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### National Institutes of Health Office of Research Services Division of Occupational Health and Safety

Providing a safe and healthy environment for employees, patients and visitors.

***“Safe science and good science go hand-in-hand.”***

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## Stand down for falls

The sixth annual National Safety Stand-Down to prevent falls in construction will be held May 6-10, 2019.

In 2017, fatal falls were at their highest level in the 26-year history of the Census of Fatal Occupational Injuries (CFOI), accounting for 887 (17 percent) of worker deaths.

A Safety Stand-Down is a voluntary event for employers to talk directly to employees about safety. Any workplace can hold a stand-down by taking a break to focus on “Fall Hazards” and reinforcing the importance of “Fall Prevention.” Employers of companies not exposed to fall hazards, can also use this opportunity to have a conversation with employees about the other job hazards they face, protective methods, and the company’s safety policies and goals. It can also be an opportunity for employees to talk to management about fall and other job hazards they see.

### Does fall protection apply to you?

We often think of fall protection in terms of fall arrest systems, but it is more than just that. OSHA requires that all floors, platforms, runways, and wall and window openings where there is a drop of four feet or more (six feet in the construction industry) need to have some type of guarding. In these cases, usually a standard guardrail system is adequate. The four foot requirement also applies to equipment that raises workers above



the ground such as order pickers, scissors lifts, scaffolding, and powered platforms.

Employers have to assess their workplaces to determine if fall hazards are present. Where such hazards exist, they must choose the best method to protect their workers and implement fall protection, whether it is a standard guardrail system, harness, or both.

### What makes falling so hazardous?

When you fall, generally you don’t think about what is happening other than the obvious – falling off something, falling down on the ground, or not quite falling, but losing your balance and slipping or tripping. Generally, a fall is the result of a progression of events.

There are three laws of science involved in a slip, trip, or fall: friction, momentum, and gravity. Friction

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## Stand down for falls *(continued from page 1)*

is necessary to maintain a grip on the walking/working surface. Remove the friction and you will slip. When you encounter an object in your walking path and are thrown off balance, your momentum (the speed at which you are moving) will cause you to trip. Gravity is the force that pulls you to the ground. Once a slip or trip is in progress, the end result is usually a fall.

### Fall protection systems

There are a variety of fall protection systems available for use.

#### Guardrail systems and toeboards

A guardrail is a vertical barrier, normally consisting of an assembly of toprails, midrails, and posts, erected to prevent employees from falling to lower levels. A toeboard is a barrier placed to prevent the fall of materials to a lower level, or to keep employees' feet from slipping over an edge.

#### Handrail and stair rail systems

A handrail is used to assist employees going up or down stairways, ramps, or other walking/working surfaces by providing a handhold for support. A stair rail protects employees from falling over the edge of an open-sided stairway.

#### Designated areas

This term refers to a space which has a perimeter barrier erected to warn employees when they approach an unprotected side or edge, and it also designates an area where work may be performed without additional fall protection.

#### Hole covers

Hole covers, guarding floor openings of at least 2 inches in size, must be capable of supporting the maximum intended load.

#### Ladder cages

Ladder cages are barriers surrounding or nearly surrounding the climbing area of a fixed ladder. The cage fastens to the ladder's side rails, to one side rail, or to other structures.

#### Ramps and bridging devices

A ramp is an inclined surface between different elevations for the passage of employees, vehicles, or both. A bridging device is a surface which spans a gap between a loading dock and a vehicle or between vehicles. It may be fixed, portable,



adjustable, powered, or unpowered and called a car plate or dockboard.

#### Safety net systems

Safety nets are designed to catch employees who have fallen off a work surface and bring them safely to a stop before they contact surfaces or structures below.

#### Personal fall arrest system

Once you know what measures your employer takes to prevent falls, find out what situations exist where the risk of falling needs to be controlled by the use of personal fall arrest systems.

A personal fall arrest system is used to stop an employee safely after a fall from a working level. It consists of an anchor, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or some combination of these.



#### What's the best choice?

Systems that prevent workers from falling to lower levels, such as guardrails, provide the best type of protection. Systems that arrest falls prevent death, but may still cause serious injuries from the arresting force. It is essential that your employer assesses your workplace for fall hazards and takes the appropriate precautions to prevent worker injuries from falls to lower levels.

#### Do your part!

Preventing slips, trips, and falls is a task that depends on many factors — most importantly — you. You might not be able to change your workplace, but you can recognize and report dangers, work to eliminate hazards, and use safety devices and equipment. Take these precautions as you work:

- Move carefully on stairs, in hallways, and work areas.
- Report hazards like poor lighting, spills, and broken stairs.
- Learn how to use ladders and scaffolding safely.
- Use guardrails on walks, runways, or platforms four feet or more from ground level.
- Use personal fall arrest systems whenever necessary, and understand how they work.
- Make sure there is a guardrail or cover for all open pits, tanks, vats, ditches, floor openings and holes.



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# Safety focus: Using cleaning chemicals

Each year millions of workers are potentially exposed to chemical hazards. Workplaces, such as schools, hospitals, hotels, restaurants, and manufacturing plants use cleaning chemicals to ensure the cleanliness of the buildings.

