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SAFETY TRAINING

Delivering Safety Training to Millennials - Part 2

In part one of this three-part series on training millennials, we discussed key characteristics of millennials. Part two focuses on ways eLearning can be used to reach and teach millennial learners.

It should come as no surprise that millennials are multi-focused and bounce from one device, media type and topic to the next quickly and often. They want information that is concise and available on demand.

5 Things You Can Do to Grab & Keep Their Attention

- 1. Keep It Brief:** You have a limited amount of time to capture the attention of any trainee, let alone a millennial. Focus on the essential information that will help the learner understand and do their job safely.
- 2. Keep It Real:** Use real life scenarios, stories and examples, and don't forget to keep the material current.
- 3. Plug Into their Values:** As a socially conscious generation, millennials are much more likely to believe in, work for, and support socially conscious leaders and organizations. You can also appeal to millennials by using diversity in your narratives and visuals.
- 4. Make It About Them:** One of the best ways to engage millennials is to make training about them personally. Ways to do that:
 - Ask them which topics interest them and how they prefer receiving information.
 - Incorporate familiar and relatable images, characters and stories into the materials.
- 5. Use Gamification:** Gamification, or use of common game playing elements, design and thinking to engage and motivate

Read More on Page 2 ▶

learners, is very effective with millennials. Gamification leads to a change in behavior and increases retention. Examples:

- Gamification allows learners to experience the consequences of their safety choices in a safe and constructive environment.
 - A basic example would be asking a learner to identify four unsafe activities at a virtual construction site.

- Games can be set up in the form of competitions with other departments, locations, or even as pitting learners against themselves, all of which is highly motivating.
 - Accomplishing a competitive goal collectively can also foster team building and trust between co-workers.

In the final part of this series we will look at training delivery methods. ❖



- Gaming applications serve as powerful feedback mechanisms that guide learners through the training course in a compelling and powerful way, e.g., onscreen notifications, pop-ups for definitions, a help button, or kudos for completing a task are all examples of feedback.
- Gaming programs satisfy the millennial's unquenchable need to know upfront about how much time a task involves.
 - A simple status bar showing the minutes left in a course or a tally box showing the number of items left to find in a challenge can alleviate the “when are we going to get there” stress that often comes with online training.

FATALITY REPORT

Death by Strangulation

A cattle farmer died from strangulation that resulted when his loose clothing caught in the rotating shaft of a conveyor belt.

The fatality occurred while the 53-year-old victim was in the feed shed adding cracked corn to ground corn that was then taken by conveyor belt to the outside feed bunk and a herd of 182 beef cattle.

The conveyors and controls in the shed were set up in a way that required the farmer to crouch down and crawl under the feed bunk conveyor several times during each feeding cycle. It was while ducking under the three-foot-high conveyor that the collar of his coat became caught in the exposed rotating shaft. The rotating shaft was one of many unguarded and dangerous pieces of equipment at the farm.

Final Word

This victim was one of two (in 12 days) who died when his clothing became entangled in exposed rotating silage conveyor pulley shaft ends. The two nearly identical incidents illustrate why farmers and other lone workers must take extra precautions to ensure their safety including wearing appropriate clothing and keeping a two-way radio or cell phone within arm's reach. Clothing and accessories that could become tangled in equipment, including frayed or loose-fitting clothing, dangling drawstrings or jewelry should never be worn.

Source: Iowa Fatality Assessment and Control Evaluation (FACE) Program, Case Report: 041A060



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POLICIES AND PRACTICES

Machine Guard Inspection Checklist

One of your key responsibilities in preventing machine injuries is to conduct regular inspections to ensure that appropriate machine guards are in place and working the way they're supposed to. Here's a Checklist you can use to conduct these inspections listing the basic items to check. This is a general, technology-neutral Checklist. So, while you shouldn't subtract anything, you may want to add items to check based on the specific kinds of machines and methods of guarding you actually use at your workplace. Download an editable version of this checklist at www.SafeSupervisor.com.

