

OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

PEDIATRIC WINDOW FALLS: CHILDREN CAN'T FLY

When she wasn't busy singing about the hills being alive with the sound of music, Maria von Trapp was fond of saying, "When the Lord closes a door, somewhere He opens a window".¹ That is a very nice sentiment. But Maria failed to mention some very key details about this window. For instance, where is the window? On the second floor or higher? In a child's bedroom? What type of window is it? How wide does it open? What's underneath the window? Is it equipped with a window stop or a window guard? With 7 von Trapp children to keep track of, these are key questions. All in all, it really does make you wonder how you solve a problem like Maria.

FALLING THROUGH THE CRACKS

Von Trapp family hijinx aside, the truth of the matter is that unintentional falls are a major cause of morbidity and mortality for kids in the U.S. and are the leading cause of hospitalization due to injury in the pediatric population.^{2,3} In the U.S. during 2007, unintentional falls by children 0-4 years of age resulted in 60 deaths and about 950,000 hospital and emergency department visits.⁴ Studies from several major metropolitan areas in the U.S. have identified unintentional window falls as an important source of severe pediatric injury seen in trauma centers.⁵⁻⁹ Overall, the U.S. Consumer Product Safety Commission estimates that nearly 3,300 children are treated annually in the U.S. after a window fall.²

Data from the Oregon Trauma Registry show that during 2004-2008, 233 children were seen in a Level 1 trauma center in Oregon after falling from a window, an average of about 40-50 children per year. Injuries from these falls ranged from mild to severe, and data on factors that increase the likelihood of pediatric window falls indicate that many, if not all of them, were preventable.

WINDOW PERIOD

Not surprisingly, kids tend to accidentally fall from windows during the warmer months of the year, when people have their windows open to enjoy a little fresh air. In Oregon, 74% of the pediatric window falls recorded in the state trauma registry between 2004 and 2008 occurred during the months of May through September, so this is a prime time of year to be thinking about window safety. These falls occurred mainly among kids younger than 3 years of age (Figure 1), 70% of whom were boys.

Chart reviews for patients admitted to Level 1 trauma centers in Oregon during 2007-2008 after a fall from a window show that nearly 2/3 of these falls occur in the child's home. This indicates that parents and others who care for kids in their homes need to be educated about window safety to prevent future falls. More than half these falls occurred from a 2nd story window, which demonstrates that kids don't have to live in a high-rise apartment to experience significant trauma from a window fall. And in at least half of these cases, the window where the fall occurred had a screen in place at the time of the fall. That isn't too surprising, when you realize that screens are designed to remove easily in case of emergency. So parents and other caregivers should be aware that screens are meant to keep bugs out, not to keep kids in.

Kids who fell experienced a variety of injuries, with head injuries being the most common type seen (Figure 2, *verso*). It's notable that 83% of those who fell onto concrete experienced a head injury, while 45% of those who fell onto grass, bushes or dirt experienced external injuries only. So it's important to think not only about the environment inside the home that may increase the risk of an accidental fall from a window, but also the environment that surrounds windows that kids may access, as this can affect what happens when kids do their best to foil all your best-laid plans. Landscaping: it's not just for green thumbs anymore.

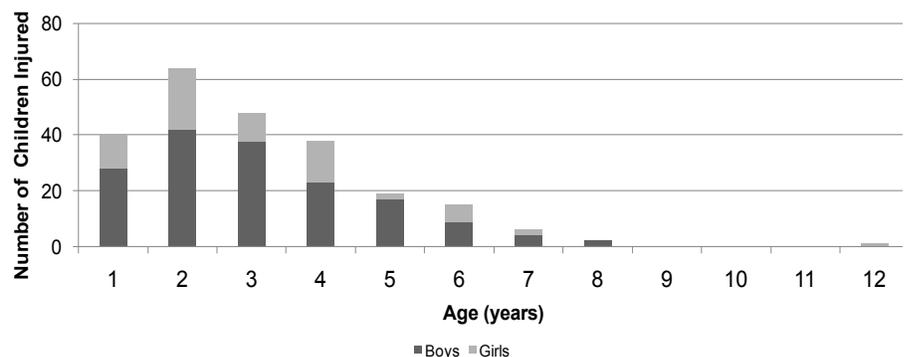
GETTING THINGS TO FALL INTO PLACE

Parents and other caregivers should be advised that there are some simple steps they can take to promote window safety:

- Keep play away from windows;
- Only allow windows to open 4 inches, *and* install window stops and/or window guards that can be removed by an adult in an emergency;
- Lock windows when not in use;
- Open windows from the top and use a window stop for the bottom;
- Keep furniture and *anything* a child can climb on away from windows;
- Actively watch children near windows.

None of this is rocket science, but simple things can save a child's life.

Figure 1. Children Injured from window falls by age, Oregon, 2004-2008

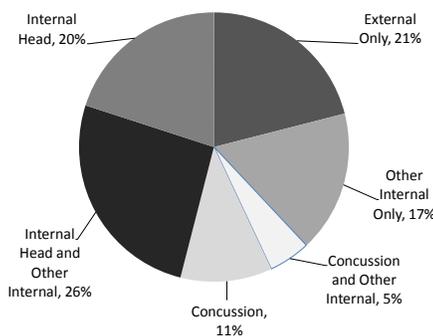




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Figure 2. Pediatric window fall injuries, Oregon, 2007–2008



NOT JUST WINDOW DRESSING

Parents and others who provide childcare should know that not all window safety devices are created equal. They should specifically look for one of three types of window safety devices that meet 2010 American Society for Testing and Materials (ASTM International) standards:¹⁰

- **Fall prevention window guards**, which consist of closely spaced bars in the device designed to fit into or onto the window frame and keep children from falling through it;
- **Window fall prevention screens**, which are an attached mesh or material that fits into or onto a window; these must possess sufficient strength to prevent a child from falling through an open window and are totally different in design, look and function from standard insect screens; and
- **Window opening control devices**, which limit window opening to 4 inches (102 mm) or less unless a re-

lease mechanism (one that resets) is deliberately undone.

DON'T LET THIS FALL BY THE WAYSIDE

To ensure that parents and other caregivers are informed about window safety, clinicians should:

- Ask about two-story homes at all child visits up to the age of 5;
- Advise that caregivers install window stops or guards (depending on the types of windows they have) on all rooms where children have access that are on the second story or above;
- Give childcare providers resources, including the [Stop at 4" brochure](#) and links to other information (see below);

With your help, children can learn that not every mountain is for climbing, especially when it's next to a window, and their families can look forward to the day when they're "Sixteen Going on Seventeen".

RESOURCES

- Information from Legacy Health about [window guards](#)
- Information from Legacy Health about [window stops](#)
- Information from Legacy Health about [window types and safety devices](#)
- Information about the Stop at 4" window safety campaign: www.stopat4.com/

FOR MORE INFORMATION

- The Public Health Division's Injury Prevention and Epidemiology Program houses Safe Kids Oregon: <http://public.health.oregon.gov/PHD/ODPE/IPE/SAFEKIDS/Pages/index.aspx>

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