

New national study finds 11,500 emergency department visits related to snow shoveling each year

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Known by many as one of the least favorite wintertime chores, shoveling snow can also be hazardous and is associated with many serious, even fatal events among both adults and children. A recent study conducted by researchers at the Center for Injury Research and Policy of The Research Institute at Nationwide Children's Hospital found that an average of 11,500 snow shoveling-related injuries and medical emergencies were treated in U.S. emergency departments each year from 1990 to 2006.

According to the seventeen-year study, appearing in the January 2011 issue of the [American Journal of Emergency Medicine](#), the most common injury diagnoses were soft tissue injuries (55 percent), lacerations (16 percent) and fractures (7 percent). The lower back was the most frequently injured region of the body (34 percent), followed by injuries to the arms and hands (16 percent), and head (15 percent). Acute musculoskeletal exertion (54 percent), slips or falls (20 percent) and being struck by a snow shovel (15 percent) were the most frequent mechanisms of snow shovel-related injuries.

While cardiac-related injuries accounted for only 7 percent of the total number of cases, they were the most serious, accounting for more than half of the hospitalizations and 100 percent of the 1,647 fatalities associated with shoveling snow. Patients 55 years of age and older were 4.25 times more likely than younger patients to experience cardiac-

related symptoms while shoveling snow. Among patients 55 years of age or older, men were twice as likely as women to exhibit cardiac-related symptoms.

"The cardiovascular demands of snow shoveling are increased by the freezing temperatures that typically accompany snowfall," said the study's senior-author, Gary Smith, MD, DrPH, director of the Center for Injury Research and Policy. "Not only is the heart's workload increased due to shoveling snow, but cold temperatures also add to the chances of a [heart attack](#) in at-risk individuals. We recommend talking to your doctor before you shovel snow, especially if you do not exercise regularly, have a medical condition or are in a high risk group."

Experts also recommend that people consider alternatives to shoveling snow such as hiring someone else to do it, or using salts, deicing sprays, heated sidewalk mats or snow blowers.

The following are a few additional tips for preventing injuries when shoveling snow:

- Warm up with light exercise before you start.
- Make sure to pace yourself by taking frequent breaks for rest.
- The best way to clear snow is by pushing it instead of lifting.
- Ergonomically designed shovels are a great choice to reduce the need for bending and heavy lifting.
- When possible, avoid large shoveling jobs by clearing snow several times throughout the day.

- Remember to wear warm clothing, including a hat, gloves and slip-resistant, high-traction footwear.

While the majority of snow shovel-related injuries occurred among adults, more than 1,750 children and adolescents under the age of 19 years were injured each year while shoveling snow. Patients in this age group were almost 15 times more likely than those in other age groups to be injured as a result of being struck by a snow shovel, and two-thirds of their injuries were head injuries. "Shoveling snow can be a great outdoor activity for kids; however, it is important for parents to teach children the correct way to shovel snow and remind them that shovels are not toys," said Dr. Smith, also a professor of pediatrics in The Ohio State University College of Medicine. "Many of the snow shovel-related injuries to children are the result of horseplay or other inappropriate uses of snow shovels."

This is the first national study to comprehensively examine snow shovel-related injuries and medical emergencies treated in U.S. emergency departments using a nationally representative sample. Data for this study were collected from the National Electronic [Injury](#) Surveillance System (NEISS), which is operated by the U.S. Consumer Product Safety Commission. The NEISS dataset provides information on consumer product-related and sports and recreation-related injuries treated in hospital emergency departments across the country.

Provided by Nationwide Children's Hospital

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