Building _____ Room _____ Supervisor _____

Date _____ Inspection Performed by _____

GENERAL REQUIREMENTS				
REQUIREMENT	YES	NO	NA	COMMENTS
Do guards meet minimum OHS/OSHA criteria?				
Do guards prevent hands, arms and other body parts from making contact with dangerous moving parts?				
Are guards firmly secured and hard to remove?				
Do guards ensure that no object falls into moving parts?				
Do guards allow for safe, comfortable and relatively easy operation of machine?				
Can machine be oiled without removing guard?				
Is there a system for shutting down machinery before guards are removed?				
Are guards provided for all hazardous moving parts of machine including auxiliary parts?				
POINT OF OPERATION REQUIREMENTS				
REQUIREMENT	YES	NO	NA	COMMENTS
Is a point-of-operation guard provided for machine?				
If so, does it keep operator's hands, fingers, body out of danger area?				
Is there evidence that guard has been removed or tampered with?				
Are more effective, practical guards possible?				
Is it possible to change machine in a practicable way that would eliminate point-of-operation dangers completely?				
POWER TRANSMISSION APPARATUS REQUIREMENTS				
REQUIREMENT	YES	NO	NA	COMMENTS
Are there any unguarded gears, sprockets, pulleys or flywheels on apparatus?				
Are there any exposed belts or chain drives?				
Are there any exposed set screws, key ways, collars, etc.?				
Are start and stop controls within easy reach of operator?				
If there's more than one operator, are separate controls provided?				

SAFETY WORKPLAN

Machine Guards

If your crews work near machines, you better be sure there are guards in place to protect them. Here's a look at what machine guards are all about and the 4 key roles supervisors play in implementing a company's machine guarding program.

What's at Stake

Machines are the Tyrannosaurus Rex of work hazards. They mangle flesh, crush bones, sever fingers, amputate limbs and end lives. And there are so many ways for your workers to suffer a machine injury such as by getting:

- Hit by the part of the machine that presses, punches, cuts, shapes, etc.;
- Trapped between moving parts;
- Their limbs, hair, clothes or jewelry entangled;
- Burned or electrocuted;
- Hit by an object thrown from the machine.

4 Steps to Take

Your company will rely on you to do 4 things to implement its machine guarding program:

Step 1: Help Assess Risks

Work with your safety director to do a hazard assessment of each machine in the workplace:

When: Do the hazard assessment:

- When the machine is first installed;
- At least monthly or more often if that's what the manufacturer recommends;
- After injuries, near misses and other incidents;
- After the machine malfunctions and is moved.

What: Cover the 4 areas where machine injuries are most likely to occur:

- **The point of operation**, or machine part where the cutting, shaping, boring, forming or other operation is done on the material;
- **Moving parts**, including flywheels, pulleys, belts, couplings, chains, gears, conveyors, feed mechanisms, etc.;
- **In-running nip points**, or spaces between rotating and/or slowly-moving parts; and
- **Primary power source**, including engines, turbines and other equipment used to power the machine.

Step 2: Help Select Guards

The principle means of preventing machine injuries is use of guarding devices. Your challenge is to decide which guards to use to control risks you identify in your hazard assessment. There are 4 basic types of machine guarding methods you can use alone or in combination, including:

TOOL

Use the Checklist on page 3 to carry out your own inspections.



- **Physical barriers** that block workers' access to the danger area, which may include:
 - *Fixed guards* are a permanent part of the machine, such as gates;
 - *Adjustable guards* can be flexed in size depending on the materials worked on;
 - *Interlocked guards* automatically stop the machine when a tripping mechanism is activated until the guard is back in place; and
 - *Self-adjusting guards* in which the size of the opening in the barrier adjusts to accommodate the stock.
- **Automatic stopping devices**, which may include presence-sensing or pullback devices;
- **Automatic or robotic feeding and ejection** so that materials don't have to be manually fed into and taken out of the machine; and
- **Location/Distance guarding**, or placing machines away from work areas and/or in locations that are impossible or difficult for workers to get at.

Step 3: Inspect Guards

Once machine guards are in place, they must be properly and regularly inspected. Inspection details and schedules will depend on the specific machines and guards used. But there are also general things to check as part of any machine guard inspection, including verifying that guards:

- Are effective in keeping the worker's body, hair and clothing from making contact with moving parts;

Continued on Page 7

Safety Guards: Show Your Work Crews

Instructions: Here's a Handout explaining machine guarding that you can distribute to your workers as part of the general machine safety training you provide to your work crews. Although the Handout deals with a particular type of machine—namely, mechanical power presses—it deals with machine guarding in a general way so that you can use it even if you don't have presses at your own workplace.

Is This Machine Safely Guarded?



Do you think it's a good idea for the worker in this picture to be sticking his hand into that machine?

Sticking your hands into a machine is an excellent way to lose your fingers and maybe your whole hand.

The good news is that the machine in this picture, a mechanical power press, has a guard to prevent workers from reaching inside.

