



Slip, Trip and Fall Prevention: Concepts & Strategies

Date – September 10, 2014

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Agenda:

- WV Slip/Trip/ Fall Claims Analysis
- Discuss Why Falls Occur
- Prevention Strategies
- Training Approaches
- Video/ Hazard Recognition Exercise

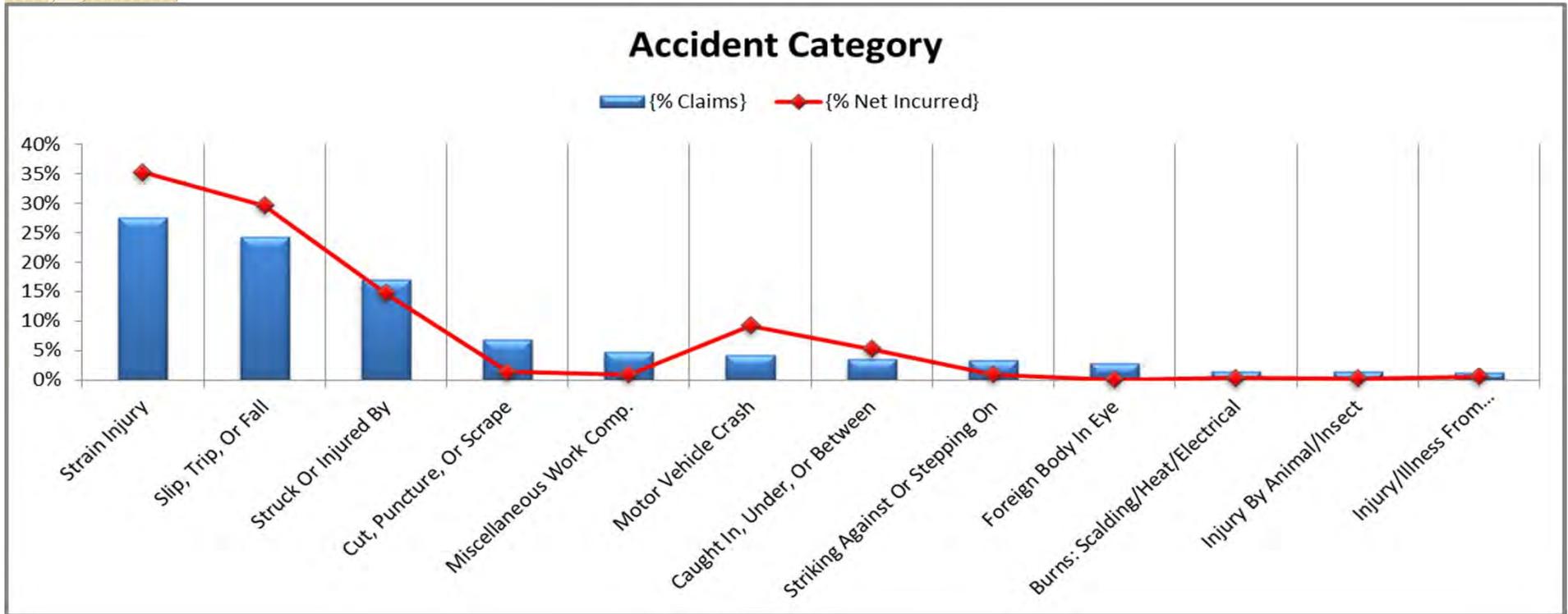




Fall Injuries Can Happen Anywhere

- WV DOT
 - October 2013- While taking down scaffolding, a board slipped in bracket causing the employee to fall about 15ft onto debris. Injuries were sustained to back, right shoulder, ribs, head and both legs.
- WV DHHR
 - April 2014- Pregnant female sustained injuries to lower back and left knee after she slipped and fell on puddle of water in hospital hallway.
- WV DNR
 - October 2013- Employee fell 20 feet off of coal tender, striking the ground and rendering him unconscious for an unknown length of time.

