Division of Safety & Hygiene

Safety Leader's Discussion Guide 2010

Our Mission: To help Ohio workers and employers prevent workplace injuries and illnesses.

Ohio | Bureau of Workers' Compensation

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Dear safety leader:

Keeping a safe and healthy work force at your organization is crucial. Maintaining high standards of safety and occupational health in the work environment directly impacts your workplace and the community. This standard positively influences the value a society gives to maintaining higher standards of living.

As you know, safety is communicative. For example, what employees learn about safety in the workplace reflects positively on safety in their day-to-day activities outside their workplaces. Because of preventative safety efforts, their homes, children's playgrounds, home workshops and garages are safer.

Cultivating and constantly improving the safety culture in your workplace not only benefits your work force, but it is one of the greatest legacies we leave future generations. While occupational safety and health made great strides over the past few decades, there is much more to do.

Today it is hard to imagine that we would accept the risks associated with certain types of jobs that once were acceptable. Fifty years ago it was common for our grandfathers to expose themselves to unacceptable risks and hazardous conditions in the workplace. Since then, occupational safety and health has made strides in injury prevention and creating safer workplace conditions. By keeping up the pace, we envision hazard-free workplaces for our children and future generations.

Providing consistent and effective safety training for your employees serves two purposes:

- It better equips your employees with the knowledge and tools they need to maintain a safe workplace and prevent injuries;

- It emphasizes the value your organization gives to its most previous resource - your workers.

By addressing a variety of occupational safety and health issues, the *Safety Leader's Discussion Guide 2010* will help you achieve these purposes. Some topics are general to most industry sectors. Others are specific to certain areas. We hope you find the guide's topics helpful for your organization's safety objectives.

As the safety leader of your organization, you have a partner with BWC. We are ready and willing to help you and your organization keep your employees healthy and safe. We wish you success with your efforts and look forward to working with you in 2010.

Sincerely,

Ibraheem (Abe) Tarawneh, Ph.D.
Superintendent, BWC's Division of Safety and Hygiene

P.S. Don't forget BWC's Ohio Safety Congress & Expo, March 30 through April 1, at the Columbus Convention Center.

Electrical safety

by Warren K. Brown

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Before you begin

- To understand electrical safety and the sequence of topics, review the material as well as the resources.
- Make a list of examples of electrical hazards from your home, office and the workplace.
- Display a few items such as a portable ground fault circuit interrupter (GFCI), an extension cord, a lockout lock and toolbox-safety talks.

Introduction

Electricity is at home, at work and in our recreational areas. It provides the energy that makes many of our tasks much easier and life more pleasant. It powers machinery, provides heating and cooling, energizes lights, pumps our water and runs home and office equipment. When used correctly, electricity essentially goes unnoticed. But, if something goes wrong, there may be injuries, death, fires and costly equipment and building damage. We will discuss:

- Basic electricity concerns;
- How we can get into trouble with electricity;
- How to avoid electrical hazards.

Discussion

Each year, there are more than 30,000 non-fatal electrical injuries, and more than 411 people die from electrocution. Electrical problems cause approximately 25 percent of fires. People could have avoided most of these incidents.

To organize the efforts of bringing electricity into society, code organizations began writing codes to avoid undesirable consequences. Underwriters Laboratories and the National Fire Protection Association (NFPA) are examples of these code organizations. In addition, they make the use of electricity safer.

Definitions

To understand electricity, it is important to know some basic definitions.

- **Current** - Measured in amperes, it is the movement of an electrical charge.
- **Resistance** - Measured in ohms, it is the opposition to current flow.
- **Voltage** - Measured in volts, it is the measure of electrical force.
- **Conductors** - They are materials with little resistance to electrical current flow.
- **Insulators** - They are materials with high resistance to electrical current flow.
- **Grounding** - It is a conductive pathway that permits electrical current flow to the earth. This is part of the electrical safety protective system.
- **Shocking current** - It is an electrical current that passes through a body part. The shock's severity depends on the voltage, amperage and resistance. The greater the current, the greater the shock.
- **Arc flash/blast** - This is the resulting flash and pressure wave when an electrical fault occurs. The temperature may approach 35,000 degrees Fahrenheit and molten components may cause serious injuries.

When the human body becomes part of an electrical path or circuit, injuries may occur. These include shock, burns, nerve/organ damage, loss of vision and death. In addition, other secondary results such as falls may happen.

An electrical shock's severity depends on the quantity of the current, the electricity's path through the body and the length of time the current passes through the body.

Electricity that is out of control may result in fire, explosions and equipment damage. The distance from an arc/blast along with enclosure and personal protective equipment determine how it will affect the body.

Group action

- Ask the participants to identify root causes of electrical incidents. They may include unsafe equipment installations, environmentally induced concerns and work practices.
- Ask the participants to identify key electrical safety considerations related to the equipment their facility uses. Their answers should include those listed below.

Insulation

Insulation protects workers from direct contact with energized equipment. Check the wiring for intact insulation. Make sure the wiring methods protect the insulating properties from damage. For example, you can use conduit for protection or it could be the wiring that is behind the drywall in your house.

Short circuits

Short circuits in equipment may result in electrically energized equipment. The worker who touches this equipment may become part of the path to ground and may suffer an injury or death. If there is damage to an electrical device, have a qualified electrician check it to ensure there are no electrical faults.

Grounding

Grounding is an important safety issue. It ensures exposed metal equipment connects to a low resistance electrical path to ground. If the insulation fails, the fault protection will operate to protect the worker from an electrical shock.

You must appropriately enclose exposed current-carrying devices to prevent inadvertent contact and protect from an arc flash/blast. Such a blast could result in bodily injury or equipment damage.

List

Ask the participants to develop a list of do's and don'ts for electrical safety. Write their responses on a flip chart or a white board. To compare here are examples.

Do's

- The cord plugs should match the receptacle.
- Trained and qualified electricians should do any electrical repairs.

Don'ts

- Don't use cords in water; hot or exposed mechanical environments could damage the insulation.

Ask the group members to identify the types of emergencies that could occur as a result of an electrical incident and the actions they should take. Here are examples.

- If there is a fire, call trained firefighters before you attempt to extinguish it. Only attempt to extinguish a fire if you have fire-extinguisher training.
- If a person is hurt from electrical contact, summon medical help first. Then, perform the levels of first aid your training allows you to do.

Group action

To look for electrical hazards, ask employees to do a walk-around inspection of their work areas. Schedule time for a group discussion of their findings and the solutions they proposed for each identified concern. Conduct a follow-up inspection to verify there is corrective action.

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In addition, he is a National Safety Council Distinguished Service to Safety award recipient, and he is serving a six-year term on the board of directors for the Institute for Safety and Health Management. Brown also serves on the board of directors for Dayton's Miami Valley Safety Council and he is past president of the Ohio Valley Section of the American Industrial Hygiene Association.