The bad news is that the guard obviously isn't narrow enough to keep a worker from reaching in.

So the story of why this photo exists should come as no surprise. A government safety inspector took the photo. And why was he at the worksite? Answer: He was responding to an actual incident in which a worker reached through the guard and into the machine and got his hand chopped off. The sad thing is that the accident wouldn't have happened if the guard had been narrow enough to prevent him from reaching in.

WHAT'S AT STAKE?

How Power Press Injuries Happen

Power presses are machines that shear, punch, stamp, form, or assemble metal or other material by means of tools or dies attached to slides.

Of course, what works on metal works equally well on human flesh. That's why power presses cause so many workplace amputations and crushing injuries each year. 4 ways you can get mutilated by a power press:

1. You can get caught by the tool and die.
2. You can get trapped by other moving parts of the machine.
3. You can get hit by a metal object launched by the machine after the tool breaks down.
4. Your limbs, clothes, hair, or jewelry can get entangled in the rotating parts of the machine.

HOW INJURIES ARE PREVENTED

4 Most Common Machine Guards

The principal method of preventing power press and other machine injuries is to use machine guards, or barriers that block workers' access to the danger areas. There are 4 basic kinds of machine guard:

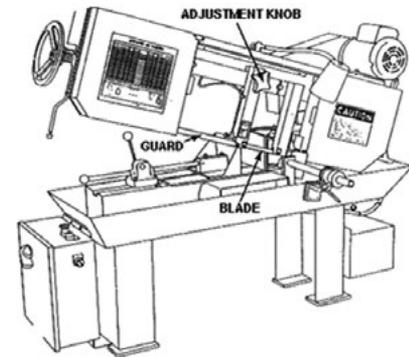
Guards are physical barriers that block workers' access to the danger area. There are 4 basic kinds of guards:

1. Fixed guards that are a permanent part of the machine.



(Note: The machine guard in our "Spot the OSHA Violation" quiz above is also a fixed guard; but its openings are too wide to keep a worker from reaching into the guard and making contact with the point of operation.)

2. Adjustable guards that allow for flexibility in accommodating different sizes of stock fed into the machine.



3. Interlocked guards that automatically shut off or stop the machine when a tripping mechanism is activated and keeping it stopped until the guard is put back in place.



4. Self-adjusting guards in which the size of the opening in the barrier adjusts to accommodate the stock, e.g., enlarges to allow larger stock to enter.



SAFETY WORKPLAN: Machine Guards, Continued from Page 4

- Are firmly secured so that workers can't easily remove them;
- Are free of jagged edges, shear points, unfinished surfaces and other hazards; and
- Don't keep workers from doing the job quickly and comfortably—if they do, workers may try to remove them.

Also make sure your inspection covers:

- Guards used at the point of operation;
- Guards at the power source;
- Each continuous line of shafting;
- Pulleys;
- Ropes;
- Belts;
- Chain drives;
- Gears;
- Chains; and
- Sprockets.

Step 4: Provide General Safety Training

General Training: You need to provide general machine safety training to any members of your crew that work near machines or are otherwise at risk of machine injuries. At a minimum, workers need to walk away with an understanding of:

TOOL

Use the Fatality Report on page 2 to capture workers' attention and drive home the message that machine safety is literally a matter of life and death.

Give your workers the Mechanical Power Press Safety Handout on page 6 if there are power presses at your workplace.

- The hazards posed by the machines at your workplace;
- How machine injuries can happen;
- The guards in place to control the hazards;
- The need to never remove or tamper with machine guards;
- The kind of clothing to wear—and not wear—to avoid machine injury;
- The PPE to use when working near machines; and
- Other steps they must take to protect themselves.

Technical Training: Workers who actually operate machinery will also need technical safety training for each machine they use. Such training must be delivered by somebody who's qualified to operate and understands the hazards associated with the machine. Thus, while being a supervisor qualifies you to provide general safety training, it may not be adequate for providing technical training. ❖

SHOP TALK

Using Movement to Energize Your Safety Presentations By Barry R. Weissman, REM, CSP, CHMM, CHS-III

Delivering safety training to an audience can be unnerving. While understandable, speakers' anxiety can undermine effectiveness as a trainer. The key to overcoming it is to harness it to energize your presentation. To paraphrase a famous speaker, "the idea is to get all the butterflies in your stomach moving in the same direction." One way to do that is by incorporating movement into your presentation style.

1. Movement around the Stage

Nervous presenters tend to hide behind the podium, squeezing it tightly with both hands. Confident presenters move about the stage with grace which makes them appear relaxed, confident and approachable.

