

Hazard Review

- **Slips, trips and falls**

Related Safe Practices

- **Hazardous Materials Spill Response**
- **Infectious Materials**
- **Personal Protective Equipment**

Required Personal Protective Equipment

- **Appropriate footwear (as needed)**

Authority

- **29CFR 1910 Subpart D**

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Nationally, slips, trips, and falls constitute the majority of workplace accidents. They are the source of 15% of all accidental deaths, and are second only to motor vehicles as a cause of fatalities. At RPD injuries related to walking-working surfaces (not just slips, trips and falls) were the 2nd leading cause of injury in FY03-04, constituting 17% of all lost work time. 72% of those injuries occurred outside, on dry surfaces (i.e., not in our recreation centers or other buildings).

Because of the high frequency of these injuries, an intervention is needed to prevent them. The first step is to improve your awareness and educate you on ways to avoid the related hazards, which is the goal of this safe work practice. Please review the below and put the steps into practice so that we may prevent as many of these injuries as possible.

BEFORE

1. Ensure adequate lighting in your work area.
2. Ensure appropriate footwear is in use for the task (see *Personal Protective Equipment Safe Work Practice*).
3. Ensure storage of materials and equipment so that they do not interfere with the walkways and become tripping hazards.
4. Ensure permanent changes of direction or elevation, or any hidden impediments are readily identifiable (using signs, flags, etc.). For temporary hazards, provide warning(s) where a slip hazard has been identified until

appropriate corrections can be made. Warning(s) may consist of signs, symbols or barriers¹.

5. Ensure guardrails are provided wherever aisle or walkway surfaces are elevated more than 30 inches above the ground.
6. Prior to walking with a large load or a load which may obstruct your view, walk the path of travel to ensure a smooth, even path free of debris or other hazards¹.
7. Consider slip-resistant mats where slippery surfaces exist².

DURING

1. Move slowly and deliberately across wet and/or uneven surfaces. Ensure you are wearing footwear which will provide some slip resistance when working on wet surfaces, such as grass. This is especially true when carrying equipment which may make it more difficult to balance or see properly.
2. Minimize the amount of backwards walking you have to do; try to walk forwards as much as possible.
3. Keep all worksites clean, orderly and in a sanitary condition.
4. Keep work/walk surfaces clean and dry, or take appropriate measures to assure the surfaces are slip-resistant.
5. Keep all work/walk surfaces free from protruding nails, splinters, holes, or loose boards.
6. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard. A width of 44" is required³.
7. Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.
8. Clean up any spill immediately. If the spill involves a hazardous material or blood or other potentially infectious material make sure you follow the related Safe Work Practice (*Infectious Materials* and *Hazardous Materials Spill Response*).

¹ RPD Industrial Investigation, EHS Case #2895 (DOI 8/18/05)

² RPD Industrial Investigation, EHS Case #2902 (DOI 7/14/05) and Case #2904 (DOI 9/6/05)

³ Conversation between Karin Jensen (EHS) and the SF Fire Prevention Bureau, 2/20/07.

9. If you are walking in the dark, use a flashlight or other means to check walking surface while completing a task².
10. When walking on steep terrain^{4,5}:
 - Select the easiest route up and down the slope according to the conditions. This might include zig-zagging.
 - Aim to remain as upright as possible; your center of gravity should be over your feet at all times.
 - Try to keep your feet as flat on the ground as possible.
 - Side-stepping can be an effective way of negotiating a steep slope.
 - Keep your knees bent.
 - Use something to help support you as a walking stick would.
11. When crossing streets⁶, cross at corners or mid-block crosswalks that are marked by painted lines. Although pedestrians have the right-of-way in California, proceed with caution and follow the following steps when crossing the street.
 - Stop at the curb or edge of road (don't stand in the street).
 - If the intersection is signaled, wait for green light (with walk sign if present) before crossing. Check for cars that may make right turns against the light.
 - If the intersection is not signaled, look both ways. If a car(s) have stopped, make eye contact prior to proceeding to verify that they know your intention to cross.

AFTER

1. Report, or fix if appropriate, any impediments in the walking surface (e.g. a loose carpet edge or a hole in the ground) or any type of failure or hole in the walking surface to your Supervisor, so that it may be corrected.

⁴ RPD Industrial Investigation, EHS Case #3244, DOI 10/17/06

⁵ <http://walking.timeoutdoors.com/subscriber/4WLKDHL01100103E.htm>, 10/25/06

⁶ RPD Industrial Investigation, Case #3321, DOI 1/17/07

What is a "steep" slope?

Steep slopes can be defined as any slope exceeding a rise to run ratio of 4:12. In other words, for every 12 feet of run, the rise is above 4 feet. This definition is taken from Federal OSHA's Roofing regulations because of the similar issues and well documented hazards that roofers face. Visually, it can be represented as follows:



References:

1. Federal OSHA, "Safety and Health Topics; Walking and Working Surfaces", <http://www.osha.gov/SLTC/smallbusiness/sec15.pdf>, May 29, 2003
2. Federal OSHA, "Safety and Health Topics; Walking and Working Surfaces", <http://www.osha.gov/SLTC/smallbusiness/chklist.html> - Walking, May 1997
3. EHS Injury Database Records; see file for reports on statistics which underlie this SWP.
4. American National Standard Institute, "Standard for the Provision of Slip Resistance on Walking/Working Surfaces", ANSI/ASSE A1264.2-2001, July 2, 2001.
5. City of Pasadena, Department of Transportation; "Pedestrian Safety", 2006