

## **PRESENTER'S GUIDE**

# **"SLIPS, TRIPS AND FALLS IN CONSTRUCTION ENVIRONMENTS"**

**Part of the Construction Safety Kit Series**

# **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **In the old days, slapstick comedies used to get a lot of laughs when their performers slipped on a banana peel or tripped over their own feet, and fell down.**
  - But in the real world, slips, trips and falls are no laughing matter.
- **In fact, they're involved in most of the accidents that occur on job sites every day.**
  - They cause 17% of disabling occupational injuries and 15% of on-the-job fatalities.
- **And you don't have to fall a long way to hurt yourself.**
  - Just slipping on muddy ground or tripping over some debris can result in a fall that lands you in the hospital with a broken bone, strained back, concussion or worse.
- **But slips, trips and falls can be prevented.**
  - To avoid slips, trips and falls and the injuries that they can cause, it helps to understand just how we're able to stand and walk upright in the first place.
- **First, we need to know something about our "center of gravity".**
  - Our center of gravity is the point where the weight of the body is equally distributed, half above and half below.
  - It plays an important part in every movement that you make.

- **Imagine that you're standing up straight.**
  - Now draw a triangle, with your feet forming the two points at the "base" and the third point of the triangle at your lower back.
  - This upper point is located roughly where your center of gravity is.
- **As you move, these three points constantly change position.**
  - If the upper point extends out past the lower points you can "lose" your balance.
  - Unless you regain it, you will fall.
- **Because the shape and size of your body has a direct impact on how naturally stable you are, it's easier for some people to keep their balance than for others.**
  - A short person will have a lower center of gravity and be more stable than a tall person.
  - It simply takes less of a push for the taller person's center of gravity to extend out past their feet, so that they fall over.
- **How you stand also affects your stability.**
  - You are in your most stable standing position when you are perfectly upright, with your arms at your sides.
  - This keeps your center of gravity low (at about the lower part of your spine) and over your feet.
- **But if you are slouching or hunching your shoulders, your center of gravity can extend out past your feet, making you less stable.**
  - Reaching forward or sideways for something can have the same effect.
- **When you reach over your head, you raise your center of gravity, which also reduces your stability.**
  - The weight of anything that you're holding in this position just makes you that much more unstable.

- **How you carry something can affect your stability, too.**
  - Putting a load on your shoulder not only raises your center of gravity, it throws it dangerously off to the side.
- **On the other hand, you can increase your stability by carrying objects close to your body and as low as you can while keeping your back straight.**
- **We tend to take walking for granted, but it's actually a pretty risky activity, because it requires us to fall and catch ourselves with every step!**
  - While we're doing that, there are a lot of chances for us to slip or trip along the way.
- **To better understand why we can trip or slip, it helps to know something about "momentum".**
  - Momentum is the "force of movement" that we build up as we move.
  - The momentum that we build up tends to keep our body and its center of gravity moving.
- **But if we encounter something that interferes with our progress, such as an object in the way or a slick walking surface, it can cause trouble.**
- **Trips generally occur when our foot or lower leg catches on something.**
  - This causes our lower body to stop while our momentum keeps our center of gravity moving, so that we lose our balance.
- **Stepping onto a lower level, such as when we're going down stairs, can also cause us to trip, especially if the surface is uneven or damaged.**

- **Slips are a little different. When we walk we want to have the best "grip", that is most friction, between the soles of our shoes and the walking surface.**
  - Slipping occurs when something interferes with that grip and causes our feet to move out from under our center of gravity while our momentum keeps us moving.
  - This causes us to lose our balance, which like tripping, can also result in a fall.
- **It's important to remember that our momentum increases when we walk faster, and when we carry more weight.**
  - These are two things that we're very likely to do when we're on the job.
  - The faster we go and the more that we carry, the more attention we need to pay to potential slip and trip hazards.
- **You need to watch out for fall hazards during a busy workday as well.**
  - If you don't, it can lead to pain, injuries and even worse.
- **For example, if you need to reach something up high, stacking up some pallets and standing on them may seem like a time-saver... until the pallets shift out from under you.**
- **If you choose to climb a ladder instead, be sure to keep your center of gravity positioned between the two rails.**
  - Losing your balance on a ladder could get you to the ground a lot faster and more painfully than you want to.
- **Different walking surfaces provide varying degrees of the friction that is needed by your feet to get a secure grip.**
  - A rubber mat provides a better grip than smooth concrete.
  - Wood flooring provides a better grip when it is dry than when it is wet.

- **You can avoid slipping by being aware of the type of surface that you are walking on, and how much traction it can provide.**
  - The walking surfaces you may encounter can be divided into three types... non-slip, moderately slippery, and slippery.
- **Non-slip surfaces provide good traction regardless of whether they are wet or dry.**
  - They include rubber mats, surfaces covered with non-slip coatings and rough-textured concrete.
- **Moderately slippery surfaces are reasonably slip-resistant when they are dry, but can be very slippery when they are wet.**
  - These include grassy ground, unpolished ceramic tile, unfinished wood and smooth concrete.
- **Slippery surfaces don't provide much traction at all, whether they are wet or dry.**
  - They include muddy ground, polished marble and tile, smooth metal, freshly painted concrete and of course, ice.
- **Whether you're working indoors or outside, the most slippery places tend to be those that are wet.**
  - Moderately slippery walking surfaces such as grass, tile or painted concrete can present serious slip and fall hazards when they get wet.
  - This situation becomes even more hazardous in cold weather, when ice can turn almost any surface into a skating rink.
  - If possible, areas like these should be covered with non-slip materials, such as rubber mats, gravel or sand.
- **Surfaces also become more slippery when they are covered with materials such as sawdust, metal shavings or loose earth.**
  - Accumulations of mud, oil or grease have the same effect.
- **And whether you're walking inside or outside, you need**

