffee table, nor is it a seat. Do not sit on or place anything on this equipment. Don't plug into them, move them, tamper with them, or disconnect them unless you have been properly trained and are authorized by your employer. If you need power, ask a lighting technician for help.

Do not cover noisy electrical equipment such as ballasts, dimmers, or transformers. Do not place furniture pads over this equipment, as it prevents air circulation and can lead to overheating. Use a properly installed non-combustible sound baffle for noise reduction.

All electrical connections and distribution boxes must be elevated if there's any chance of exposure to water.

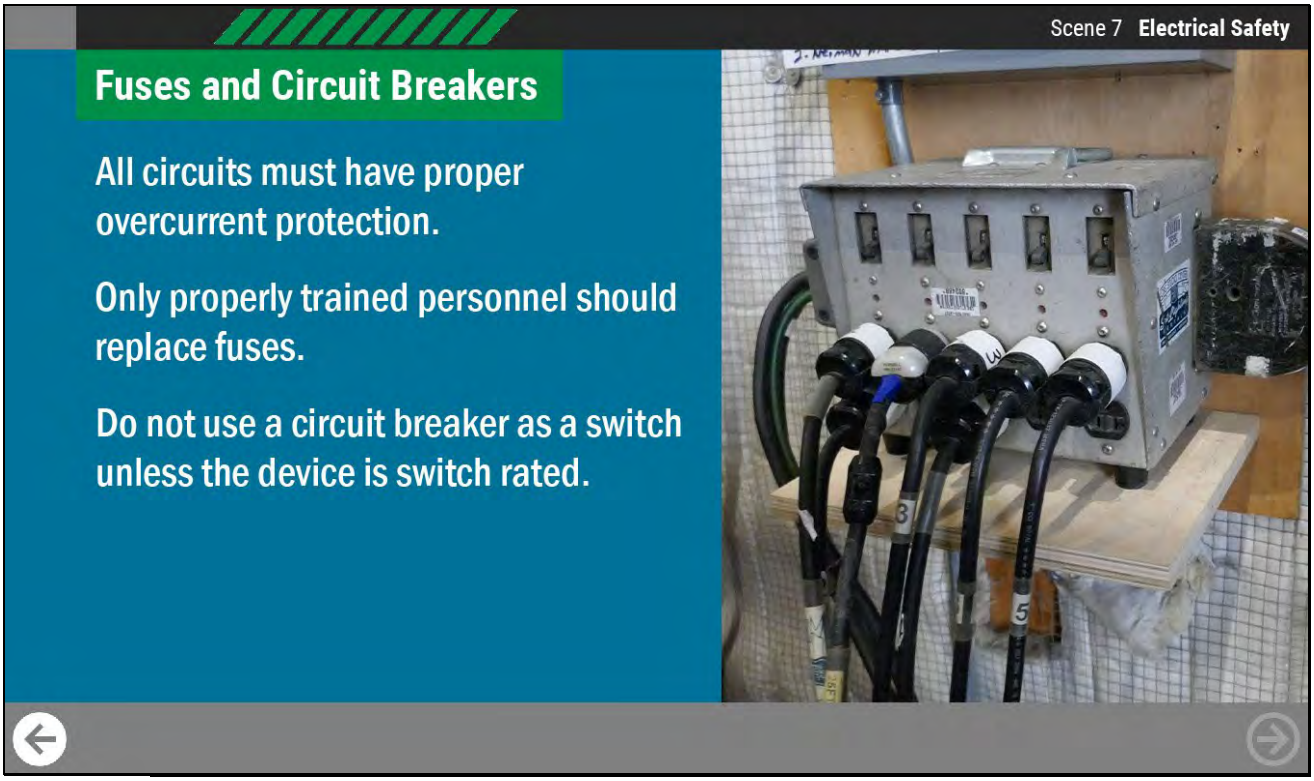
Slide 218 - Dimmer Rooms



Slide notes

A dimmer room is a separate room used to house dimmer racks and associated distribution equipment. They are typically packed with high-power electrical equipment and lots of cabling. Only authorized individuals should enter or work in dimmer rooms.

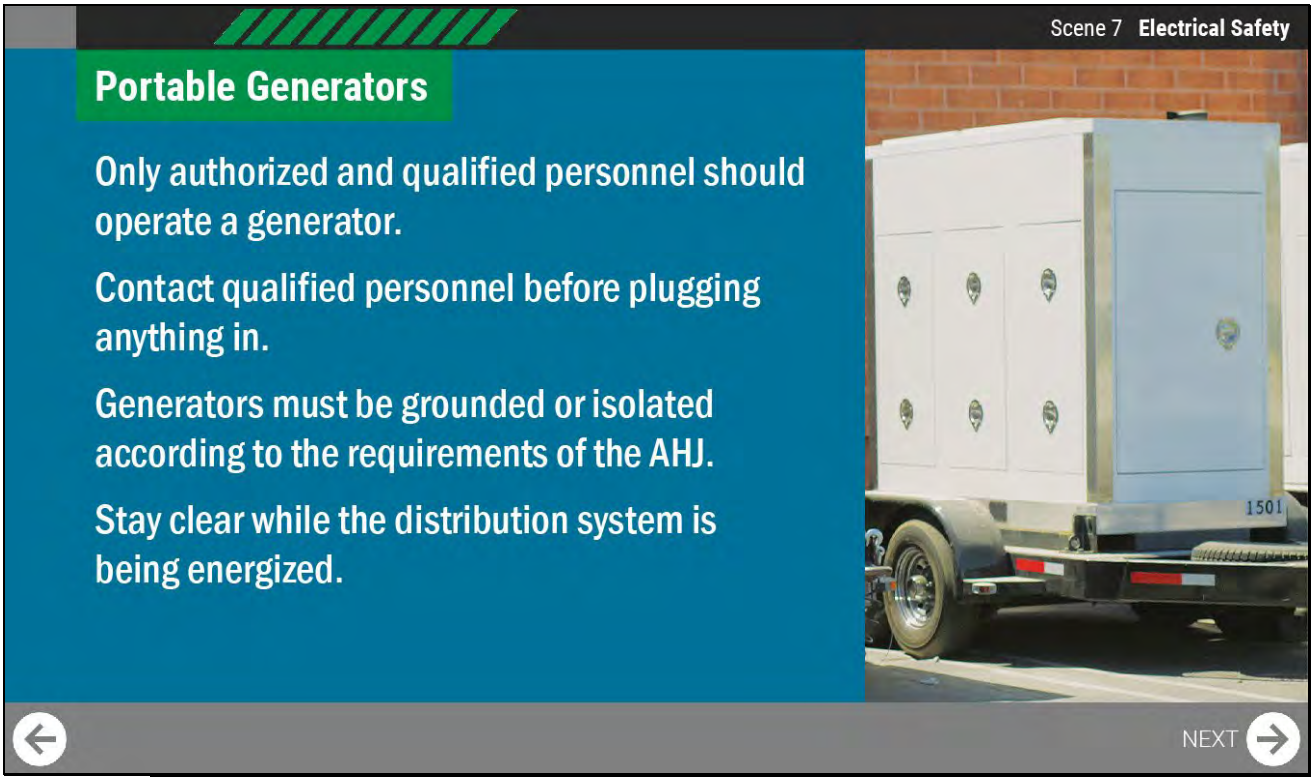
Slide 219 - Fuses and Circuit Breakers



Slide notes

All circuits must be protected from overload and short circuit by fuses or circuit breakers. Only properly trained personnel are permitted to replace the fuses. Don’t use a circuit breaker as a switch to turn things on and off unless you’ve been properly trained and the circuit breaker is switch-rated.

Slide 220 - Generators



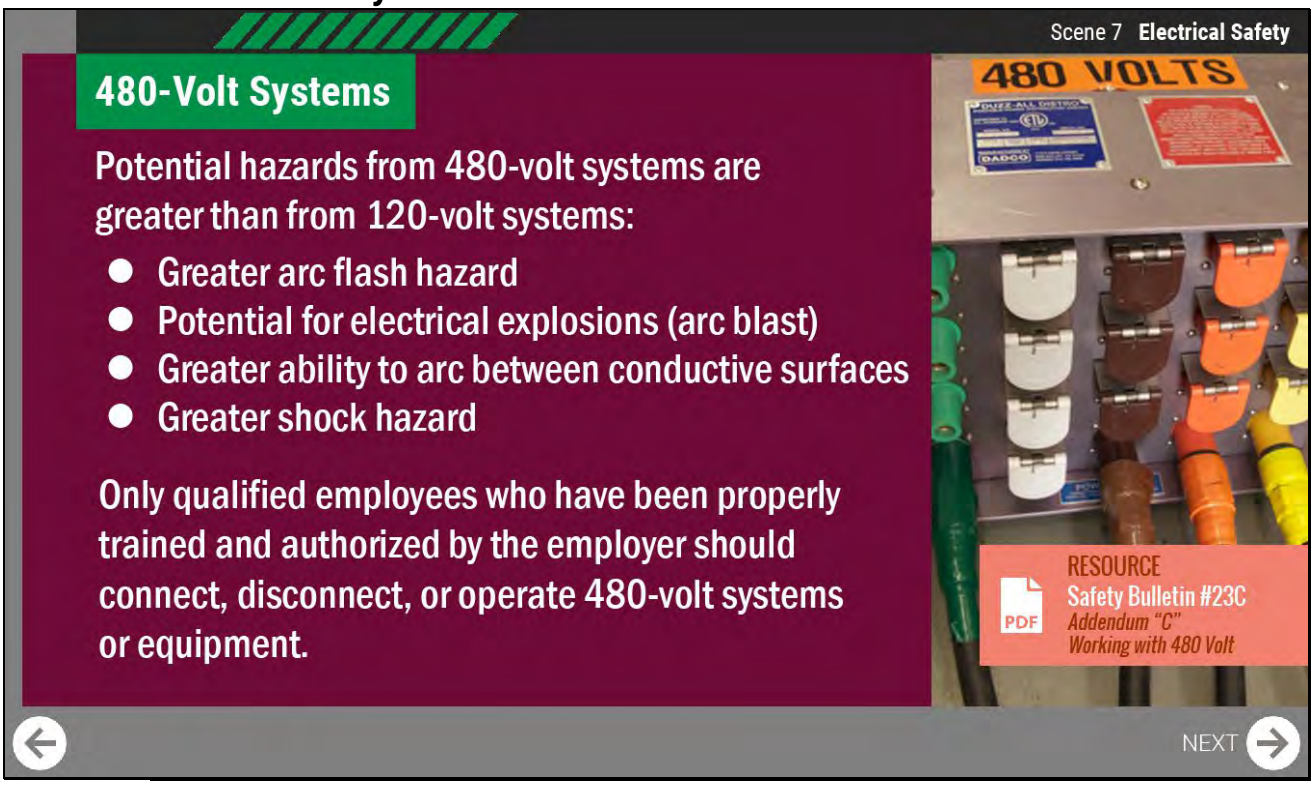
Slide notes

Only authorized and qualified personnel should operate a generator. Talk to somebody who is qualified before you plug anything into a distribution system that's being powered by the generator.

Generators must be grounded or isolated according to the requirements of the AHJ.

Stay clear of the distribution system when it's being energized. If you ever hear someone yell 'going hot', get clear of any electrical equipment you may be handling.

Slide 221 - 480-Volt Systems



Slide notes

Finally, let's talk about 480-volt systems, which are becoming more common on productions. At higher voltages there are greater hazards. Hazards associated with 480-volt systems include arc flash, an extremely dangerous discharge of heat caused by an arcing fault. An arc flash can cause an arc blast, which is an electrical explosion of molten copper, toxic gas, and flame.

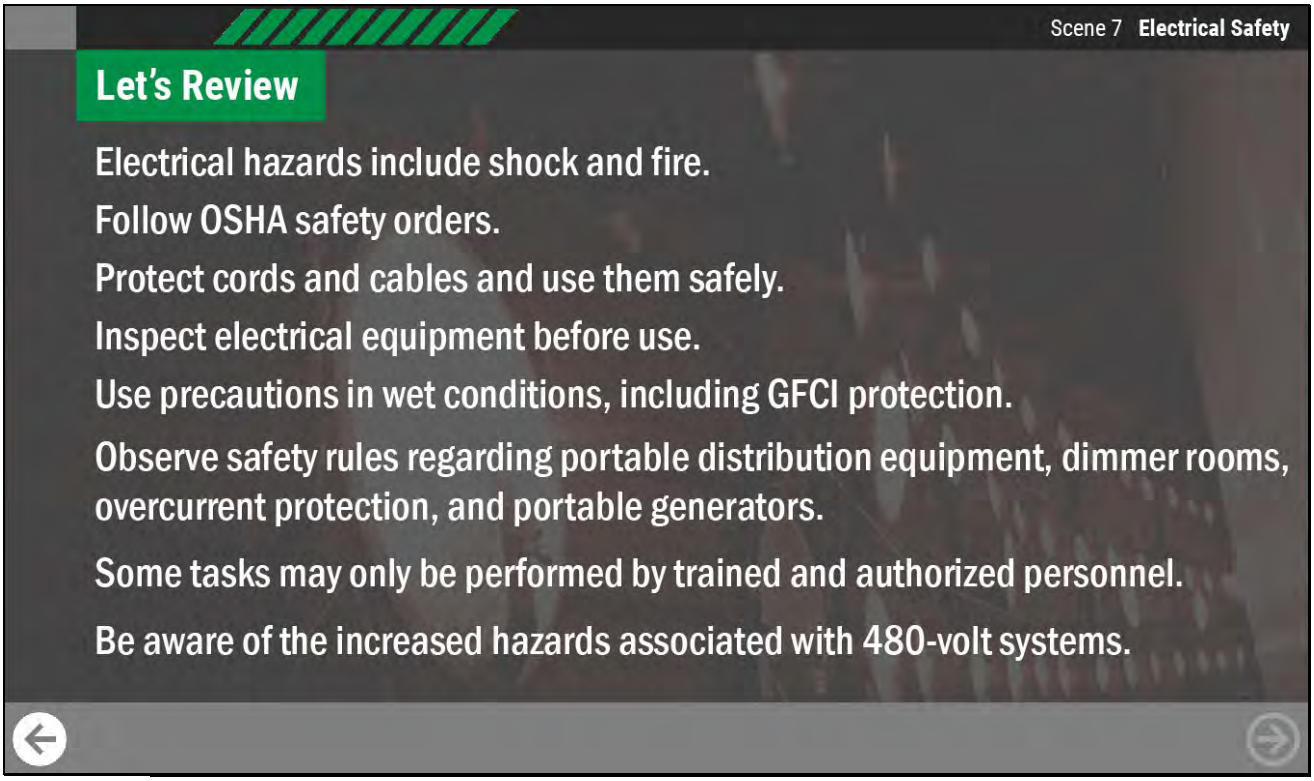
In addition, at 480 volts, electricity has a greater potential to arc over, creating an elevated shock hazard.

