SLEDDING HILLS – MANAGING THE RISK

For many adults and even more children, the onset of winter brings visions of whizzing down a snow-covered hill. Sledding is fun, does not require expensive equipment, and does not involve much skill, all of which add to its popularity. For this reason, many public entities allow sledding on hills under their jurisdiction. Some designate and maintain specific hills as sledding hills; others simply permit sledding on any hill once there has been snowfall. Sledding can be an inexpensive and fun activity for your citizens, but this activity can lead to large losses if your Parks Department does not have appropriate measures in place to ensure the safety of people who use your sledding facilities.

Sledding and Injuries

Every year, thousands of youths and adults sustain injuries sledding down hills in city parks, streets, and resort areas. According to the Consumer Product Safety Commission (CPSC), hospital emergency rooms treated 54,727 injuries related to sleds, toboggans, and inflated or plastic tubes and disks used in sledding in 1995. These injuries cost $365 million in medical, legal and insurance fees. Fifty percent of the injuries were to arms and legs; 17 percent to the spine; 15 percent the head; and 11 percent to the face.

Research by Barnes-Jewish Health Care (BJC) shows that between 30,000 and 35,000 children across the United States receive treatment in hospital emergency rooms annually for injuries they receive while sledding. One in 25 of these children will have injuries sufficiently serious to require hospitalization.

Both the severity of sledding injuries and the type of injury are directly related to a child's age and the type of downhill vehicle. The terrain of the hill and the slipperiness of the surface are additional factors related to the severity of an injury. The child's position on the sled is related to the type of injury.

According to the CPSC, children 14 and younger sustain the most injuries. These younger children have proportionally larger heads and higher centers of gravity than do older children and adolescents. In addition BJC data shows that children who are under five years suffer the most severe injuries to the head, neck, face and abdomen.

Older children prefer to ride sleds, toboggans and inner tubes in a sitting position. A hard bump when traversing rough ground can throw the rider up in the air and down again forcefully. Because of their seated position, these riders frequently suffer injuries to the spine. They also risk spinal cord injury. Older youngsters sustain more limb injuries because they tend to use their arms and legs to break a fall or avoid an obstacle.

The fun of sledding is in the thrill of traveling down a steep hill at a high speed. The high number of sledding-related injuries results from a dangerous combination of speed (sleds can easily reach 10-20 mph), a steep hill, a rough or slick terrain, a lack of good control, and obstacles in the sledding course.

You can’t take too much out of this combination without losing what makes sledding fun. However, you can develop a loss prevention program for your sled hill that helps citizens to enjoy this popular winter activity safely.

The following are some typical injuries that reinforce the need for a prevention plan.

• An eight-year old cuts his forehead when he strikes an unpadded cyclone fence. The fence runs at right angles to the sledding slope and is meant to direct sledding participants away from existing trees.

• A group of youngsters use a large piece of plywood as a sled. The out of control vehicle strikes a young child and her mom, injuring them.

• A man fractures his ankle when he decides to sled down the backside of the hill in order to get away from all the kids. He strikes the warming shed. The public entity had posted signs directing users where to sled.

You can minimize losses and reduce your liability by addressing the following important areas:

• Hill design,
• Preseason setup,
• Supervision,
• Inspection and signage, and
• Educating the community.
Hill Design

Although there are known standards or guidelines that apply specifically to the design of public sled hills, the Park District Risk Management Agency (The Agency), a professional organization for managers of recreational and park facilities in Illinois, has developed the following recommendations for sled hill design. The recommendations result from the experiences, observations, and accident investigations of the Agency’s membership.

