



Loss Control TIPS

Technical Information Paper Series

Innovative Safety and Health SolutionsSM

Safety at School Grounds and Facilities

Introduction

Each year in the United States, thousands of lawsuits are filed against schools, alleging deficiencies found on school premises, and usually involving charges of negligence. Potential areas where deficiencies have been charged include the school buildings and surrounding grounds; playgrounds; athletic fields; parking lots; outdoor and indoor bleachers and grandstands; and swimming pools. School administrators need to be aware of potential hazards and the means to mitigate or eliminate them.

School Buildings and Grounds

In a recent study of school liability claims, The Hartford discovered that, over a three-year period, slip or fall claims accounted for 26% of the total number of claims, and 33% of the total cost of the claims. These claims, which involved all areas of school premises, arose in these areas:

- *Interior and Exterior Walking Surfaces.* Sidewalks, stairways, entryways and floors can present hazards – and create liability – if there are uneven surfaces, obstacles in the walkways, inadequate lighting, or inadequate handrails or guardrails. Accumulations of wetness in entryways during inclement weather can create slip and fall hazards.
- *Common Outside Grounds.* Hidden hazards, such as, holes, obstacles, or even foliage can create liability problems. Where shortcuts are worn through grassy areas, liability can arise if care is not taken to ensure that the surfaces do not create slip and fall situations.
- *Snow and Ice.* Schools in areas prone to snow and ice may have to deal with slip and fall issues associated with snow and ice accumulations on sidewalks and stairs and at entrances where run-off from the roof and gutters creates ice/snow build up.

Playgrounds

According to the Consumer Product Safety Commission (CPSC), approximately 200,000 children are treated in U.S. hospital emergency rooms each year for injuries related to playground equipment. An estimated 148,000 of these injuries involve public playground equipment, and an estimated 51,000 involve home playground equipment. About 15 children die each year as a result of playground-related incidents. Most of the injuries are the result of falls (almost 75%). These are primarily falls to the ground below the equipment (almost 60%), but falls from one piece of equipment to another are also reported.



Most of the deaths are the result of strangulation or falls. The CPSC has published a *Handbook for Public Playground Safety* (Pub. No. 325) that outlines specific safety criteria for playgrounds.

Playground hazards are easy to spot. The exposed bolt on the climber in Figure 1 is typical. What makes it more of a problem is the presence of a more appropriate rounded bolt on the same piece of equipment.



Figure 1

Athletic Fields

Athletic fields can also present liability risks. Hidden hazards, such as depressions or holes in a baseball outfield, rocks or other debris on playing fields, or the way the field is oriented can create risks. For example, Figure 2 presents a typical athletic field. Note the rather prominent hole near the rear of the soccer goal. The goal itself can be a serious hazard if it is not secured to prevent lifting.



Figure 2

Athletic fields can also be problematic if they are not sized properly. Different athletic organizations establish specific field dimensions for their sports. For example, although they look similar, baseball diamonds and softball diamonds have different dimensions. Therefore, if baseball (hardball) were to be played on a softball diamond and a batter were struck by a pitch, there is a potential for liability because the distance from home plate to the pitcher's mound is significantly shorter in softball than in baseball.

Indoor and Outdoor Bleachers and Grandstands

According to the CPSC, there have been at least 10 bleacher-associated deaths since 1980. Of these, four were of children under the age of 15. In 1998, an estimated 19,200 bleacher-related injuries to people of all ages were treated in emergency rooms. An estimated 11,000 of these injuries were reported to have involved falls. Children under the age of 15 accounted for 82% of the falls from bleachers. There are currently no uniform federal requirements for grandstands or bleachers. The design and construction of these structures is dependent upon state and local building codes. The National Fire Protection Association (NFPA) Code 102, *Standard for Grandstands, Folding and Telescoping Seating, Tents, and Membrane Structures*, is a voluntary standard that is incorporated by reference in a number of codes. The CPSC has been petitioned to develop a safety standard for bleachers and grandstands.

Maintenance is essential to keep bleachers and grandstands safe. Note the warped benches in the bleachers shown in Figure 3 below, and note the deteriorated wooden seat on the wooden bleacher shown in Figure 4. Metal bleachers can also be a problem if they are not properly maintained. Note the rust on steel members in Figure 5. Bleachers of any type may become hazardous. Note the missing seat on the bleachers in Figure 6. The uprights alone present a hazard to users.



Figure 3



Figure 4



Figure 5



Figure 6

Indoor telescoping bleachers can be a significant hazard, especially if there are no specifically trained personnel to ensure that they are set up and taken down properly. Outdoor bleachers are not always properly maintained. Since there is no common standard for their construction, they may be constructed of many different types of materials, including, steel, aluminum, and wood. All of these materials present different maintenance requirements, especially when they are exposed to the elements.

Parking Lots

Parking lots present many hazards, which can quickly become liability concerns. Uneven or damaged areas can cause trips or falls. Improperly maintained tire stops can create liability, not only from pedestrians tripping or falling, but also from the damage they can cause to vehicles. Improperly sized spaces, or lack of markings for spaces or travel lanes, can also create problems. Parking areas can become dangerous after hours, especially after dark. Inadequate lighting or security can present other liability concerns.