You'll know when you're working around a 480-volt system because the boxes are marked "480 Volts," and the cable ends are color-coded brown, orange, and yellow.

Only qualified employees who have been properly trained and authorized by the employer should ever connect, disconnect, or operate a 480-volt system.

More information about using 480-volt systems can be found in Safety Bulletin #23C, *Working With 480-Volt Systems*.

Slide 222 - Let's Review Scene 7



Slide notes

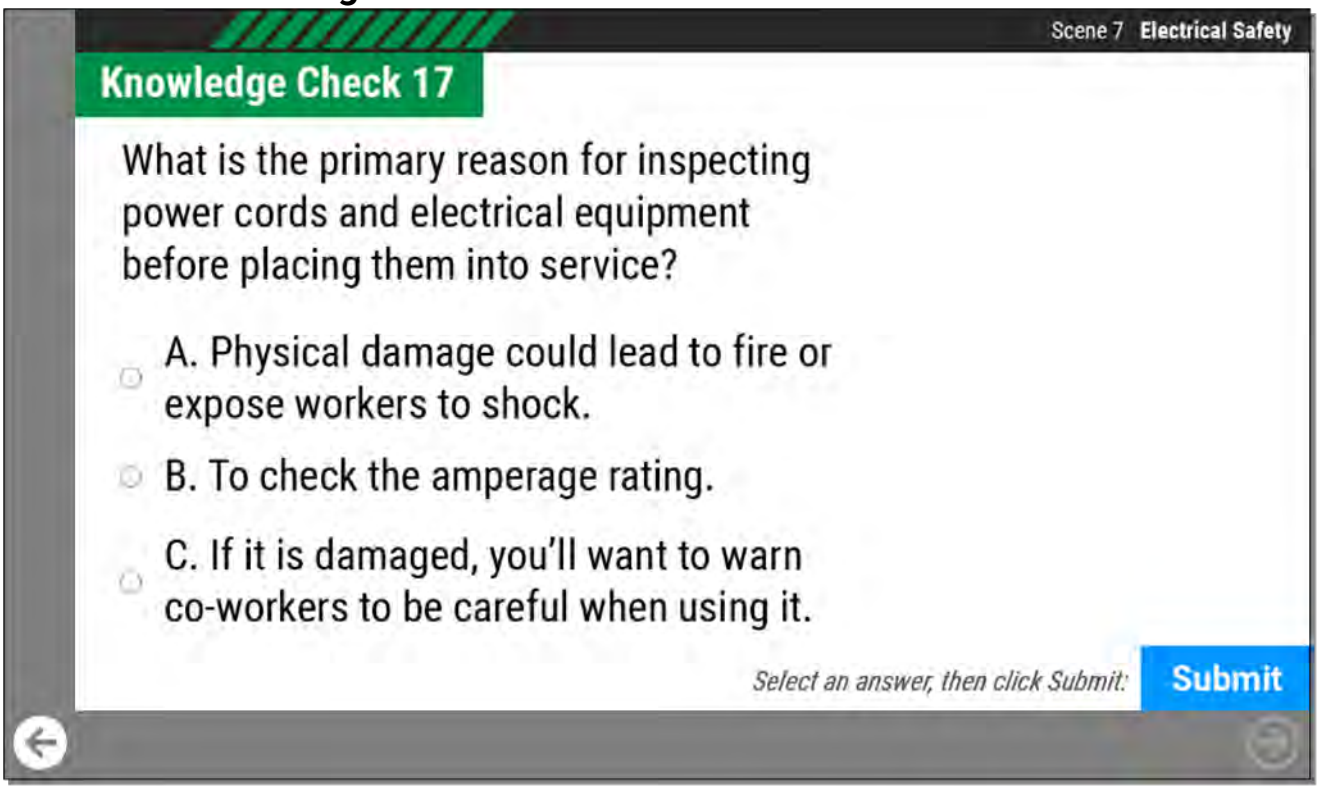
Here are some key points to take away from this scene. Shock and fire are the two primary hazards associated with electrical equipment. We can avoid these hazards by following OSHA safety orders, such as avoiding power lines and preventing people from approaching any exposed, energized electrical parts.

We also reduce these hazards by handling equipment with proper care, protecting cords and cables from damage, and inspecting before use. When there may be spray, rain, or moisture, we need GFCI protection for electrical devices. With regard to portable power distribution systems, dimmer rooms, generators, and 480-volt equipment, the message is: leave it to the experts. Find a qualified person to help when needed.

Electrical devices are designed to be safe to use. Hazards generally stem from the way people use or misuse them. Following these precautions protects against that possibility.

Let’s check your knowledge.

Slide 223 - Knowledge Check 17

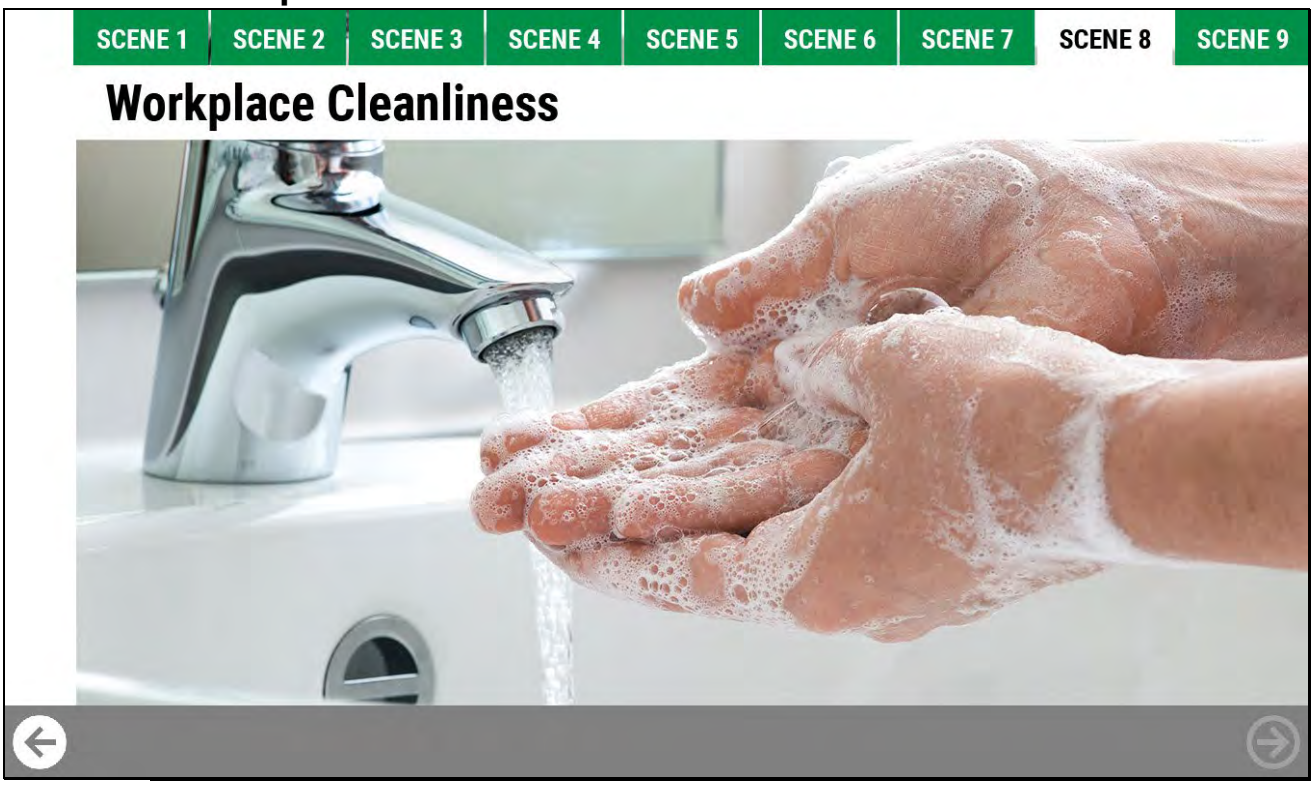


Slide notes

Knowledge Check 17

Question: What is the primary reason for inspecting power cords and electrical equipment before placing them into service?

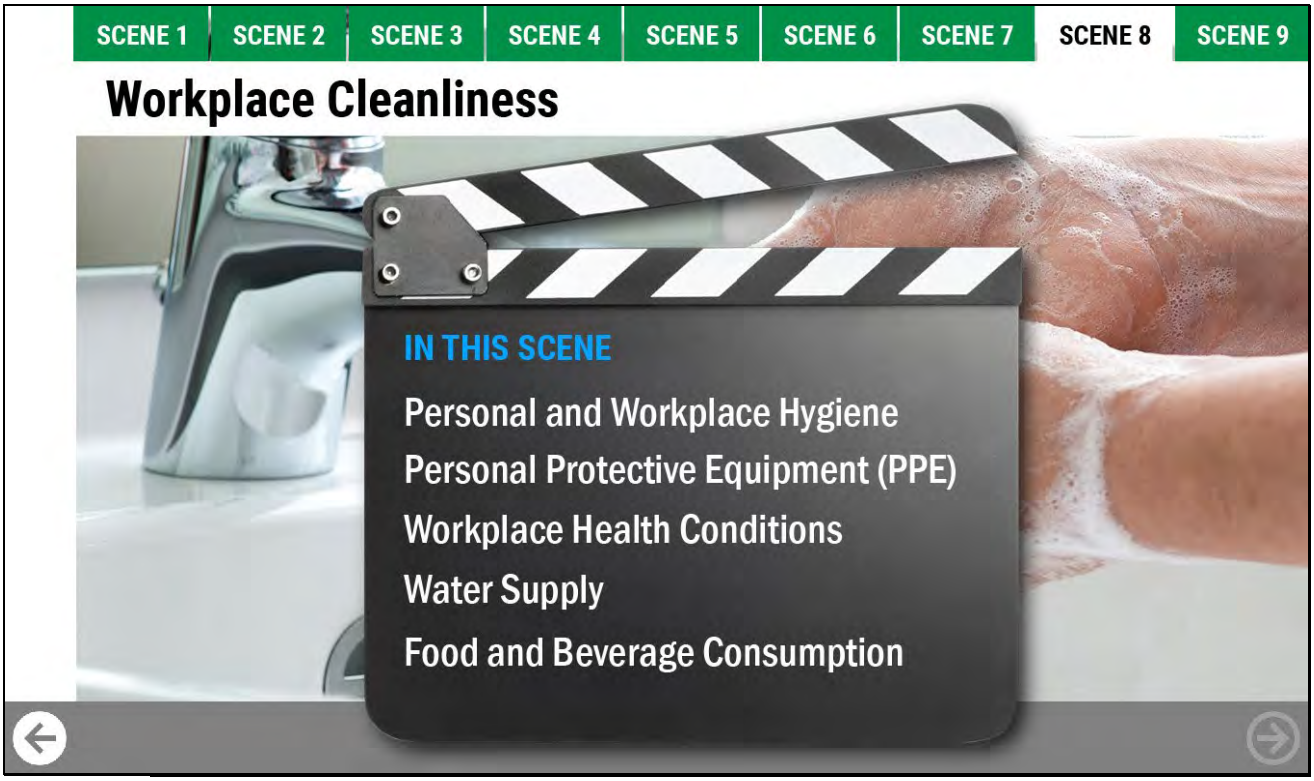
Slide 224 - Workplace Cleanliness



Slide notes

Scene Eight. Workplace Cleanliness.

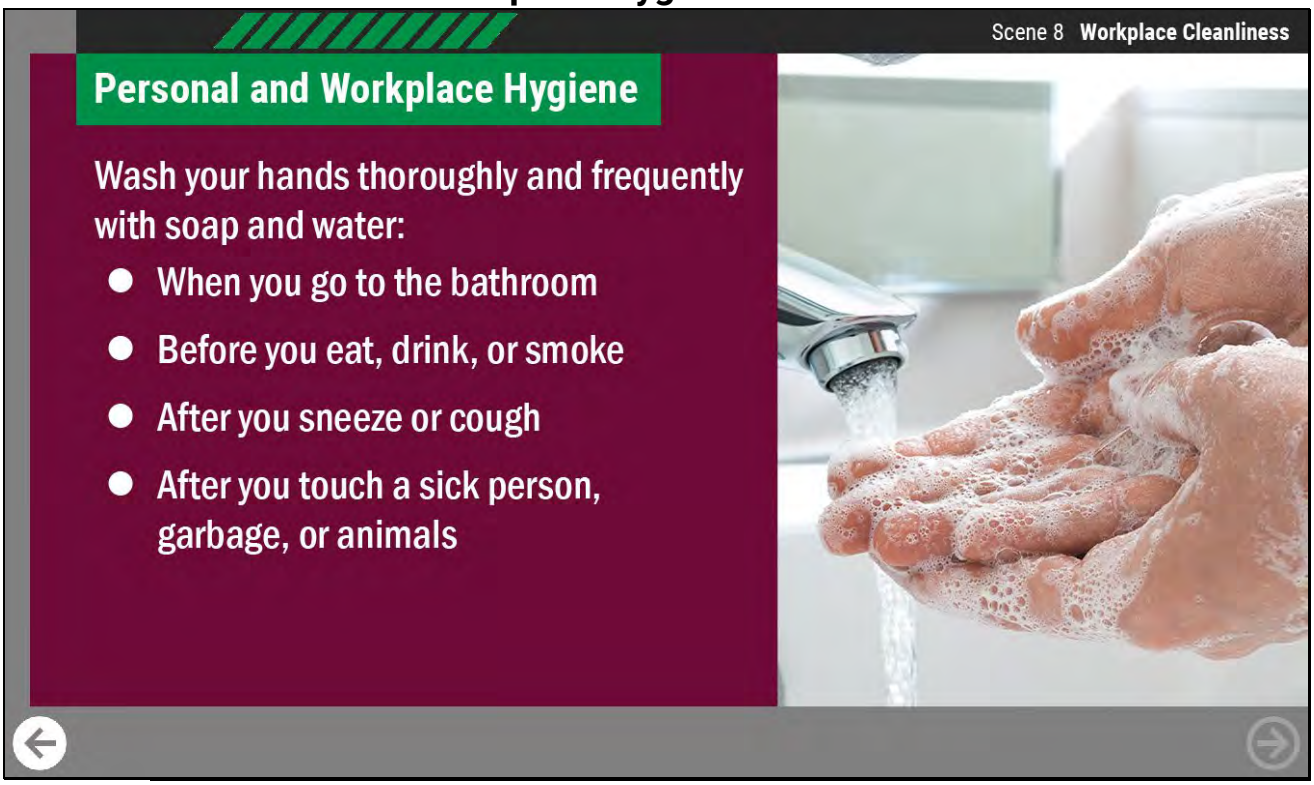
Slide 225 - In This Scene



Slide notes

In this scene, we will cover personal and workplace hygiene, personal protective equipment, workplace health conditions, water supply, and food and beverage consumption.