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References

Publications

- *National Safety Council (NSC) Accident Prevention manual*
- National Fire Protection Association National Electrical Code (NFPA 70)
- Occupational Safety and Health Administration 29CFR 1910 Subpart S
- *ASSE Safety Professionals Handbook – Technical Applications*

Slide presentation

- OSHA's Electrical Safety PowerPoint presentation

Web sites

- Toolbox Safety Talks - http://safetycat.com/
- National Institute of Occupational Safety and Health (NIOSH) — Electrical Safety http://www.cdc.gov/niosh/topics/electrical/
- University of Vermont- http://siri.uvm.edu/

Slips, trips and falls in nursing facilities

by Theresa Womeldorf

2

Before you begin
Review your organization's safety program. Before leading the discussion, research the discussion questions about slips, trips and falls.

Introduction
Who would think that the worst injuries for nursing facilities are falls. But, why is it falls rather than back injuries?

We make a greater effort to prevent back injuries, and we teach ergonomics with many versions of no-lift policies. These injuries are decreasing except for those based on an important variable – the resident.

To prevent an incident, the resident usually walks with a one-person assist using a gait belt to help the resident's balance. But, that resident may at any time become weak, lose his or her balance, become belligerent and/or pull away.

Now think about the workplace. A nursing home is like a home with normal functions except it has many employees doing overlapping tasks.

Discussion
First, let's look at the kitchen and its floor surface. Here are questions you may ask.

Q: Is it the slip-resistant kind?
A: Yes.

Q: What about the facility's footwear? Is it the slip-resistant type?
A: Yes.

Q: Is there water on the floor occasionally or a little coffee, milk or even a small piece of lettuce?
A: Yes, there is – at least every shift.

Q: Can you wipe everything up?
A: No.

Q: With every wipe up you need to sanitize your hands, but is that realistic?
A: No.

Q: Does everyone know the dangers?
A: Yes, but they may not believe they are dangers.

After reviewing these questions, how can we make the workplace safer in a multi-task, multi-person department? The answer is continual teaching with demonstrations and correcting the behavior.

For example, the dish room is the most dangerous area with its water splashes and disposal of food products. This is especially true because of the tight area where most dishwashers are located.

Ergonomist
If you need to evaluate a work area, you may contact a BWC ergonomist. The ergonomist may observe the area for workers' bending, twisting and turning movements as well as splashing. In addition, an ergonomist may evaluate any heat-producing equipment.

To better understand the area's work tasks, the ergonomist may review the work flow and eliminate the areas where each employee does the work his or her own way. For example, a dish-room makeover may be the answer. But, it may not be affordable due to space issues.

To make a small dish room safer, there are many ways you can alter the room to better organize tasks and room equipment.

Work areas
Walking from the kitchen onto tile or a smooth surface may cause a worker to slip and fall. Resident rooms pose similar hazards with spots of water and powder on the floors. In addition, too many items to work around in a room may make it difficult to recognize potential dangers.

Showers are as dangerous as a person walking from the kitchen wearing wet shoes. To keep from slipping in a shower, wear slip-resistant soles and wipe your feet on a small mat outside the shower.

Hallways that transition from carpet to tile can be hazardous. This is especially true if a worker cleans the carpet or wet buffs it because the worker may leave a mist of wetness on his or her shoes.

Workers use laundry areas and dirty utility rooms to rinse out soiled linen. These areas may have water spots on the floors that can be hazardous.

In addition, plumbing, climbing, snow removal and general-maintenance tasks may expose a maintenance person to areas of concern.

Nursing home employees work in areas such as activities, social services, therapy, consulting and an office environment. They walk in every area of the nursing home as well as the employee-dining area. Because there are daily spills, the dining room usually has a smooth surface floor for ease of cleaning.

Group action
Are nursing facilities dangerous places to work? Yes. To prevent workplace accidents and occupational diseases, staff must keep their eyes open for safety hazards.

Teach staff members how to read wet floor signs and to immediately clean up any spill. Employees work at a fast pace. While they focus on the tasks of the day, they can easily overlook a spot on the floor until they slip on it.

Nursing facilities mop one-half of the floors at a time to allow for travel on one side. It is imperative employees look for the arrows that show which side of the floor is wet. Remind and correct an employee who walks on the side that is wet.

Conclusion: Need safety committee
With many people working together in the same areas, it's hard for the left hand to know what the right hand is doing. It takes years of practice, correction and a safety committee. Your safety committee members will brainstorm possible solutions that will help your workplace prevent slips, trips and falls.

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Three-point technique

by Patric E. McCon

3

Before you begin
This talk is appropriate for forklift operators, truck drivers and operators of other equipment. For demonstration purposes, please have a piece of mobile equipment available to help make your discussion more effective.

Introduction
Slips trips and falls account for 20 percent of work injuries. This totals 13 million injuries per year. Climbing into and out of mobile equipment presents a common exposure to slips and falls. Inclement weather, greasy or broken steps, grab handles and the rush of the work day make this a serious exposure.

Discussion
The three-point technique is a simple and effective way to minimize the risk of falling. Use this technique if you are entering the cab of a forklift, climbing onto the bed of a truck or climbing into/onto any other piece of equipment.

When you are climbing, at least three limbs should always be in contact with the equipment. This could be two hands and one foot or two feet and one hand. Of course, to use this technique the climber must be facing the equipment. You cannot have three points of contact if you are jumping off or sliding out of the seat.

Before you enter the equipment, place any objects on the seat – log books, production schedules, bar-code scanners, etc. Do the same when you exit. Leave the objects on the seat until you are off the equipment. In addition, make sure you look before you exit.

Other points to remember, include:

- Wear footwear appropriate to the job;
- Keep the steps and grab rails clean;
- Make sure the lights are working so you can see where you are climbing;
- Do not use the steering wheel or control handles as handholds.

Action items

- To reinforce the lesson, ask each participant to demonstrate the three-point technique.
- Your equipment supplier, trade association or insurance company may have three-point contact stickers to apply to your equipment. These will serve as helpful reminders.
- Encourage employees to remind each other to safely mount and dismount equipment.

Summary
Most slip and fall injuries are minor. However, 15,000 people die each year as a result of these incidents. Old habits are hard to break, but properly climbing onto and off of mobile equipment may prevent you from becoming a slip and fall statistic.

References

Publication
Department of Health and Human Services (National Institute of Occupational Safety and Health) Publication No. 98-117 - *Preventing Injuries and Deaths from Skid-Steer Loaders* http://www.cdc.gov/niosh/skidalt.html

Web site
http://www.lni.wa.gov/safety/topics/atoz/injuryfs/pdfs/fallfromvehicle.pdf

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Talking about shift workers

by Mike Ely

4

Before you begin
Review the answers to these questions:

- Does your company have shift work?
- Take a look at your OSHA 300 and first-aid logs. Do you have more injuries during the second and third shift?
- Is your production and quality control lower during the second and third shift?
- Have any of your employees had automobile accidents driving to or from work on the second or third shift?
- How does the company deal with shift work and managing workers on second and third shift?