If you handle cleaning chemicals, you must be aware of the dangers associated with each product.



## Types of cleaners

The Environmental Protection Agency (EPA) defines cleaners, sanitizers, and disinfectants as follows:

- Cleaners remove dirt through wiping, scrubbing, or mopping.
- Sanitizers contain chemicals that reduce, but do not necessarily eliminate, microorganisms such as bacteria, viruses and molds from surfaces. Public health codes may require cleaning with the use of sanitizers in certain areas, like toilets and food preparation areas.
- Disinfectants contain chemicals that destroy or inactivate microorganisms that cause infections. Disinfectants are critical for infection control in hospitals and other healthcare settings.

Cleaners, sanitizers, and disinfectants serve different purposes, and it is important to choose the least hazardous cleaning chemical that will accomplish the task at hand.

## Potential health problems

Many factors influence whether a cleaning chemical will cause health problems. Some important factors to consider include:

- Chemical ingredients of the cleaning product;
- How the cleaning product is being used or stored;
- Ventilation where the cleaning product is used;
- Whether there are splashes and spills;
- Whether the cleaning product comes in contact with the skin; and
- Whether mists, vapors and/or gases are released.

Chemicals in some cleaning products can be irritating to the skin or can cause rashes. Cleaning products that contain corrosive chemicals can cause severe burns if splashed on the skin or in the eyes.

Mists, vapors and/or gases from cleaning chemicals can irritate the eyes, nose, throat, and lungs. Symptoms may include burning eyes, sore throat, coughing, trouble breathing, and wheezing.

Chemicals in some cleaning products can cause asthma or trigger asthma attacks. Some cleaning products contain

hazardous chemicals that can enter the body through skin contact or from breathing gases into the lungs.

Mixing cleaning products that contain bleach and ammonia can cause severe lung damage or death.

## Green cleaning chemicals

Many employers and building managers are purchasing “green” cleaning chemicals with the expectation that green cleaning products are safer for workers and the environment. However, placing the word “green” in a name or on a bottle does not ensure that a chemical is safe. Employers should review the cleaning chemicals they purchase, including green cleaning products, to understand their health and safety hazards. Employers should choose the least hazardous cleaners.

## Safety Data Sheets (SDSs)

Your employer will have SDSs readily accessible for all the hazardous cleaning products and chemicals used at your facility. The information contained in the SDSs ensure that you are properly protected. SDSs include the following important information:

- Hazardous chemical ingredients;
- Symptoms and health problems that may be caused by the chemical ingredients;
- First-aid measures in case of exposure;
- Recommended personal protective equipment, such as gloves, safety goggles, or respirators; and
- Proper procedures for cleaning up spills.

## Safe work practices

You must be trained in safe work practices before using hazardous cleaning chemicals. Safe work practices regarding use of hazardous cleaning chemicals include:

- Avoiding mixing cleaning products that contain bleach and ammonia;
- Knowing which cleaning chemicals must be diluted and how to correctly dilute the cleaners they are using;
- Receiving training on the use, storage, and emergency spill procedures for cleaning chemicals;
- Reviewing the proper protective equipment needed, such as gloves and goggles;
- Checking that all containers of cleaning products and chemicals are labeled to identify their contents and hazards;
- Using ventilation systems as needed during cleaning tasks to allow sufficient air flow and prevent buildup of hazardous vapors; and
- Washing up after using cleaning chemicals.

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## How do you cope with anger?

*"Anger is never without a reason, but seldom with a good one."*

Benjamin Franklin  
1706-1790

It's normal to feel angry from time to time. Anger has many causes. Another person (a careless driver) may make you angry or a situation (waiting in a line) may make you angry. You might also be angry because of your own personal problems that cause you to brood or grow anxious because of them.

Anger that builds up within you can be dangerous. You need to be able to manage and express anger in healthy ways. People deal with anger in several ways. They may express their anger, suppress it, or calm themselves.

Expressing your angry feelings in an assertive, non-aggressive manner is the healthiest way to express anger. The best way to do this is to understand what your needs are and how to get them met in a respectful and courteous manner. You don't have to be pushy or demanding. Patience and kindness can work more effectively.

Suppressing your anger means you hold it in. You ignore it or think of something else. The trouble with this type of response is that the anger remains within you and may be exhibited in health issues like high blood pressure or anxiety. You may also get back at people indirectly using passive-aggressive behavior, being highly critical of others, or being cynical.



Calming yourself is another way you may deal with anger. You control not only your external response, but your internal response as well. You do this by composing yourself and breathing deeply to lower your heart rate.

Dealing with anger effectively means reacting appropriately before you communicate your frustrations and respond aggressively.

When you're upset, consider whether your anger has caused you to exaggerate or misinterpret a situation. Think about your role in a situation and any expectations you may have had that could have caused you to be upset. Even if you're still angry, you may be able to adjust your behavior and/or expectations in the future.

Other strategies for dealing with anger include:

- Trying to see a situation from another person's perspective;
- Talking about your anger with a supportive friend or mental health professional; or
- Finding humor in a tense situation.

Failing to cope with anger appropriately can lead to serious mental health issues like anxiety and depression.



***Failing to cope with anger can be detrimental to your overall health.***