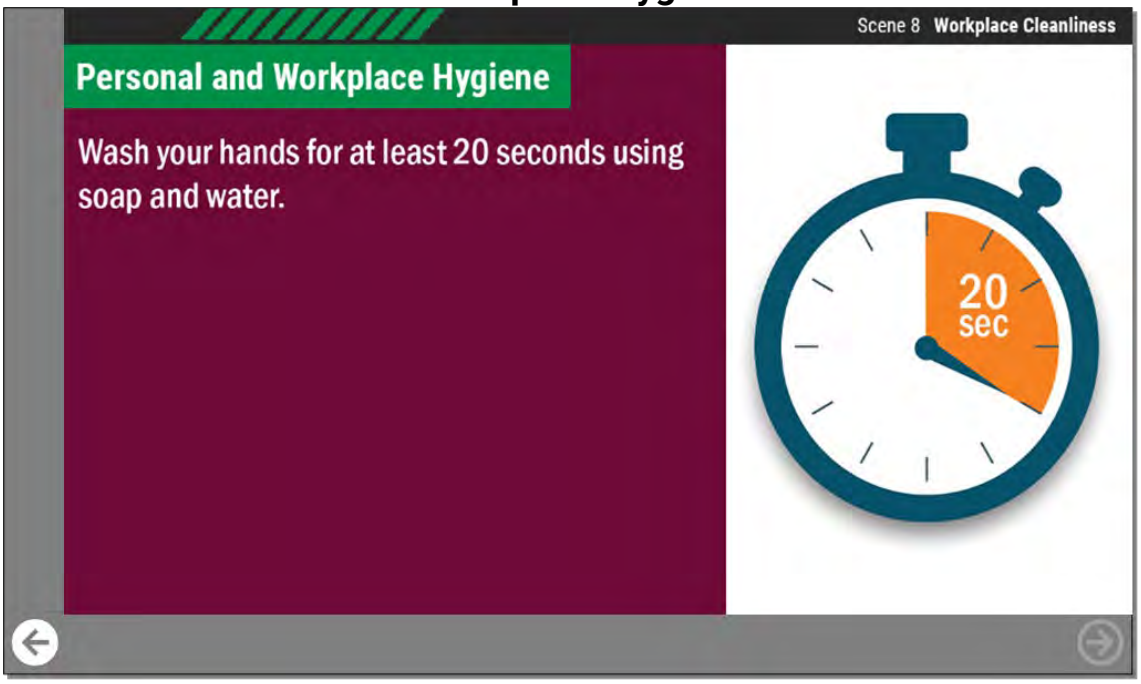
Slide 226 - Personal and Workplace Hygiene 1



Slide notes

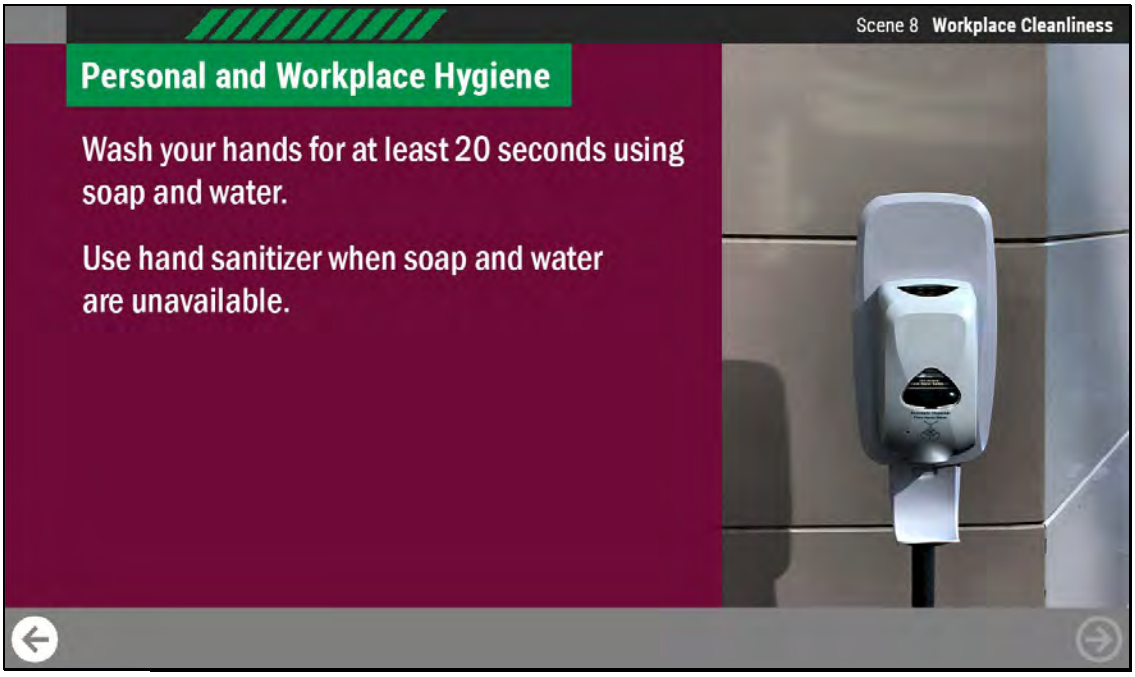
Keeping hands clean reduces the transmission of germs and viruses. Wash your hands with soap and water as often as necessary. You should wash your hands after every time you go to the bathroom, before you eat, drink or smoke, after you sneeze or cough into your hands, and after you touch a sick person, garbage, or animals.

Slide 227 - Personal and Workplace Hygiene 2



Slide notes

To be effective, wash your hands for at least 20 seconds using soap and water.

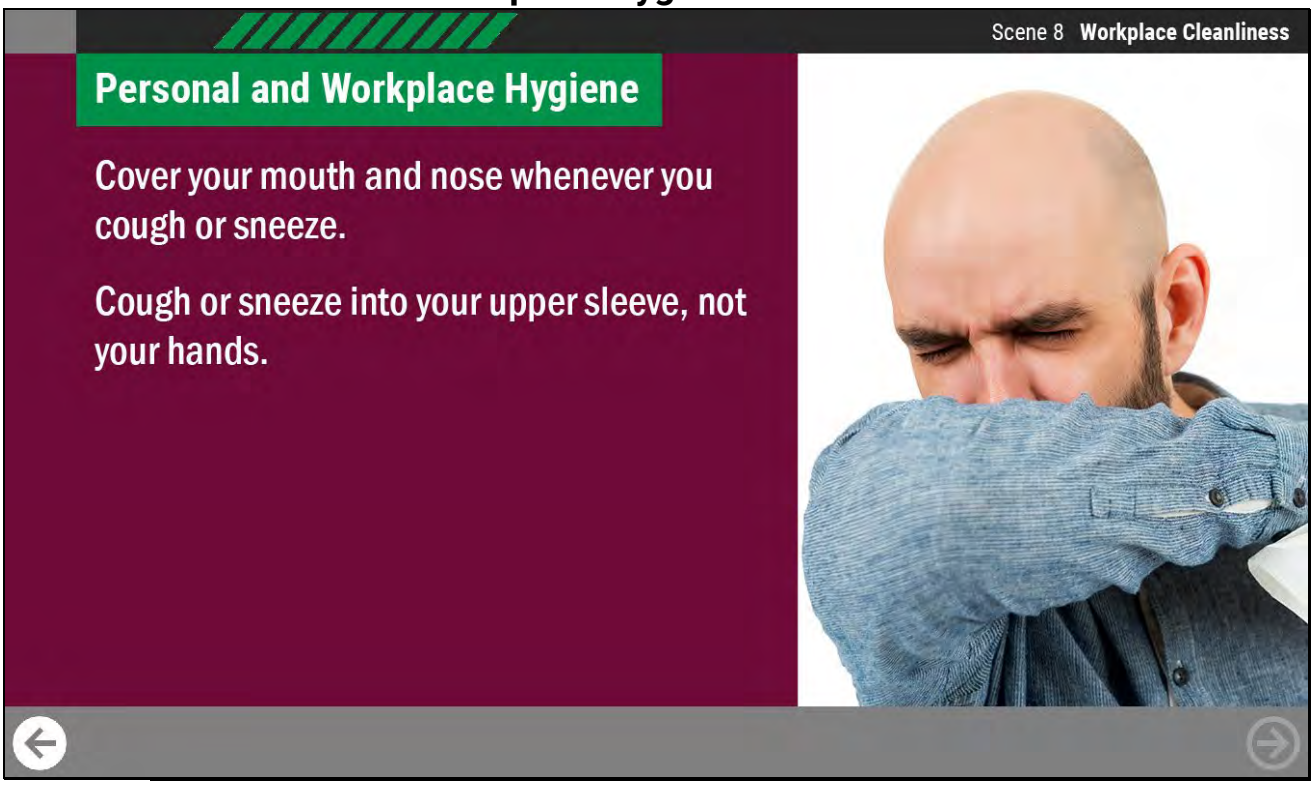


Slide notes

Use hand sanitizer when soap and water are unavailable.

A2 – Environmental Safety

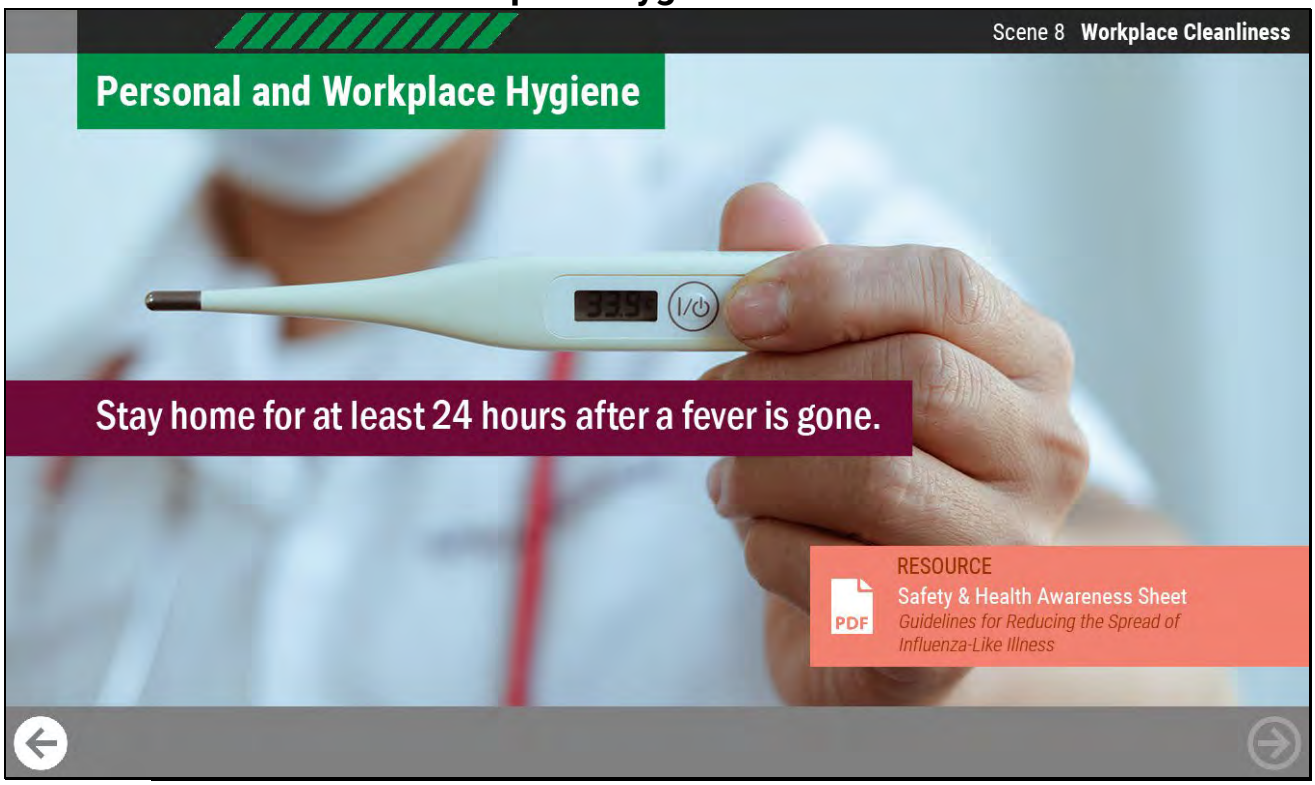
Slide 228 - Personal and Workplace Hygiene 3



Slide notes

Germs and viruses can be transmitted by coughing and sneezing and can quickly infect people at a workplace. Cover your mouth and nose whenever you cough or sneeze. It's better to cough or sneeze into your upper sleeve than into your hands.

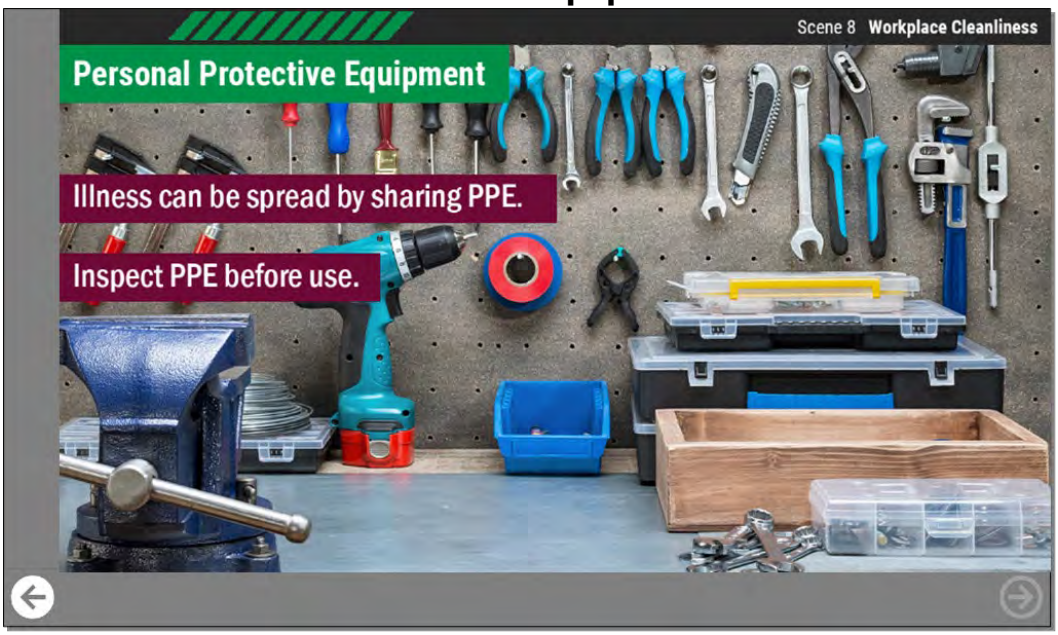
Slide 229 - Personal and Workplace Hygiene 4



