

## PREVENTING INJURIES IN THE WORKPLACE: BURNS

Each year in the United States, over 1 million people are burned badly enough to need medical attention. Of these, over 50,000 are bad enough to require a hospital stay and nearly 10,000 of these people die. There are three distinct types of burns: thermal, chemical and electrical.

### **Thermal Burns:**

- Are caused by contact with open flames, hot liquids, hot surfaces and other sources of high heat. Sun burn is the most common type of thermal burn.
- Thermal burns can also be caused by relatively “low” heat in people with poor circulation or feeling. Many people with diabetes, poor circulation and paralysis have been burned by simple “heating pads” because they can not feel the temperature of the heating pad.
- Certain medications can also cause people’s skin to be more sensitive to the sun, causing them to burn more easily.

### **Prevention of thermal burns:**

- Requires paying attention to your surroundings and knowing the health history of the person you are caring for. You can take simple steps to help prevent these burns.
  1. Apply a good sun block (SPF 30 or greater) BEFORE going out into the sun and reapply it hourly, especially if swimming or sweating a great deal.
  2. When cooking, keep all handles turned in toward the stove so that they are not as easily spilled or grabbed by young children.
  3. Test all bath/shower water BEFORE placing a child or client in that water.
  4. If using a heating pad on a person, check the area every fifteen minutes to assess the skin condition. Do not apply the heating pad directly to the skin. Use a pillow case or other thin material between the pad and the skin.
  5. Take care in placing a child in a hot car seat, place a towel or cloth over the vinyl to help protect the skin. Also be careful in placing children on a slide or swing without first checking the temperature of the surface.
  6. Keep all matches, lighters, etc. out of the reach of children. If the stove/oven has knobs that they can reach, remove them when not in use and place them out of reach.
  7. Make sure you have functioning smoke alarms on ALL floors. Replace the batteries twice per year. Test them monthly to make sure they are working.

***\*If someone’s clothing is on fire, remember to STOP, DROP and ROLL until the fire has been put out. Remember, a persons first instinct is to run away, tackle them if need be and use a blanket or jacket to put the fire out.***

### **Chemical Burns:**

- Chemical burns are caused by contact of a corrosive substance to the body. Some chemicals may not damage the skin but if splashed into the eyes or mouth, can cause serious problems. Some chemicals can also cause serious health issues if the vapors from these chemicals are breathed in, even for a brief period of time.

### **Prevention of Chemical Burns:**

- Requires knowing what chemicals you are using and using the proper protective equipment or precautions.
  1. NEVER mix any chemical with another. Even everyday household cleaning supplies, when mixed, can turn relatively harmless chemicals into potentially harmful substances.
  2. Read the directions BEFORE using the chemicals and follow the precautions suggested by the manufacturer, including gloves and goggles if recommended.
  3. Always use chemicals in a well ventilated area to prevent fumes from becoming a problem. Remember if your client has asthma or any other lung condition, they may be especially prone to reactions from these fumes.

***\* Wash all chemical burns with cool, clean water especially the eyes and mucous membranes (mouth, nasal passages) for 10-15 minutes to flush the chemical from the area.***

## Electrical Burns:

- Electrical burns are just that, burns from some type of electrical source, from the minor “static shock” from dry air in the winter to lightning strikes or other high voltage electricity. Electrical burns are usually worse than they first outwardly appear. The burn often travels deep into the body causing deeper burns and can even disrupt the electrical activity of the heart causing it to stop completely. Obviously, that is a BAD thing and should be avoided at all costs.

## Prevention of Electrical Burns:

- Most electrical burns can be avoided by simple everyday checks of the machines and appliances we use.
  1. Check all electrical cords (when unplugged) and plug-ins for damage. If any damage exists, DO NOT use the appliance until it has been replaced.
  2. Always grasp the plug directly and pull from the base rather than the cord itself to prevent damage to the plug, cord or socket.
  3. Inspect the socket before plugging in equipment, DO NOT attempt to plug equipment in if the socket is cracked, scorched or otherwise damaged.
  4. Never use an adapter to make a 3-pronged plug fit into a 2 pronged socket.
  5. Avoid using extension cords if at all possible. If you do need one, make sure the wiring is at least the same size or larger than the cord leading to it.
  6. Never place rugs over electrical cords and walk or move equipment over them. Damage can be caused that is not readily visible to the users.
  7. Never run electrical cords in or near water. Never work with electrical equipment if your hands are wet or you are standing in water.
  8. Always be in tuned to the weather and seek shelter if a storm approaches. Lightning can strike anytime and anywhere. Avoid standing under trees or near towers. Get rid of the golf clubs and fishing poles until after the storm passes.

***\*If someone has been electrocuted, make sure that the power has been turned off or move the person with a piece of wood or plastic BEFORE touching them or you may become a victim yourself. Check to make sure they are breathing and have a pulse as soon as it is safe to do so. Call 911 immediately.***

## Treatment of Burns:

There are 3 classes of burns, first, second and third degree. They range in severity with first degree being the least severe and 3<sup>rd</sup> degree being the most severe. The treatment for each is slightly different and can make a great deal of difference in the outcome of a burn.

**First-Degree Burns:** First-degree burns involve the top layer of skin. Sunburn is a first-degree burn.

- **Signs:** Red, painful to touch, skin will show mild swelling.
- **Treatment:** Apply cool wet compresses or immerse in cool, fresh water. Continue until pain subsides. Keep covered with clean dry cloth or non-restrictive, non-adhesive dressing. Do NOT apply ointments, Vaseline or butter to burn; these may cause an infection. Over-the-counter pain medications may be used to help relieve pain and reduce inflammation. First-degree burns usually heal without further treatment. However, if a first-degree covers a large area of the body or the victim is an infant or elderly, seek medical attention.

**Second-Degree Burns:** Second-degree burns involve the first two layers of skin.

- **Signs:** Deep reddening of the skin, pain, blisters, glossy appearance from leaking fluid, possible loss of some skin.
- **Treatment:** Immerse in fresh, cool water, or apply cool compresses. Continue for 10 to 15 minutes. Dry with clean cloth and cover with sterile gauze. Do NOT break blisters or apply ointments or butter, this may lead to an infection. Elevate arms or legs if they are involved. Seek medical attention as soon as possible, further treatment WILL be required.

**Third-Degree Burns:** A third-degree burn penetrates the entire thickness of the skin and possibly the underlying muscle below, causing permanent destruction of the tissues.

- **Signs:** Loss of skin layers. Often painless (pain may be caused by first and second-degree burns which surround third-degree burns), skin is dry and leathery, skin may appear charred or have patches which appear white, brown or black.
- **Treatment:** Cover burn lightly with sterile gauze or clean cloth. Try to avoid material that has loose threads that can become stuck in the wound. Do NOT try and remove clothing that is stuck to the wound. Elevate the affected area if possible and seek medical attention immediately. Do NOT attempt to treat serious burns if you are not a trained medical professional.