Introduction
America is a 24-hour a day, seven-day a week society. This results in many workers working shifts other than the normal hours of 9 a.m. to 5 p.m. This leads to problems with worker safety and health in the short and long term.

However, you can reduce the impact of working shift work. You can take the measures you need to improve worker performance and safety. The trick is to understand what to do and have a plan to successfully deal with the stress of shift work.

Discussion
We live in a society where we work 365 days a year. To meet the demands of modern life, more than 15 million Americans work a night shift at some time during the year. It is very difficult to adjust to working nights or rotating shifts, and it causes problems for the worker.

Our bodies adjust to a circadian rhythm. This is a major body rhythm with regular ups and downs during the 24-hour day. Most people feel most active and alert at about 4 p.m. to 6 p.m. when the body's ability to produce energy from food is at its highest. They feel sleepiest at 4 a.m. to 6 a.m. when the body is producing its lowest levels of energy.

There are different types of people. For example, some are morning people and some are night people. But for the majority, the day-work and night-sleep situation is best for performance and safety.

Health effects
The shift worker is trying to sleep when his or her body tells the worker that he or she should be awake and working. This leads to poor sleep, fatigue and possible long term health effects for the worker.

Worker fatigue shows up as a causative factor in many serious incidents. For example, the BP refinery explosion in Texas City, Texas, killed 15 persons and injured another 180. In addition, many interstate trucking accidents frequently result from driver fatigue. Numerous studies show shift work causes medical conditions such as digestive conditions, an increased incidence of heart disease as well as certain cancers.

It is true that shift work impacts workers' safety. Second-shift workers are 15.2 percent more likely to be injured than first-shift employees. Third-shift workers are 28 percent more likely to be injured. Studies show an increased risk at night when the circadian rhythm is low and fatigue builds up.

Reducing risk
What can you do to reduce the shift worker's risk? You cannot change the circadian rhythm, but you can address worker fatigue and reduce it. First, you can get enough good sleep. It is hard to sleep during the daytime when

the rest of the world is active, and your body is telling you to be active. Most workers need a minimum of at least six hours of deep sleep, but most need more sleep than that.

Here are techniques to help ensure you get the good sleep you need to avoid fatigue at work.

Bedtime rituals

- Take a warm bath or soak in a hot tub.
- Lower the room temperature because a cool environment improves sleep.
- Do not activate the brain by balancing a checkbook, reading a thriller or doing other stressful activities.

Light

- Darken the bedroom and bathroom.
- Install light blocking and sound-absorbing curtains or shades in the bedroom.
- Wear eyeshades.

Sound

- Wear earplugs.
- Use a white-noise machine to block other noises. An example is a fan.
- To absorb the sound, install carpeting and drapes.
- Unplug the telephone.

Food

- Avoid caffeine less than five hours before your bedtime.
- Do not stop for a drink after work. Although it may bring the feeling of relaxation, alcohol disturbs sleep.
- Eat a light snack, and avoid too much sugar or fats before bedtime. Do not go to bed too full or too hungry.

Exercise

- If you exercise at work or at home, do it at least three hours before you go to bed. Otherwise, exercise after you sleep. Because exercise is alerting and raises the body's temperature, it should not be done too close to your bedtime.

Driving danger

Another concern is the worker returning home after his or her shift ends. For workers that are already fatigued from poor sleep and a long shift, the drive home is dangerous. A moment of inattention can lead to disastrous results. Here are ideas to help you avoid the danger of driving when you are tired.

- If possible, carpool. Have the most alert person do the driving.
- Drive defensively.
- Do not stop off for a night cap.
- When you are sleepy, stop to nap. But, do it in a locked vehicle that is in a well-lit area.
- When you can, take public transportation.

Ask the group

- Make a list of what helps you sleep and when you sleep best.
- What foods and beverages do you avoid before going to sleep?
- If the worker has a family, how do family members deal with the worker's need to sleep during their active time?

Group action

- Talk about methods to deal with fatigue and problems arising from shift work.
- To reduce shift-work stressors, develop strategies to deal with scheduling and work assignments. Understand methods to get more restful and productive sleep when your body says you should be awake.

Summary

Shift work can be disruptive to our bodies and our personal lives. Working nights puts you in a situation where you are active when your family and friends are asleep, and you need to sleep when they are active. Careful planning helps you maintain as normal a life as possible while ensuring you get the good quality sleep you need to avoid fatigue.

References

NIOSH Safety and Health Topic: Shift Work and Long Work Hours, http://www.cdc.gov/niosh/topics/workschedules/

Plain Language About Shift Work, 1997, National Institute for Occupational Safety and Health, Cincinnati, Ohio, http://www.cdc.gov/niosh/pdfs/97-145.pdf

Shift Work: Reducing the Adverse Impact of Working the Night Shift, California OSHA, http://www.ca-safety.com/public/1432.cfm

Shift Work, Safety.BLR.com, http://safety.blr.com/topics.aspx?topic=139

Shift Workers, Texas Department of Insurance, Division of Workers Compensation Workplace Safety, http://www.tdi.state.tx.us/pubs/videoresource/stpshiftworkers.pdf

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Contractor safety

by Cari Gray

When you bring outside people in to do work

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Before you begin
Determine if you have a current contractor safety policy. If you do, consider updating and reviewing it, and communicating it to your employees. If you do not, consider creating one with your safety team or employees. Think about the people that enter your workplace who are not employees. Are they exposing your employees, other contractors or your customers to additional hazards? Determine if you have an audit process for outside contractors. Review the discussion for the program's key points.

Introduction
Almost all companies use contractors. They may come to your facility for many reasons, including heating, ventilation and air conditioning problems and many other work assignments. Because they are not on your payroll, there is a potential for serious injury to themselves or your employees. It is crucial you determine who else could expose your employees to injuries and create a process to minimize the hazards.

Discussion
Companies often bring outside contractors in to do dangerous or non-routine jobs. If a serious injury results from this work, companies can face inspections, citations and lawsuits. Some companies require they review and prequalify contractors before they allow them to enter their work site.

Once on site, contractors need to have a meeting prior to starting the work. In addition, they need to have audits during the work's operations. If you see unsafe behaviors, confront the employees and correct the behavior or remove them from the premises. These tools help keep employees safe.

Process steps
Your first step is to take an inventory of what services and companies your employer uses. The second step is to create a policy and a program. Third, you implement the program and train your employees. The final step is to evaluate - at least annually - the program and make needed changes. Create the process using a safety committee or employee input. Involve the person responsible for purchasing because he or she can be a gatekeeper for part of this process.