Slide notes

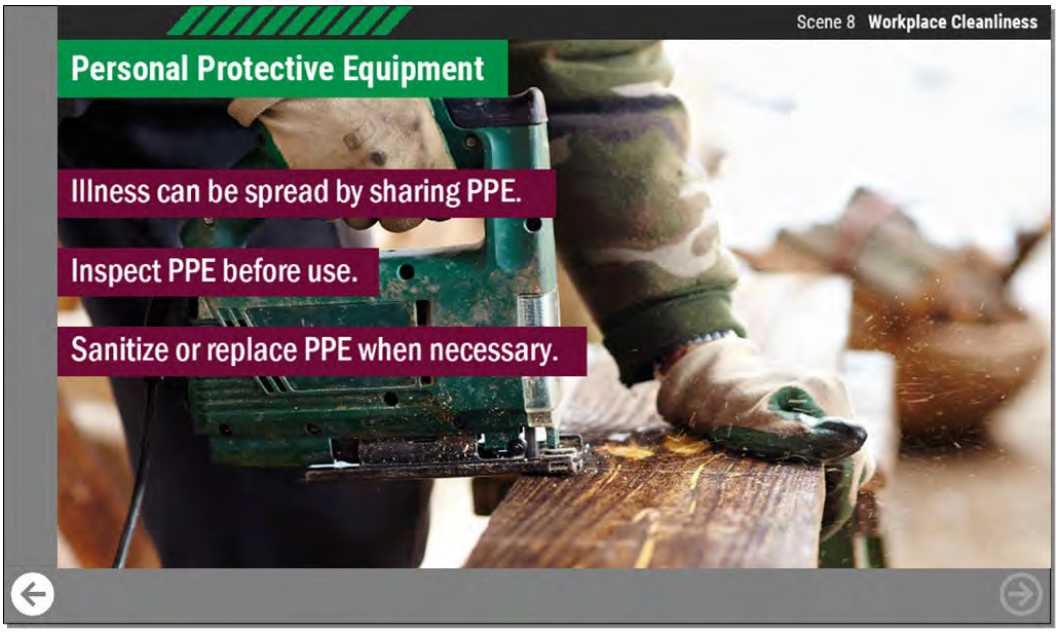
The Centers for Disease Control and Prevention recommend staying home for at least 24 hours after a fever is gone to reduce the possibility of infecting other people. Additional guidelines can be found in the Safety & Health Awareness Sheet, *Guidelines for Reducing the Spread of Influenza-Like Illness.*

Slide 230 - Personal Protective Equipment



Slide notes

Inspect your equipment and materials for cleanliness prior to use.



Slide notes

Keep tools and work surfaces clean.

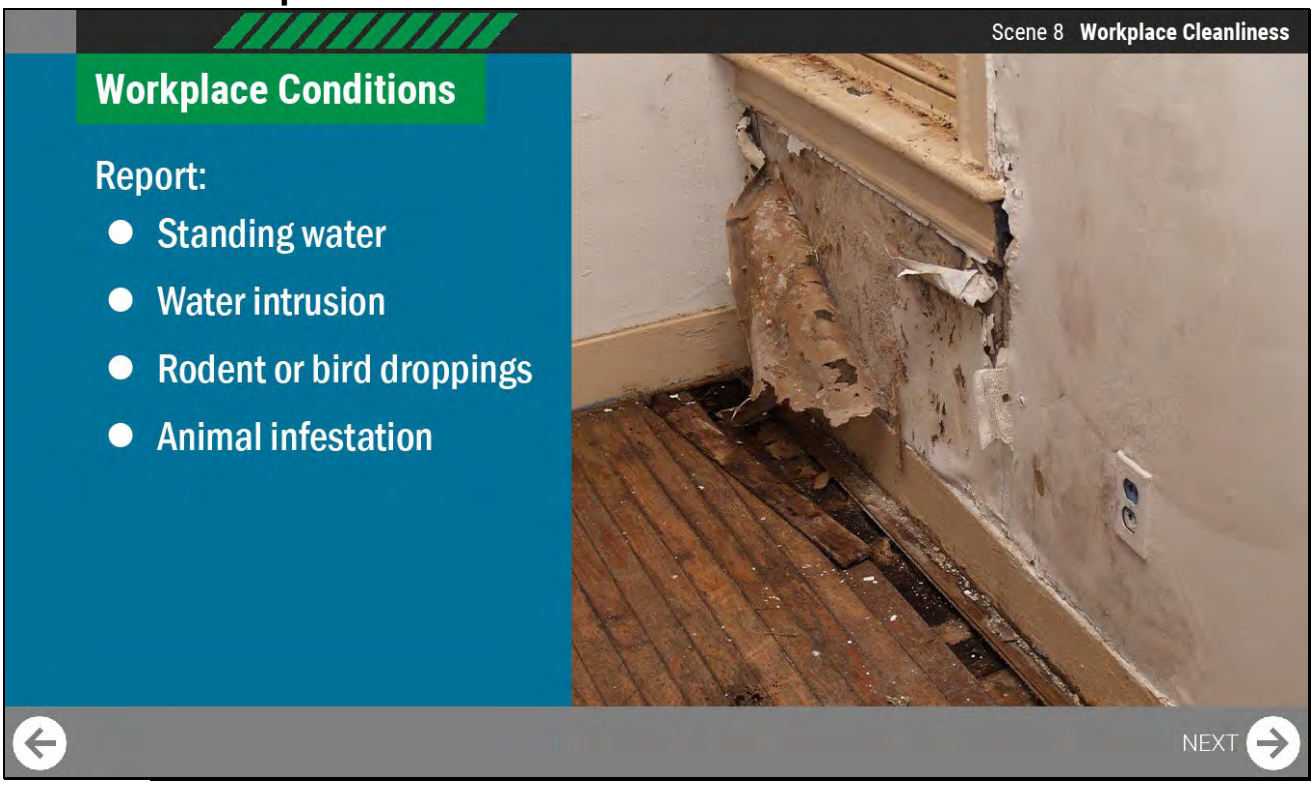
Germs can spread by touching a contaminated surface and then touching your eyes, nose, or mouth. Avoid sharing personal protective equipment that could transmit germs. If you have to share equipment, it must be properly sanitized first.

Slide notes

Some PPE, such as disposable earplugs, should be discarded after use.

More information can be found in Safety Bulletin #21, *Guidelines for Appropriate Clothing and Personal Protective Equipment*.

Slide 231 - Workplace Conditions

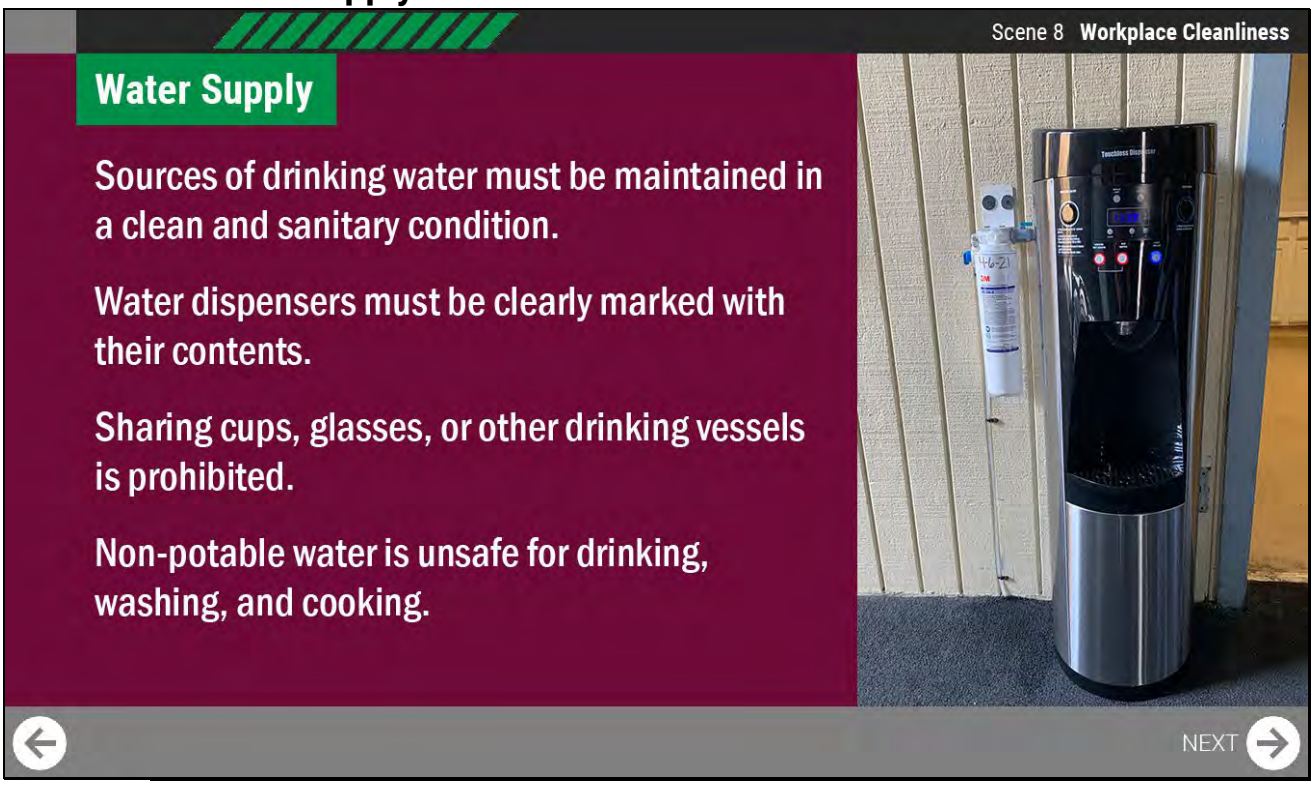


Slide notes

Report standing water or evidence of water intrusion to your employer or safety department. These are places where mosquitos can breed or mold can grow. Notify the location manager of rodent or bird droppings and signs of animal infestations.

All areas of the work site should be maintained in a clean, dry, orderly, and sanitary condition-as much as the work allows.

Slide 232 - Water Supply

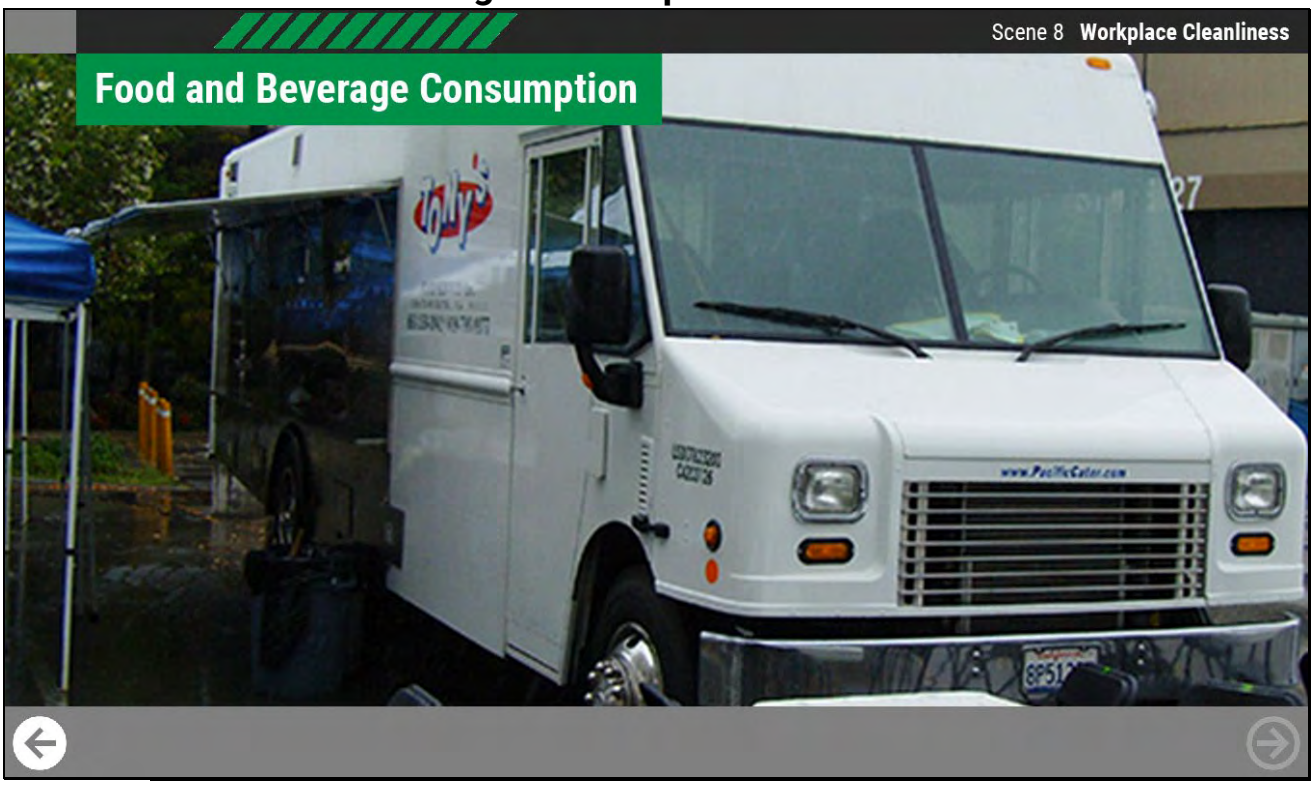


Slide notes

Drinking water must be provided at all work locations, whether on or off production. The dispensers must be kept clean and sanitary and be clearly marked with their contents.

The use of a community cup, glass, or other vessel for drinking purposes is prohibited. Non-potable water is not safe for consumption and shall not be used for drinking, washing, cooking, or other personal service purposes.