- Create a flat staging area at the top of the hill that allows participants to get situated and ready before starting down the slope.
- Select a hill with a 30-degree average slope for the face of the hill or grade the hill to achieve this slope. The Agency borrowed this recommendation from CPSC playground guidelines for slides.
- Consider establishing a northern orientation as the direction of travel. Doing so will minimize direct sunlight that causes melting snow and results in bare spots and icy patches when it freezes over.
- The face (sledding area) should have a method of channeling those who are sledding toward the bottom and away from obstacles (trees, benches, light poles).
- The flat area at the bottom of the face (run-out) should be long enough to allow sleds to come to a safe, unobstructed stop. If a run-out area is not long enough, one way to reduce the risk is to incline the run-out slightly. This allows gravity to help slow the sled.
- Provide a walkway or stairway, separated from the face, to allow participants to return to the top without being struck by people sledding down the hill.
- Make sure the sledding hill doesn’t have trees, signs, fences, rocks or other objects than can cause injuries.
- Do not permit any type of makeshift ramps or jumps.
- Consider installing an emergency telephone.
- Make sure the hill is well lit or limit sledding to daylight hours.

Preseason Setup

Just as you do in your playgrounds, conduct a preseason hill inspection before the first snowfall. Use the inspection to identify hazards and to develop a plan for eliminating the hazard. Document both the preseason inspection and follow-up corrections. Maintain with your records.

Documentation is necessary for two reasons. First, a checklist or other method provides a system to verify that you have addressed all noted hazards. Second, if someone is injured and brings a claim against you, you may need to prove that you have taken appropriate steps to prevent the injury.

After you complete the inspection and have addressed the hazards, you need to install the sled hill signs. If you provide a warming house at the sled hill, you should also inspect it inside and out.

Finally, assign an individual or a specific department that will conduct the daily sled hill inspections.

Supervision

Supervision can offer a measure of safety. The presence of attendants may of itself reduce rowdiness and unsafe behavior on the part of participants. Those who supervise should enforce rules but do so correctly to limit the liability arising out of supervision. They must know how to interact with the public and to maintain control without creating hostility. One of the main ways to avoid liability associated with sled hill attendants is to train them. At a minimum, the following should be part of the attendants’ orientation.

- Procedures for emergency response,
- Basic First Aid & CPR,
- Procedures for enforcing sled hill rules,
- Conditions that might result in hill closure,
- Proper posting and maintenance of signs,
- Procedures for inspecting the hill,
- Non-participation in sledding activities, and
- Incident/accident reporting procedures.

Training should take place before each sledding season. Document the content of the training you provide and have participants sign in to verify attendance.

Inspection

Regular inspections are important to identify new hazards that might develop before an injury occurs. Documented inspections, like preseason checks, might be necessary to demonstrate that you have taken reasonable preventive measures to ensure the safety of participants and observers. You should focus on preventing hazards during the inspections and make sure you perform them routinely. Although daily inspections are desirable if your resources permit this, weekly inspections are acceptable. The important point is to maintain the schedule once you have set it up.

Signage

Signage is useful because it warns users of the risks associated with sledding. It also establishes rules for the hill and advises users that sledding is prohibited in specific areas or on certain hills.

You should post a sign at every hill in your jurisdiction unless you have a widely publicized ordinance that prohibits sledding on hills that you have not designated as sled hills.

If you know that people are using a non-designated hill for sledding, you should take action. If an injury occurs at one of these hills, the injured party may argue that you knew about the sledding activity and therefore should have been responsible for maintaining the hill. To avoid this type of situation you should post a sign that advises potential users that this is not a designated sledding hill. The sign, along with the ordinance, will help reduce your liability.

If you designate hills as unsupervised sledding locations, you should include the following wording on the signs:
- Hours of operation,
- Danger - Use hill at your own risk,
- Users assume full responsibility for determining if conditions are safe for sledding,
- Parents are responsible for children. No supervision is provided,
- Use caution when sledding and be considerate to others,
- Sledding is a hazardous activity and presents substantial risk, and
- Makeshift ramps or jumps prohibited.

You should also post signs at supervised hills that, at a minimum, include the following:
- Hours of operation,
- Danger - Use hill at your own risk,
- Users assume full responsibility for determining if conditions are safe for sledding,
- Parents are responsible for children,
- Use caution when sledding and be considerate to others,
- Sledding is a hazardous activity and presents substantial risk,
- Sled only in designated areas,
- All participants must sit in a forward-facing position, steering with their feet or a rope tied to the steering handles of the sled. No one should sled headfirst down a slope, and
- Makeshift ramps or jumps prohibited.

