

# TITLE: C005 CONSTRUCTION SAFETY SERIES:

## *First Aid*

LENGTH: 16 MINUTES

PRODUCTION YEAR: 2010

### PROGRAM SYNOPSIS:

Throughout the day, our bodies encounter all types of hazards. We try to protect ourselves by thinking "Safety First" and wearing appropriate personal protective equipment; however, accidents can happen and people can be injured. No safety program is perfect. No matter what we do, accidents can still happen. A sliver of metal embeds itself in a coworker's eye. Someone in the warehouse falls victim to the summer heat. A friend at lunch starts choking on a sandwich. These types of situations occur every day. And there are things that employees can do to help.

This program reminds employees that they can make a difference by showing them how to recognize the types of injuries that occur most frequently in workplace situations as well as the basic first aid techniques that can be useful in these situations.

### PROGRAM OBJECTIVES: After watching the program, participants will be able to explain the following:

- The basic types of injuries that are experienced in the workplace.
- How to treat cuts, scrapes and blisters.
- How to deal with muscle pulls, strains and sprains.
- Why they should take precautions when dealing with injuries involving bleeding.
- How to handle victims with broken bones and fractures.
- How perform the Heimlich Maneuver.
- When rescue breathing (artificial respiration) and CPR should be used.
- How to use an automatic external defibrillator (AED).

### INSTRUCTIONAL CONTENT:

#### OBJECTS IN THE EYE

- In any work environment, there are hazards that need to be watched out for. For example, say something gets in your eye.
  - You should try pulling the upper lid away from the eyeball (this should cause the particle to drift down to the lower lid).
  - Then, simply remove the intruder with a piece of sterile gauze or a clean handkerchief.
- An object that has embedded itself within the eye needs to be treated differently. Just touching it could dig it in deeper.
  - Instead, calm the victim and gently place a paper cup over the injured eye.
  - Wrap a bandage over both eyes (this will increase the likelihood of keeping the injured eye still... remember, both eyes move as a team whenever you look at something).
  - Then try and relax the victim until medical help arrives.
- If you haven't already guessed, in order to use many of the first aid techniques you will see today, you must know where to find the first aid kits in your work area.
  - So if you don't know where they are, ask your supervisor.

#### CUTS & BLISTERS

- If you're working with sharp tools or materials, and not paying attention or something goes wrong, you could end up with a nasty cut.
  - First, you need to stop the bleeding with direct pressure.
  - Then, clean the wound with soap and water.
  - Give it time to dry and apply a sterile bandage.
  - If the cut is particularly long or deep, or if after a few days it's still sore, see a doctor.
- If you were cut by a rusty object, you should see a doctor immediately, to determine if you need a tetanus shot.
- Too much friction between your hand and the tools that you use can often lead to blisters.
  - When treating a blister, leave the skin unbroken and avoid putting any further pressure on it.
  - If the blister breaks, clean it immediately and apply a sterile bandage.

#### HEAT & CHEMICAL BURNS

- Burns can occur when we least expect them. And even minor burns can hurt like crazy!
  - Here, we should turn to cool, clean water for help.
  - Soak the injury or apply ice.
  - Don't try to clean the affected skin and don't break any blisters (this will just cause more damage).
  - Cover the burn with a sterile dressing.
- Never apply ointments or salves to a burn unless a medical professional tells you to (most of these coatings can actually make things worse).
- Water should never be applied to a burn if you see open blisters or actual charring.
  - Instead, cover the area with a loose compress and get medical help.
- Chemical burns can be especially dangerous, since the substance can keep affecting you until it's removed. In these situations, you need to get to running water as quickly as possible.
  - Keep the affected area in the water for at least fifteen minutes.
  - Then see a doctor immediately.
- If a hazardous chemical gets in your eyes, flush them directly with running water, also for fifteen minutes.
  - Again, seek medical attention.