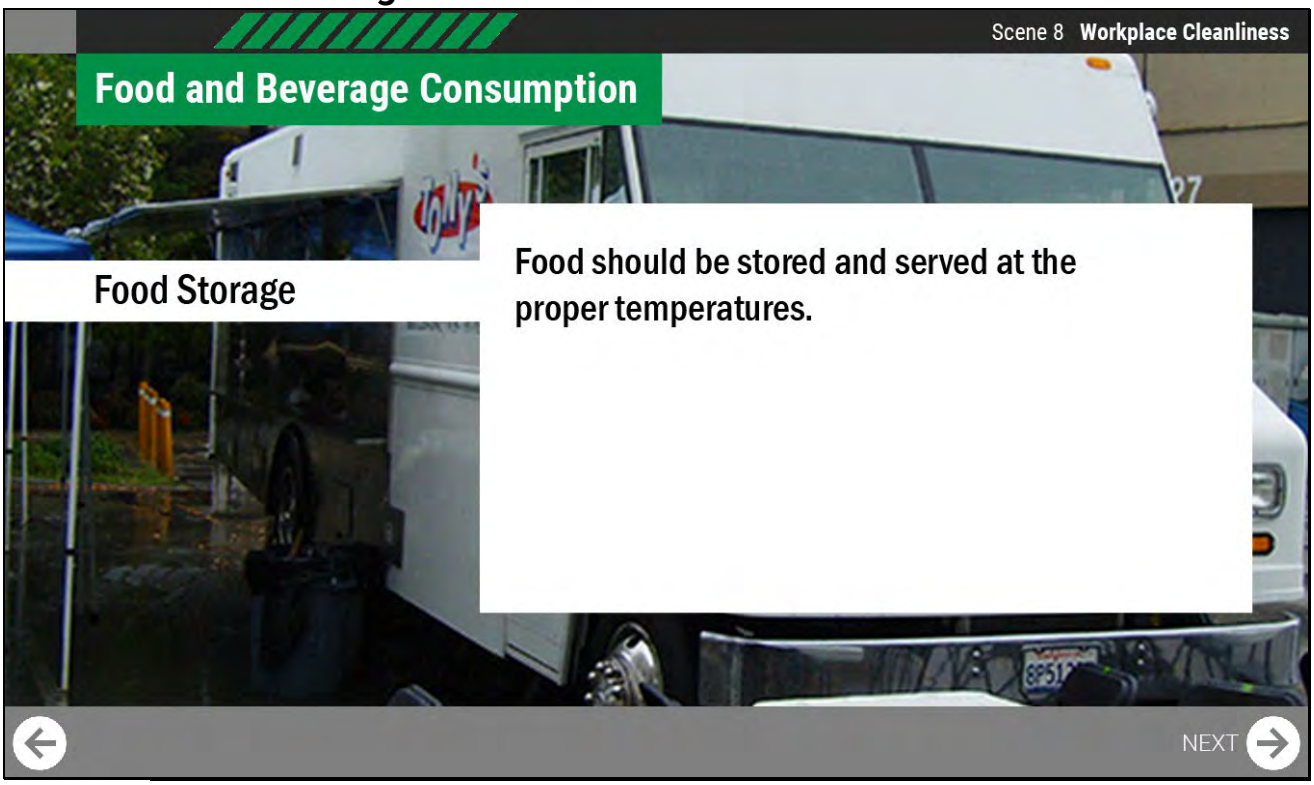
Slide 233 - Food and Beverage Consumption



Slide notes

Food serving areas should be kept clean and free of debris, pests, and other unsanitary conditions.

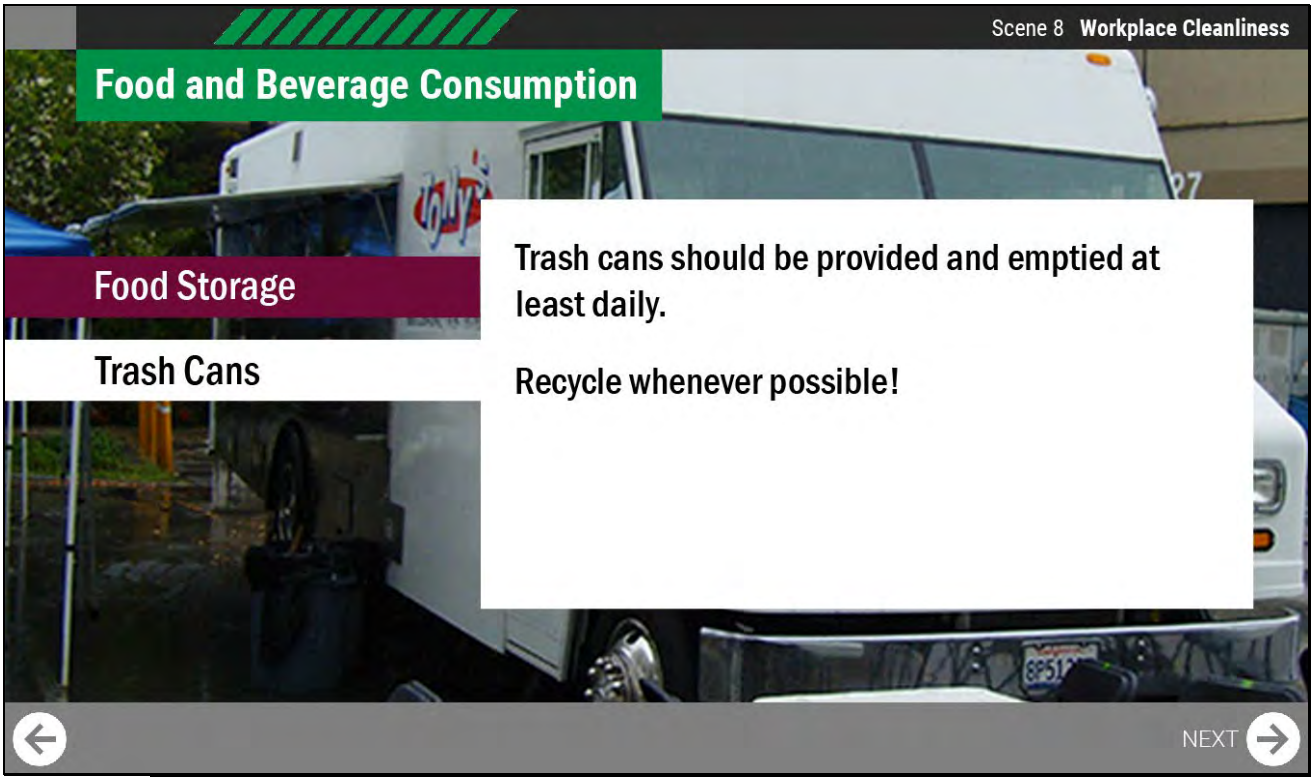
Slide 234 - Food Storage



Slide notes

Food should be stored and served at the proper temperature.

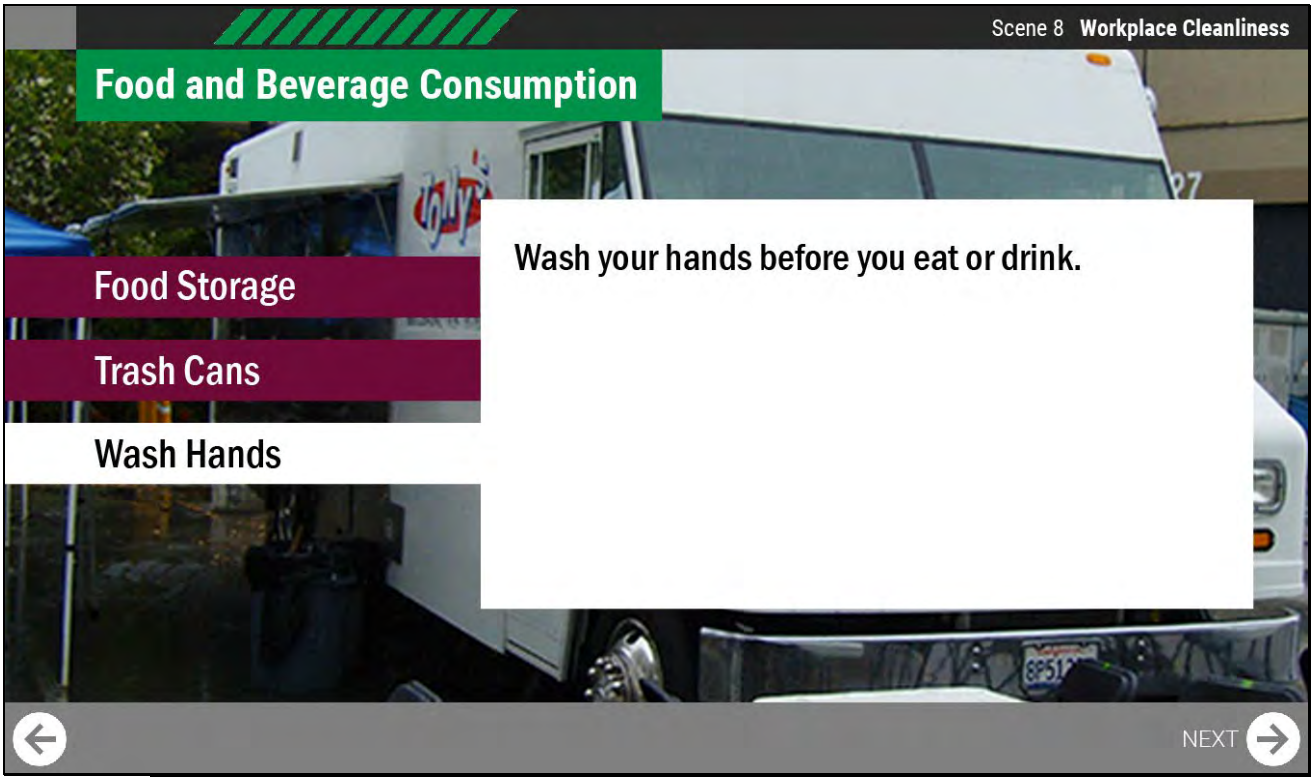
Slide 235 - Trash Cans



Slide notes

Trash cans must be provided and emptied at least daily. Recycle whenever possible.

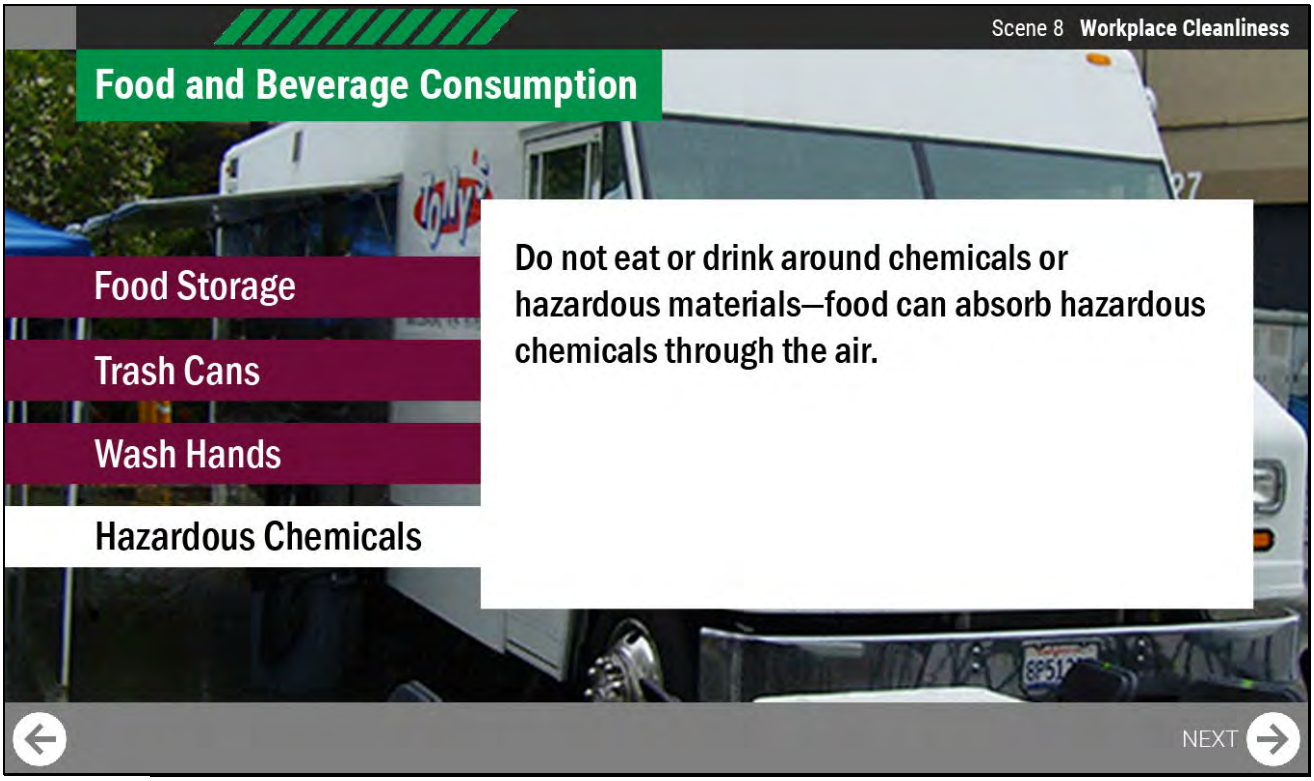
Slide 236 - Wash Hands



Slide notes

Wash your hands before you eat or drink.

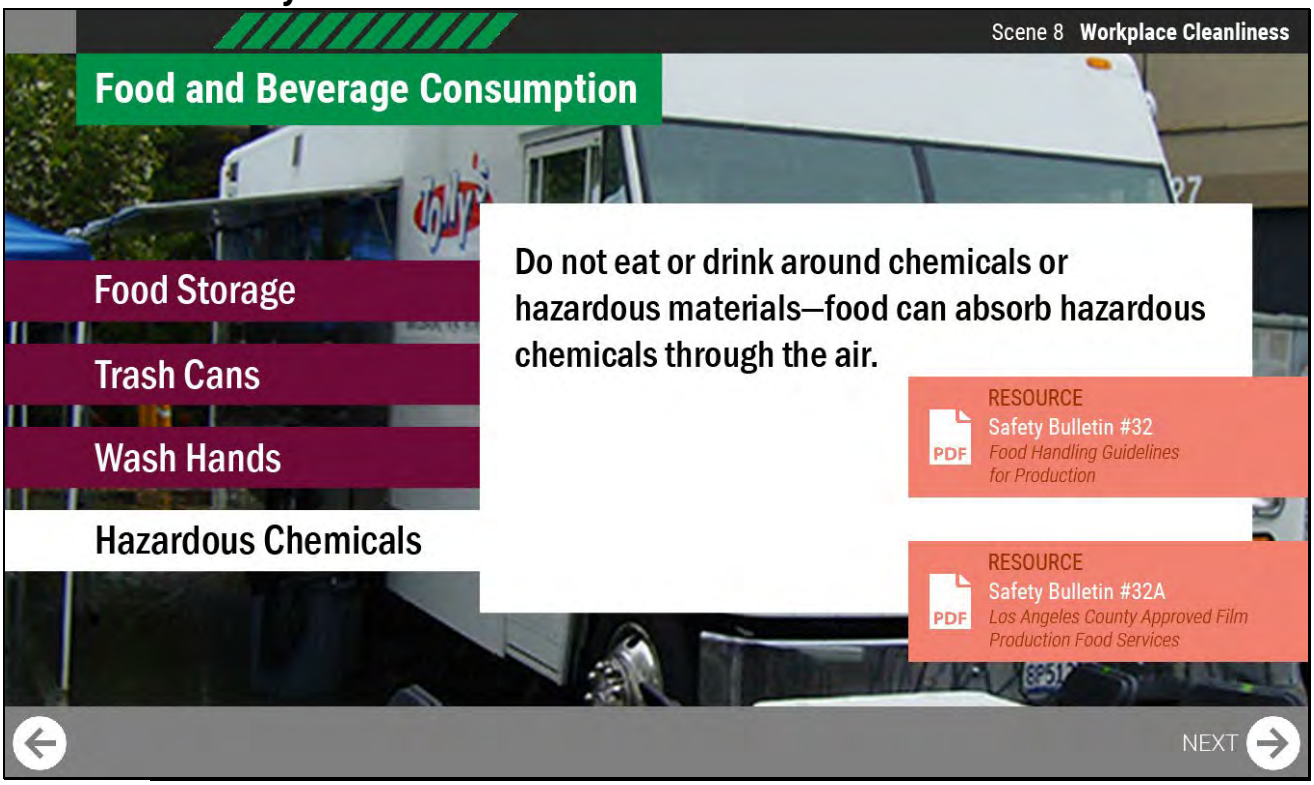
Slide 237 - Hazardous Chemicals



Slide notes

Do not eat or drink in areas where chemicals or hazardous materials are being used or stored, or where dust is being generated during construction. Food can absorb hazardous chemicals through the air.

