

SLIPS, TRIPS AND FALLS IN INDUSTRIAL ENVIRONMENTS

COURSE OUTLINE

- **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.**
 - To start, we need to know something about our "center of gravity".
- **A person's center of gravity is the point where the weight of the body is equally distributed, half above and half below...and it plays an important part in every movement we make.**
- **To find your center of gravity...**
 - Imagine that you're standing up straight.
 - Draw a triangle, with your feet forming the two points at the "base".
 - The third point of the triangle is at your lower back.
 - The "upper point" of the triangle is located roughly where your center of gravity would be.
 - As you move, these three points are constantly changing positions.
- **If your center of gravity extends out past your feet, you could "lose" your balance... and 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 others.**
 - For example, a short person will have a lower center of gravity and be more stable than a tall person.
 - Therefore, it takes less of a push for the taller person's center of gravity to extend out past their feet so 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.
- **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 makes you even more unstable.
- **How you carry something can affect your stability as well.**
 - Putting a load on your shoulder not only raises your center of gravity...it throws it dangerously off to the side.
 - You can increase your stability by carrying objects close to your body and as low as you can...while still keeping your back straight
- **Walking can be a pretty risky activity, because it requires us to fall and catch ourselves with every step.**
 - While we're doing that, there is a lot of opportunity for us to slip or trip along the way.
- **"Momentum" is the force that we build up as we move in any direction.**
 - It tends to keep our body and its center of gravity going in the same direction.
 - But if we encounter something that interferes with our progress, such as an object or slick 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 downstairs, can also cause us to trip, especially if the surface is uneven or damaged.
- **"Slipping" occurs when something interferes with the amount of friction between our shoes and the surface we're walking on.**
 - When this happens, it can cause 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 things that we're very likely to be doing when we're on the job.
 - So the faster we go and the more that we carry, the more attention we need to pay to potential slip and trip accidents.

- **In addition to slips and trips, you need to watch out for fall hazards during a busy workday as well.**
 - If you don't, it can lead to pain, injuries or even worse.
- **If you need to reach something up high, you should use a ladder.**
 - Be sure to keep your center of gravity positioned between the two upright rails.
 - Losing your balance on a ladder could get you to the ground a lot faster and more painfully than you want.
- **When you are using a ladder, you should follow the "three-point" rule.**
 - Keep one hand and two feet or two hands and a foot in contact with the ladder at all times.
- **You don't have to be "up high" for a fall to cause a serious injury.**
 - So you need to be careful when you are "off the ground" at any height
- **Different surfaces provide varying degrees of the friction that is needed by your feet to maintain a secure grip.**
 - You can avoid slipping by being aware of the type of surface that you're walking on, and how much traction it typically provides.
- **The walking surfaces you 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, carpet, surfaces covered with non-slip coatings and rough-textured concrete.
- **Moderately slippery surfaces are reasonably slip-resistant when they're dry...but can be very slippery if they're wet.**
 - These include vinyl flooring, unpolished ceramic tile, unfinished wood and smooth concrete.
- **Slippery surfaces don't provide much traction at all...whether they're wet or dry.**
 - They include polished marble and tile, smooth metal, varnished wood, freshly painted concrete, and of course, ice.
- **Outside of your building, you need to be careful when walking on sidewalks and pavements that may be wet or icy.**

- **The most slippery places inside buildings tend to be near entrances, restrooms and around machinery.**
 - Often, the floors in these locations are made of moderately slippery materials, like vinyl, tile, or painted concrete, which can become “skating rinks” when they’re wet.
 - If possible, all of these areas should be covered with non-slip materials, such as rubber mats or carpeting.
- **You should always keep an eye out for oil, grease and street grime on any walking surface...or any accumulations of dirt, sand or other granular or powdery material.**
 - These can all increase a surface’s slipperiness.
- **Your likelihood of slipping increases significantly when a surface isn’t level.**
 - So whether you’re inside or outside, watch your step on ramps and other sloping surfaces.
- **Following good housekeeping and maintenance practices can prevent slips, trips and falls...as well as the injuries they cause.**
 - For example, replacing a burned out lightbulb can help everyone to see and avoid slip, trip and fall hazards.
- **Keep all walking surfaces dry.**
 - If you discover some spilled water, use rags, paper towels or a mop to clean it up.
 - When substances like grease or oil accumulate on the floor, you should spread an absorbent material like vermiculite or kitty litter over the area... then 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 that people won’t trip over it.
- **Walkways and other high-traffic areas should be kept clear of boxes, tools, and other materials that could cause trips.**
- **Remember to pick up small items off the floor as well.**
 - Stepping on a pencil or even a paperclip could send somebody “skating” when they least expect it.