State of West Virginia Claims analysis October 1, 2011- August 1, 2014



Since October 2011:

- **1,086** Injuries have resulted from slip/trip/falls
 - **24.3%** of claims frequency
- **\$8,141,323** of incurred cost
 - **29.6%** of claim severity

**2ND LEADING
CAUSE OF
INJURIES
STATEWIDE**

Where are Slip/Trip/Falls Occurring?

Rank	Division	Number of Claims	Total Incurred
1	DOH	324	3,615,314
2	DHHR	228	1,000,061
3	DOC	143	809,120
4	DNR	57	741,154
5	Dept of ED	40	118,708
6	Div Juvenile Serv	40	193,597
7	DEP	23	103,744
8	VA	18	107,523
9	Rehab Serv	17	20,419
10	All Other	196	1,431,683
Grand Total		1086	8,141,323

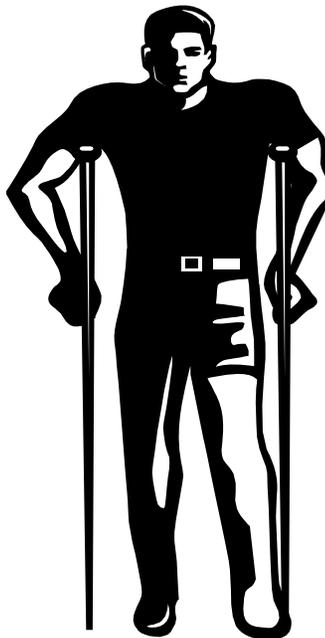
- Average cost of slip and fall injury= **\$7,497**

Slips, Trips, and Falls are Costly

- Slips and trips can happen in any part of the workplace, inside or outdoors.
- Slips and trips often result in falls and more serious outcomes, including disabling injuries and even death. The costs to both worker and employer can be great:

To Worker:

- pain
- lost wages
- temporary or permanent disability
- reduced quality of life
- depression



To Employer:

- loss in productivity and business
- increased industrial insurance premiums
- costs associated with training replacement worker

Injuries from Slips, Trips, and Falls

Common types of injuries:

- Sprains, strains
- Bruises, contusions
- Fractures
- Abrasions, cuts



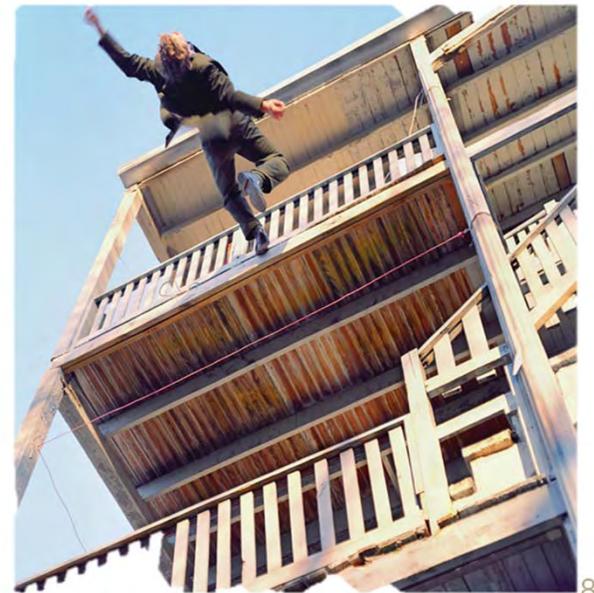
Commonly affected body parts:

- Knee, Ankle, Foot
- Wrist, Elbow
- Back
- Shoulder
- Hip
- Head

Two Types of Falls

- On Same Level:
 - High Frequency, Low Severity

- From Elevations:
 - Low Frequency, High Severity





Why Falls Occur

- Two Major Causes:
 - Inadequate friction on the surface.
 - A certain level of friction is necessary to prevent the shoe from slipping as it first strikes the walking surface (debris, foreign objects, water).
 - Unseen and unanticipated obstacles or conditions.
 - When surface conditions change significantly (uneven, broken, cracked walking surfaces). Changes as little as $\frac{1}{4}$ inch can cause someone to stumble.