Slide 238 - Safety Bulletins #32 and #32A

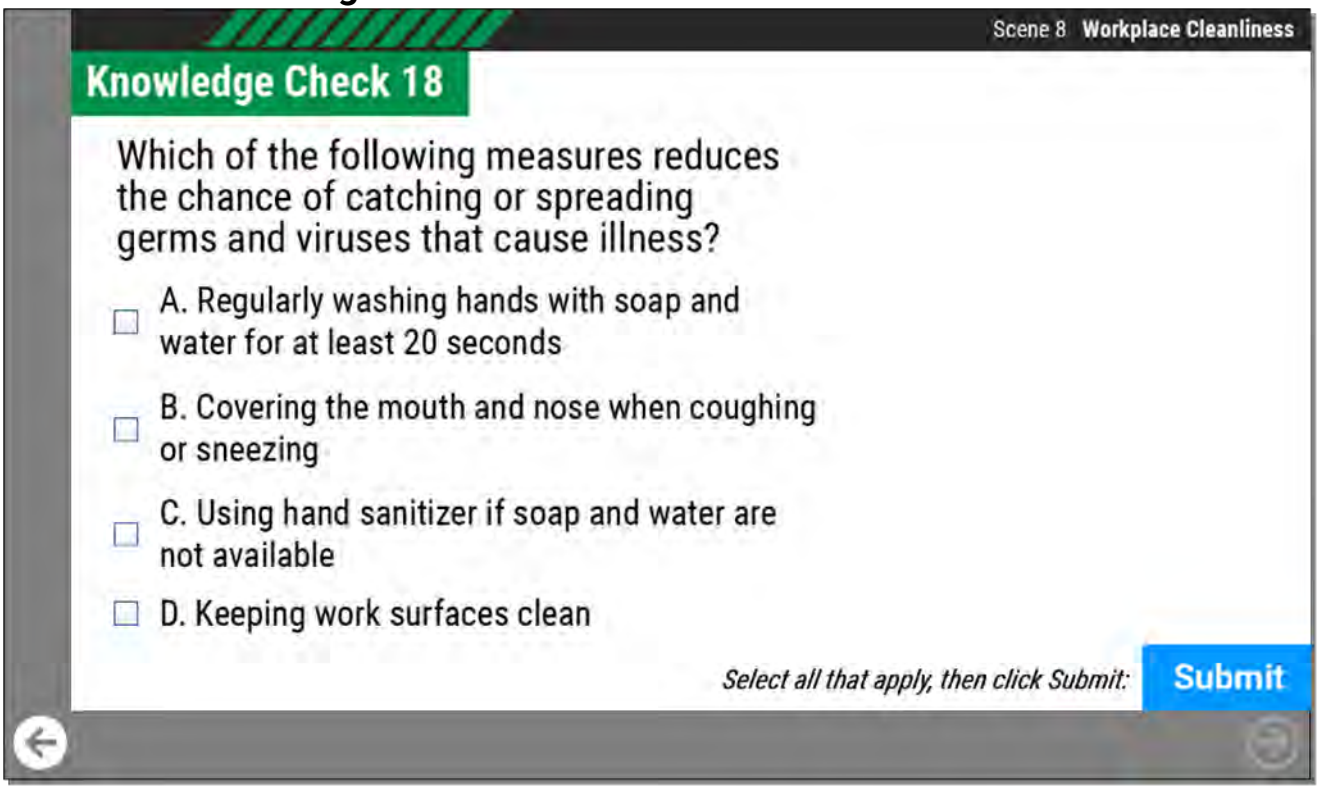


Slide notes

For additional information see Safety Bulletin #32, *Food Handling Guidelines for Production*, and if working in Los Angeles county, Safety Bulletin #32A, *Los Angeles County Approved Film Production Food Services*.

Let's check your knowledge.

Slide 239 - Knowledge Check 18

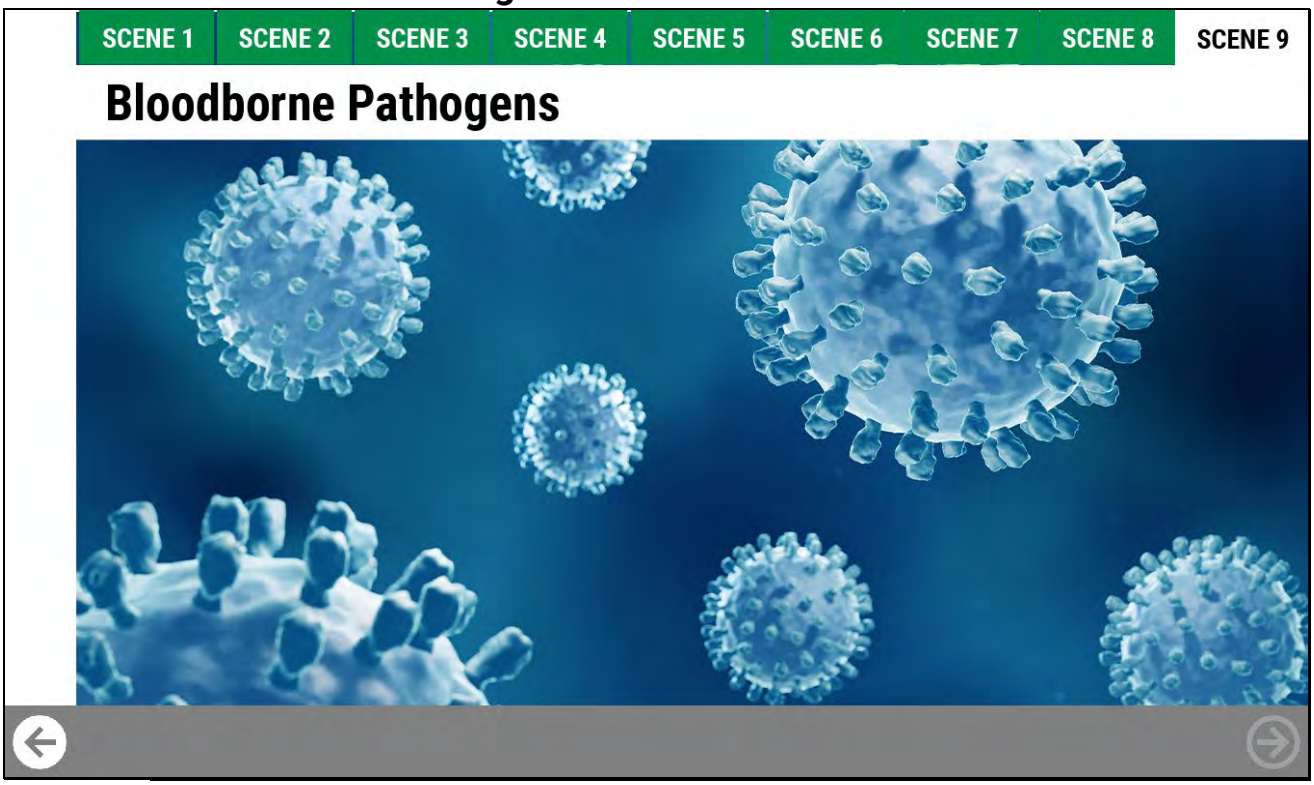


Slide notes

Knowledge Check 18

Question: Which of the following measures reduces the chance of catching or spreading germs and viruses that cause illness?

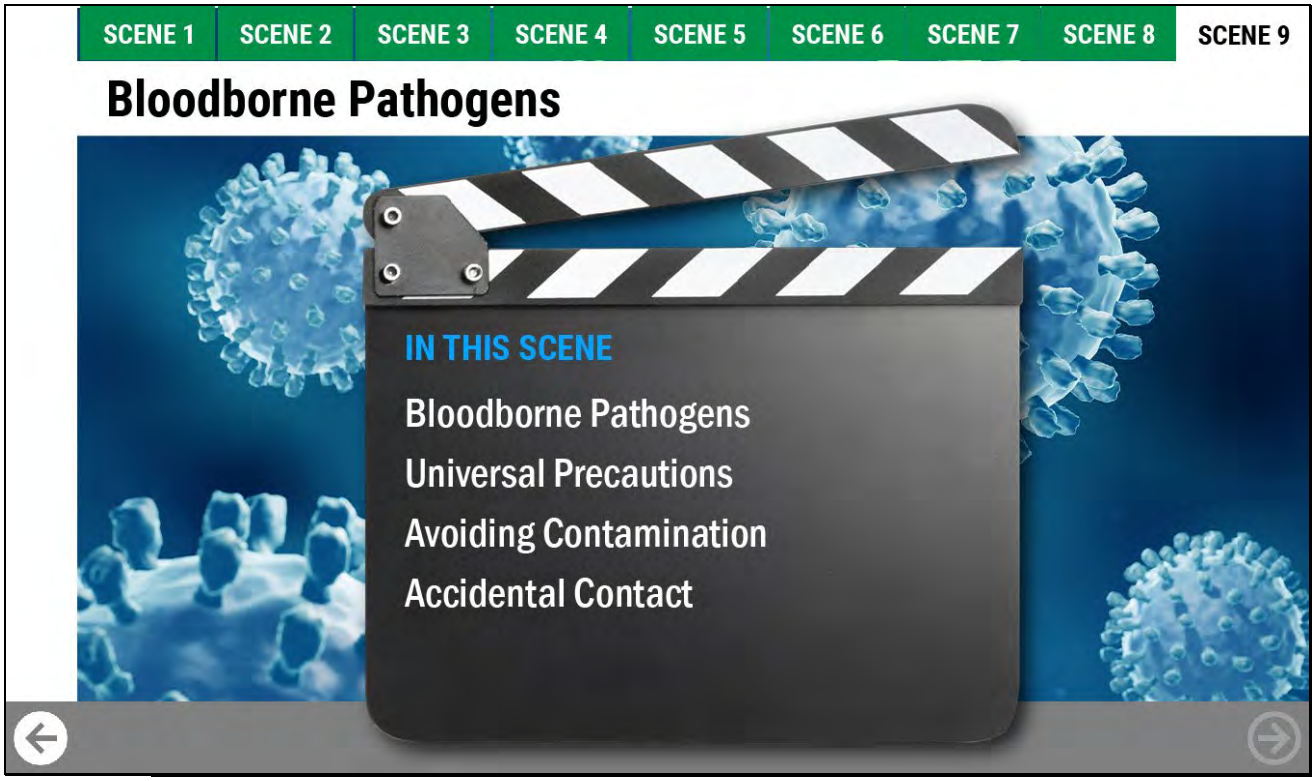
Slide 240 - Bloodborne Pathogens



Slide notes

Scene Nine. Bloodborne Pathogens.

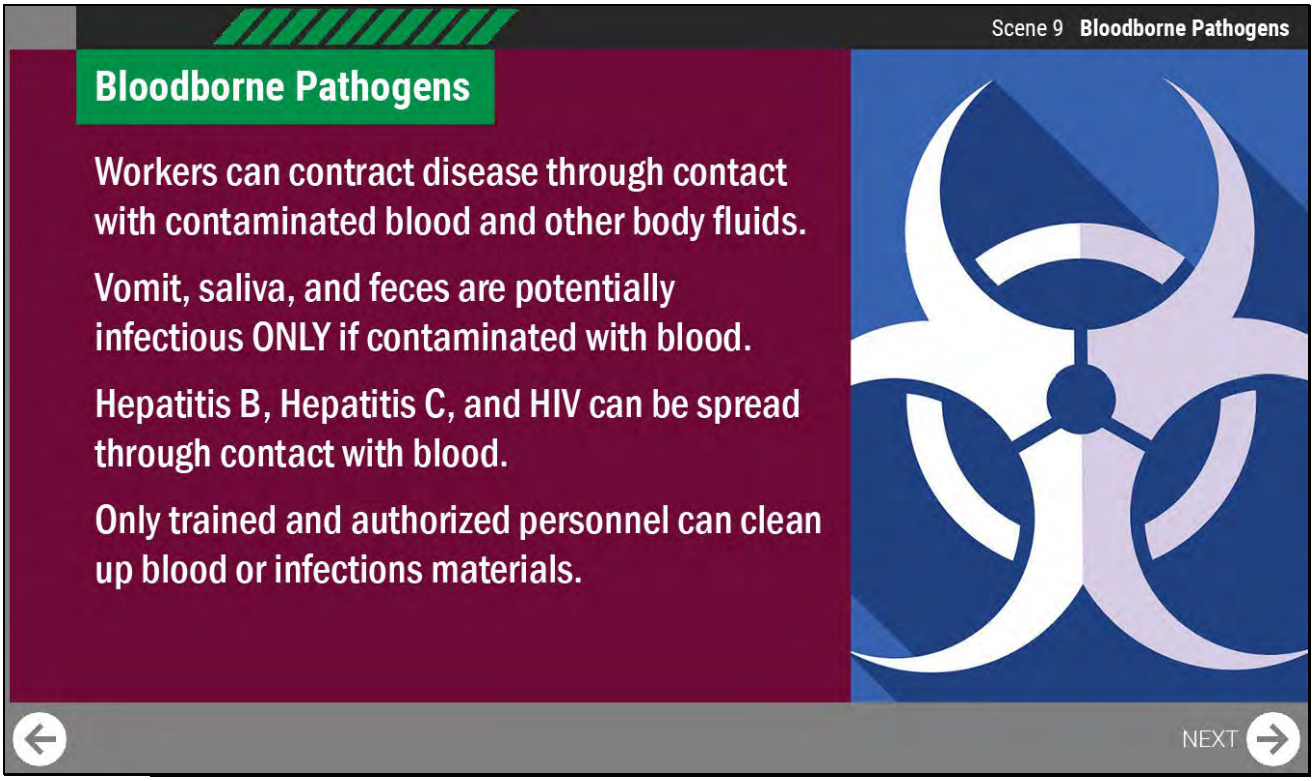
Slide 241 - In This Scene



Slide notes

In this final scene, we'll look at one additional health issue: bloodborne pathogens. We'll also cover universal precautions, measures you should take to avoid contamination, and accidental contact.