You must have a contractor portion included in the Hazard Communication written program 1910.1200 (e). (See the reference section below for other Occupational Safety and Health Administration (OSHA) standards that include a contractor component.) However, an all-inclusive written contractor program is not an OSHA requirement for most employers. But, it is a best practice that can help you properly manage contractors.

When creating or updating your contractor-safety program, there are topics you need to include. They are:

- Prequalification;
- Responsibilities;
- Emergency procedures;
- Training requirements;
- Housekeeping;
- Personal protective equipment;
- Fire prevention;
- Reporting an incident;
- Hazard Communication Standard requirements including informing your employer about chemicals brought into the facility;
- Communicating the emergency action plan to the contractor that includes your interior shelter locations, alarm meanings and outside assembly locations;
- A company-equipment policy;
- Enforcement and company safety rules.

You may include other relevant topics. These rules and topics may be centrally located in a Contractor Safety Handbook and you may refer to them in your policy.

Group activities

As a group, make a list of what type of outside contractor services your company uses. In addition, identify which companies/contractors you regularly have at your facility. Once this list is complete, consider qualifying contractors before you permit them in your facility.

Ask employees what types of safety rules the contractors need to follow. Discuss with employees how they can participate in the contractor-safety process. This includes being involved in audits, reporting unsafe behaviors or aiding in the prequalification process.

Summary

Once you create the contractor-safety program, review with your employees the requirements and procedures. Do this at least annually.

If you involve employees in creating the program and its policies, they are more likely to recognize, approach and ensure contractors are working safely.

References

Articles

For Contractors, Safety Means Planning, eLCOSH Web site http://www.elcosh.org/en/document/754/d000712/forcontractors%252C-safety-means-planning.html

Web sites

- Dow Jones Company Contractor Safety Program http://www.dowjones.com/ESP/contractor_safety.html
- California State University Example Contractor Safety Handbook http://ehis.fullerton.edu/OHS/OCCSafety/ContractorSafetyHandbook.pdf

Standards

OSHA standards that reference contractor safety requirements: OSHA 29 CFR 1910.38, OSHA 29 CFR 1910.1200, OSHA 29 CFR 1910.147, OSHA 29 CFR 1910.119, OSHA 29 CFR 1926.98

Cari Gray is a BWC safety consultant for the Canton Customer Service Office. She has 10 years of environmental, health and safety experience.

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ICE-In case of emergency

by Amy Stewart

6

Before you begin
If there was an emergency, could you quickly locate the emergency numbers for your employees? Front-line supervisors should understand how to access this information quickly using the correct protocol, including emergency-telephone numbers. Describe your system for an employee-emergency event. Lead by example: Enter your emergency contacts in your mobile phones. In addition, validate that your employees and co-workers have emergency numbers in their mobile telephones. Ensure that the phone numbers for the local fire, law enforcement and emergency medical professionals, as well as the emergency management agency, are easy to locate on or near your work phones.

Introduction
How many participants know whom to call in case of emergency? If you suddenly became unconscious, who would know how to get to your emergency-contact person and where would you keep the information? Do you have a mobile telephone? Do you have In Case of Emergency (ICE) programmed into your phone? When you respond, being prepared for emergencies reduces confusion.

How many of you agree that emergencies only happen to other people? What factors determine whether or not you are prepared? We challenge you to look at preparing for events with alternative strategies and to take safety home.

Small group discussion
If the group is not large enough for small group breakouts, discuss the three group concepts in a large group. If the group is too large, give two groups the same set of questions.

Group one – What is ICE?
ICE provides emergency personnel with contacts in emergency situations. Police, fire and other emergency personnel check cellular telephones if the injured are incapable of providing the necessary medical information.

List the types of emergency events and how we consider or address the situations. In addition, how do we discuss the information with friends, neighbors, co-workers or loved ones? If you have not discussed these topics in your circle of influence, now is the best time to link with someone in this small group.

Group two – Why and how do we use ICE?
ICE helps emergency personnel quickly learn about a person's medical history. It takes minutes instead of hours to contact the next of kin. Give examples. Demonstrate to each other how it works for you and test your mobile telephones.

- On your cell phone, enter the letters ICE. Then type in your contact's name, followed by his or her phone number. An example would be ICEjohndoe 555-555-5555.
- List both day and evening numbers.

Group three – Who do you choose for ICE?

- You could choose a family member, neighbor or a friend. So they know, discuss this with those you choose to be ICE contacts.
- Provide your ICE contacts with an updated list of your medical conditions. Include allergies, current medication and previous medical procedures. Also include a phone list of family members, your primary care physician and a main work contact.

Large group discussion
Using a spokesperson from each group, summarize your discussion and how others may learn from the discussion. Based on current studies, clarify your answers.

Group one (Answers)
Survey the employees' answers. Ask the participants what are the best examples of how ICE can help others by saving lives or improving communications? Repeat that ICE is an abbreviation for In Case of Emergency.

Group two (Answers)
Summarize the examples of why and how we use ICE. ICE helps emergency personnel quickly learn medical history. It takes minutes instead of hours to contact the next of kin. For example, here is an ICE phone number: ICEjohndoe 555-555-5555.

Group three (Answers)
Summarize the type of relationship that you designate a primary number and the other as a secondary number. For example, your numbers may be for a spouse, partner, parent, sibling, neighbor, caregiver or a co-worker. Why is it better to have more than one number? How does your workplace promote and support these relationships?

What can you do?
Add ICE immediately to your cell phone. This can save lives and time. If you add more than one ICE contact, then include them in numeric order. For example, you may have ICE1 for your primary contact, ICE2 for your second contact, etc. Plan ahead and be proactive. Spread the word about ICE to your family members, friends and co-workers so they can also use this tool.

Presentation methods and strategies
Through group discussion, employees will better understand what to do in the event of an emergency. Prompt them to strengthen relationships before an emergency response situation occurs. Peer-to-peer feedback and employee suggestions help clarify the importance of emergency communications. This applies on and off the job.

When appropriate, the discussion leader will offer feedback on employee suggestions. The leader will prepare response and recover scenarios where it is applicable.

Group action
List the strengths, roles and responsibilities of your safety or crisis team/committee. Track the team members' progress as they become certified in related areas – from first aid to ham-radio operations.

An emergency-response training program for employees may include procedures, rules and guidelines for preventing emergencies, emergency preparedness, response and recovery. Continue with the refresher and follow-up training by interacting with community members and emergency responders.

For more ICE information, check with your local police and fire departments. Tell your employees to program ICE on all mobile telephones - at home and work.

Quiz - Circle T for true and F for false.