**to watch your step on ladders and stairways as well as ramps or other sloping surfaces.**

- Your likelihood of slipping increases significantly when a surface isn't level.
- **The sloppier a job site becomes, the more slip, trip and fall hazards you're likely to encounter there.**
  - Good housekeeping and maintenance practices can prevent these incidents, as well as the injuries they cause.
- **For example, you have to be able to see hazards to avoid them, so making sure that lighting equipment is fully functional, and that it provides enough illumination, can help you or a coworker avoid a slip, trip or fall.**
- **Keep all walking surfaces dry as well.**
  - If you discover a spill use rags, paper towels or a mop to clean it up.
- **For substances like grease or oil that have accumulated on the floor:**
  - Spread an absorbent like vermiculite or kitty litter over the area.
  - Sweep everything up and dispose of it properly.
- **Sometimes you may need to place a non-skid rubber mat or a piece of carpeting over a slippery spot.**
  - If you do, make sure that it lies flat and stays in place, so people won't trip over it.
- **There are lots of other slip, trip and fall hazards you can encounter on a job site too.**
  - Walkways and other high-traffic areas should be kept clear of materials, tools and other objects that could cause trips.
- **Remember to pick up small items off any hard floor.**
  - Stepping on a loose nail or washer could send somebody "skating" when they least expect it.



- **Inspect ramps and stairways, and clear them of debris and other obstacles.**
  - Check that hand rails are firmly attached, and use them whenever possible... just in case.
- **Wet, rough and uneven ground with roots sticking out, and loose or damaged flooring with protruding nails can cause slips and trips as well.**
- **If you discover problems like these:**
  - Block them off from foot traffic so people won't trip over them.
  - Report the hazards to your supervisor so they can be addressed as soon as possible.
- **Don't let discarded packing materials, debris or other clutter accumulate in your work area either.**
  - Pick it up and dispose of it properly, so people who pass by later won't trip over it.
- **When you're using powered tools and equipment, stretching power cords or hoses across "high traffic" areas and walkways creates a serious trip hazard.**
  - Tape them down or cover them with a mat.
  - Remove them as soon as you're finished.
- **While it's important to reduce or eliminate any slip, trip and fall hazards that exist on a job site, it's also a good idea to wear shoes that will help protect you from them. Shoes should:**
  - Fit properly.
  - Be comfortable.
  - Have soles and heels suited for the surfaces that you will be walking and standing on.
- **The heels of your shoes are especially important.**
  - Most slips occur when there is not enough friction between the heel and the walking surface beneath it.
  - To get a secure grip, the heels on your shoes should be low and wide.

- **Many work boots have soles made out of hard rubber.**
  - These soles don't provide particularly good friction on dry surfaces, but have good traction in areas that are wet or greasy.
- **Raised patterns or texturing on the soles, called "tread", can greatly increase their slip-resistance as well.**
- **Most work boots and some work shoes have especially deep treads, to improve their grip and channel away water or other liquids that could reduce their friction with the walking surface.**
- **Your boots will give you better traction if you clean them off regularly.**
  - Inspect the treads for any foreign objects that might get stuck there.
  - On a hard surface an embedded pebble or roofing nail can turn a boot into a skate.
- **Even when we do our best to avoid them, slips, trips and falls can still occur.**
  - They happen quickly and without warning, so it's important to know ahead of time what you can do to avoid an injury or lessen its severity.
  - You also need to know how to treat any injuries you might experience.
- **What you do with your body when you fall can make a big difference in how much of an injury, if any, may result. The important thing is to stay loose:**
  - Relax, don't tense up.
  - Bend at your elbows and knees
  - Allow your muscles to absorb the impact gradually.
  - Roll in the direction of the fall.
- **Do not try to break a fall with your hands.**
  - If you land with all of your body weight on a hand, you could seriously sprain your wrist or even break some bones.
- **If a coworker is hurt in a fall, there are a few first aid guidelines to follow.**

- **For minor injuries, there are several things you can do:**
  - Clean any visible wounds with water.
  - Stop any bleeding by applying pressure with a sterile dressing or a clean cloth.
  - Apply ice or cold packs wrapped in a cloth or towel to reduce pain and swelling.
- **You should call 911 immediately if:**
  - The victim is unconscious, unable to move or has difficulty breathing.
  - The injury bleeds heavily, or there is bleeding from the nose, ears, or mouth.
  - You think the head, neck, back, or hip may have been affected.
- **In some cases the EMT dispatcher may be able to assist you with basic first aid instructions.**
- **Finally, you should comfort the injured person.**
  - Stay with them until they have recovered or emergency assistance arrives.

**\* \* \* SUMMARY \* \* \***

- **When standing, walking and working, you can increase your stability by keeping your center of gravity low.**
- **Pay attention to the surfaces you walk on and avoid slip and trip hazards.**
- **Clean up unused materials and debris immediately, and keep walkways, stairs and ramps free of clutter and other obstacles.**
- **Wear shoes or boots that will give your feet the most secure grip for the conditions that you are working in.**
- **If you do fall, remember to relax and roll with it.**
- **By "staying on your toes" you can help to reduce or eliminate any slip, trip and fall hazards on your**

**job site, and avoid the injuries that they can cause...  
so you can go home safe at the end of every day!**