Slide 242 - Introduction



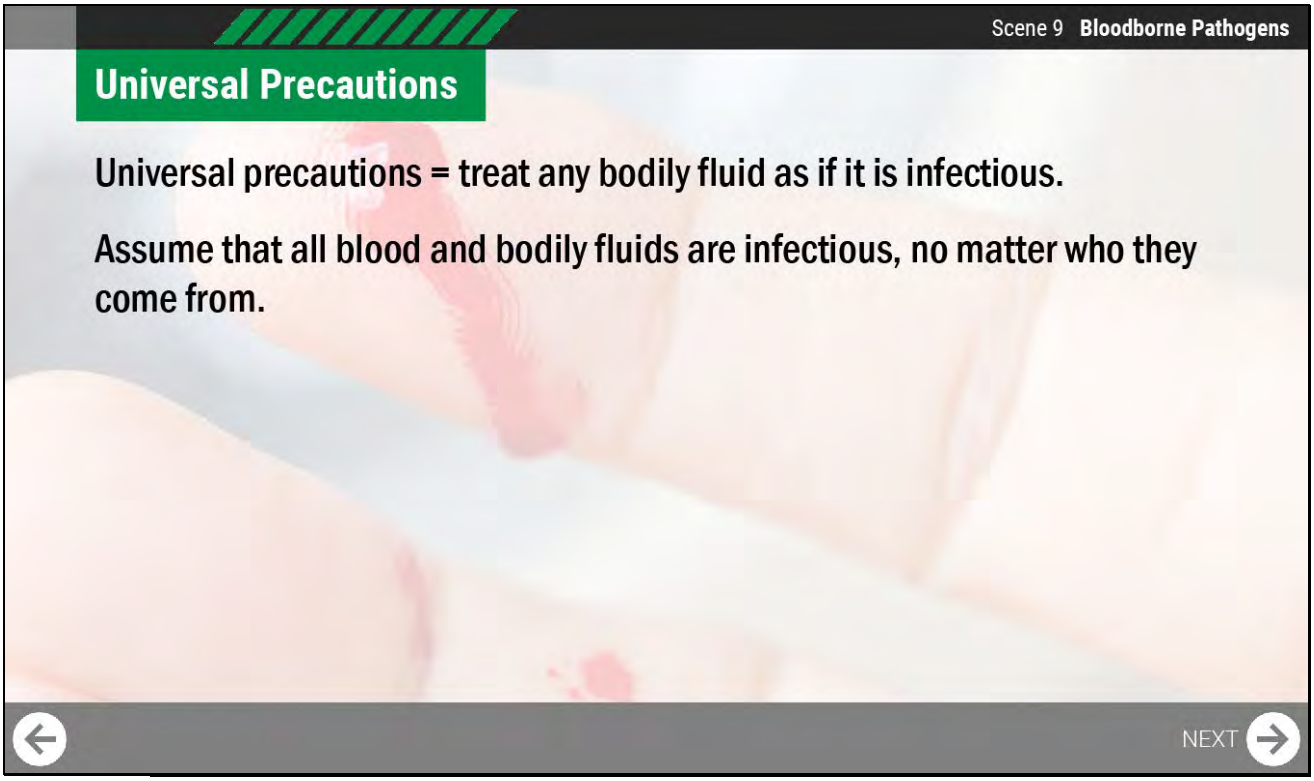
Slide notes

The OSHA Bloodborne Pathogens Standard provides regulations to protect workers with occupational exposure from contracting diseases through direct contact with contaminated blood or any other potentially infectious materials. Other body fluids like vomit, saliva, and feces are considered potentially infectious **only** if they are contaminated with blood.

As an example, a person administering injections, like flu vaccinations, can be exposed by accidentally sticking themselves with a needle.

People can contract serious diseases from contact while aiding a person who is bleeding, including Hepatitis B, Hepatitis C, and HIV. It is important that only trained and authorized personnel clean up blood or potentially infectious materials.

Slide 243 - Universal Precautions



Slide notes

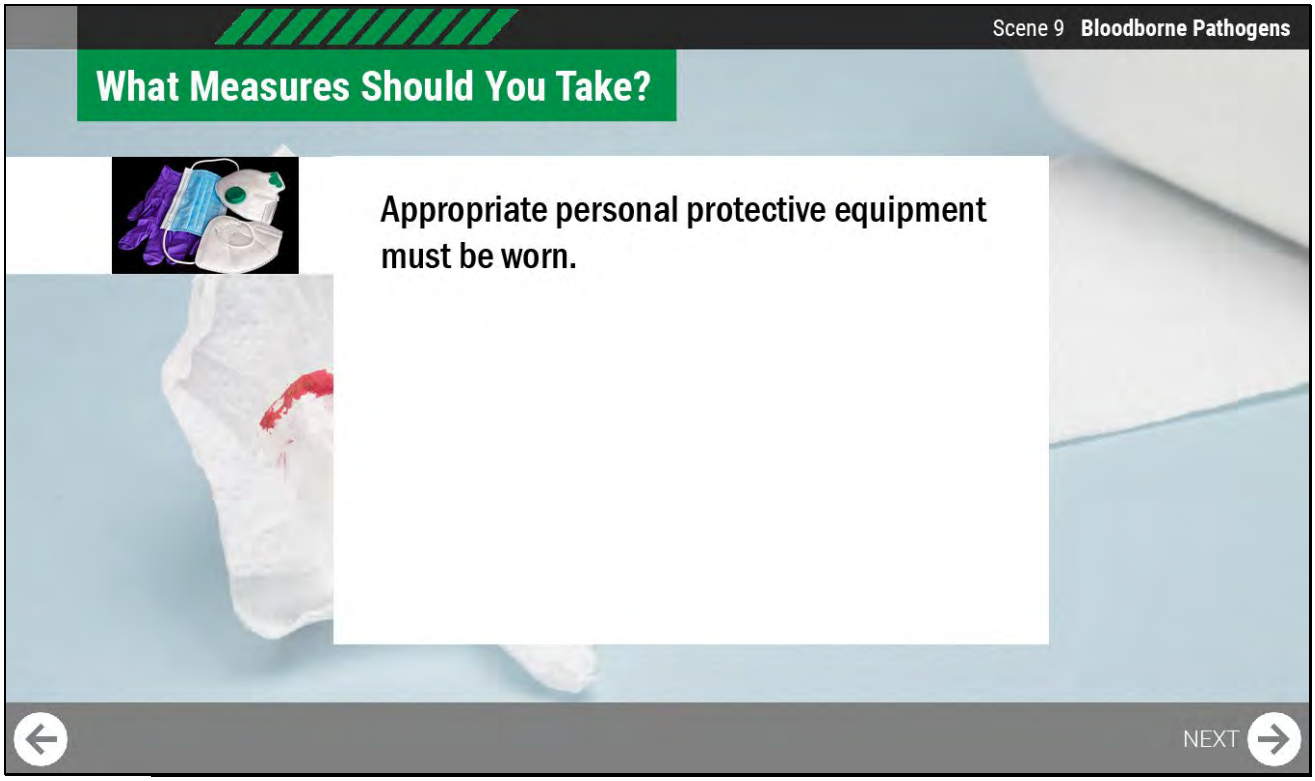
Universal precautions means that we treat any bodily fluids as if they are known to be infectious. The first rule for dealing with potential bloodborne pathogens is that you must assume that bodily fluids are infectious, no matter who they come from.

Slide 244 - What Measures Should You Take? 1

Slide notes

To avoid contamination from bloodborne pathogens, there are safety measures that must be taken. Explore them here.

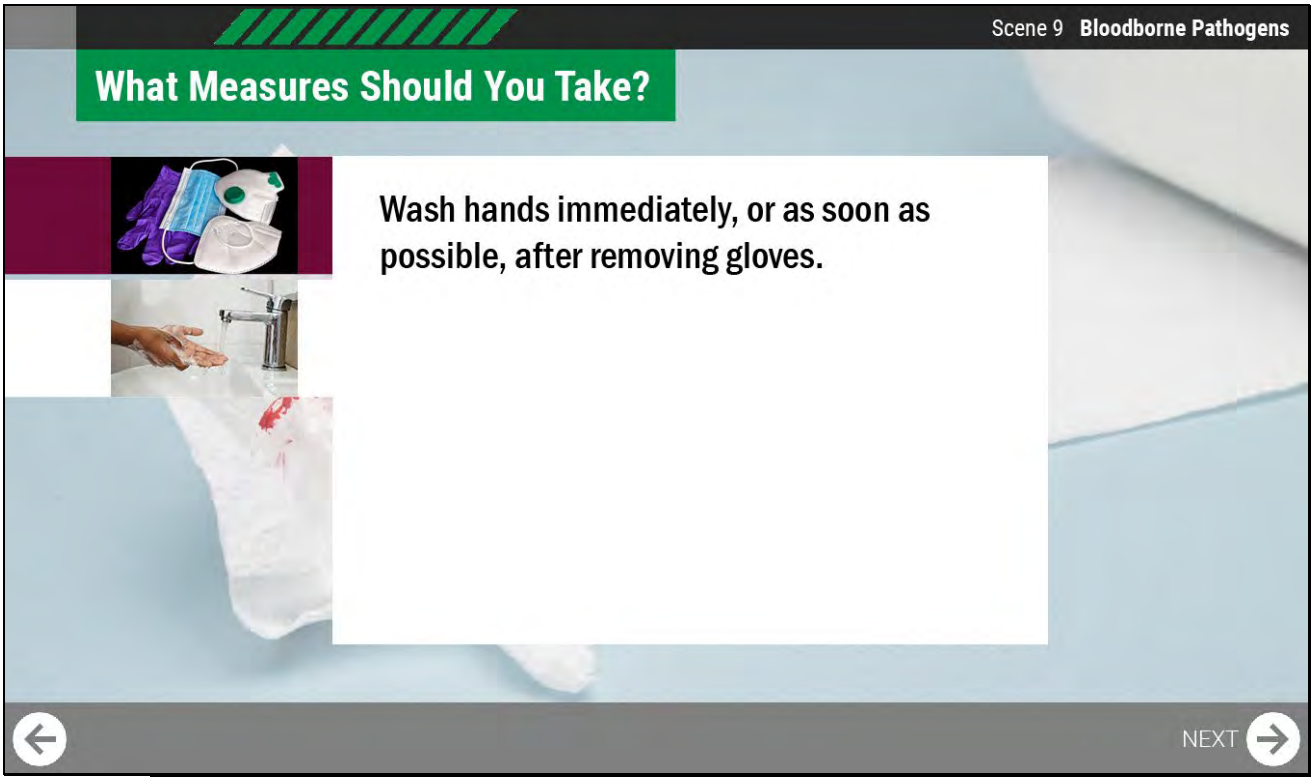
Slide 245 - What Measures Should You Take? 2



Slide notes

Appropriate personal protective equipment-gloves, face masks, and eye shields-must be worn.

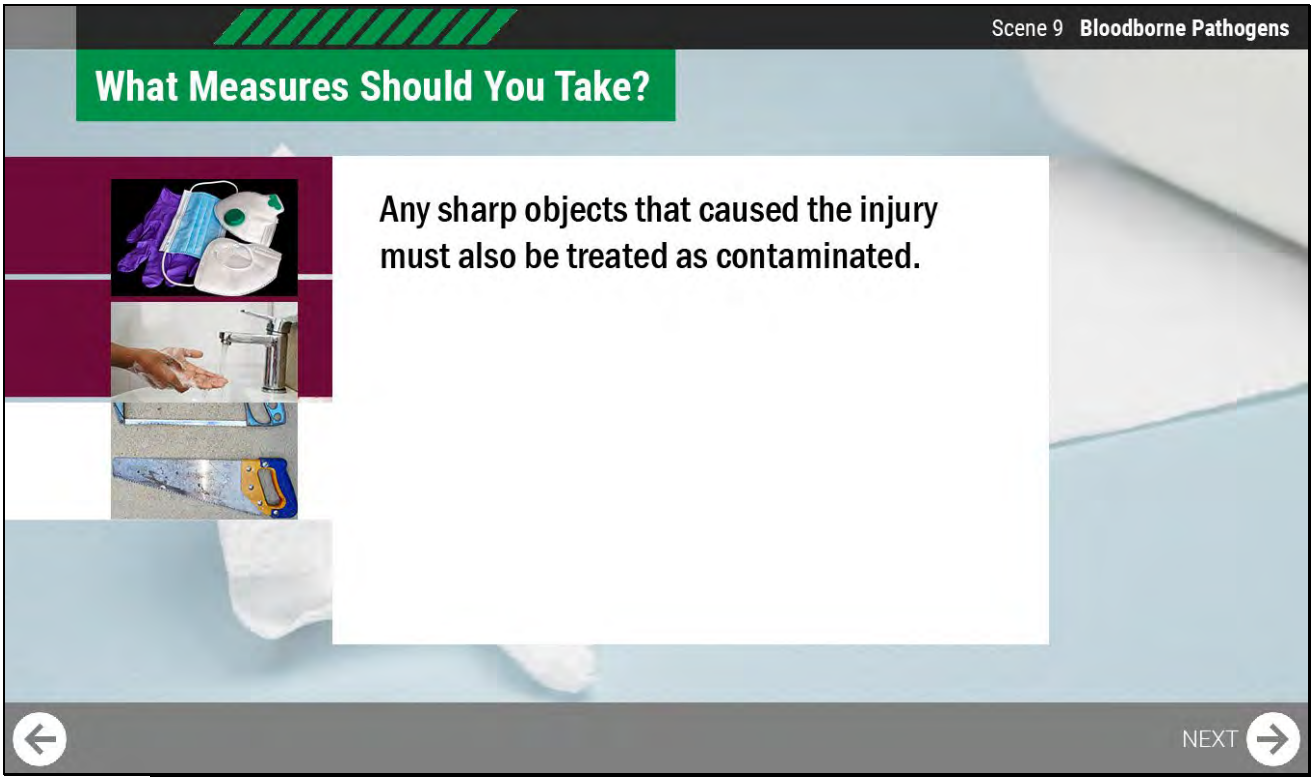
Slide 246 - What Measures Should You Take? 3



Slide notes

After removing the gloves, hands must be washed immediately, or as soon as possible.

