The Dirty Dozen

12 Playground Hazards

National Playground Safety Institute™

National Recreation and Park Association

The Dirty Dozen: 12 Playground Hazards

Are they hiding in your child's playground?

In the time it will take you to read this pamphlet, a child will be severely injured and admitted to an emergency room as a result of a playground-related accident. It is estimated that, each year, over 200,000 such injuries occur and approximately 15 children will die from playground related injuries.

As parents and caregivers, we are responsible for providing safer play opportunities for our children. The National Recreation and Park Association (NRPA), through its National Playground Safety Institute (NPSI) has identified 12 of the leading causes of injury on playgrounds. By familiarizing yourself with the 'Dirty Dozen Checklist', you can inspect your local playground for safety hazards.

Should you identify any of the following hazards on your child's playground, notify the owner/operator about the condition of the play area, so that they may take steps to eliminate the hazard(s).

Are you looking for more information on playground safety?
Check out these recommended sources:

International Playground Equipment Manufacturers Association (IPEMA)

The International Playground Equipment Manufacturers Association (IPEMA) is a non-profit organization whose mission is to promote the importance of play in the development of children, to encourage the creation of safer play environments and to provide a voluntary third-party certification program to validate conformance to the ASTM 1487 Playground Equipment Standard and the ASTM 1292 Playground Surfacing Standard.

The Dirty Dozen is presented in partnership with IPEMA.

IPEMA
4305 N. 6th Street, Ste. A
Harrisburg, PA 17110
888.944.7362
www.ipema.org

American Society for Testing and Materials International (ASTM)

The American Society for Testing and Materials International (ASTM) developed a standard for the manufacturing of public playground equipment, *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use.*

For a copy of this standard, contact the ASTM and ask for the F 1487-01 Standard.

ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
610.832.9500
www.astm.org

U.S. Consumer Product Safety Commission (CPSC)

For a free copy of the Consumer Product Safety Commission's Handbook for Public Playground Safety (No. 325), contact:

U.S. Consumer Product Safety Commission
Washington, D.C. 20207
800.638.2772
www.cpsc.gov

About NRPA

The National Recreation and Park Association (NRPA) is a national not-for-profit organization dedicated to advancing park, recreation and conservation efforts that enhance quality of life for all people. Through its network of some 20,000 recreation and park professionals and citizens, NRPA encourages the promotion of healthy lifestyles, recreation initiatives and conservation of natural and cultural resources.

Headquartered in Ashburn, Va., NRPA works closely with local, state and national recreation and park agencies, citizen groups and corporations to carry out its objectives. Priorities include advocating favorable legislation and public policy; continuing education for park and recreation professionals and citizens; providing professional certification, university accreditation, research and technical assistance; and increasing public awareness of the importance of parks and recreation. For more information, visit www.nrpa.org.

About NPSI

NRPA's National Playground Safety Institute (NPSI) promotes children's rights to play in a safe environment and to nationally promote the importance of play in their development. NPSI promotes the latest public playground industry standards and guidelines as the most desirable standard of care for public-use playgrounds. For a listing of playground related publications and information available through NRPA, visit www.nrpa.org/npsi.

The Dirty Dozen Checklist

The Top 12 Safety Hazards in America's Playgrounds

1 Improper Protective Surfacing

The surface or ground under/around the playground equipment should be soft enough to cushion a fall. A fall onto one of these hard surfaces could be life threatening and there are many surfaces that offer protection from falls.

Acceptable Surfaces:
- Engineered Wood Fiber
- Wood Chips
- Sand / Pea Gravel
- Synthetic / Rubber Tiles
- Shredded Rubber
- Mats
- Poured-in-place rubber

Unacceptable Surfaces:
- Concrete
- Blacktop
- Packed Earth
- Grass

Most loose-fill surfacing must be maintained at a depth of 12 inches and be free of standing water and debris.

DID YOU KNOW?

Improper surfacing material under playground equipment is the leading cause of playground-related injuries. Over 79 percent of all accidents on playgrounds are from children falling.

2 Inadequate Use Zone

A use zone is the area under and around playground equipment where a child might fall. A use zone should be covered with protective surfacing material and extend a minimum of six feet in all directions from the edge of stationary play equipment, such as climbers and chin-up bars.

Slide Use Zone

- For slides six feet or less in height, the use zone at the bottom of the exit area should extend a minimum of six feet from the end of the slide.
- For slides between six feet and eight feet high, the use zone at the exit of the slide is equal to the height of the platform or entrance to the slide.
- The **maximum** exit use zone, regardless of height, is eight feet.

School-Age Belt Swing Use Zone

- Swings require a much greater area for the use zone.
- The use zone should extend two times the height of the pivot or swing hanger in front of, and behind the swing's seats.
- The use zone should also extend six feet to the side of the support structure.

