



*This from The Playground Safety Institute which is the leading authority in playground safety in South Africa. (<http://www.playsafety.co.za>)*

## **12 Common Playground Hazards**

### **The Dirty Dozen Checklist**

Are they hiding in your child's playground?

The following items alone will never be able to prevent accidents from occurring on your playground but will prevent the severity of accidents that do occur. A full playground safety audit must be conducted by a playground safety auditor (inspector) in order to establish hazards on your playground. A playground safety management system will also be needed to prevent accidents occurring on your playground.

#### **1. Improper Protective Surfacing**

The surface or ground under and around the playground equipment should be soft enough to cushion a fall. Improper surfacing material under playground equipment is the leading cause of playground related injuries. Over seventy percent of all accidents on playgrounds are from children falling. Hard surfaces such as concrete, blacktop, packed earth or grass are not acceptable under play equipment. A fall onto one of these hard surfaces could be life threatening. Falls involving impact of the head onto hard surfaces result in head injuries which can lead to permanent brain injury or death. There are many surfaces that offer protection from falls. Acceptable surfaces are hardwood fibre/mulch, sand, rubber chips, poured in place rubber matting and pea gravel. These surfaces must be maintained at a depth of about 30 centimetres, be free of standing water and debris, and not be allowed to become compacted. There are also synthetic or rubber tiles and mats that are appropriate for use under play equipment. Properties of surfacing and depth of surfacing material must comply with the South African National standard SANS 51177.

#### **2. Inadequate Fall Zone**

A fall zone or use zone is the area under and around the playground equipment where a child might fall. A fall zone should be covered with protective surfacing material and extend a minimum of 2 meters in all directions from the edge of stationary play equipment such as climbers and chin up bars. The fall zone at the bottom or exit area of a slide swings and other moving play equipment requires larger and longer areas of fall zone. Calculation of these fall zones must comply with the South African National Standard (SANS) 51176 and SANS 51177.

Consultation with a playground safety expert is advisable. Swings require a much greater area for the fall zone:

### **3. Protrusion & Entanglement Hazards**

A protrusion hazard is a component or piece of hardware that might be 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 which might be worn around a child's neck. This type of entanglement is especially hazardous because it might result in strangulation. Hooded jackets and clothing with toggles with ropes are extremely dangerous. Most of this clothing has been withdrawn from markets internationally.

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 and open "S" type hooks. Rungs or handholds that protrude outward from a support structure may be capable of penetrating the eye socket. Special attention should be paid to the area at the top of slides and sliding devices. Ropes should be anchored securely at both ends and not be capable of forming a loop or a noose.

Cargo or climbing nets with openings between 43 cm and 72 cm can cause strangulation. Net size must be small enough to prevent the head from going through or large enough to allow the whole body to go through. Smaller net size is preferable.

Compliance with the South African National Standard SANS 51176

### **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 and entrap the head. Preventing Head Entrapment Hanging ropes and spaces in or between playground equipment can result in strangulation. All spaces on your playground equipment, such as those between ladder rungs, posts and railings should be either smaller than 8 cm wide to prevent children from putting their heads through or more than 23 cm wide to allow children to slide their whole bodies through without getting stuck. Any size between 8 cm and 23 centimetres is a strangulation hazard. Don't allow your children to attach ropes, pet leashes, belts or other item that can form a loop to the equipment.

Pay special attention to openings at the top of a slide, openings between platforms and openings on climbers where the distance between rungs might be less than 22 cm.

## **5. Insufficient Equipment Spacing**

Improper spacing between pieces of play equipment can cause overcrowding of a play area which may create several hazards. Fall zones for equipment that is higher than 60 centimetres above the ground cannot overlap. Therefore, there should be a minimum of 4 meters in between two play structures. This provides room for children to circulate and prevents the possibility of a child falling off of one structure and striking another structure. Swings and other pieces of moving equipment should be located in an area away from other structures.

## **6. Trip Hazards**

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

## **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, very often not being able to recognize potential hazards. It is estimated that over forty percent of all playground injuries are directly related to lack of supervision in some way. Parents, teachers and childcare providers must supervise children on the playground. Child to staff ratios must be maintained.

## **8. Age-Inappropriate Activities**

Children's developmental needs vary greatly from age two to age twelve. 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. Areas for pre-school age children should be separate from areas intended for school age children.

## **9. Lack of Maintenance**

For playgrounds to remain in "safe" condition a program of systematic, preventive 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. The surfacing material must also be maintained. Check for signs of vandalism.

## **10. Pinch, 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 cut skin. Moving components such as suspension bridges, track rides, merry-go-rounds, see-saws and some swings should be checked to make sure that there are no moving parts or mechanisms that might crush or pinch a child's finger.

## **11. Platforms with No Guardrails**

Elevated surfaces such as platforms, ramps, and bridge ways should have guardrails that would prevent accidental falls. Preschool age children are more at risk from falls and equipment intended for this age group should have guardrails on elevated surfaces higher than 30 centimetres. Equipment intended for school-age children should have guardrails on elevated surfaces higher than 76 centimetres.

## **12. Equipment Not Recommended for Public Playgrounds**

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

Heavy swings such as animal figure swings and multiple occupancy/glider type swings.

Free swinging ropes that may fray or form a loop.

Swinging exercise rings and trapeze bars are considered athletic equipment and not recommended for public playgrounds. Overhead hanging rings that have a short amount of chain and are intended for use as a ring trek (generally four to eight rings) are allowed on public playground equipment.

If any of the "Dirty Dozen" playground hazards are present, you should inform the owner or operator of the unsafe conditions.