Swimming Pools

Swimming pools present many liability issues. Improper design, especially of diving boards or platforms, offers significant risk. Controlled access is another issue. Outdoor pools must be properly fenced and gated. Numerous children drown in swimming pools each year; many of these deaths were the result of improperly controlled access. Indoor pools also present access control problems.

Pool drains can also be a hazard, if swimmers get their hair caught in the drain and cannot get free.

Water quality is another potential area of liability. Improper or inadequate water care and testing can cause the pH or residual chlorine levels to exceed recommended levels; this can injure swimmers.

Risk Management Controls

Implement appropriate risk management controls to mitigate or eliminate the hazards of each area.

School Buildings and Grounds

- ❑ Develop and implement a formal, documented building and grounds inspection and maintenance program. Regularly inspect the facilities and document identified problems. Determine how to correct problems and who will be responsible for implementation. Follow up to ensure that the problem has been properly addressed.
- ❑ Study areas of frequent slip and fall incidents. Determine the root cause, such as ice/snow build up. Take steps to reduce or eliminate the hazard, such as regular inspection, prompt clean-up of ice and snow, and application of ice melt. Monitor the results.
- ❑ Inspect indoor and outdoor walking surfaces for potential slip and fall hazards. Reduce the risk by installing slip-resistant flooring, installing appropriate carpeting and/or matting, and repairing or replacing outside walks and steps.
- ❑ Replace or repair broken handrails and guardrails, and install handrails and guardrails where needed.
- ❑ Review lighting requirements, both inside and outside the buildings. Install additional lighting in dark hallways or stairways. Install emergency lighting that will provide illumination during a power failure.

Playgrounds

- ❑ Develop and implement a formal, documented playground inspection and maintenance program. Follow the guidelines that are outlined in the CPSC *Handbook for Public Playground Safety*.
- ❑ Because approximately 75% of all playground injuries are caused by falls, develop a program to install, inspect, and maintain adequate fall surfacing material under playground equipment.
- ❑ Segregate play areas by age group (pre-school and school age).
- ❑ Make all playgrounds accessible to persons with disabilities.
- ❑ Follow published references concerning the construction and installation of playground equipment, such as:
 - CPSC, *Handbook for Public Playground Safety*, CPSC Pub. No. 325
 - American Society for Testing and Materials (ASTM), *Playground Equipment for Public Use*, F1487-97c
 - National Playground Safety Institute (NPSI) published material
 - International Play Equipment Manufacturers Association (IPEMA) published material

Athletic Fields

- ❑ Develop and implement a formal, documented inspection and maintenance program for all athletic fields.
- ❑ Follow recommended field design criteria as outlined by organizations such as the NCAA.
- ❑ Locate fields of play in relation to the surroundings. For example, baselines for a baseball or softball field would be better oriented away from parallel to a nearby roadway.
- ❑ Design fields with spectator control in mind.

Indoor and Outdoor Bleachers and Grandstands

- ❑ Develop and implement a formal, documented inspection and maintenance program for bleachers and grandstands. Include these in the inspection criteria:
 - ❑ Ensure that the gap between the bottom of the seat and the floorboard on open bleachers does not exceed four inches, unless approved safety nets are installed.
 - ❑ Ensure that all guardrails have vertical bars no more than four inches apart, to prevent climbing.
- ❑ Follow appropriate state and local building codes for the construction of bleachers and grandstands. Since there are currently no uniform federal requirements for bleachers and grandstands, consider using a voluntary standard, such as NFPA 102.
- ❑ If retractable (telescoping) bleachers are used, train specific personnel to set up and take down this equipment. Never let an untrained person set up or take down these bleachers.
- ❑ Control access and movement of spectators around and underneath the equipment.
- ❑ Follow recommendations of the NFPA 101 Life Safety Code for grandstands.

Parking Lots

- ❑ Develop and implement a formal, documented inspection and maintenance program for parking lots.
- ❑ Provide adequate sized parking spaces to minimize collisions and “dings.”
- ❑ Provide adequate markings to outline vehicle lanes and parking spaces.
- ❑ Provide adequate lighting and security for parking areas. This is especially critical for after-hours events or for areas where employees or students work late or after dark.
- ❑ Install and maintain adequate tire stops. Correct problems promptly, and document what action was taken.

Swimming Pools

- ❑ Establish adequate entry control for indoor and outdoor facilities. Be sure that outdoor pools are equipped with adequate fences and self-closing, self-latching gates
- ❑ Install adequate depth markings on pool side walls and top deck.
- ❑ Install safety drain covers to reduce the possibility that swimmers’ hair might become entangled.
- ❑ Provide adequate warning signs.
- ❑ Provide adequate safety equipment.
- ❑ Test the pool water at least daily for pH and residual chlorine; document the results. Adjust chemicals to keep the water quality within accepted standards.
- ❑ Segregate swimming and diving areas. Where a diving area is present, make sure that it meets applicable design parameters such as those established by U.S. Diving, Inc. or the National Spa and Pool Institute.
- ❑ Where lifeguards are employed, ensure that they are certified, and ensure that certifications are kept up to date.

Although there are many potential risks at school facilities and grounds, many problems can be avoided with adequate inspection and maintenance programs.

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