1. ICE stands for In Case of Emergency. T F
2. You should list day and evening phone numbers. T F
3. Mobile telephones are a good source for ICE information. T F
4. We can take safety home. T F
5. You can add ICE to your cellular phone right now. T F

Answers: 1.T; 2.T; 3.T; 4.T; 5.T.

References

Web sites
http://www.asse.org/newsroom/safetytips/docs/icepowerpoint32608.ppt
http://www.publicsafety.ohio.gov/links/ems_position_ice.pdf

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How did it happen? by Tim Governor

7

Before you begin
For discussion, select an accident or incident that you are familiar with at your work site.

You may consider this example for discussion. While walking back to the office from the break room, an employee reports he or she slipped and fell in a hallway on a wet floor. You can see a custodial cart with a mop, bucket of water and a *Caution Wet Floor* tent in an adjacent hallway.

Introduction
It happens. Whether it is an injury, property damage or an unexpected, unwanted consequence of some activity - it happens. The crane topples, the worker gets injured and the material becomes damaged. These are examples of the it. However, the focus of this discussion is not the it. We are too familiar with the it. During our discussion, we will focus on the behind-the-scenes factors that permit the it to occur.

Discussion
A reporter's questions of who, what, when, where, how and why are the best tools for common incident analyses. Think again about the selected incident or accident and ask these questions. To gather the relevant information, sometimes you need to ask a question repeatedly.

Who
If someone becomes injured, he or she is one of the who's in the incident-analysis process. But, what about others who may be involved at the scene or who may have left the scene? For example, hours before an incident occured someone may have left a hazardous condition.

In our example, in addition to the unnamed employee, a custodial worker is part of the incident analysis.

What?
This would include tools, equipment, environmental factors like the weather, noise, a vehicle, etc. In our example the environmental conditions are a hard, smooth floor and water on the floor.

When?
This may include the day of the week, the time of day, shift change, sunrise, sunset, a return from a break, late in the shift or the workday.

In our example the incident occurs around the lunch break.

Where?
The location of an incident may be an area, in a vehicle like a semi-trailer, a room or an equipment-operator position. The location may provide information as to whether a person is caught between equipment or in an area where he or she could be struck by vehicles or machinery.

In our case, the location is a hallway. However, it may be important to note whether the hallway runs east to west or north to south.

How and why?
These questions are the most important to ask those involved. You may need to ask these questions repeatedly. They provide more details and descriptions as to what happened.

In our example, the floor is wet. However, when you ask the custodian about the floor and why the *Caution Wet Floor* tent is not posted, the custodian says he or she mopped the hallway floor the first thing that morning. It should have dried within 15 minutes.

The cart is in the adjacent hallway because the custodian plans to mop it after the lunch break. When the floor is wet, the custodian posts the *Caution Wet Floor* tent until the floor dries. In addition, the custodian explains the hallway frequently has stains from coffee and tea spills.

When asked, the employee says he or she carefully watches the nearly full coffee mug when the employee carries it. This is so the mug does not spill. As a result, the employee is not looking closely at the floor. The employee also notes that the hallway runs north to south.

In addition, around lunch time on sunny days, the light comes directly into the hallway from a window at the end of the hall. The sunlight causes glare on the floor.

Upon later inspection, the worker says his or her clothing has coffee stains where the clothing contacted a small coffee spill on the floor.

Group actions

Take five minutes to look around your workplace. Identify, discuss and take corrective actions where it is feasible to eliminate hazards or actions that can cause or result in an accident or an incident. Ask what permitted these hazards or actions to exist. Ask the group: Is there a need to develop training, policies or standard operating procedures?

Summary

As discussed, there may be many actions in a chain of events. Furthermore, many chains of events or even a single action can lead to incidents or accidents. Preventing accidents may be as easy as recognizing and correcting situations before the chain of events starts. The next time you recognize an action, object, or condition that could trigger an accident or an incident, take time to do what you can to eliminate it. You may help prevent it from happening to you.

Discuss the incident's how and why at your work site. What can you do to prevent a recurrence?

In our example, to help prevent an incident recurrence, you place a blind on the window to help minimize the glare. In addition, the company banned employees from carrying open-beverage containers through the hallways. Along with a sign asking employees to promptly wipe up spills, the break room now has paper towels and napkins.

References

Occupational Safety and Health Administration Fact Sheets: *Accident/Incident Investigations* http://www.osha.gov/SLTC/etools/safetyhealth/mod4_factsheets_accinvest.html

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Employee safety orientations

by Dan Stockwell

8

Before you begin
Share a safety-orientation check list and a handout with your meeting participants.

Introduction
No business organization can expect good safety performance unless its top management demonstrates that safety is a key organizational value. A leader must communicate the need for safety to all employees. Accountability is one of the key factors to commitment. Every level of your organization needs to be accountable for its safety responsibilities. Make safety orientations for new and transferred employees a part of your organization's basic safety processes.

Discussion
According to the National Safety Council, statistical data differs. However, experts generally agree new employees are significantly more prone to work-related accidents. Along with production and quality, safety must be a top priority. This applies to an employee who is new to the organization, transfers to a new job or returns from an extended work absence. A safety orientation provides specific safety information. It can also promote the importance and value of safety within an organization.

The orientation leader uses a check list to provide direction and consistency when presenting information. Because orientation attendees absorb only so much in one sitting, give them a written outline to improve their comprehension and retention.

Topics
These topics are usually part of a basic safety orientation.

- Review of the safety policy and safety rules
- Review of specific safe work practices and procedures
- Dress requirements
- How to report injuries
- How to seek first aid
- How to report unsafe conditions, unsafe practices and near misses
- How to respond during fire and emergency situations
- Housekeeping standards
- Discussion of specific work hazards
- Use and care of personal protective equipment
- Hazardous material identification and safe use (material safety data sheet)

This is by no means a complete list. Each organization may develop a more comprehensive orientation. To record employees participating in the orientation, use a sign-in sheet.

A successful safety orientation includes follow-up and additional education. Supervisors need to ensure employees understand specific work practices and procedures. Encourage employees to ask questions.

Soon after the orientation and on a continual basis, evaluate employees' knowledge and understanding. To ensure that new or transferred employees comprehend your company's standard operating procedures, supervisors need to closely supervise and educate them.

Summary

A well-planned and implemented safety orientation lays the foundation for an employee's future safety performance. To continue the safety process, conduct training on a regular basis. This training may include:

- Safety meetings;
- Safety contacts;
- Specific safety issues and/or safety training on changes in work practices.

References

Publication

- National Safety Council: *Accident Prevention Manual for Business & Industry*, Administration & Programs, 13th Edition, 2009.