- **Inspect stairways and clear them of debris and other obstacles.**
 - Check that handrails are firmly attached, and use them whenever you go up and down stairs...just in case.
- **Loose mats, torn carpet and small “potholes” can cause slips and trips as well.**
 - If you discover problems like these, block them off from foot traffic.
 - Then report them to maintenance so they can be repaired as soon as possible.
- **Make sure to close file cabinets and desk drawers after using them.**
 - That way they won’t trip anyone who passes by later.
- **When you use a wet mop, put out signs to warn people about the slippery floor.**
- **Don’t stretch power cords across “high-traffic” areas and walkways.**
 - This creates a serious trip hazard.
 - Instead, tape them down.
 - But don’t leave them there for more than a few hours, since the tape will eventually loosen and create its own trip hazard.
- **It’s always a good idea to wear shoes that will help protect you from slips, trips and falls.**
 - Your shoes should always fit properly, be comfortable, and have soles and heels that are suited for the surfaces that you will be walking on.
 - Avoid sandals and open-toed shoes...they have straps that could catch on things and cause you to trip.
- **The heels of your shoes are especially important.**
 - Most slips occur when there is not enough friction between your heels and the walking surface beneath them.
 - To get a secure grip, the heels on your shoes should be low and wide.
- **High heels provide very little traction for your feet, and can trip you by catching on carpet or irregularities in a walking surface.**
 - High heels also make you naturally unstable, because they raise your center of gravity.

- **Pay attention to the soles of your shoes as well.**
 - Soles made of synthetic soft rubber, such as those on sneakers and most “walking shoes”, can grip dry surfaces well but may slip in wet conditions.
 - Soles made out of hard rubber don’t create particularly good friction on dry surfaces... but have good traction in areas that are wet or greasy.
 - Smooth leather soles can lose their grip even on carpet and other “non-slip” surfaces.
 - Many business shoes now come with “slip-resistant” rubber soles, which are a lot safer...and can also be more comfortable.
- **Raised patterns or “texturing” on a shoe’s sole is called “tread” and it can greatly increase slip-resistance.**
 - Some work shoes and most work boots have especially deep treads.
 - The treads improve the sole’s grip and channel away water or other liquids that could reduce the friction they have with a walking surface.
 - If your shoes or boots have treads, you need to remember to inspect them frequently...foreign objects such as pebbles or thumbtacks can become embedded in the treads, and turn even a slip-resistant shoe into a skate.
- **Slips, trips and falls 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...and how to treat any injuries that might result.**
- **"Staying loose" when you fall can make a big difference in how much of an injury, if any, could occur.**
 - 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 receives a minor injury in a fall, you can...**
 - Clean visible wounds with water.
 - Stop any bleeding by applying pressure with a sterile dressing or cloth.
 - Use ice 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 ears, nose or mouth.
 - You think their head, neck, back or hip may have been affected.
 - In some cases the EMT dispatcher may be able to give you basic first aid instructions.
- **Finally, you should comfort the injured person, and stay with them until they have recovered or emergency assistance arrives.**

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- **By understanding the hazards that lead to slips, trips and falls, and knowing how to avoid them, you can keep yourself "on your feet" and injury-free.**
- **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 you're working with.**
- **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 in your workplace, and avoid the injuries that they can cause...so you can go home safe at the end of every day!**