#### MUSCLE INJURIES

- Stretching our muscles outside their normal range of motion can cause strains and sprains.
- That's why you should always do warm-ups and stretching exercises before "working" your body.
- If you do "pull" a muscle, the appropriate first aid can make you feel better and quickly put you on the road to recovery.
- To minimize swelling elevate the injured area, resting it on something soft, like a rolled up jacket or a pillow, and keeping it above your heart.
- Be sure not to put any additional strain on it.
- Apply ice for thirty minutes, then remove it for fifteen minutes.
- Repeat this cycle on and off for several hours, if possible.

## BONE FRACTURES

- A fall or other serious impact can often result in broken or fractured bones. There are two types of fractures:
  - "Simple"
  - "Compound."
- If someone has a "simple" break (one where the bone doesn't come through the skin) call for emergency help immediately, then try to comfort them.
  - Normally, you don't want to move the victim unless you're sure this won't make the injury worse.
  - If you must move the victim to get them medical help, apply a splint to the break (use something rigid, like a piece of wood or even a folded magazine).
- For example, if the victim has a broken arm, rest the arm on the splint.
  - Secure the splint by gently wrapping two wide strips of cloth or bandage around the arm, one above the fracture and one below.
  - Tie the ends of the cloth together under the splint, leaving the fractured area uncovered.
  - The splint should be snug but not tight enough to cut off circulation.
  - If the injury is in the forearm, below the elbow, put it in a sling.
- Other fractures should be treated the same way.
  - Always try to keep the area from moving or shifting (immobilizing the break will reduce the chances of further injury).
  - Get the victim to medical professionals as soon as possible.
- If you are dealing with a "compound" fracture (one with an open wound), don't try to push the bone back under the skin.
  - Instead, use a clean dressing to stop the bleeding.
  - Then treat it the same way you would a "simple" fracture.

## INJURIES INVOLVING BLOOD OR SHOCK

- Watch yourself around accidents where there's blood.
  - To protect against the possibility of an infectious disease, you should wear latex gloves if possible.
  - If you feel it's unsafe to help the victim, wait for emergency personnel.
- Injuries that are serious or cause a lot of pain can throw you into "shock".
  - This is where your body goes a little crazy trying to "treat" the injury itself, by rerouting the flow of blood to the injured area.
  - This can leave other areas of the body without the blood that they need.
- If the body goes too far with its "emergency response," it can actually kill the person.
  - Wrap something around the victim to keep them from getting chills.
  - Try to calm them down.
  - If they get agitated, the shock could get worse.
  - Stay with them until emergency help arrives.

## HEAT-RELATED ILLNESSES

- When the temperature or humidity begins to climb, so does your chance of a heat-related injury or illness.
  - It could be anything from heat exhaustion to heat cramps... even heat stroke.
- Heat stroke occurs when we get so hot that we "burn out" our body's temperature control systems.
  - We are unable to cool down normally, by sweating.
  - If you think someone is suffering from heat stroke, get the person out of the heat.
    - If possible, soak them in cool water, not too cold though!
    - You can also use cold packs and a fan if they are available.
  - Raise the victim's feet to make it easier for their blood to circulate.
- Call emergency medical services immediately.
  - If it isn't treated, heat stroke can cause brain damage, even death, in a matter of minutes.
  - Stay with the victim until emergency help arrives.
- To keep your body from overheating, drink plenty of cool water or a "thirst aid" to replace the fluid that you lose when you sweat.
  - You don't want to drink alcohol, since it actually makes it harder for your body to keep cool.
  - You should also take regular breaks.

## CHOKING

- Many of us eat frequently during our work day, on breaks, at lunch or just "snacking."
  - Often, we "wolf down" our food.
  - You may not realize it, but a victim of choking can die within minutes from lack of oxygen.
- If you see someone choking, yell for help, then perform the Heimlich Maneuver. This is designed to force air out of the victim's lungs and dislodge the object that is blocking their airway.
  - Start by making a fist, your thumb on top.
  - Put your thumb just below the victim's ribcage.
  - Grab onto your fist with the other hand and make short thrusts, in and up into the victim's abdomen.
  - Squeeze only with your forearms and hands (applying pressure with your upper arms could crack the person's ribs).
  - Keep going until the object comes loose and the person can breathe again.
- If for any reason, the person stops breathing, have someone phone emergency medical services immediately.
  - You should keep their number posted for quick access.