BWC resources

- *Safety Leader's Discussion Guide 2005,* "Training Techniques, A Guide for Safety Leaders" by Amy Stewart
- *Safety Leader's Discussion Guide 2009*, "Using the Internet to find safety information" by Karen Jensen

BWC videotapes and DVDs

Division of Safety & Hygiene's video library

- *Orientation to Workplace Safety*
- *Health & Safety Orientation: The Competitive edge*
- *Introduction to Workplace Safety*
- *Safety in the Workplace: Volume III – Safety Orientation for New Employees*
- *Retail Safety Orientation*
- *Safety Orientation for Custodial & Maintenance*
- *Safety Orientation for Schools*
- *Teacher Safety Orientation*
- *Safety Bob's Construction Safety Orientation*
- *Construction Safety Orientation*
- *Construction Safety Orientation for Employees*

All videos and DVDs are available for loan to Ohio employers. Visit the BWC Web site at ohiobwc.com.

Web sites

Canadian Centre for Occupational Health and Safety: http://www.ccohs.ca/oshanswers/hsprograms/orientation.html

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Basic ergonomics training for construction workers

by Mike Lampl

9

Before you begin
Observe your work areas and write down your observations. Pay attention to:

- Homemade adaptations to accommodate personal preferences and needs;
- Job tasks that require forceful exertions (e.g., heavy lifting, pushing and pulling);
- Job tasks that require awkward postures (e.g., bent wrists, bent backs, etc.);
- Job tasks that require repetitive motions (e.g., working at a fast pace);
- Information on injuries that may relate to ergonomic conditions.

Introduction
Construction is a vital part of Ohio and its economy. But, this industry can be physically demanding. According to the Bureau of Labor Statistics, during 2007 overexertion caused more than 17 percent of construction's workplace injuries and illnesses.

During this session you will discuss:

- What is ergonomics?
- What are cumulative trauma disorders (CTDs)?
- What are workplace risk factors that contribute to CTDs?
- How can you reduce these risk factors?
- What else can reduce CTDs?

Start the discussion by asking what is ergonomics? Ask the group each corresponding question, and listen for the members' input. Discuss the answers below, and consider giving the group a copy of the questions and answers.

What is ergonomics?
Ergonomics is applying engineering and scientific principles when designing a work environment that accommodates the employee in relation to the workplace, product, equipment, tools, workspace and the work's organization. The objective of ergonomics is to fit the task to the worker, rather than force the person to adapt to the work environment.

Ergonomics is making jobs user friendly. The benefits include:

- Fewer injuries and cumulative trauma disorders;
- Improved productivity;
- Better performance and quality.

What are CTDs?
Cumulative trauma refers to the wear and tear on the musculoskeletal system. Common CTDs include carpal tunnel syndrome, tendonitis and lower back disorders.

Symptoms associated with CTDs or that may lead to CTDs are pain, swelling, inflammation, burning and stiffness.

Ergonomics is not an overnight proposition. It is a continuous improvement process that minimizes or eliminates workplace risk factors.

What are workplace risk factors?
They are:

- Forceful exertions;
- Repetitive motions;
- Awkward postures;
- Mechanical pressure on soft tissue;
- Inadequate rest.

Because one or more of these risk factors are present in a job does not necessarily mean a CTD will develop. However, especially with exposure to multiple risk factors, the potential for CTD is higher. Conversely, if you eliminate any or all of these risk factors, the potential for overexertion or injury decreases. The next section will illustrate ways to minimize or eliminate these risk factors.

How do you reduce workplace risk factors?
You can reduce workplace risk factors by planning, changing how you do your work and training workers and supervisors.

Plan

- Cut down on carrying. To help minimize bending and reaching, deliver materials close to where you will use them.
- Try to store materials at waist height.
- If you can, raise your work to waist level for heavy work or to elbow height for lighter work. For example, pipefitters use pipe stands. To keep their work at waist height, masons use adjustable scaffolds.
- Ensure floors and walkways are clear and dry. Slips and trips are also a big cause of back injuries.
- Use the appropriate tool with the proper thickness, length and shape.
- Take rest breaks. When you are tired, the chance of injury increases.

Get help

- Use carts, dollies, forklifts and hoists to move materials — not your back.
- Use carrying tools with handles to get a good grip on wallboard or other odd-shaped loads.
- If materials are too heavy, do not lift them by yourself. Get help from another worker or use a cart.

Move carefully

- When lifting or carrying materials, keep the load as close to your body as you can.
- When lifting and lowering materials, try not to twist. Instead, turn your whole body.
- Lift and lower materials in a smooth, steady way. Try not to jerk the lift.

Apprentices
Apprentices often have the hardest work to do. Because they are young and strong, they sometimes lift and carry more weight than they should. Protect apprentices against back injuries so they do not have to leave their trades. Decide how you can change the work to protect you and your co-workers from back injuries.

What about back belts?
Some workers wear back belts. If a doctor prescribes a back belt, it may help a worker recovering from a back injury. However, a study by the National Institute of Occupational Safety and Health found no evidence that back belts prevent injuries. Do not rely on a back belt to protect you; instead try to change the work.

What else can reduce CTDs?
Other important points to consider for reducing CTDs and/or the severity of CTDs include:

- Reduce repetition or duration when possible. Job rotation can help;
- Understand what is adjustable at your work site;
- Report work-related pain and discomfort. When necessary, get a medical evaluation;
- Try new work methods and tools;
- Give suggestions for ergonomic job improvements;
- Exercise and maintain a healthy lifestyle;
- Use good ergonomic principles at home as well as work;
- Keep your work area organized and the area as clean as possible.

Group actions
Conclude by asking each member what is one key point he or she can apply from today's discussion. If the discussion leads to making physical changes, such as raising or lowering a work height, document the discussion and follow up as needed.

References

Web sites

http://www.elcosh.org/en/browse/39/musculoskeletal.html
http://www.elcosh.org/record/document/373/d000369.pdf
http://www.cdc.gov/niosh/docs/2007-122/pdfs/2007-122-full.pdf
http://cdc.gov/niosh/backbelt.html
http://www.ohiobwc.com/employer/programs/safety/ergotools.asp

Mike Lampl is a certified ergonomics professional and BWC's Division of Safety & Hygiene acting ergonomics technical advisor. He has 15 years of safety and health experience in private industry and at BWC. Lampl also is a member of the planning committee for the Applied Ergonomics Conference sponsored by the Institute of Industrial Engineers.

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Reacting to a worker's emergency

by Mike Ely

10

Before you begin

- Review your existing emergency action plan.
- Discuss your emergency action plan with local fire and police department to ensure it is adequate.
- Review records of emergency drills.
- Check the condition of your emergency equipment.
- Review the chain of command for emergency incidents.
- Review the call list for emergency incidents.