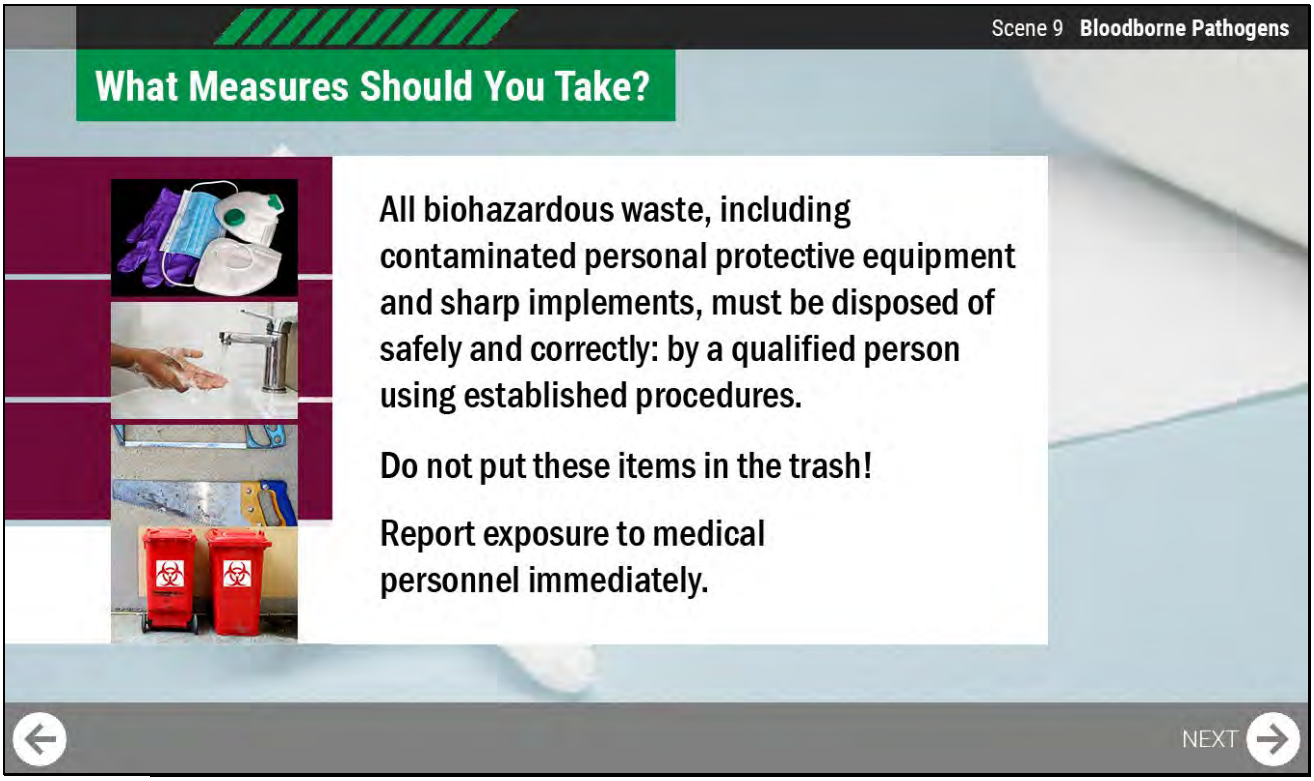
Slide 247 - What Measures Should You Take? 4



Slide notes

Any sharp object that caused the injury must also be treated as contaminated.

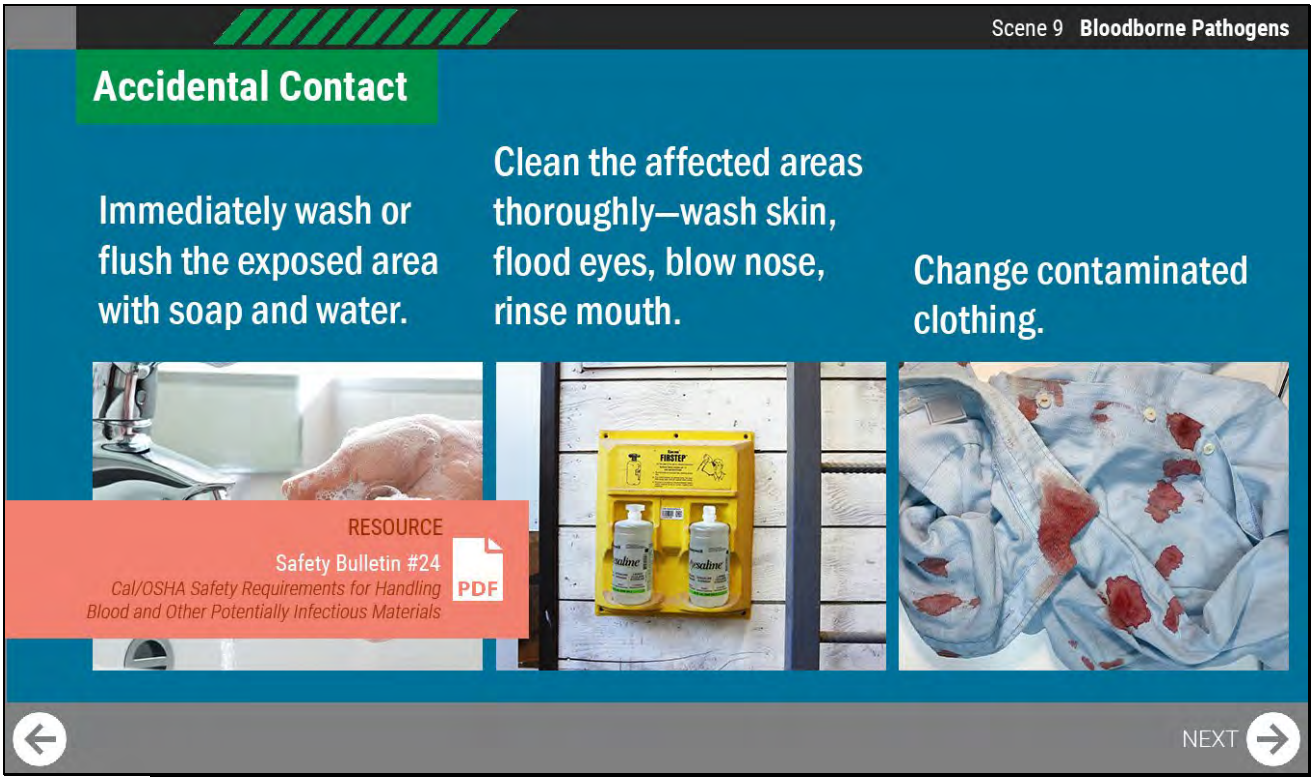
Slide 248 - What Measures Should You Take? 5



Slide notes

All biohazardous waste, including contaminated personal protective equipment and sharp implements, must be disposed of safely and correctly. Biohazardous waste has to be disposed of by a qualified person using established procedures. Do not put these items in the trash. Report exposure to medical personnel immediately.

Slide 249 - Accidental Contact



Slide notes

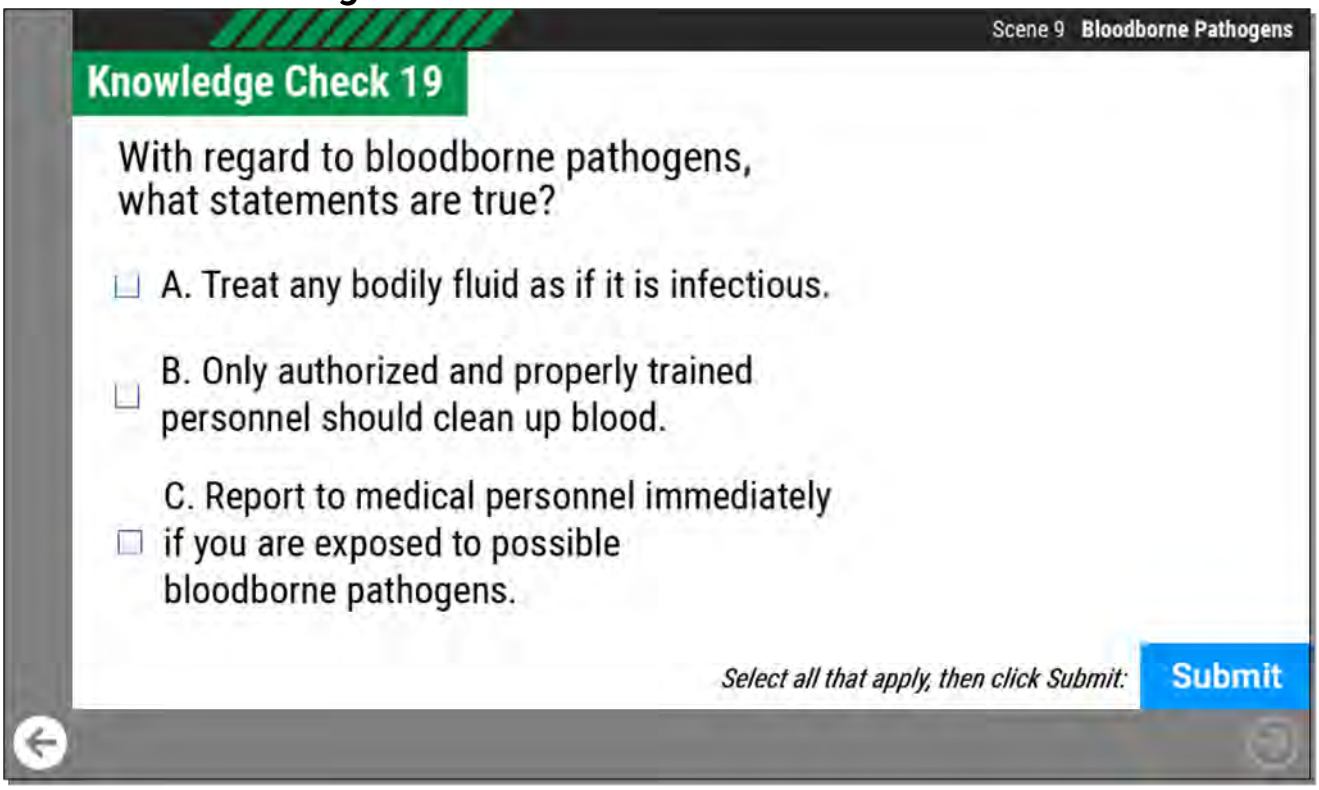
If you have accidental contact with blood or bodily fluids, you should immediately wash or flush the exposed area with soap and water.

Clean the affected areas thoroughly: wash skin with soap and water or skin disinfectant; flood your eyes with warm water; blow and clean inside your nose; rinse your mouth with water and spit it out.

If there is blood on your clothing, change to prevent prolonged contact and to avoid the transfer of pathogens to other areas.

Refer to Safety Bulletin #24-*Cal/OSHA Safety Requirements for Handling of Blood and Other Potentially Infections Materials*, for more information.

Slide 250 - Knowledge Check 19



Slide notes

Knowledge Check 19

Question: With regard to bloodborne pathogens, what statements are true? Check all that apply.

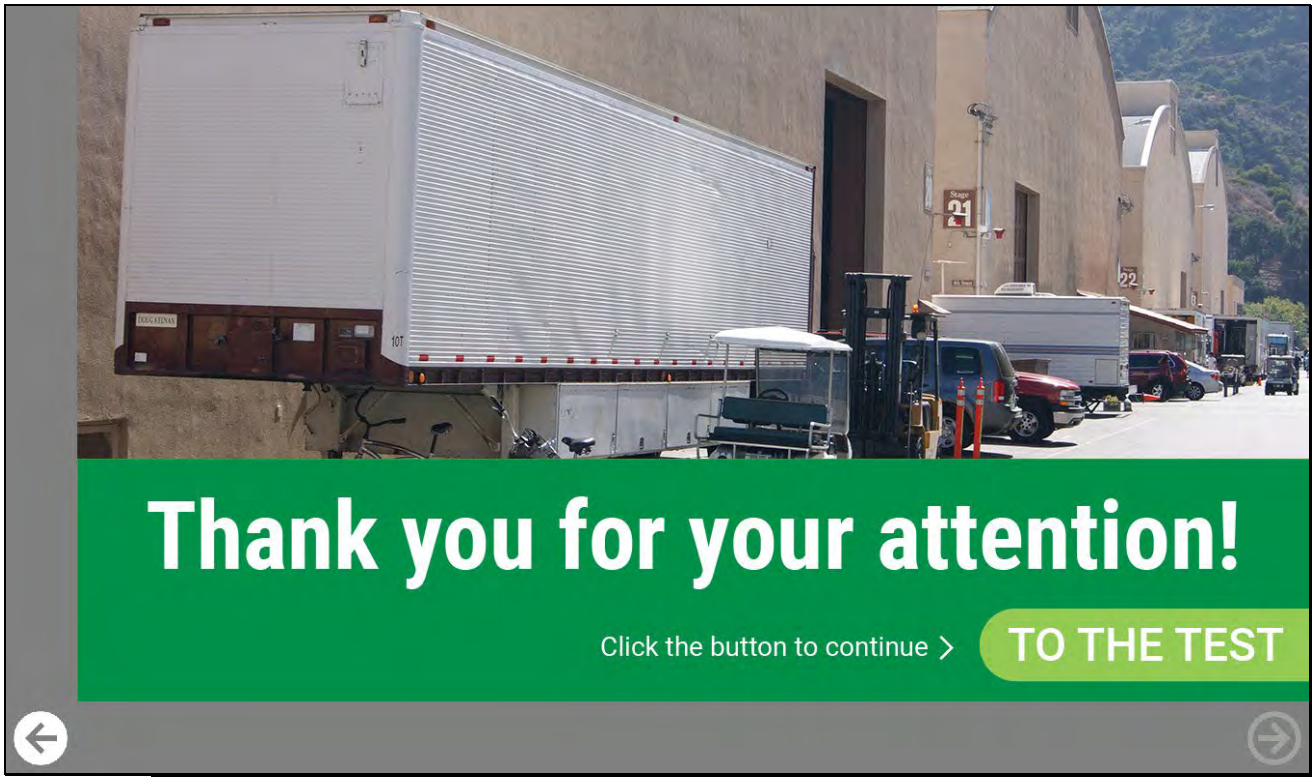
Slide 251 - A Safe Attitude

Slide notes

Your safe attitude impacts how you act and react to workplace conditions and challenges. Speak up about safety issues. Ask questions. Look out for your coworkers and for yourself.

Remember, safety starts with you.

Slide 252 - To the Test



Slide notes

Thank you for your attention.

The course test is up next.

Once you successfully complete the test, you'll receive credit for the course.

Industry Safety Resources

Safety Bulletins

Safety bulletins are researched, written, and distributed by the Industry Wide Labor-Management Safety Committee for use by the motion picture and television industry. The Industry Wide Labor-Management Safety Committee is composed of guild, union, and management representatives active in industry safety and health programs.

These safety bulletins are guidelines recommended by the safety committee. They are not binding laws or regulations. State, federal, and/or local regulations, where applicable, override these guidelines. Modifications in these guidelines should be made, as circumstances warrant, to ensure the safety of the cast and crew.

The committee and these safety bulletins are representative of the commitment of both labor and management to safe practices in the motion picture and television industry. The members of the committee and all those who contributed to its work have devoted a great deal of time and effort to these guidelines because of the importance of safety to our industry.

Current safety bulletins are available on the CSATF website:

https://www.csatf.org/production-affairs-safety/safety-bulletins/

24-Hour Industry Safety Hotline

The 24-hour industry safety hotline number directs callers to an automated system that will assist them in reaching the desired Studio Safety Hotline.

888-7-SAFELY

A list of the Studio Safety Hotlines can also be found on the CSATF website:

https://www.csatf.org/production-affairs-safety/studio-safety-hotlines/

Safety is everyone's responsibility.