Causes of Slips- Inadequate Friction on working surface

- sloped walking surfaces
- Ramps and gang planks without skid/slip resistant surfaces
- Shoes with wet, muddy, greasy, or oily soles
- Shoes with raised heels
- Moving too quickly



Causes of Slips- Unseen or unanticipated obstacles or conditions

- Mounting and dismounting trucks, tractors, heavy equipment, machinery
- Spilled liquids
- Climbing up and down ladders
- Irregularities in walking surfaces (thresholds, gaps)
- Loose irregular surfaces, such as gravel
- Sloped or uneven terrain, sidewalks
- Cords across walkways
- Weather hazards: rain, sleet, ice, snow, hail, frost
- Leaves, pine needles, plant debris (especially if wet)
- Carrying objects (impair balance, obstruct vision)



Why Falls REALLY Occur

- The environment is dynamic.
 - Constantly changing due to weather conditions, hazards created, etc...
- Therefore, we need to anticipate these changes and be proactive.
- We need to proactively identify the hazards/conditions and take corrective action.



Loss Prevention Impact

Immediate vs. Basic

- Immediate cause level – Corrective measures are necessary but **not long lasting**. Condition is **likely to return**.
- Basic cause level – Corrective measures change the management system. The entire organization is changed. **Conditions are not allowed to return** as they are **proactively identified and corrected**.

Slip/Trip/Fall Prevention Strategies

- Operations
 - Response/training to spills, debris, water intrusion
 - Arrangement of LOW LEVEL obstacles
 - Workplace/ Work Process Design
 - Inspections
 - Routine daily



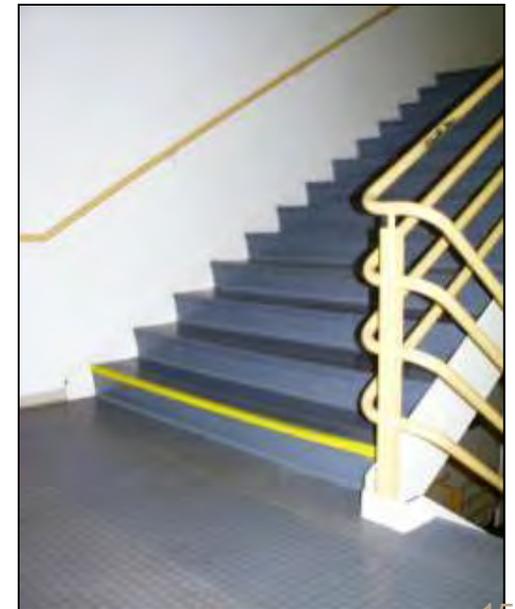
Workplace/Work Process Design



Step edges are highlighted for better visibility to prevent a misstep and fall down the stairs.

Mark/highlight step edges and transition areas (changes in elevations). Use anti-skid paint.

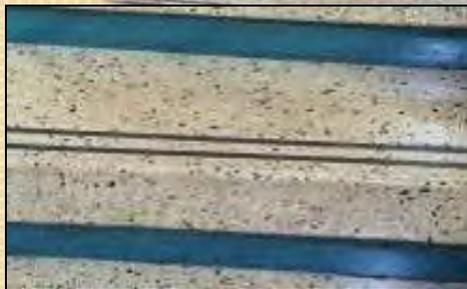
Confusing the bottom step with the floor is a common occurrence when it's not marked. No missing the last step here.



Make sure stairs have sufficient lighting and hand rails.

Workplace/Work Process Design

Apply slip-resistant coating or strips.



Slip-resistant strips on steps



Skid-resistant coating on ramp. Note highlighted edges for better visibility to prevent walking off ramp and falling.

Maintaining Work Areas: Housekeeping

Housekeeping

- Keep walkways, aisles, and stairs clear of materials, equipment, and other hazards.
- Cover or secure cables, cords, wires, and hoses away from walkways and other paths of travel.
- Make sure rugs or mats are flat and not bunched up.



Mounting/Dismounting Equipment Safely

- Clean footwear of mud, snow, ice, grease, or any other contamination.
- Make sure running board, tread, step, foothold, and platform of equipment are also clean and dry of any contamination.
- Always face equipment when mounting and dismounting.
- Have a good hand-hold before stepping up.
- Place your foot on the step or foothold just in front of your heel, under the arch.



