

A HANDBOOK FOR
PUBLIC PLAYGROUND SAFETY

**Volume I: General Guidelines For
New And Existing Playgrounds**

EXCERPTS ONLY

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Making Existing Playground Safer

Public playground equipment can generally be expected to last from 10 to 15 years. Although manufacturers continue to redesign equipment to make it more enjoyable and safer, many years may pass before new equipment reaches the nation's playgrounds and make a substantial impact on playground injuries.

Thus retrofitting and maintaining existing playgrounds and equipment play a vital role in improving playground safety. While some of the following suggestions for retrofitting or modifying playgrounds have been discussed earlier in this handbook, they are worth repeating here:

- Remove equipment from asphalt or concrete surfaces. Vacated areas can then be used for other activities such as hopscotch or basketball. If removing equipment is not feasible, cover the areas under equipment with heavy duty mats, etc., or add shock absorbent surfacing material in trouble areas, especially around high slides or areas where falls frequently occur.
- If equipment is crowded together causing an uneven distribution of children, consider moving some pieces out of the densely populated area to ease traffic.
- Do not hesitate to eliminate a piece of equipment which has been associated with frequent injuries. Take special note of slides more than 10 to 12 feet high; they present the potential for serious injury in the event of a fall.
- Equipment should be firmly anchored in the ground by concrete. Place concrete footings below ground level to prevent tripping and to protect a child in case of a fall.
- If any exposed concrete footings do exist, cover them with earth or padding. Also, consider recovering worn surfaces where rocks or other hazards may protrude.
- Consider installing fences or other barriers between areas of active play, such as ball fields, and the immediate playground area where equipment is installed. Areas for running games may be separated from areas from passive play, picnicking, etc. Playgrounds should always be separated from roadways by a fence, wall, or other barrier.
- Barriers may also be installed between traditional apparatus and discovery or adventure playgrounds where children may be using tools and similar equipment.
- Remove one or two swings to reduce overcrowding of swing sets.
- Replace heavy swing seats with lightweight seats, e.g., canvas or plastic. Add tire swings, because they permit safe use by several children at one time, and their safety record appears to be better than that of conventional swings. Drill holes in tire swings to assure water drainage.
- Remove single cables, wires, ropes, or similar obstructions between play units which a child might accidentally run into or trip over. (This recommendation is not intended to eliminate items such as guard railings or series of ropes and cables such as cargo nets and climbing grids.)
- Install or paint on slip resistant surfaces on climbing and gripping components.
- Consider color coding equipment for different age groups and posting explanatory signs in prominent locations. Bright colored paints or tape can also make a potentially hazardous protrusion on a piece of equipment more visible.
- When a playground leader is not present, consider restricting children ages 1 to 5 from playground equipment unless they are accompanied by an adult.
- Provide clearly marked pathways and encourage children to keep to the paths rather than cutting through areas where swings, merry-go-rounds, etc. are in motion.

- Homemade or community built equipment made of logs, railroad ties, or landscape timber should receive special inspection and maintenance for splinters, rough edges, spark corners, and loose or protruding nails, nuts, bolts, etc. Because cedar, redwood, and pressure treated lumber tend to resist deterioration, these materials are recommended in areas where the wood comes in contact with soil or in humid climates.
- Knowledge of first aid and accident prevention is very useful. In order to get help fast when needed, post emergency numbers in a prominent location - near a telephone, if one is available.
- Clean playgrounds regularly, being alert for hazards such as broken glass or sharp metal objects. Whenever possible, provide trash receptacles and empty them frequently.
- A regular inspection and maintenance schedule is essential to ensure the safety of the equipment and surrounding area. (See checklist on page 8 for suggestions.)

Summary

This handbook has provided some general guidelines for playground equipment and suggestions for the design, layout, surfacing, and operation of public playgrounds which can help to make children's play safer.

Because children will use playground equipment in ways for which the equipment is not intended, however, even after design and mechanical hazards have been addressed and information and education programs undertaken, public playground equipment may still be associated with some accidents and injuries.

Thus, close supervision of children as they play and intensive classroom and home instruction about safe behavior on playground equipment make an important contribution to playground safety. Through the attention and care of parents, schools, and community organizations, the number of severity of playground injuries can be further reduced.