Tot Swing Use Zone

- A fully enclosed tot swing requires less of a use zone than school-age swings.
- Measure the vertical distance from the bottom of the seat to the pivot point or swing hanger and multiply by two for the use zone in front and back of the swings.

3 Protrusion & Entanglement Hazards

Avoid strangulation hazards

A protrusion hazard is a component or piece of hardware that is capable of impaling or cutting a child, if a child should fall against the hazard.

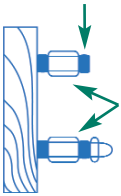
Some protrusions are also capable of catching strings or items of clothing worn around a child's neck. This type of entanglement is especially hazardous because it might result in strangulation.

DID YOU KNOW?

The U.S. Consumer Product Safety Commission does not recommend the use of drawstrings on children's outwear because of the potential strangulation hazard.

Examples of protrusion and entanglement hazards include:

- Bolt ends that extend more than two threads beyond the face of the nut
- Hardware configurations that form a hook or leave a gap or space between components
- Open "S" type hooks
- Rungs or handholds that protrude outward from a support structure may be capable of penetrating the eye socket



Also, special attention should be paid to the area at the top of slides and sliding devices. Protruding hardware and some gaps may act as a hook and catch clothing. Ropes should be anchored securely at both ends and not be capable of forming a loop or a noose.

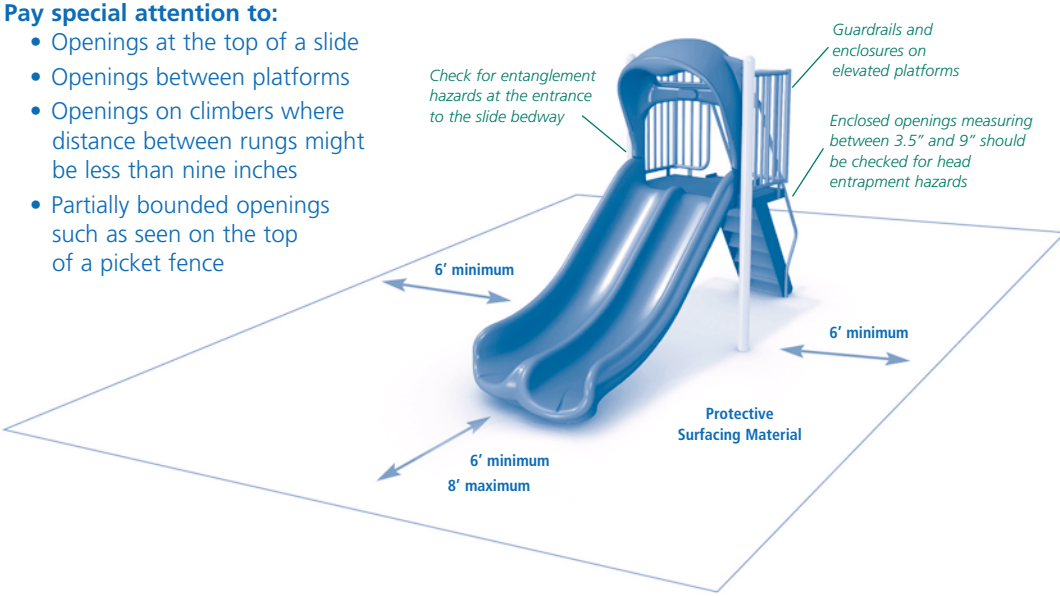
4 Entrapment in Openings

Enclosed openings on playground equipment must be checked for head entrapment hazards. Children often enter openings feet first and attempt to slide through the opening. If the opening is not large enough, it may allow the body to pass through the opening but entrap the head.

Generally, there should be no openings on playground equipment that measure between 3.5 to 9 inches. Where the lower boundary of the opening is formed by the protective surfacing, the opening is not considered to be hazardous.

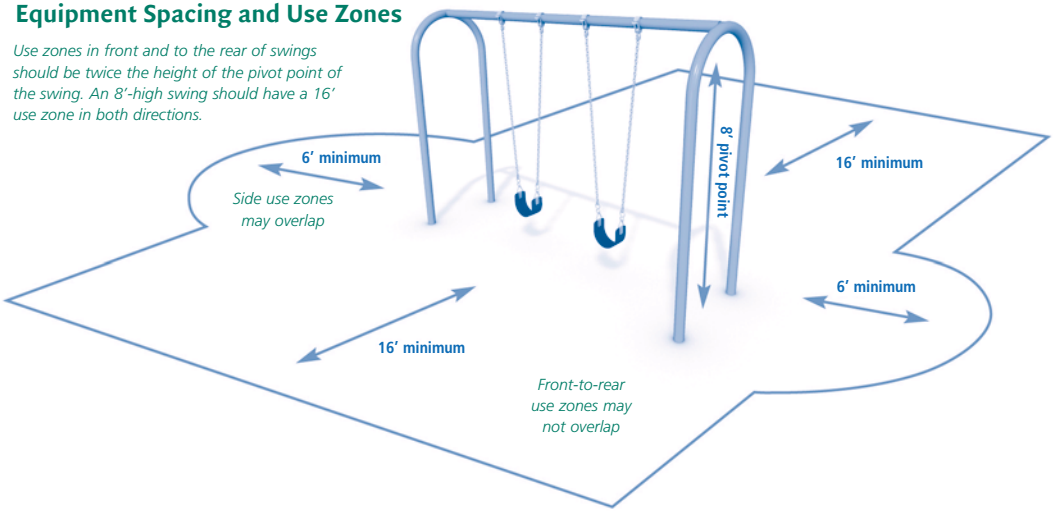
Pay special attention to:

- Openings at the top of a slide
- Openings between platforms
- Openings on climbers where distance between rungs might be less than nine inches
- Partially bounded openings such as seen on the top of a picket fence



Equipment Spacing and Use Zones

Use zones in front and to the rear of swings should be twice the height of the pivot point of the swing. An 8'-high swing should have a 16' use zone in both directions.



5 Insufficient Equipment Spacing

Improper spacing between pieces of play equipment can cause overcrowding of a play area, resulting in unsafe play conditions. Each item of play equipment has a use zone around it where protective surfacing material is applied. These use zones may overlap for certain types of equipment.

- Equipment less than 30 inches in height may overlap use zones with six feet in between.
- Equipment higher than 30 inches must have nine feet in between each structure.
- The to-fro area of swings, the exit area of slides, standing rocking equipment and merry-go-rounds may not overlap use zones. This provides room for children to circulate and prevents the possibility of a child falling off of one structure and striking another.
- Swings and merry-go-rounds should be located near the boundary of the playground.

6 Trip Hazards

Trip hazards are created by play structure components or items on the playground.

Common trip hazards often found in play environments include:

- Exposed concrete footings
- Abrupt changes in surface elevations
- Tree roots
- Tree stumps
- Rocks

7 Lack of Supervision

The supervision of a playground environment directly relates to the overall safety of the environment. A play area should be designed so that it is easy for a parent or caregiver to observe the children at play. Young children are constantly challenging their own abilities, often not being able to recognize potential hazards.

Parents must supervise their children at all times on the playground!

DID YOU KNOW?

It is estimated that over 40 percent of all playground injures are directly related to lack of supervision.

8 Age-Inappropriate Activities

Children's developmental needs vary greatly from age two to age 12. In an effort to provide a challenging and safe play environment for all ages, it is important to make sure that the equipment in the playground setting is appropriate for the age of the intended user.

DID YOU KNOW?

It is recommended that areas for pre-school age children (2-5) be separate from areas intended for school age children (5-12).

The U.S. Consumer Product Safety Commission does not recommend the following for preschool users – free-standing arch climbers, free-standing flexible climbers, chain and cable walks, fulcrum seesaws, log rolls, track rides or vertical sliding poles.

9 Lack of Maintenance

In order for playgrounds to remain in "safe" condition, a program of systematic, preventative maintenance must be present:

- There should be no missing, broken or worn-out components
- All hardware should be secure
- The wood, metal or plastic should not show signs of fatigue or deterioration
- All parts should be stable with no apparent signs of loosening
- Surfacing material must be maintained
- Check for signs of vandalism

10 Crush, Shearing and Sharp Edge Hazards

Components in the play environment should be inspected to make sure there are no sharp edges or points that could penetrate skin. Moving components such as suspension bridges, track rides, merry-go-rounds, seesaws and swings should be checked to ensure there are no moving parts or mechanisms that might crush a child's finger.

11 Platforms with No Guardrails

Elevated surfaces such as platforms, ramps, and bridges should have guardrails or barriers to help prevent accidental falls.

Preschool age children are more at risk for falls; therefore equipment intended for this age group should have:

- Guardrails on elevated platforms higher than 20 inches
- Protective barriers on platforms higher than 30 inches

Equipment intended for school-age children should have:

- Guardrails on elevated platforms higher than 30 inches
- Protective barriers on platforms above 48 inches

12 Equipment Not Recommended for Public Playgrounds

Accidents associated with the following types of equipment have resulted in the U.S. Consumer Product Safety Commission recommending that they not be used on public playgrounds:

- Heavy swings such as animal figure swings
- Multiple occupancy/glider type swings
- Free swinging ropes that may fray or form a loop
- Swinging exercise rings and trapeze bars

DID YOU KNOW?

Overhead hanging rings that have a short chain (7") are allowed on public playground equipment.

Playground Safety:
It's Not Just For Kids

National Playground Safety Institute℠

National Recreation and Park Association

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