

Danger Play New York Times Regional Newspapers Children are risk-takers. Part of growing up means pushing their physical limits, and playgrounds are one of the prime testing sites.

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But the swings and jungle gyms that attract active young people can also cause serious injury.

In 1997, more than 200,000 children received playground-related injuries, according to the U.S. Consumer Product Safety Commission. About 15 to 20 children die from these injuries every year.

Of the 200,000 children who are injured, about three-fourths are hurt in public playgrounds at parks or schools. The other 50,000 have backyard accidents, says Ken Giles, a Safety Commission spokesman.

Monkey bars and jungle gyms, called "climbers" by safety experts, are among the most dangerous equipment. The majority of serious playground injuries - head trauma, skull fractures, concussions, broken bones - involve falls onto hard surfaces.

"The deaths usually occur when children fall and hit their heads," says Giles. "A few are from clothing strangulation, which we've tried to reduce by getting rid of drawstrings, or entrapment."

Reduce accidents

Donna Thompson, director of the National Program for Playground Safety at the University of Northern Iowa, says she believes that safety standards she helped develop with the U.S. Consumer Product Safety Commission and the American Society of Testing and Materials can reduce the number of playground accidents.

The guidelines, first issued in the early 1980s and updated in 1991 and 1997, include criteria for swings, climbers, slides and other common playground equipment.

"They're good guidelines," Thompson said. "Probably the best in the world."

Early figures of a new U.S. national survey on playground injuries show that the voluntary guidelines seem to be having a modest impact. The number of playground accidents is staying about the same, she said, while the number of youngsters using playgrounds is going up.

But the Consumer Federation of America, an advocacy group based in Washington, D.C., wants even more stringent federal standards for playgrounds. These include:

- Limiting the height of all playground slides and platforms to 6

feet.

- Banning glider-style and animal-shaped swings.
- Eliminating exercise rings and trapeze bars.
- Requiring up to a foot of sand, wood chips or other cushioning

material under all playground equipment.

Many states and cities are adopting the federal playground safety guidelines as local ordinances, says Giles, of the Safety Commission.

A California law aims to have all of that state's playgrounds up to code by 2000, including making them accessible to disabled children. In San Francisco, the city's tallest slide - a 14-footer at West Portal playground - is gone. In Oakland, where a seven-year-old died in 1993 after falling from the monkey bars at his elementary school, the school district is still working to replace equipment that was declared off-limits to kids.

Cities and schools are eliminating other traditional equipment, as well. Seesaws are disappearing because of the back injuries children suffer when their partner jumps off. Animal-shaped swings and gliders are too heavy, and can cause serious injuries if they hit someone. New slides are being made of fibreglass to eliminate the sun-heated metal, with hoods at the top so children are forced to sit down to slide. Swing chains are being shortened. And hard surfaces under the equipment are being replaced with materials that can cushion a fall.

In Brunswick County, N.C., last year, the school system put wood chips underneath its schools' playground equipment to bring the playground up to the state standard.

The action came a few months after five-year-old Brian Oswalt fell off eight-foot-high monkey bars, breaking his arm during a recess at his elementary school. A suit filed by the Oswalt family is winding its way through the courts.

Making a playground safer can be expensive. Traditional fixtures - towering slides, metal monkey bars and fast-spinning merry-go-rounds - are being replaced by brightly coloured play structures of wood, plastic or fibreglass.

Imaginative play

These sprawling, multipurpose structures are designed to enhance motor skills, increase upper body strength and encourage imaginative play.

Wooden structures are susceptible to deterioration over time, and must be restored regularly. Rubber-coated metal structures, which won't create sharp splinters or rot, can cost up to \$40,000 apiece.

The new structures avoid the small openings that can catch heads or limbs and the open upper decks from which children fall.

"The danger zone for openings is 3 1/2 inches to nine inches. The openings should be less than or larger than that. In between is where kids get entrapped," Giles says.

At state-of-the-art playgrounds, slides are plastic and free of sharp edges or protrusions; stairs are wide and easy to navigate, bolts are flush to the coated metal bars on the climbers. The only open areas from the higher decks, about five feet off the ground, have easy-to-climb rungs leading to the ground. The surface below the climbers is soft and spongy - not quite as soft as a mattress, but softer than many gym mats.

One popular surface is made of six inches of mortar sand, covered with fabric, then topped with another six inches of wood chips. The wood pieces are specially made to avoid splintering or burning.

Beneath swings, the surface is deep sand to avoid sprains or broken bones. The sandy area is wide, about 16 feet metres feet both front and back. And the number of swings from the set is two per support - older swing sets can have three or four seats on a support.

Playground areas for active play should be separated from areas for quiet play, advises the American Academy of Orthopedic Surgeons.

Child-safe playgrounds can reduce injuries, but no amount of design improvement can make up for adult supervision. Accidents will happen, even at a park with rubber-coated metal bars and soft landing surfaces.

Children must be old enough and big enough to navigate the equipment, and parents or teachers must be vigilant.

Safety standards

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The U.S. Consumer Product Safety Commission, the American Society of Testing and Materials, the National Program for Playground Safety and other agencies have recommended standards to minimize the risk of playground-related injuries.

- Surfaces: Make sure the surface underneath equipment, especially

climbing structures and slides, is soft. The standard is for at least a 12-inch depth of shock-absorbing material. Sand is recommended underneath swing sets. Many playground injuries occur on hard-packed earth, asphalt or concrete surfaces.

- Heights: Climbing equipment and slides should be no higher than six

feet off the ground.

- Equipment: All equipment should be firmly anchored. Swings, which can

become dangerous projectiles, should be made of lightweight, impact-absorbing materials

like plastic or rubber. The hangers at the top of the swings should be spaced slightly wider than the seat to reduce side-to-side motion. Slides should not have more than a 30 degree incline. The platform should be as wide as the slide (at least 22 inches) and all elevated platforms should have handrails. Plastic is considered safer than metal. Spaces between rungs in any equipment should be large enough to prevent a child's head from getting trapped. Watch for loose, damaged or missing supports, anchors or footings. Protruding bolts, sharp edges or points, wood splinters, swing hangers or chains can cut or puncture children.