Playground Safety Checklists

Suggested Public Playground Maintenance Checklist

Inspections should be conducted on a frequent, regularly scheduled basis. Following are some of the danger points that should be checked on each tour:

- Visible cracks, bending, warping, rusting, or breakage of any component.
- Deformation of open hooks, shackles, rings, links, etc.
- Worn swing hangers and chains.
- Missing, damaged, or loose swing seats; heavy seats with sharp edges or corners.
- Broken supports/anchors.
- Footings exposed, cracked, loose in ground.
- Accessible sharp edges or points.
- Exposed ends of tubing that should be covered by plugs or caps.
- Protruding bolt ends that do not have smooth finished caps and covers.
- Loose bolts, nuts, etc.
- Splintered, cracked, or otherwise deteriorated wood.
- Lack of lubrication on moving parts.
- Worn bearings.
- Broken or missing rails, steps, rungs, seats.
- Surfacing material worn on scattered (in landing pits, etc.).
- Hard surfaces, especially under swings, slides, etc.
- Chipped or peeling paint.
- Vandalism (broken glass, trash, etc.).

- Pinch or crush points (exposed mechanisms, junctures of moving components, e.g., axis or seesaw).
- Tripping hazard such as roots, rocks, or other environmental obstacles.
- Poor drainage area.

Suggested Public Playground Leader's Checklist

- Prepare written guidelines for playground operation, defining goals and procedures.
- Insist on first aid and accident training for playground leaders.
- Provide for constant supervision by establishing a written schedule.
- Instruct children and playground supervisors on how to use equipment. (Playground equipment safety should be taught in the classroom.)
- Conduct daily cleaning and check for broken glass and other litter.
- Do not permit children to use wet or damaged equipment.
- Do not permit too many children on the same piece of equipment at the same time; suggest that children take turns or direct their attention toward other equipment or activities.
- Constantly observe play patterns to note possible hazards and suggest appropriate equipment or usage changes.
- Make periodic checkups and request that work or damaged pieces of equipment be replaced.
- Prepare written accident reports with special attention to surface conditions, type, and extent of injury, age, and sex of child. How the accident occurred, and weather conditions.

Suggested Public Playground Planners' and Installers' Checklist

- Separation of equipment for different age groups.
- Placement of swing(s) or swing sets away from other activities or equipment.
- Adequate space for children to exit equipment such as slides or merry-go-rounds.
- Layout designed to promote a safe flow of traffic between areas.
- Fencing or other barriers to separate the playground from adjacent streets.
- Clearly marked "danger" zones (e.g., those areas covered by swinging seats from swing sets and areas in front of sliding boards).
- No equipment installed over hard surfaces such as concrete or asphalt.
- Accessible components of equipment adjacent to sliding surfaces shaped so that a child's clothing cannot be caught as the child uses the slides.
- No component or group of components forming angles or openings that could trap a child's head or any part of a child's body.
- Protective barriers on surfaces which are elevated more than 30 inches from an underlying surface, assuring that the barriers do not create another hazards (i.e., horizontal cross pieces on which children can climb).
- Hand gripping components of size and shape to make them easy for a child to grasp.
- Climbing and gripping surfaces which are slip resistant under both wet and dry conditions.
- Explanation signs where needed, e.g., in color coded areas.

GUIDELINES FOR PLAYGROUND SAFETY CHECKLISTS

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- ? No components or group of components forming angles or openings that could trap a child's head or any part of a child's body.
- ? Protective barriers on surfaces which are elevated more than 30-inches from an underlying surface, assuring that the barriers do not create another hazard (i.e., horizontal cross pieces on which children can climb).
- ? Hand-gripping components of size and shape to make them easy for a child to grasp.
- ? Climbing and gripping surfaces which are slip-resistant under both wet and dry conditions.
- ? Explanation signs where needed, e.g., in color coded areas.

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- ? Provide for constant supervision by establishing a written schedule.
- ? Instruct children and playground supervisors on how to use equipment (playground equipment safety should be taught in the classroom).
- ? Conduct daily cleaning and check for broken glass and other litter.
- ? Do not permit children to use wet or damaged equipment.
- ? Do not permit too many children on the same piece of equipment at the same time; suggest that children take turns or direct their attention toward other equipment or activities.
- ? Constantly observe play patterns to note possible hazards and suggest appropriate equipment or usage changes.
- ? Make periodic checkups and request that work or damaged pieces of equipment be replaced.
- ? Prepare written accident reports with special attention to surface condition, type, and extent of injury, age and sex of child, how the accident occurred, and weather conditions.

Close supervision of children as they play and intensive classroom and home instruction about safe behavior on the playground equipment make an important contribution to playground safety. Through the attention and care of parents, schools, and community organizations, the number and severity of playground injuries **can** be further reduced.

