

## **PRESENTER'S GUIDE**

# **"WALKING AND WORKING SURFACES"**

**Part of the General Safety 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.

- **When it comes to safety, the floor beneath our feet might be the last thing we think about.**
  - Floors, platforms and scaffolds, aisles, passages, stairways and ladders...it's easy to take the surfaces we walk and work on for granted.
  - But that would be a big mistake.
- **Whether we're standing, walking or climbing, we depend on these surfaces to provide the support we need to position ourselves properly, use our muscles efficiently, keep our balance and do our work safely.**
- **Yet slips, trips and falls continue to make up the majority of on-the-job accidents.**
  - They cause almost 20% of disabling occupational injuries, and thousands of fatalities every year.
  - Most of these accidents could have been prevented.
- **That's why OSHA (the Occupational Health and Safety Administration) developed regulations focusing specifically on "walking and working surfaces".**
  - The principles and practices that are behind these regulations can help you get your job done and go home safe at the end of the day.
- **You might never have given a thought to the floor in the entrance to your facility until one stormy day you discover the hard way that rain water on tile can turn it into a skating rink.**

- **Water and other liquids will make many surfaces more slippery.**
  - Grease, oil and process wastes, even dry materials like sawdust, metal shavings and common dirt, can do it, too.
  
- **Just about anything that comes between the sole of your shoe and the floor can make you slip.**
  - Even simple litter like scraps of paper, cardboard or discarded packing material can do it.
  
- **Trips are caused by things that get in front of your foot unexpectedly, such as...**
  - A pallet someone left on the walkway.
  - An extension cord stretched across the floor.
  - Building materials scattered around a construction site.
  
- **These are only a few ways a trip and fall can begin. But all of these can be prevented by good housekeeping.**
  - An orderly workplace with clean walking and working surfaces creates a safer environment for everyone.
  
- **There are some hazards that you can't just clean up or put away.**
  - Ditches, open pits, tanks, vats, and other equipment that can create potential slip or fall problems must be covered, or surrounded by a railing.
  
- **The process of using actual physical barriers to reduce the risk of a slip, trip, or fall is called "guarding".**
  - It's another effective way to keep you and your coworkers safe.
  
- **Speaking of "floor hazards", how can you determine how strong a floor is?**
  - You can't tell just by looking at it.
  - If you're installing large equipment, storing heavy materials, or driving a loaded forklift across it, you need to know how much weight is too much.

- **Fortunately, a floor's load-bearing capacity, or "load rating limit", is not something you normally have to guess at.**
  - Where floor-stressing activities take place, it should be clearly marked, and posted conspicuously.
- **With all that's going on at floor level, getting safely from point A to point B in a busy workplace can often be a challenge.**
  - In addition to the folks who are "just passing through", you can have people working, equipment running and materials being moved.
  - It can add up to a lot of hazards.
  - So it's important for aisles and passage-ways to be clearly marked.
  - That way everyone knows where it's safe to walk.
- **Marking off these areas also indicates where there shouldn't be any clutter or other obstacles.**
  - It's easier to see the things that "don't belong", so they can be cleaned up or moved out.
- **It may be natural to assume that a floor will be where you expect it to be... but assumptions can be dangerous!**
  - Large holes like openings for stairways or ladders are big enough for you to fall through.
  - They have an odd way of appearing underfoot at just the wrong time.
- **But these surprises can be prevented by guarding openings with a "standard railing".**
  - This barrier consists of top rail 42 inches high, with a midrail half that height, and vertical uprights to support them.
  - Installing these around the perimeter of an opening effectively keeps people safe.
- **But tools and materials can fall through holes and other openings, too, and injure the people working below.**
  - Falling objects that land in machinery or on energized equipment may create secondary hazards, as well.

- **That's why "toe boards" should be added to railings wherever falling objects can be a problem.**
  - These four inch tall barriers along the floor guard the edges of openings, so that tools and materials can't get through.
  
- **Openings in walls can pose just as great a hazard as those in floors.**
  - Wall openings that are big enough for someone to fall through, and drop more than four feet, must have barriers installed across them.
  