Advice: Start your presentation at the lectern, podium or other fixed point you're using, but

don't stay there. Walk to one side of the space and make eye contact to engage audience members as if you were talking to them individually. Then move to the center and other side while doing the same.

2. Gestures

Gestures add action to your words. They don't have to be wild. Just relax as you make your presentation and give your hands something to do. For example, if you're making 3 points, raise your hand and count off each point sequentially with your fingers.

Advice: Watch videotapes of effective speakers like President Kennedy. Observe their gestures and how they relate to the words they say. Don't try to copy them; develop your own style of incorporating gestures into presentations.

3. Body Language

How you stand, the tilt of your head, the position of your arms and legs are all forms of body language. In fact, body language may be so loud that it drowns out your verbal message. If you ask for a raise and your boss is sitting behind the desk, arms folded across the chest, shaking the head sideways and avoiding eye contact, you pretty much know the answer is no.

Advice: To start, you need to be aware of your body language and what it's saying to your audience. As you get more experience, work on using body language to reinforce your safety message.

Bio: Barry R. Weissman is a veteran and now retired safety director reachable at: 250 W. Placita de los Anillos, Green Valley, AZ 85614 ❖

SPOT THE SAFETY VIOLATION

Is This the Kind of Respiratory Protection You'd Want Your Workers to Use?



Assuming it doesn't suffocate him first, the makeshift Saran wrap face protection leaves the worker in this photo totally exposed to hazardous dust. What makes the picture especially irksome is that use of Saran wrap is an indication that somebody at the site recognized that the grinding work exposed the worker to respiratory hazards, yet nobody outfitted him with the proper respirator.

Moral: While it may work for sandwiches, Saran wrap is totally unsuitable as a means of respiratory and face protection. ❖

By the Numbers

So many of us like to add a bit of sparkle and bang to our summer celebrations by setting off fireworks. Before you light them up take a minute to remember these three fireworks facts.

1. 1,200° F, that's how hot the tip of your average sparkler burns; hot enough to melt glass and char flesh.
2. Kids 5-14 years old are most at risk of fireworks injuries.
3. More than 80% of patients sent to ERs with fireworks injuries got hurt using the fireworks the law allows them to use – just because it's legal doesn't mean it's safe.

To keep your star-spangled celebrations safe here are some tips:

- Use fireworks outdoors only.
- Obey local laws. If fireworks are illegal, don't use them.
- Always have water handy. (A hose or bucket).
- Only use fireworks as intended. Don't try to alter or combine them.
- Never relight a "dud" firework. Wait 20 minutes and then soak it in a bucket of water.
- Use common sense. Spectators should keep a safe distance from the shooter and the shooter should wear safety glasses.
- Alcohol and fireworks don't mix. Have a "designated shooter."
- Only persons over the age of 12 should be allowed to handle sparklers of any type.
- Never use homemade fireworks of illegal explosives: They can kill you!
- Report illegal explosives to the fire or police department.

COMPLIANCE CALENDAR

Legally Required 6-Month Inspections

July 1 marks the official 6-month point of 2017. So, if your annual safety inspection schedule starts on January 1, you need to ensure that all bi-annual inspections for 2017 have been completed. At a minimum, that should include all inspections that must be done at least once every 6 months under OHS and OSHA. Here's a partial list:

General

- Testing of rubber and other insulating gloves to verify their effectiveness.
- Testing of equipment grounding conductors to verify continuity.*
- Testing of receptacles and attachment caps or plugs to verify attachment and connection.*
- Inspection of standby cranes and derricks.
- Inspection of jacks for constant or intermittent use at one place.
- Visual inspection of building fire escapes, exits, stairways and fire protection equipment.
- Checking weight and pressure of refillable containers of fixed fire extinguishing systems (maintenance required if container shows either > 5% loss in net content or weight, or > 10% loss in pressure).
- Weighing of factory charged non-refillable containers of fixed fire extinguishing systems with no means of pressure indication (and replacing containers that show > 5% loss in net weight).

Facility-Specific

- Inspection of mechanical ventilation systems used at health care facilities.
- Inspection of gauges and meters used in diving operations (unless manufacturer instructs otherwise).
- Inspection of blades of booster or auxiliary fans in underground coal mines.
- Inspection of shaft and hoisting ropes used at mines.

* Required if you use cord sets and receptacles that aren't a part of the permanent wiring and/or cord- and plug-connected equipment that must be grounded. ❖