Suggested Public Playground Maintenance Checklist

Inspections should be conducted on a frequent, regularly scheduled basis. The following are some of the danger points that should be checked on each survey:

- ? Do not permit children to use wet or damaged equipment.
- ? Visible cracks, bending, warping, rusting, or breakage of any component.
- ? Deformation of open hooks, shackles, rings, links, etc.
- ? Worn swing hangers and chains.
- ? Missing, damaged, or loose swing seats; heavy seats with sharp edges or corners.
- ? Broken supports/anchors.
- ? Footings exposed, cracked/loosened ground.
- ? Accessible sharp edges or points.
- ? Exposed ends of tubing that should be covered by plugs or caps.
- ? Protruding bolt ends that do not have smooth finished caps and covers.
- ? Loose bolts, nuts, etc.
- ? Splintered, cracked, or otherwise deteriorated wood.
- ? Lack of lubrication on moving parts.
- ? Worn bearings.
- ? Broken or missing rails, steps, rungs, seats.
- ? Surfacing material worn or scattered (in landing pits, etc.).
- ? Hard surfaces, especially under swings, slides, etc.
- ? Chipped or peeling paint.
- ? Vandalism (broken glass, trash, etc.).
- ? Pinch or crush points (exposed mechanisms, junctures of moving components, e.g., access of seesaw).
- ? Tripping hazards such as roots, rocks, or other environmental obstacles.
- ? Poor drainage areas.

Train Children to Play Safely

Because many playground injuries happen when youngsters use the equipment inappropriately, training of children in playground safety is essential.

Parents are, of course, the front-line instructors, but teachers and playground supervisors are also critical to this effort. It is helpful when teachers include a safety play unit in the fall curriculum.

Here are the basics of safe play habits:

- Swings -** Sit in the center of the seat -- never stand or kneel. Hold on with both hands and stop the swing before getting off. Have only one person swing at a time. Never swing empty swings or twist the chains. Do not stand in front and in back of moving swings.
- Slides -** Use the steps. Never climb up the sliding surface. Slide down feet first, always sitting up, one child at a time. Be sure everyone is out of the way before sliding.
- Seesaws -** Hold on with both hands and sit forward, facing each other. Be sure each partner has both feet on the ground before getting off. Never stand or run on the board. Keep feet from underneath board as it goes down.
- Climbing Equipment -** Climb only on apparatus made for climbing and never use equipment when it is wet. Hold on tightly using a firm lock grip (fingers and thumbs together). Avoid having too many people on equipment at once and stay well behind person in front. Avoid bumping, kicking, or stepping on others.

RULES AND REGULATIONS FOR PLAYGROUND EQUIPMENT

An overall plan for the playground should be developed taking into consideration such factors as:

- I. Location.
 - A. Proximity.
 - B. Access to building.
 - C. Activities which the playground will be used for, i.e., determining sun factor.
 - D. Size - depends on area available, money available, and school enrollment.
 - E. Natural cover such as trees and bushes should also be considered.
- II. Different groups of students who will use the blacktop and the number of students involved with each group.
 - A. Recess period (how many students).
 - B. Noon hour.
 - C. Preschool and after school.
 - D. Physical education.
- III. Types of activities planned.
 - A. Recess - noon hour - pre-and post-school.
 1. Kick ball
 2. Tetherball
 3. Softball
 4. Circle ball
 5. Basketball
 6. Hopscotch
 - B. Physical education - elementary guide for P.E. used.
 1. All of above (group A)
 2. Volleyball
 3. Badminton
 4. Tennis
 5. Physical Fitness Test
 6. Rope jumping
 7. Track
 8. Soccer
- IV. Considerations for purchasing equipment should include:
 - A. Developmental objectives - horizontal bars, climbing ladders, geodesec domes.
 - B. Creative objectives - use of tires, spools, field tile, etc.
 - C. All weather area (blacktop area).

- D. Before any equipment is purchased for installation on playgrounds:
 - 1. The Director of Elementary Education must approve the equipment.
 - 2. The Coordinator of Safety must approve the equipment.
 - 3. The Director of Maintenance must approve the equipment.

- E. Developmental type equipment such as horizontal bars, geodesec domes, climbing ladders, etc. should not be placed on hard surfaces, blacktop, or concrete without providing a safety turf underneath.

- F. Equipment should not be over 10 feet in the air.

- G. Swings which have board-type or solid-type seats are not permitted.

- H. Flying Dutchman type equipment is not permitted.