Discussion

Are you prepared for an emergency when it happens in your workplace? If your workplace has more than 10 employees, the Occupational Safety and Health Administration (OSHA) requires a written emergency action plan. At a minimum, your emergency action plan must include the following:

- A preferred method for reporting fires and other emergencies;
- An evacuation policy and procedure;
- Emergency escape procedures and route assignments such as floor plans, workplace maps and safe or refuge areas;
- Names, titles, departments and telephone numbers of people within and outside your company to contact for additional information or an explanation of their duties and responsibilities under the emergency plan;
- Procedures for employees who remain to perform or shut down critical plant operations, operate fire extinguishers or perform other essential services that cannot be shut down for every emergency alarm before evacuating.

Review rescue and medical duties for any workers you designate to perform them. You may want to determine an assembly location and procedures to account for employees after an evacuation. In addition, you must put into place methods to alert employees when an emergency situation is taking place.

The alarms must be distinctive and recognized by employees as a signal to take the appropriate action. That action may be to evacuate or seek shelter in a safe location. Everyone in the workplace must be able to hear, see or otherwise perceive the signal.

Training and drills

Training and drills are a major part of an emergency action plan. It does no good to have a plan that employees are not familiar with or have not practiced. Review these suggestions for training employees about emergency procedures in your workplace.

- Train like it is for real. You will be better prepared for the real thing, the more the training reflects reality.
- Ensure your supervisors and employees know how to react, and they practice an accountability system.
- Coordinate your training with local authorities and your alarm company.
- When you finish the training, have a meeting immediately following it to review what went right and what went wrong.
- Develop action items and assign their completion to employees so they may follow-up on them.
- Implement your action items into your emergency action plan and continue with the training and drills.

Obtain and maintain any special equipment to deal with anticipated emergencies. Designate employees you want to train in the equipment's proper use. This may include respiratory protection, chemical-resistant suits, hand/head/eye protection or other specialized equipment made necessary by the nature of your business.

Group action

- O Identify emergency situations that could develop in your facility.
- O Do participants know what to do in case of the situations identified?
- O Do you have co-workers who will need assistance during an emergency?
- O Are there locked/blocked doors or non-functional emergency devices (alarms, emergency lights, exit signs, etc.) that will keep participants from responding properly?
- O Do you have an emergency plan for your family at home?
- O Have any of your employees participated in an emergency?
- O What is the top priority in an emergency situation?

Conclusion

By their nature, emergencies are unannounced. When an emergency strikes, proper planning and training is the only way you may protect yourself.

Because you have not had an emergency in your facility does not mean you will not have one tomorrow. Take the time to plan, prepare and train. If you do have an emergency, you will know what to do. This will help increase the chance of a favorable outcome for what could otherwise be a tragic event. In an emergency, there is only one priority - the preservation of human life.

References

Reports: Little or no exit training for sugar workers, Savannah Morning News, Ga., July 10, 2009, http://www.tmcnet.com/usubmit/2009/07/10/4267529.html

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Emergency Management Guide for Business and Industry, US Department of Homeland Security, Federal Emergency Management Agency, 1993 http: http://www.fema.gov/pdf/library/bizindst.pdf

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Handling chemicals safely

Article reprint from *Safety Leader's Discussion Guide 2000*
Source: Ohio Society of Safety Engineers

11

Before you begin
Before the meeting, have the following materials and items available for discussion:

- A material safety data sheet (MSDS) for a common chemical handled in your facility;
- Your emergency evacuation plan;
- A drawing of the locations for your safety-shower eyewashes;
- Your written hazard-communication program;
- Any incident reports resulting from the mishandling of chemicals;
- A selection of personal protective equipment (PPE) - e.g., gloves, face shield, respirator, etc.

Introduction
Chemicals are a major part of our everyday life at home, work and play. They include toxics, corrosives, solvents and numerous other substances. If you take the proper precautions, you can safely handle these substances.

Name some chemicals you use at home. Some possible answers include gasoline, paints, fertilizers, lawn chemicals, bug spray, paint strippers, kerosene, bleach and other household cleaners.

Then, discuss some chemicals you use at work. These are facility-specific solvents, laboratory chemicals, fuels, paint, office copier chemicals, correction fluid, lubricants and corrosives.

Ask the participants what PPE they use when they handle chemicals at work and at home. Here are more suggested discussion questions.

How are we exposed to chemicals?

- By inhalation - We breathe in dust, mist and vapor. An example is working with bags of concrete at home without a respirator.
- By ingestion - We eat food that is contaminated. An example is having lunch in a work area where there are airborne contaminants.
- By contact – Our skin touches a chemical. An example is contact dermatitis or an eye irritation.
- By injection – A needle or high-pressure device forces an agent into our body. An example is a needle stick or misuse of a high-pressure washer.

Following the participants' answers, review the information you prepared before the discussion.

How can you protect yourself against chemical hazards?

Before you handle a chemical read the:

- Container labels;
- MSDS;
- Safe work instructions.

Action item: Review the sections of an MSDS for a chemical handled in your facility.

- Use specified PPE. Examples include chemical splash goggles, respirators, safety gloves, aprons, steel-toed shoes, safety glasses with side shields, etc.
- Ensure the PPE fits properly and you are trained in its use.

Action item: Review the various PPE pieces and when each may be required.

- Inspect all PPE before you look for defects such as cracks, missing parts, rips, etc. Ensure your respirator has the proper chemical cartridge for the particular chemical hazard. When necessary, change cartridges.

Action item: Review how to inspect, what to look for and how to make sure the PPE fits properly.

- Know the locations of safety showers and eyewash stations and how you use them.

Action item: Ask employees to identify from memory the locations of the safety shower/eyewash stations in their areas. After discussion, review the drawing of these locations.

- Before you eat, wash your hands. This is especially true after you handle chemicals.
- Leave your contaminated clothing at work. If you wear the clothes home, you may expose your family to the hazards.

Discussion

Remind your employees that the company's written hazard communication program and emergency evacuation plan are available. Explain where they are located and how to access the information. Have employees suggest ways to improve these programs.

Pick a specific chemical you use at work that is familiar to most employees. Make sure you have a copy of the MSDS for that chemical to review.

Begin a discussion about chemical handling procedures. Ask the employees to identify the PPE they need to use when they handle a specific chemical. Compare their answers to what is required on the MSDS or other safe work instructions.

Action item: In addition, review any past incidents about chemical mishandling. Ask the employees to discuss how they could prevent the incident. Possible answers include:

- Use specified PPE;
- Avoid shortcuts;
- Review MSDS instructions before handling a chemical.

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Note: *Handling chemicals safely* handout is on page 25.

Handling chemicals safely

Chemicals are a major part of our everyday life at home, work and play. Examples include toxics, corrosives, solvents and numerous other substances. As long as we take proper precautions, these substances can be handled safely.