**Public Education**

In addition, you should consider establishing a program that educates the community about sledding safety. Use your community's web site and bulletin boards to post information. Work with your community's schools to spread the message. The following are some important points that all participants should know:

- Use sledding equipment that the rider can steer and stop. Sleds without a steering mechanism are the most dangerous since the rider has no way of avoiding objects in his or her path.
- Avoid sliding carpets, inner tubes, cardboard sliders, snow discs and other sledding equipment that is difficult to control.
- Select a sled with metal runners over a plastic sled. Runner sleds elevate the rider off the ground and away from small, stationary objects. A plastic sled, by nature of its design, will strike anything in its path.
- Choose a sturdy sled that has secure handholds. Ensure there are no jagged edges, splinters or protruding parts on your sledding equipment.
- Choose sturdy sleds with secure handholds. Ensure there are no jagged edges, splinters or protruding parts on your sledding equipment.
- Always sled down the hill sitting up or kneeling on the sled. Never slide down head first or standing up.

- Before sledding down the hill, make sure your path is clear of obstacles and other people right down to the bottom of the hill.
- On the way down, keep your arms and legs tucked in.
- If you fall off the sled or stop unexpectedly, quickly move out of the way of other people who are sledding.
- Roll off a sled that won't stop.
- Walk back up the side of the hill, away from other the area where people are sledding.
- Move quickly to the side and walk up and away from the sliding path after finishing a run.
- Know your limits. Rest if you are tired. Go inside if you are cold.
- Dress properly:
  - Wear hats, mittens or gloves and warm, waterproof clothing including footwear.
  - To prevent strangulation, children should wear a neck warmer instead of a scarf and they should never wear clothing with drawstrings as they may get caught under the sled.
- Never ride into a snow bank - there could be hidden dangers such as a tree stump or rocks.
- Never use alcohol or drugs while sledding or while supervising children who are sledding
- Parents should ensure children follow all safe sledding tips.
- A responsible adult should actively supervise children less than 12 years of age.
- A responsible adult should ride on the sled with children under five years of age.
- Adults should monitor children for wet clothes, chilling, frostbite and fatigue.
- Wear an appropriate helmet (such as a bike or ski helmet) to reduce the risk of serious head injury. (Currently there is not a helmet specific to sledding available. Children should wear a properly fitted helmet that has been designed for high impact collisions.)
- Only sled in the daylight or on well lit hills.

Focusing on hill design, supervisor training, preseason setup, inspections, signage, and education for the public, will help you to establish a strong loss control program for your sled hill. Providing a safe environment and warning participants of the potential risk and taking reasonable measures to protect them from unseen hazards will make a safe and happy sledding season.
<table>
<thead>
<tr>
<th>Location of Hill:</th>
<th>Weather Condition:</th>
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<tbody>
<tr>
<td>Date:</td>
<td>Time:</td>
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<tr>
<td>OK</td>
<td>Needs Work</td>
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- All signs in place and clearly visible. Installed at parking lot, at warming house, at the top of the hill, and at other points of entry.  
- Hill is free of large bumps, dips, jumps or moguls.  
- Hill free of debris and obstructions.  
- Fencing is in place, secure, and free of jagged edges.  
- Barriers are in place, secure, and padded (Pads, hay bales, etc.)  
- Stairs, if any, are in good condition with secure handrails.  
- Path to the top of the hill is clearly defined with barriers to protect walkers.  
- Emergency phone (pay or otherwise) available and operational.  
- Warming house, if any, is in good condition and free of debris.  
- Warming house heating system is operational.  
- Warming house has fire extinguisher.  
- Warming house lighting is operational.  
- First aid kit is available.  
- Supply of accident/incident forms is available.  
- Stairs and walkways clear of ice and snow.  
- Benches, chairs, and tables are stable and free of splinters or jagged edges.  

**Maintenance Performed on Hill:**

**Comments:**

**Signature of Inspector:**