Wily Coyote always seems to fall into a deep canyon and not be injured at all. People can’t. Then why do we seem to have trouble getting workers to pay attention to the fall hazards around them?

**Guide for Discussion**

The following items represent the bulk of the exposure to falls on a construction site.

**Ladders:**
- Always use the right ladder.
- Set them on level ground and tie them off at the top (for security).
- Do not over reach.
- Do not over extend yourself on the ladder.
- Always face the ladder and try to use both hands when climbing.

**Floor Openings:**
- Floor openings should be properly covered.
- Covers must be able to support walls the same as the floor.
- Covers should be firmly attached to the floor/walking/working surface.
- Covers should be marked as such. For example: “Cover,” or “Do Not Remove Floor Opening Cover.”
- Consider wall openings and uncompleted stairways as openings with suitable protection provided.

**Stairways:**
- Use handrails.
- Watch where you step.
- Keep your view clear.
- Concentrate on the stairs.
- Do not run up or down the stairs.
- Keep stair well clean.

**Housekeeping:**
- Always try to provide good footing.
- Keep tools, trash, scrap materials out of walkways.
- Clean as you go.
- Always be wary of oil, ice or snow.

**Additional Discussion Notes:**

- Balance. Wear appropriate footwear (including auxiliary footwear like corkers) when necessary.

**Remember:** Paying attention to things around you like ladders, floor openings, stairways and good housekeeping will help prevent a fall.

**Attendee’s:**

**NOTE:** Always promote a discussion on any of the topics covered in the Tool Box Talks. Should any question arise that you cannot answer, don’t hesitate to contact your Employer.
Ladders

Injuries in the workplace because of ladder are commonplace. Falls from ladders can be as painful as a fall from a roof; about a third of all reported falls are falls from ladders. (*) Many of the fall related injuries result from the improper use or the use of a defective ladder. Step/extension ladders are made to access/egress upper levels, not to be used as work platforms. There are specifically designed ladders for use as work platforms such as order pickers. These ladders are constructed with a small platform and guardrail. The following safe work rules should be observed when working with ladders.

(*) 1993-94 Study: 238 of 705 falls based on an OSHA study.

Guide for Discussion

**Inspection**

- Look for missing or loose cleats at the bottom.
- Look for loose or missing screws, bolts or nails on job made ladders.
- Look for cracked, broken, split, dented or badly worn rungs, cleats or side rails.
- Splinters on wood ladders.
- Corrosion on metal ladders.

**Ladder Use**

- Always use the right ladder for the right job.
- Don't set your ladder in a walkway or door opening.
- Keep the area at the top and bottom of the ladder clear of tool cords, tools, material and garbage.
- Always set the ladder on solid footing.
- Use a twenty-five percent (25%) angle on the slope of the ladder.
- When using extension ladders, the three (3) top rungs must extend beyond the landing platform. (Or the top of an extension ladder must be 36" (3 feet) above the landing.
- Don't lean to the side when on a ladder or you may tip over.
- Do not carry tools or materials on a ladder. Use both hands when climbing a ladder to grab onto the side rails. If it is necessary to move material or tools up a ladder, first climb up, then pull up the work with a hand line.
- Only one person on a ladder at a time (*unless the ladder is double cleated*).
- Always secure the top of the ladder to prevent it from sliding.
- Never lean a step ladder; always fully open a step ladder.
- Always face the ladder.

**Additional Discussion Notes:**

- Always tie off the ladder. That way it stays where you put it.

**Remember:** When you are on a ladder, you can fall. If you can fall, you can get hurt. Use ladders safely.

**Attendee's:**

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Introduction: This is a true story only the first name of the victim has been changed. One of our friends wrote: “I lost a good friend September 15, 1997 from a fall from a roof. It seems that my friend Leroy went to help a neighbor with a leaking roof problem.”

Guide for Discussion

It was on a low pitched single story home (a 3/12 or 4/12 pitched roof), about eight foot ground to eaves's height. From family reports, Leroy borrowed a ladder from the neighbor to go up and temporarily fix the problem. However, it was just the top half of an extension ladder without safety feet on the bottom.

Leroy placed the ladder on a painted concrete patio, leaning against the house, with just one rung above the landing surface. Carrying a large rock to hold down the felt, Leroy went up the ladder.

While going up the ladder, the two friends continued their conversation. When Leroy got ready to step off the ladder, the ladder slipped and fell away. Leroy dropped the rock as he fell backward eight to ten feet. The rock bounced on the patio; Leroy hit the back of his head on the rock. He died later that night never having regained consciousness. He left four children (two of whom are contractors) and four grandchildren.

Leroy was an experienced concrete finisher, framer, finished carpenter, and roofer—a skilled “woodworker” according to his obituary. He was careless. I will miss Leroy. His children and grandchildren will miss him more; our sympathies go to the family. However, his accident was preventable.

There are about a dozen “common sense” safety violation lessons learned from Leroy’s death. What lessons can you learn from this?

Additional Discussion Notes:

Remember: Tragedies remind us that fall’s from ladders or roofs are serious and can be fatal. Every once in a while we need to be reminded why we have safety rules—and why they need to be followed. Don’t you take unnecessary chances by using the wrong tool.