- If you are trained in "rescue breathing" (also called "artificial respiration") start the process immediately.
- If you aren't, you should know who in your company is... and get them!
- Work on the victim until they start breathing again, or until emergency personnel arrive.
- Remember, if someone stops breathing for just four to six minutes, the odds of brain damage or death are very high!

### HEART ATTACKS

- As we get older, we become more vulnerable to heart disease, and our chances of having a heart attack go up!
- If someone has a "heart attack" or a "sudden cardiac arrest" (that's when the heart can stop cold) quick treatment can be the key to their survival.
- So it's important to recognize the symptoms quickly.
- A heart attack victim may suddenly:
  - Have trouble breathing.
  - Feel a tightening in the chest.
  - Experience nausea or indigestion.
  - Have their skin turn pale or "blue," and go cold and sweaty.
- If you see someone exhibiting these symptoms, call emergency medical services immediately.
- There's no time to lose!
- If the victim is conscious, help them to a sitting position.
  - Use pillows or something similar for support.
  - Keep them warm and comfortable, and loosen their clothing, especially shirt collars.
  - Ask if they're on any heart medication, and if you can get it for them.
- If the victim is unable to speak, check for a medical ID bracelet, or look for an emergency medical card.
- If their breathing stops but they still show a pulse, and if you're trained in "rescue breathing", start the process.
- If the person's pulse is erratic, or they have no pulse at all, they may be in "sudden cardiac arrest" and in danger of dying.
- That's where AEDs (automated external defibrillators) and CPR come in.

### USING AUTOMATED EXTERNAL DEFIBRILLATORS (AEDs)

- There are 220,000 occurrences of "sudden cardiac arrest" each year, about 10,000 of them "on the job."
- Studies show that if a victim has to wait for emergency medical personnel to arrive before they are treated, there is only a 5-7% survival rate.
- However, with immediate treatment (called "defibrillation") up to 60% of cardiac arrest victims can survive.
- Sudden cardiac arrest occurs when the heart's normal rhythm is interrupted or it stops beating altogether. Causes include:
  - Heart attack.
  - Electrocutation.
  - Asphyxiation.
- If you are trained in using an AED and one is readily available, in these situations you can literally save a life.
  - AEDs are designed to analyze the heart's rhythm and deliver an electric shock to restore it to normal.
  - Most AEDs use "voice prompts" to help rescuers.
    - Once the machine is turned on, the rescuer will be told to apply the two electrodes to the victim's chest.
    - The AED will then begin to monitor the victim's heart rhythm.
    - If a "shockable" rhythm is detected, or if the heart has stopped completely, the machine will charge itself.
    - It will then instruct the rescuer to stand clear and press the "shock" button.
  - Once the victim's heartbeat has been restored, they should be kept comfortable until emergency medical personnel arrive.

### CARDIOPULMONARY RESUSCITATION (CPR)

- If there is no AED available and you are trained in CPR, start the process immediately.
- There are two forms of CPR that are now approved by the American Heart Association.
  - The "traditional" method has been to alternate 30 pushes on the chest with two quick breaths into the victim's mouth.
  - This should still be used with children, as well as adults who may be suffering from a lack of oxygen due to a near-drowning, drug overdose or carbon monoxide poisoning.
  - The newer approach eliminates the "breathing" and uses rapid, uninterrupted chest compressions at the rate of 100 per minute.
    - This is effective with most occurrences of cardiac arrest, where the victim still has an ample supply of air in the lungs and blood.
  - Whichever method you use, it should be continued until paramedics take over, an AED is located or the victim resumes breathing.

### SUMMARY

- Learn to think and act quickly in case of an injury!
- Know the location of first aid kits and AEDs in your area.
- Learn to recognize symptoms...like those for shock, heat stress and a heart attack.
- Know when it's "okay" to move a victim...as well as when it's not.
- Know when medical attention is called for...and how to get it!