



Considerations for Playground Safety

Each year, about 200,000 children are treated in US hospital emergency rooms for playground equipment-related injuries. Most of the injuries are the result of falls. Additionally, 15 children die each year, on average, as a result of playground equipment-related incidents. Most playground deaths are due to strangulations.

The US Consumer Product Safety Commission (CPSC) recommends the following tips for reducing playground injuries:

Protective Surfacing:

Since almost 60% of all injuries are caused by falls to the ground, protective surfacing under and around all playground equipment can reduce the risk of serious head injury.

Falls on asphalt and concrete can result in serious head injury and death. Playground equipment should not be placed over asphalt or hard surfaces. Grass and turf lose their ability to absorb shock through wear and environmental conditions.

Protective surfacing is recommended with wood chips, sand, gravel and other loose materials being most common. Manufactured synthetic surfaces are becoming more popular. Shock absorbing performance should be requested from the manufacturer.

Recommended Equipment Height and Surfacing Depths:

Type of Material	6" Depth	9" Depth	12" Depth
Double Shredded Bark Mulch	6' Height	10' Height	11' Height
Wood Chips	7' Height	10' Height	11' Height
Fine Sand	5' Height	5' Height	9' Height
Fine Gravel	6' Height	7' Height	10' Height

Use Zones:

A use zone, covered with a protective surfacing material, is essential under and around equipment where a child might fall. This area should be free of other equipment and obstacles onto which a child might fall. Stationary climbing equipment and slides should have a use zone extending a minimum of 6' in all directions from the perimeter of the equipment. Swings should have a use zone extending a minimum of 6' from the outer edge of the support structure on each side. The use zone in front and back of the swing should extend out a minimum distance of twice the height of the swing as measured from the ground to the swing hangers on support structure.

Swing Spacing:

Swings should not be too close together or too close to support structures in order to prevent injuries from impact with moving swings. Swing spacing should be at least 8 inches between suspended swings and between a swing and the support frame. The minimum clearance between the ground and underside of swing seat should be 8 inches. Swing sets should be securely anchored.

Elevated Surfaces:

Platforms more than 30" above the ground should have guardrails to prevent falls.

Head Entrapment Hazards:

Openings for railings and equipment should be less than 3 ½" or greater than 9". Openings that are between 3 ½" and 9" present a head entrapment hazard because they are large enough to permit a child's body to go through, but are too small to permit the head to go through. When children enter such openings, feet first, they may become entrapped by the head and strangle.

Entrapment and Strangulation Hazards:

Open "S" hooks, especially on swings, and any protrusions or equipment component/hardware which may act as hooks or catch-points can entangle with children's clothing and cause strangulation incidents. Close "S" hooks as tightly as possible and eliminate protrusions or catch-points on playground equipment.

Pinch or Crush Points:

There should be no exposed moving parts which may present a pinching or crushing hazard. This includes swing chains where small fingers can get caught. Swing chains should have protective tubing, sleeves or coatings to prevent finger injuries.

Playground Maintenance:

Playgrounds should be inspected on a regular basis. Documented inspections should include protective surfacing, especially mulch and chips, in order to maintain the proper depth. When deficiencies are noted, they should be removed, corrected or repaired immediately to prevent injuries.

General:

Playgrounds and equipment should be designed with age of users in mind; manufacturer's suggestions should be followed. Signage should be posted with age use guidelines, supervision and access recommendations.

More information on playground safety is available in the CPSC's [Handbook for Public Playground Safety](#)