EMPLOYEE SAFETY NEWSLETTER

April 2019

Move More month

April is *Move More* month, an initiative by the American Heart Association to encourage people to engage in and commit to regular physical activity. There are many health risks associated with being sedentary (i.e., sitting, reclining, or lying down), including heart disease, diabetes, high cholesterol, and obesity. Nonetheless, many adults spend much of the day sitting at desks or workstations. It is estimated that 80 percent of adults and teenagers do not get the 2.5 hours of moderate intensity physical activity per week recommended by the U.S. Department of Health and Human Services (HHS).

Even if you don't have an exercise routine in place, it's never too late to start being more active. Some moderate intensity activities you can integrate into your day a few times a week include:

- Walking (2.5 to 4 miles per hour)
- Water aerobics
- Biking slower than 10 miles per hour

Alternatively, you can engage in vigorous intensity physical activity for at least 1.25 hours each week. Examples of this kind of activity include:

- Jogging and running
- Participating in a fitness class
- Carrying heavy groceries upstairs

You may know all about the physical health benefits associated with regular physical activity—like a lower risk of disease and some cancers. However, participating in heart-pumping activity can improve your mental well-being, too. Reduced anxiety, a lower risk of depression, and improved sleep are all associated with physical activity.

Electrical safety: Avoiding arc flashes

Have you ever seen a quick spark when working with electrical equipment? Or how about an arc flash—a larger spark that bridges a gap, that lasts longer? An arc flash occurs when electricity travels through the air from one conducting surface to another or to ground. This type of electrical discharge has a high current density and is very dangerous.

Each year, over 2,000 people are burned from arc flash incidents. Many of the burn incidents were the result of human error—not faulty equipment or poorly engineered electrical installations. Here we discuss some practices to create an electrically safe work condition.

An arc flash can occur when circuit breakers and disconnects are opened and closed, when exposed electrical equipment is touched with a tool, or when equipment fails. The most effective way to prevent an arc flash is to de-energize or disconnect and lock out the power source before starting any maintenance or repair work.

Worker responsibilities

An *unqualified person* is an employee who works around exposed, energized electrical equipment but does not have any specialized knowledge or training in the construction or operation of the equipment. Such a worker never works directly on or close to the live equipment or parts. If you are in this category of worker, you should still know how to remain safe around the equipment in your work area.

If you are a *qualified person*, you need to know and follow these procedures to create an electrically safe work condition:

1. Determine all the possible sources of energy supply to the equipment.
2. After shutting off or isolating the load current, open the disconnecting device(s) for each energy source.
3. Verify all elements of the disconnecting device are open or that circuit breakers are in the fully disconnected position.
4. Apply lockout/tagout devices according to established procedures.
5. Test the voltage using only testing equipment that is in perfect working condition and that is rated for the equipment being tested.
6. Apply appropriate grounding devices as necessary in case stored electrical energy exists.

It is important to never take a shortcut—if you don't shut off the power and lock out the power source, this could lead to an arc flash that can cause you great bodily harm in just a few milliseconds.

The importance of PPE

Even when these procedures aren't followed, and an arc flash does happen, you can avoid injury by wearing appropriate personal protective equipment (PPE). You should do the following:

- Wear all arc-rated PPE, such as nonconductive head protection, safety glasses, and arc-rated face shield.
- Never wear synthetic materials made of nylon, acetate, or rayon as outer clothing—they will burn or melt when exposed to an arc flash.
- Don't wear metal objects on clothing—no metal buttons and zippers.
- Make sure your protective clothing is rated flame-resistant.

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Pests in your home

We have all encountered indoor pests at some point—and the effects of pests may be not only an inconvenience, but they could also cause serious structural damage, or even pose a threat to your health.

Termites are a pest that are active year-round, but they begin their reproductive activity in early spring. As the temperature starts to rise, watch out for developing swarms. Termites feed on dead plants like wood, and intense termite activity can cause building structural damage in as little as 6 months. If you think you may have termites, there are chemical and nonchemical treatment options that can be applied by you or an extermination professional.

Some common pests, that are found inside of homes, schools, and buildings, like cockroaches and bed bugs, have been identified by the U.S. Environmental Protection Agency (EPA) as pests of "significant public health importance." According to the National Pest Management Association, the risks from pests include the spread of disease, bacteria, and parasitic worms. The presence of certain pests can also aggravate allergy and asthma symptoms. Bed bugs feed on blood and when they bite, skin develops itchy welts that can get easily infected.

There are simple, effective ways to prevent the presence of pests. You should keep your home clean (immediately clean up spills and crumbs), regularly take out the trash, store food in tightly closed containers, and seal any cracks to the outdoors. If you already have pests, there are different baits, traps, and sprays that may be help you eliminate them.

Electrical safety: Quiz

1. The intensity of an electric shock is primarily controlled by how large the _____ is.
A. Voltage (i.e., volts)
B. Current (i.e., amperes)
C. Power (i.e., watts)

2. Most metal is considered a(n) _____because electricity flows through it easily.
A. Capacitor
B. Insulator
C. Conductor

3. According to OSHA, _____ is/are the most common electricity-related injury.
A. Muscle spasms
B. Burns
C. Death

4. When working in a damp or wet environment, the risk from electrical hazard increases.
A. TRUE
B. FALSE

Answers: 1. Current. While it is commonly thought that high voltage poses the most danger, it is actually current (the amount of electricity flowing per second) that controls the human physiological response to electric shock. **2. Conductor.** Metal is a good conductor, and that's why it is used to make wires. Wires are usually coated in an insulator, like plastic, because electricity won't flow through it. **3. Burns.** You can sustain burns when electricity flows through the tissue or bones in your body, or when your skin makes contact with a hot surface of something that is electrified. You can also be burned indirectly by the high temperature of an arc or explosion. **4. TRUE.** When skin is moist or wet, it is a better conductor of electricity than when it is dry. Therefore, you must be extra cautious when handling electrical equipment under damp conditions.

Carbon monoxide awareness for construction workers

According to the Occupational Safety and Health Administration (OSHA), inhalation of carbon monoxide (CO) is the number 1 cause of death of construction workers who breathe in chemicals. CO is a gas produced by the burning of fuel that contains carbon.

CO is odorless, colorless, tasteless gas so people may not realize they are exposed to it—but exposure to CO without proper ventilation can cause permanent neurological damage or even be fatal. Workers who operate gas-powered equipment are at risk for CO poisoning if care is not taken to ensure that the exhaust from the equipment can escape the work space. Examples of common gas-powered equipment at construction sites include:

- Gas-powered concrete saw
- Portable generators
- Portable industrial heaters
- Trowels
- Water pumps
- Pressure washers

How to keep yourself safe

Alternatives, like hydraulic saws, do not output dangerous exhaust fumes. If possible, work with equipment that does not require gas to run. If you do work with gas-powered equipment, make sure there is adequate ventilation—never let all the doors or windows be covered or closed. Note that just because a door is open does not guarantee your safety. There still may not be adequate ventilation to allow CO to escape quickly and avoid build up. Therefore, always ensure that your work space has a CO detector or that you wear a personal device that will sound an alarm when the level of the gas in the air reaches an unsafe level. If you are feeling dizzy, get to fresh air immediately.

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