- **"Catwalks" and other open-sided platforms are another potential fall hazard.**
  - If you lose your balance near the edge of one of these, there's nothing to keep you from falling off, unless railings have been put up.
  - Standard railings must be installed whenever these platforms and catwalks are four feet or more off the ground.
  - To protect people or equipment beneath the platform, toeboards are required, too.
  
- **All platforms must be fully guarded, regardless of their height, when they are above or next to dangerous equipment, such as pickling or galvanizing tanks, degreasing units, "choppers" or similar machinery.**
  
- **Slipping, tripping and falling down or off of stairs is always a serious problem.**
  - It can be especially dangerous in the workplace, where you may be carrying tools or materials, or where there might be hazardous equipment operating nearby.
  
- **But if you do have a problem it's not usually the stairway's fault!**
  - Studies have shown that more than 90% of stairway falls actually result from the unsafe behavior of the people who use them.

- **If you run on stairs, skip steps or carry things that are so big you can't see where you're putting your feet, you're pretty likely to take a tumble sooner or later.**
- **However, there are some requirements stairs must meet that minimize the risk of a slip, trip or fall as much as possible.**
  - For example, because accidents are more likely to occur on stairs that have uneven steps or other irregularities, riser height and tread depth must be uniform.
- **All stairways with four or more vertical risers must also be guarded with:**
  - Hand rails fastened to a wall.
  - Or stairway rails supported by uprights.
  - These help people to keep their balance and prevent themselves from falling.
- **To be effective, standard railings must be 30 to 34 inches above the surface of the stair tread, and the hand rails must have at least 3 inches of clearance around them, so you can get a good grip.**
- **"Heavy duty" permanent stairways that are used routinely by workers in machinery spaces and elsewhere have their own safety requirements.**
  - They have to be able to carry at least 5 times their expected load (a minimum of 1,000 pounds).
  - Many of these stairs are made of metal, and if they can't carry this much weight, they can bend.
  - Even a slight bend can create the kind of irregularity that causes falls.
  - If you notice damaged treads on these types of stairs, tell your supervisor so that repairs can be made before they cause any problems.

- **"Fixed ladders" are another type of ladder that have special safety requirements.**
  - They are permanently attached to equipment, a building or other structure, and can often be very long.
  - Fixed ladders that are more than 20 feet in length are required to be guarded by "cages" or "wells".
  
- **While these can cut down on potential hazards and provide a nice sense of security, to really be safe on fixed ladders a climber should also use a form of personal fall protection called a "ladder safety device".**
  - These typically consist of a body harness that is linked to a ladder-mounted braking mechanism or a self-retracting lifeline.
  
- **If your job requires you to climb fixed ladders, you'll need to know how to inspect and maintain your fall protection, as well as how to put it on correctly and use it safely.**
  - If you have questions, talk to your supervisor.
  
- **But you don't always find a fixed ladder or stairway right where you need it.**
  - That's why portable ladders are so convenient.
  - You can carry them to the job and climb right up to get it done.
  
- **This convenience comes at a price.**
  - You have to inspect portable ladders and set them up correctly every time you use them, or you could be in for a nasty fall.
  
- **First, make sure the ladder is in good condition.**
  - Inspect it carefully for defects.
  - Look for any sharp edges or splinters.
  
- **Make sure there are no broken, loose or missing steps, rungs, cleats or other components.**
  - Check that the feet are in good shape, so the ladder won't slip.
  - Be sure to clean off any grease, oil or other type of substance that may have accumulated on the rungs or rails.