Attendee's:

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Floors and Other Openings

Injuries in the workplace because of holes in walking and working surfaces are commonplace. Slips, trips and even falls from one level to the next can be as painful as a fall from a roof. The following items should be considered when dealing with floors and other types of openings.

Guide for Discussion

Hazard Identification: Floor Openings (2"x2" minimum at any depth)

- Temporary openings
- Plumbing
- Ventilation (Vault Ceilings?)
- Skylight wells
- Manholes
- Holes in Ground (Trenches and Excavations)
- Wall/Window Openings
  - Temporary guardrail system

Washington Fall Protection Standards

Methods of Protection

- Use of standard guardrails
- Use of covers
  - Able to support four times the intended load
  - Nail down
  - Mark with “Cover”

Additional Discussion Notes:

Floor Openings -- Types in Need of Guarding
- Ladder way floor openings
- Hatchways and chutes

Remember:

When you create a safety hazard, you need to protect others against the hazard. The easiest method is to fix the problem when you create the problem.

Guardrail systems must be able to withstand a 200 pound load applied horizontally and vertically. All floor covers must be able to support at least twice the intended load and installed to prevent accidental shifting. Floor coverings should be so marked in a bright colored paint to communicate the danger.

Attendee’s:

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Guardrails

One of the more common WISHA citations is for lack of or improperly erected guardrails. There are two basic types of guardrails – the perimeter guardrail (i.e., found on flat roofs, upper stories before framing walls) and floor opening guardrails. Both are constructed the same way and are designed to provide the same type of protection. See WAC 296-155-505.

Guide for Discussion

The following items should be reviewed when discussing guardrails:

*When are they required?*

- All open-sided floors or floor openings exposing workers to a fall of four feet or greater.

*Standard Specifications*

- The top rail should be 42” high and constructed of 2”x4” stock wood.
- The intermediate (or mid rail) should be 21” (also using 2”x4”).
- The bottom rail or toeboard should be at least 4” in vertical height from the floor to the top of the toeboard.
- Uprights will be 2”x4” at 8’ centers at a minimum.
- All components must withstand a load test of 200 pounds at any point.

*General Rules*

- Install guardrails properly the first time and reduce the amount of maintenance.
- Install as you go—don’t wait and then have to catch up.
- Regularly inspect all rails.

*Additional Discussion Notes:*

Window and Door Openings.

Interior stairwells requiring hand rails.

Anyone repairing a guardrail at elevated heights should be wearing their Personal Fall Arrest System (PFAS) and be tied off to an anchor point.

Enforce replacement by subcontractors when they remove them.

*Remember:* Guardrails are designed to protect you from falling from one level to another. If the guardrail is defective or not there at all, then you are exposed to serious injury or even death.

*Attendee’s:*

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Ramps and Runways

Ramps and runways are an integral part of almost every jobsite. However, many ramps and runways are not properly constructed resulting in a jobsite hazard to anyone on the site and as a source for damaged materials.

Guide for Discussion

General rules for ramps and runways:

- Keep them free from job junk (debris).
- Provide suitable traction.
- Consider standard guardrails (with or without toeboard) on both sides to prevent falls.
- Ramps with a minimum width of eighteen (18) inches may have only one guardrail.
- Never exceed a twelve foot span (maximum) without bracing.
- All walkways used in lieu of stairs must have cleats.
- Give plenty of clearance when workers are carrying or pushing materials.
- Don’t overload with people or materials.
- Keep all loads moving. Don’t stop on a ramp or runway with a load.
- Never work under a ramp or runway; the load may wind up on you.

Danger signs for ramps and runways:

- Not wide enough.
- Not properly supported or nailed.
- Too steep an incline.
- No cleats.
- Bad spots or uneven walkways.

Additional Discussion Notes:

When guardrails are mandatory.
Other danger signs.

Remember: It makes good sense to erect safe and accessible ramps and runways. A failure to do so is just like setting up booby traps throughout the job.

Attendee’s:

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FULL BODY HARNESS/LIFELINES DISCUSSION POINTS

Full Body Harnesses, a connector (for example, a self-retracting lanyard), lifelines and anchors are all part of a Personal Fall Arrest System (or PFAS). The days of having a safety belt and lanyard are over – just too many injuries and deaths to workers.

PFAS is generally required when working at ten (10) feet in the workplace. That is a WISHA requirement. *Insert company policy.* Falls account for over a quarter of all construction injuries. It seems that some workers don’t want to take the time to put their PFAS on, or worse, feel they don’t need the equipment. We are sure that every person who was injured or died from a fall would have gladly worn their PFAS if they had only known they were about to fall.

**Guide for Discussion**

- Inspect the equipment (harness, hardware, connector, and lifeline) before use.
- Never use equipment, which is not in good condition.
- Use only rated equipment. Remember, the PFAS must withstand 5,000 pounds of dead load.
- Always secure lanyards to a suitable anchor, above your work area if possible.
- Don’t modify to mix any of the safety equipment.
- Never allow acids, caustics or other corrosive materials to come into contact with any of the equipment.
- Store your equipment in a dry place.
- Replace damaged equipment; remove it from service as soon as possible as it is determined to be defective.
- Use the equipment required.

**Additional Discussion Notes:**

**Remember:** Don’t allow yourself to be lulled into a false sense of security. Always provide yourself with some fall insurance. Regularly wear your PFAS and keep it attached to a lifeline. The life you save may be yours.

**Attendee’s:**

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