- ✓ Clean shoes
- ✓ Clean foothold and step
- ✓ Proper foot placement on step and foothold

Mounting/Dismounting Equipment Safely



Courtesy of Construction Safety Association of Ontario

- Maintain three-point contact at all times while getting onto/off of the equipment until reaching ground, cab, or stable platform.

Three-point contact:

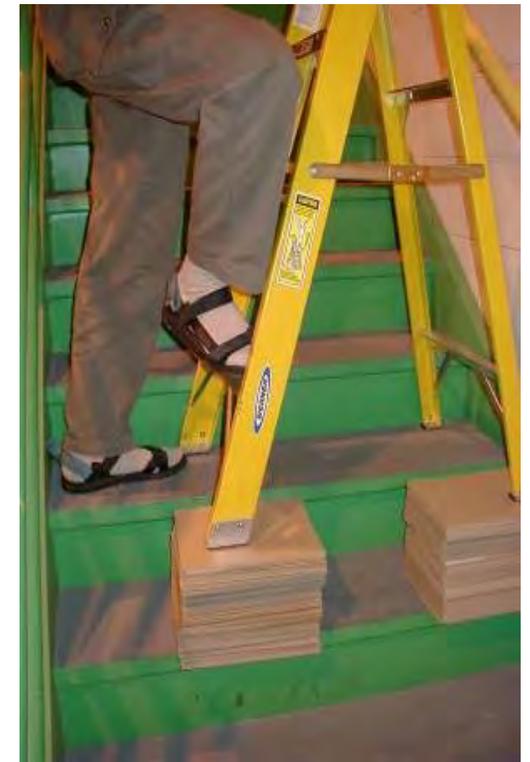
[- one hand, two feet
	- two hands, one foot

- Do not jump off when dismounting or getting off the bed of a truck or other part of the equipment. Step down carefully while facing equipment (reverse order of the pictures above).

Climbing/Descending Ladders Safely

Follow the same procedures for mounting and dismounting equipment as for climbing and descending ladders.

- Clean footwear of mud & debris.
- Never use makeshift ladders
 - Piling up boxes, chairs, benches
- Face the ladder at all times.
- Have a good hand-hold before stepping up.
- Never stand on top step of a ladder.
- Maintain three-point contact.
- Do not jump off ladder; step down carefully.



Never jump from elevations

- **Examples:**
 - Loading docks
 - Trucks
 - Work stages



Wearing Proper Shoes

Wear shoes with slip-resistant soles or traction devices when walking or working on surfaces that are wet, greasy, icy, or other-wise slick (e.g., in maintenance areas, performing custodial work).



Steel-toed safety boots with oil-resistant soles

No footwear has anti-slip properties for every condition so make sure that the proper type of footwear is selected for the work conditions and for the type of flooring or walking/working surface.



Slip-resistant traction devices for snow and ice that fit over the soles



Employee Training

- All new and transferred employees should receive slip/fall prevention and clean-up training.
 - location and proper use of clean-up equipment.
 - proper use of personal protective equipment (eye protection, gloves, cleaners).
 - training should be documented.
 - secure the hazard site.
 - properly clean the debris.
 - properly dispose of debris.





Employee Training



- Encourage employees to communicate and respond
- Train employees to do spot inspections
- Make sure everyone knows what to do in the event of an accident
- Acknowledge/Reward/Recognize employees who demonstrate the use of the system



Document

- All slip/trip/fall prevention efforts
- All inspections
- All employee training
- All accidents

Why?