- **Any ladder that fails your inspection should be taken out of service.**
  - You should mark or tag it "Dangerous: Do Not Use".
- **When setting up a ladder, make sure both ends are firmly positioned.**
  - The feet should be level.
  - If the ground is uneven, use boards or a ladder jack to even it out.
- **Remember that nearby power lines or energized equipment can be very dangerous.**
  - If you must work near them, be sure to use a ladder made of fiberglass or wood, to reduce the risk of electric shock.
  - Never use a metal ladder around electricity.
- **Surrounding "traffic" can also be an issue.**
  - A ladder that's set up in a busy area is in danger of being run into and possibly displaced by passing people or equipment.
  - To prevent this, put up warning cones, caution tape or other barriers to keep traffic clear.
  - Never set up a ladder outside a door that opens outward, unless that door is locked, blocked, or guarded.
- **The most stable angle for a ladder is 75.5 degrees, but such precise measurements aren't always practical on a worksite.**
  - You can get into the right "ballpark" by using the "four to one ratio".
  - For every four feet of vertical height, place the bottom of the ladder one foot "out" from whatever it's leaning against.
- **If you're setting up your ladder to climb to a roof, make sure the top of the ladder extends at least 3 feet above the roof's edge.**
  - This gives you something to hold onto so you don't lose your balance as you get off.

- **Never use a ladder in a way that wasn't intended, such as horizontally as a makeshift scaffold or work platform.**
- **A scaffold is a temporary raised platform that's designed to support you and the tools and materials you need when you're doing a job off the ground.**
  - You need to be very careful when working on a scaffold.
- **Although there are many types of scaffolds, they fall into two main categories.**
  - "Supported" scaffolds have the work platform supported from underneath.
  - "Suspended" scaffolds are suspended from above.
- **Working "up high" can be risky business, which is why regardless of the type of scaffold you're on, you must use "fall protection".**
- **One type of fall protection that we've already talked about, "guarding", is also used on scaffold work platforms.**
  - Scaffolds more than 10 feet off the ground are required to have their open sides protected by railings with midrails and toeboards.
  - If people work or pass underneath the scaffold, wire mesh must be installed between the toeboard and guardrail as well, to provide added protection from falling objects.
- **Another form of fall protection that is used on scaffolds is "personal".**
  - Like the "ladder safety device" we discussed earlier, it's equipment that you wear.
- **On a scaffold, they usually consist of a full-body harness that is connected to a lanyard.**
  - In some situations the lanyard can be anchored to a structural member of the scaffold.

- **In other situations the harness can be connected to a lifeline or deceleration device.**
  - If a deceleration device is used it should be secured directly to an anchor point or to a vertical lifeline that is connected to the anchor point.
- **To safely support the weight of a falling worker, OSHA requires deceleration devices and vertical lifelines to be anchored to a substantial part of the structure that is being worked on, such as a girder or i-beam.**
- **In all cases, they must be able to support a minimum deadweight of 5000 pounds.**
- **If you do wear personal fall protection on a scaffold, make sure you know how to inspect it, put it on, and work safely with it.**
  - See your supervisor if you have questions.
- **Sometimes scaffold safety means not working on the platform at all, such as in stormy weather.**
  - Rain increases your chances of slipping or falling, and a strong wind can easily knock you off balance, especially when you're carrying materials.
  - If there's ice or snow on a work platform, stay off until it has been cleared away and the planking sprinkled with sand for better footing.
- **Don't remain on the platform of a scaffold that is going to be moved or altered in any way**
  - You should stay off a scaffold when it's being loaded or unloaded as well.
  - Remember to replace guardrails after the process is complete.
- **Never climb the frame or braces to get to the platform of a supported scaffold.**
  - These "shortcuts" can be dangerous.
  - Use the ladder or internal stairs.

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

- **Many slips, trips and falls can be prevented simply by "good housekeeping".**
- **Hazards such as floor holes, open-sided platforms and walkways can be guarded effectively with standard railings and toeboards.**
- **Inspect ladders every time you use them. Be sure you know how to set them up properly and work with them safely.**
- **Know how to use personal fall protection equipment if you need it when you're working up high.**
- **Never work on a scaffold during stormy or windy weather, or remain on it if it's being moved or altered in any way.**
- **Whatever you're doing, always pay attention to the "floor" beneath your feet... it's important.**
- **Working more safely and avoiding slips, trips and falls begins when you stop taking walking and working surfaces for granted!**