

Playground Safety: The Dirty Dozen

The National Playground Safety Institute (NSPI) has identified 12 of the leading causes of injuries on playgrounds, which they call the “Dirty Dozen.”

Improper protective surfacing: Hard surfaces under and around playground equipment can cause injuries if children fall. Replace these surfaces with materials that are soft enough to cushion a fall, such as hardwood fiber/mulch, sand, or pea gravel. Maintain these surfaces at a depth of 12 inches, don’t allow them to become compacted, and make sure they are free of standing water and debris. You can also use unitary materials (synthetic or rubber tiles, shredded rubber, and mats) under play equipment. Consult a vendor certified in playground safety before installing these materials.

Inadequate use zones: A use zone is the area under and around playground equipment where a child might fall. Make sure to cover use zones with protective surfacing material that extends a minimum of 6 feet in all directions from the edge of the equipment. Some equipment (slides between 6 and 8 feet high and swing sets) needs a larger use zone.

Protrusion/entanglement hazards: A protrusion hazard is anything that could impale or cut a child who might fall against it. An entanglement hazard is anything that could catch an item of clothing or jewelry worn around a child’s neck. Children have been strangled when a drawstring from a hood or a necklace catches on an exposed bolt end or open “S” type hook on play equipment. Pay special attention to the area at the top of slides, where gaps and spaces could catch clothing. Anchor ropes securely at both ends so they cannot form a loop or noose.

Entrapment in openings: Children often enter enclosed openings on play equipment feet first and try to slide through the opening. Even if the opening is large enough to allow the child’s body to pass through, it may entrap the child’s head. Generally, openings on play equipment should measure less than 3-1/2 inches or greater than 9 inches. Pay special attention to openings at the top of a slide, between platforms, and on climbers where the distance between rungs might be less than 9 inches.

Insufficient equipment spacing: If there is not enough space between pieces of play equipment, children can fall off one structure and strike another. Each item of play equipment has a use zone around it, and for certain types of equipment, these use zones may overlap. Equipment less than 30 inches high can overlap use zones with 6 feet between each structure. Equipment higher than 30 inches must have 9 feet between each structure. The to-fro area of swings, exit area of slides, standing rocking equipment, and merry-go rounds cannot overlap use zones. Install swings and other pieces of moving equipment in an area away from other play equipment.

Trip hazards: Exposed concrete footings, abrupt changes in surface elevations, containment borders, tree roots, tree stumps, and rocks are all common trip hazards that are often found in play environments.

Lack of supervision: Increased supervision on the playground directly relates to increased safety and fewer injuries. Design your play area so that it is easy for caregivers to observe children at play. Position supervisors so they can immediately respond to emergencies. Make sure that elevated play equipment is supervised at all times.

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Age-inappropriate activities: Make sure that your play equipment is age-appropriate for the children who will use it. Areas for preschool age children (2-5) should be separate from areas for school age children (5-12).

Lack of maintenance: A sloppily maintained playground is dangerous, and can invite vandalism. Make sure play equipment has no missing, broken, or worn-out components, and that all hardware and parts are secure. Maintain the surface material of your play equipment, whether wood, metal, or plastic. Inspect equipment frequently, and replace it as necessary.

Pinch, crush, and sharp-edged hazards: Inspect play equipment to make sure that there are no sharp edges or points that could cut a child. Check moving components, such as suspension bridges, track rides, merry-go-rounds, seesaws, and some swings, to make sure that there are no moving parts or mechanisms that might crush a child's fingers.

Platforms with no guardrails: Make sure elevated surfaces (platforms, ramps, and bridge ways) have guardrails or barriers to prevent falls. Preschool age children are at greater risk from falls, so equipment intended for this age group should have guardrails on elevated surfaces higher than 20 inches and protective barriers on platforms higher than 30 inches. Equipment intended for school-age children should have guardrails on elevated surfaces higher than 30 inches and barriers on platforms above 48 inches.

Equipment not recommended for public playgrounds: Because accidents have been associated with the following types of equipment, the Consumer Product Safety

Commission discourages their use on public playgrounds:

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

You can learn more about playground safety from the National Recreation and Park association at www.nrpa.org.

If you have a safety or risk management question or a suggestion for a topic, please contact Markel's Risk Management Department at safety1st@markelcorp.com.