

Playground Hazards

According to the National Recreation and Park Association (NRPA), it's estimated that among children aged 14 and younger, more than 200,000 injuries require emergency room care and 15 children will die from playground-related injuries each year. NRPA and their National Playground Safety Institute (NPSI) offer excellent educational and training resources. The Certified Playground Safety Inspector course is extremely useful for maintaining a safe and fun playground experience.



Playground equipment can be found in backyards, community parks, child-care centers, housing complexes, and retail centers. Indoor playgrounds have become a booming business and are extremely popular in areas where winter weather makes outdoor play difficult. Regardless of where the play equipment is, it still needs to be safe. If it's on your property, it's your responsibility to make sure it's as safe as possible.

The Top 12 Safety Hazards in America's Playgrounds

1. Improper Protective Surfacing

The surface under and around playground equipment should be soft enough to cushion a fall. Hard surfaces, such as concrete, blacktop, packed earth, or grass, are unacceptable. Most loose-fill surfaces, such as wood chips, sand, or pea gravel, should be inspected annually for the proper 12-inch minimum depth. Daily inspections should look for standing water and debris, such as broken bottles, needles, wasp/hornet nests, or other paraphernalia, that might cause injury to a child if they find the item curious to look at or pick up. Any hazards found should be resolved as quickly as possible.

2. Inadequate Use Zones

The area under and around playground equipment where a child might fall (or jump) is defined as a use zone. The use zone should be covered with an approved protective surfacing and should extend a minimum of six feet in all directions from the edge of stationary play equipment.

- Slide exit use zones extend six-eight feet based on the height of the slide.
- Belt swing use zones extend two times the height of the swing hanger to the front and back, as well as six feet to the side of the support structure.
- Tot swing use zones extend two times the vertical distance between the bottom of the seat to the swing hanger to the front and back.

3. Protrusion and Entanglement Hazards

A component piece of hardware capable of impaling or cutting a child if that child should fall against it is known as a protrusion hazard. Hardware capable of catching strings or loops on clothing around the child's neck is known as an entanglement hazard and can result in strangulation.

- Bolt ends that extend more than two threads beyond the face of the nut should be cut down or replaced.
- Open S hooks should be closed.
- Ropes should be secured at both ends to prevent forming a loop or noose.

4. Entrapment Hazards

Enclosed openings on playground equipment should be checked for entrapment hazards for fingers, feet, or head. The primary concern is for head entrapments. Head entrapments occur when the feet and torso can go through the opening, but the head cannot. To avoid head entrapments, there should be no openings that measure between 3.5 to 9 inches. If hazards are found, openings should be increased or decreased as appropriate.

- Guardrail openings used to protect a user from falls should be spaced closer than 3.5 inches. Add rails or switch to solid barriers as necessary.
- Fence railing should have a smooth top rail to avoid partially bounded openings like those seen on picket fencing.
- To avoid finger and foot entrapments, slat openings on bridges or platforms should be either less than 8mm (0.3 inch) or between 25-30mm (1-1.2 inch). Adjust slats as necessary to achieve these measurements.

5. Insufficient Equipment Spacing

There must be adequate spacing between equipment to account for use zones (see #2) and for the normal child circulation around equipment.

- a. The to and fro area of swings, slide exits, standing rocking equipment, and merry-go-rounds must not overlap use zones.
- b. Equipment up to 30 inches in height may overlap use zones with 6 feet in between.
- c. Equipment higher than 30 inches must have 9 feet in between.

6. Trip Hazards

These can be created by play structures, uneven ground, exposed concrete footings, tree roots and stumps, or debris on the playground. Daily inspections should identify and resolve these hazards as soon as possible.



7. Lack of Supervision

The play area should be designed so it's easy for a caregiver to observe the child at play. Signage that supervision is required should be posted. Housing complex tenants should be notified that supervision is required. It's not appropriate for youth who are also playing to supervise younger children.

8. Age-Inappropriate Activities

Developmental needs vary greatly from ages 2 to 12. The equipment installed should be appropriate for the age of the intended user. Signage should be posted to provide guidance to supervising caregivers. Equipment designed and intended for home use should not be installed in a public play space.

9. Lack of Maintenance

In order for playground equipment to remain in safe condition, an inspection and maintenance program must be present. West Bend has a separate Playground Safety Inspection Checklist to help you in your efforts.

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 should be checked to ensure that moving parts or mechanisms cannot crush a child's finger.

- a. Edges should be rounded, bent, sanded, or filed down to a smooth edge.
- b. Equipment mechanisms should not be accessible. Equipment openings should be less than 8mm or shielded from access.

11. Platforms with No Guardrails

Elevated surfaces, such as platforms, ramps, and bridges, should have guardrails or barriers to prevent accidental falls. Railing should be vertical to avoid an additional climbing hazard. Guarding is based on the height of the equipment and the age of the intended users.

- a. Preschool-age (2-5 years) equipment should have guardrails on platforms higher than 20 inches and barriers on platforms higher than 30 inches.
- b. School-age (5-12 years) equipment should have guardrails on platforms higher than 30 inches and barriers on platforms higher than 48 inches.

12. Equipment Not Recommended for Public Playgrounds

Accidents associated with this equipment have resulted in the U.S. Consumer Product Safety Commission recommending that they not be used on public playgrounds. These pieces of equipment should be removed as quickly as possible.

- a. Heavy swings, such as animal figure swings
- b. Multiple-occupancy glider-type swings
- c. Free-swinging ropes that may fray or form a loop
- d. Swinging exercise rings with a chain longer than 7 inches
- e. Swinging exercise rings with a diameter between 5-10 inches
- f. Trapeze bars