

## Resources

<sup>1</sup>Chuansi Gao and John Abeysekera. Slips and falls on ice and snow in relation to experience in winter climate and winter sport. *Safety Science*, Volume 42, Issue 6, July 2004, Pages 537-545.

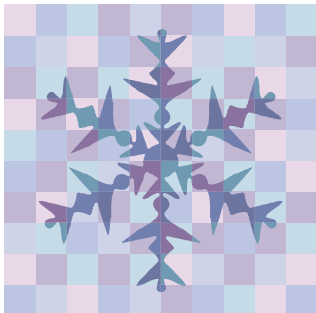
<sup>2</sup>Minimize Deicing Salt Damage in the Home Landscape. Iowa State University Extension News.  
<http://www.extension.iastate.edu/news/2009/nov/062401.htm>. Accessed January 6, 2010.

<sup>3</sup>[http://www.snowsource.com/generalstore\\_icebreakermats.htm](http://www.snowsource.com/generalstore_icebreakermats.htm)

<sup>4</sup><http://www.floormat.com/heated-mats/heated-mats-steps.html>

<sup>5</sup>McKiernan FE. A simple gait-stabilizing device reduces outdoor falls and nonserious injurious falls in fall-prone older people during the winter. *J Am Geriatr Soc*. 2005 Jun;53(6):943-7.

<sup>6</sup>Parkin L, Williams SM, Priest P. Preventing winter falls: a randomised controlled trial of a novel intervention. *N Z Med J*. 2009 Jul 3;122(1298):31-8.



### *Center for Hygiene & Health in the Home and Community*

The Center for Health and Hygiene in the Home and Community serves as a national and international resource for information and education, applied research, professional training, and conferences. The Center focuses on issues relating to hygiene and infection control in areas such as:

- Consumer food safety
- Home hygiene
- Daycare
- Preschool
- Homecare
- Sports and leisure activity
- Travel and hospitality

## Watch Your Step!

## Ice Safety in The Winter



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## Introduction

Everyone enjoys a 'winter wonderland' for the holiday season. But winter weather and cold temperatures can create treacherous walking conditions. Icy walkways and stairs can lead to slips and falls resulting in serious injury. A recent study in Sweden found that most falls occur on hard ice covered with snow while wearing ordinary footwear; melting ice was the second most common cause of winter falls.<sup>1</sup> The same study also found that falls were less likely among people who exercised regularly, thus maintaining their muscle strength and balance.

If you need to venture out on foot during the winter, you can avoid slips and falls on ice by:

- Preventing icy surfaces from forming
- Being properly equipped in case of slippery surfaces



## Preventing Ice Formation

Preventing surfaces from icing over is the safest way to avoid falls on ice:

- Clear walkways of standing water or melting snow before it freezes
- Add sand, gravel, de-icing salt, or special mats to walkways and stairs
- Sand and gravel will add traction, but will not melt ice

- De-icing salts come in several varieties; see the box to choose the appropriate salt for your local weather conditions
- To minimize damage to the environment, shovel as much snow and ice before applying de-icing salt
- Use less salt by mixing it with sand, ash, or cinders. 50 lb of sand added to 1 lb of salt is an effective de-icer<sup>2</sup>

### De-icing Salts

Rock Salt: sodium chloride

- the most common and cheapest de-icing salt
- effective down to 16-20°F
- sodium can corrode metal surfaces and severely damage vegetation
- releases large amounts of chloride into groundwater

Calcium Chloride:

- effective down to 0°F
- Like magnesium chloride, can stain carpets when carried under shoe soles
- Less environmentally damaging

Magnesium Chloride:

- effective down to negative 13°F
- the most environmentally friendly (releases the least chloride)

Used properly, de-icing salts will not damage wood, asphalt, or well-laid concrete



- Mats: heated or Ice-Beaker®
- Stepping on or hitting an Ice-Beaker® mat covered with ice will shatter the ice and leave a safe walking surface<sup>3</sup>
- Heated mats are electrically operated and must be kept plugged in to be effective<sup>4</sup>
- Make sure that mats are well secured to the walkway under them. Otherwise, the mats can be a slip-hazard themselves

## Gearing Up For Ice

- Proper footwear can help traction on ice, but cannot completely prevent slipping or falling
- Warm boots with good tread (check for wear and tear) are the minimum requirement to venture out on icy surfaces
- Snow and ice cleats (e.g. Yak-Trax Walker®<sup>5</sup>), or ski poles can offer added protection from slips and falls
- One study also suggests wearing socks **over** boots or shoes to provide better traction on ice<sup>6</sup>
- Walk slowly and take small steps
- Hold onto any railing or other secure surface
- Wear strong warm gloves and keep your hands out of your pockets. If you slip, you will have a better chance of breaking your fall with your hands
- If you are not stable on your feet, stay indoors. Prepare for winter storms by stocking up on essentials, and arrange for friends or family to help you clear your walkways and driveway during the winter