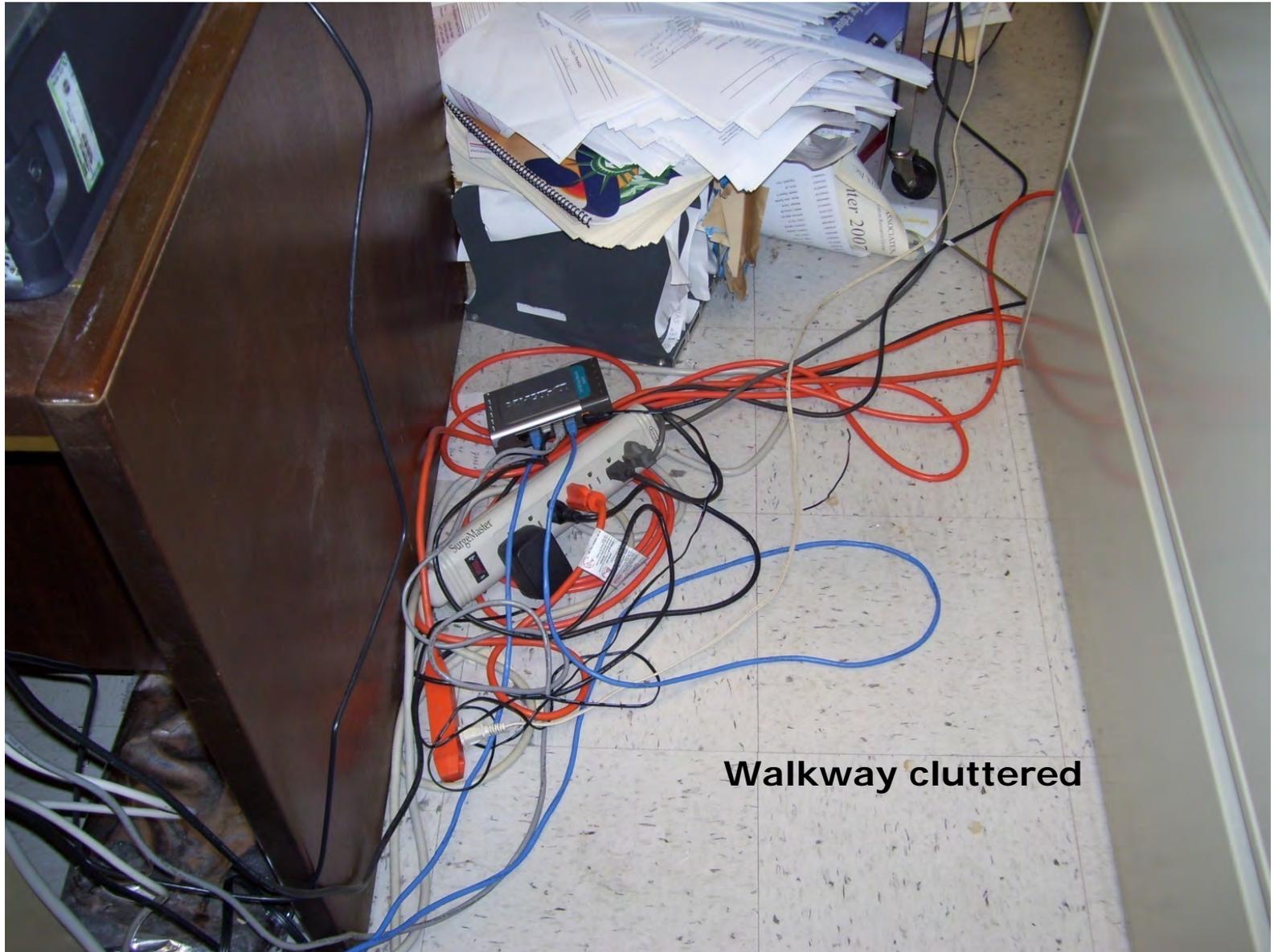
- Provides information to evaluate and adjust efforts.
- Provides basis to defend against claims.



What do you see?



What do you see?



Walkway cluttered

What do you see?



What do you see?



Safe or Not?

NO!!!! Employee standing on bucket on top step of ladder-fall could injure 2 people.

06.29.2006



Takeaways:

- Develop a written inspection program
- Staff awareness and training
 - Address slip/trip/falls in daily morning meetings and safety committee meetings
 - Train **ALL** employees not to use chairs, stools, counters, shelving, boxes, etc., as a ladder
- Document all fall prevention efforts
 - Training, inspections, accident investigations, etc...
- Ensure corrective actions are completed

Slip/Trip/Fall Prevention

Questions & Answers





Thank You



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