

# ◆ EVERPLAY NEWS ◆

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## *Have your Playground Inspected*

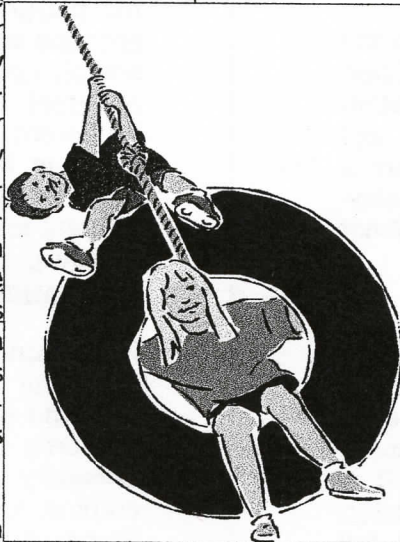
For more than 30 years it has been a known fact that injuries sustained on the playgrounds have been a major cause of visits to the emergency ward and hospital admissions for children. Approximately 70% of these injuries are the result of falls. The total number of playground injuries is roughly that of injuries on bicycles. Bicycle helmets have become a major public health issue and in many jurisdictions the wearing of bicycle helmets is mandatory for children. So what has been done in relation to the reduction of the frequency and severity of injuries in the playground and what can the owner/operator, care givers and users do to ensure themselves that appropriate measures have been taken?

A playground is a place where a child is welcome to challenge their physical, mental and social abilities. If the playspace or structure does not present a challenge, boredom will soon set in and children will play in locations and settings that can present significant hazards and the potential for serious injury. The balance is between having age appropriate challenges, the risk of injury resulting from the challenge, and should an injury occur that the severity be minimized. Far too often the injury is preventable. The key issue is to ensure that the playspace in designed, built and maintained to meet the requirements of National Standards such as the CSA Z614 Standard for Children's Playspaces and Equipment. These standards are developed through consensus of industry, design, health, and child develop-

ment experts, as well as owners and operators.

Caregivers and parents should assure themselves that the owner/operators of the playspace where their child is playing conforms to the standard as part of their supervision of the child. In most cases the parent does not know how to inspect or satisfy themselves that both the play struc-

tures and protective surface are in a state to prevent a severe injury. There are tools available to measure the physical aspects of the play structure. These should be used by trained staff to confirm that the installation was initially completed to the requirements of the CSA Standard. Subsequent to the installation, tests and inspections should be performed on a periodic basis to confirm that environmental factors or vandalism have not brought the structure out of conformance. The Z614 Standard contains a sample maintenance checklist and timetables that can be used.



The most difficult component of the playspace to check for its ability to limit the severity of an injury is the surface, which is also responsible for the highest number of injuries. The CSA standard provides the pass/fail criteria for the surface performance, while the test method to be used is that of the ASTM F1292 standard for impact attenuation of surfaces under and around playground equipment. Although these documents tend to be very technical and eyes glaze over with their mention, they are the only method available to a parent to determine the performance of the protective surface. Some aspects of the standard are easy to understand, while the more difficult parts involve instruments that are best left in the hands of trained technicians.

The ASTM F1292 standard sets out the minimum performance requirements for a playground surface and stipulates that the selection of the drop height for which the surface is installed for at any particular site is to be determined by the owner/operator at the time of purchase of the surface. Minimum fall heights can be found in the CSA Standard and the owner/operator can set the drop height as this location or any prudent higher location if they feel that there is a concern that a child might fall from that location. The test procedure simulates a fall on the crown of the head and the pass/fail criteria of Gmax <200 and HIC (Head Injury Criteria) <1000 is the level where a higher force could be expected to result in a life threatening injury.

An integral part of the ASTM F1292 is the actual instrumentation and method of performing the test. The fact that the standard allows for a free fall test that is cost effective and readily available is where a parent can look to making sure that playground surface that their child uses will not cause a life threatening injury.

The surface drop test, Triaxial Hemispherical Headform in the Free Fall Method as it has come to be known, is performed by a trained technician to develop the data as to Gmax and HIC for the surface for the fall height set by the owner/operator. It is important for the owner/operator to determine the appropriate location and fall height for the drop test. Once this is set, the test can be performed and the surface is shown to pass or fail. When a surface fails it is the responsibility of the owner/operator to take the playground out of service until the surface is brought into compliance. Failure of the requirements of the standard indicates that there is the potential for a life-threatening injury.

The CSA Z614 Standard requires that all playground surfaces irrespective of when installed be maintained by the owner/operator to the performance outlined in the Standard. This will involve a number of forms of inspection including periodic surface testing. Generally a maintained surface must have debris removed and in the case of loose materials, they need to be loosened, raked back into place and topped up

from time to time. For synthetic surfaces, the maintenance will require the removal of large debris from the top of the surface, whereas smaller particles that have entered the surface will need to be removed with a vacuum. Depending upon the age of the playground there may well come a time when the entire surface must be removed and a new surface installed. This replacement applies to both loose materials and synthetics. The timing of replacement will vary depending upon the type of materials used or the components of the manufactured surface.

A key element to the reduction of the frequency and severity of injuries in the playground is parental or caregiver supervision. Prior to having the child play on the playground a visual and physical inspection should be made of the structures and play surface that there are no hazards apparent that could have resulted from exuberant play or vandalism. Contaminants in the play surface should be removed and low spots filled. Any problems that are found at the site should be immediately communicated to the operator of the playground for remedial attention.

Playground owners want to provide a space for a child that promotes positive play and will welcome the comments and concerns of the user of the playspace. Generally the playspace is maintained according to the requirements of the CSA Standard and inspections will be well documented. Questions can be answered with regard to a particular site.

Inspection, testing and maintenance are a key element to the successful playspace. A successful playspace is one where there is good play value and challenge and the likelihood and severity of injury is minimized. For additional information, contact the following;

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