Chemicals that you use at home include gasoline, paints, fertilizers, lawn chemicals, bug spray, paint strippers, kerosene, bleach and other household cleaners. However, chemicals you may use at work are facility-specific solvents, laboratory chemicals, fuels, paint, office copier chemicals, correction fluid, lubricants and corrosives.

We are exposed to chemicals by these ways.

- Inhalation — Breathing in dusts, mists and vapors
  Example: Working with bags of concrete at home without a respirator
- Ingestion — Eating contaminated food
  Example: Having lunch in the work area where there are airborne contaminants
- Absorption — Skin contact with a chemical
  Example: Contact dermatitis or an eye irritation
- Injection — Forcing an agent into the body through a needle or a high-pressure device
  Example: Needle stick or misuse of a high-pressure washer

You can protect yourself against chemical hazards by:

- Reading container labels, material safety data sheets (MSDSs) and safe-work instructions before you handle a chemical;
- Using specified personal protective equipment (PPE) that may include chemical-splash goggles, a respirator, safety gloves, apron, steel-toed shoes, safety glasses with side shields, etc. Ensure the PPE fits properly and you are trained in its use;
- Inspecting all PPE before you use them. Look for defects in the equipment such as cracks, missing parts, rips, etc. Ensure your respirator has the proper chemical cartridge for the particular chemical hazard. Change cartridges when it is necessary;
- Knowing the location of safety showers and eyewash stations and how to use them;
- Washing your hands before eating, especially after handling chemicals;
- Leaving your contaminated clothing at work. If you wear the clothes home, you can expose your family to the hazards.

Material handling (push/pull)

Article reprint from *Safety Leader's Discussion Guide 2000*
Source: Ohio Society of Safety Engineers

12

Before you begin
Make a copy of the job safety analysis (JSA) work sheet and complete it for your workplace.

Introduction
Although many of us do not regularly handle cargo, sometimes we use our bodies for leverage to maneuver objects. We think this would not produce an injury.

Today's discussion will prepare your employees so they are less likely to suffer sprains or strains from overexertion when pushing or pulling. Moving wheelchairs, pushing carts and opening and closing overhead doors may contribute to sprains or strains. By using job safety analyses (JSAs), determine the leading causes that you may reduce or eliminate with proper engineering controls, training and awareness.

Discussion
Ask your employees:

- How many of you pulled a muscle at work or at home from overexertion?
- What were the contributing factors to that injury?
- What types of exposure do we have in our workplace today?
- Identify potential problems with lifting or closing overhead doors, pushing or pulling hand carts or wheelchairs or working with drawers or doors that are difficult to move?
- What are your responsibilities as an employee to prevent various types of strains or sprains?

We can approach this together by looking at the task as a step-by step process. List the hazards of each step. Discuss how to prevent injuries by eliminating the hazard or barrier. By receiving the proper training, learn how to use leverage.

The first step to any task is your mindset. Review the JSA worksheet on page 29. Which of the items would occur if we were not in command of a safe performance? Discuss these items.

What can we do to prevent injuries?
Answers include rest, nutrition, focus, procedure, personal protective equipment and attitude.

Brainstorm with your employees what can cause an injury for a push/pull task in three areas. The areas are equipment, environment and human error. Divide the participants into three groups. The first group identifies risks associated with equipment; the second group identifies environmental risks and the third group identifies human factors. Report back to the large group in five minutes.

Answers may include but are not limited to:

1. Equipment-group answers — The right equipment for the job (size, weight, capacity and design); well-maintained equipment; removing hazards from equipment; and deciding whether or not additional equipment is needed for the job. In addition, you may consider safe footwear like closed toes, anti-slip soles and ankle supports.

2. Environment-group answers — The environment contributes to hazardous situations due to surface conditions. These include: wet, dirty, dusty, uneven, unsupported and poorly illuminated. Other answers include: badly designed storage, temperature extremes, chemical or biological exposure.

3. Human-factor group answers — The human factor is most volatile. What we have the ability to control is human error, miscalculation of load assessment, attitude, etc. Attitudes may include: I don't need help, ignorance, imprudence, fatigue, physical or mental distractions.

A successful group will brainstorm many hazards and occasionally go on a tangent. Remind them to focus on the task at hand. Address and follow up the other issues that surface through discussion at a future time.

Summary

To summarize the group's discussions, walk through the steps by completing the JSA worksheet. Identify a task that causes strains and sprains in your workplace through the push/pull motion. List each step in the first column and work across the row. List the hazards in the middle column. Complete the row by listing recommended safe job procedures in the third column.

You should have a blank JSA worksheet as well as a sample completed one. The final evaluation is to choose a person from the group to walk through the task by following the steps you listed on the JSA.

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Note: *Material handling (push/pull)* handout is on page 28.

Material handling (push/pull)

Moving wheelchairs, pushing carts, and opening and closing overhead doors are contributors to sprains or strains. Although many of us do not regularly handle cargo, sometimes we use our bodies for leverage to maneuver objects. We think this would not produce an injury. However, you can suffer sprains or strains from overexertion when pushing or pulling.

There are three areas that can cause injury for a push/pull task. They are equipment, environment and human error. Risks associated with these three areas include, but are not limited to, the reasons below.

1. Equipment

- Having the right equipment for the job (size, weight, capacity and design)
- Well-maintained equipment
- Removing hazards from equipment
- Deciding whether additional equipment is needed for the job. Safe footwear like closed toes, anti-slip soles and ankle supports may also be considered

2. Environment

The environment contributes to hazardous situations due to surface conditions. These may include:

- Wet;
- Dirty:
- Dusty;
- Uneven;
- Unsupported;
- Poorly illuminated;
- Badly-designed storage;
- Temperature extremes;
- Chemical or biological exposure.

3. Human error

The human factor is most volatile and what we have the ability to control: human error, miscalculation of load assessment, attitude, etc. Some of the attitudes include:

- I can handle this without help;
- Ignorance;
- Imprudence;
- Fatigue;
- Physical or mental distractions.

Job safety analysis worksheet

Company: Plant location: Date filed: / /

Job task(s): Page_____ of _____ Date of analysis: / / Original ☐ Repeat ☐

Empolyee(s) performing the jobs: Supervisor: Analysis by:

Personal protective equipment: Department: Reviewed by:

Sequence of basic job steps	Hazards associated with task	Possible solutions to hazards	Assigned to

2010 Safety meeting log

	Electrical safety	Slips, trips and falls in nursing facilities	Three-point technique	Talking about shift workers	Contractor safety	ICE - In case of emergency	How did it happen?	Employee safety orientations	Basic ergonomics training for construction	Reacting to a worker's emergency	Handling chemicals safely	Material handling (push/pull)					
Meeting date																	
Employee names	**(Initial squares below to indicate attendance at meetings.)**																

Ohio | Bureau of Workers' Compensation

Division of Safety & Hygiene
Safety Leader's Discussion Guide
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