



I. Purpose

The purpose of these guidelines is to delineate best playground safety practices.

II. Attachments

There are two attachments included in these guidelines:

- 1. The "Playground Inspection Report" form is a one-page, easy-to-use check sheet, which includes a section for remarks and a system for follow up.
- 2. The United States Consumer Product Safety Commission's *Handbook for Public Playground Safety (CPSC Handbook)* is the recognized standard for playground equipment safety.

III. Four components of playground safety

Safety on the playground, and helping to protect students from injury, require planning, thought, training, and deliberate action. Proper selection, placement, and maintenance of playground equipment, along with effective supervision of playground activities, can help prevent accidents or reduce their severity. To practice due care for the safety of playground users in all phases of playground administration, consider the following areas of playground safety:

- A. Adequate, trained, equipped, and attentive playground supervision.
- B. Students instructed on how to properly play on the playground equipment. Written playground safety rules taught to all students, reviewed with parents, and consistently enforced.
- C. Playground equipment and surfacing that are selected, placed, and installed meeting the *CPSC Handbook* guidelines.
- D. Performing regular preventative maintenance of playground equipment according to the manufacturer's recommendations. Performing routine playground equipment inspection to identify hazards in the equipment and the playgrounds and correcting those hazards.



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Attachments

- The "Playground Safety Inspection" form
- The CPSC Handbook for Public Playground Safety



A. Playground injuries - nationally and in schools

1. Playground injuries nationally

The United States Consumer Product Safety Commission (CPSC) reports that more than 200,000 injuries occur annually on public playgrounds (public playgrounds include those at schools, parks, recreational areas, and the like). Children aged 10 and under suffer 77% of these injuries. 79% of public playground equipment related injuries resulted from falls (the most frequent), 68% of those being falls to the surface. Often children are hurt not only by the fall, but by striking the equipment as they fall. Children can fall because they slip, lose their grip, or lose their balance while playing. Other injuries caused by playground equipment include being struck by a moving apparatus, catching an extremity (arm, leg, or other body part), and running or falling against a protruding portion of playground equipment.

In its report, the Consumer Federation of America reports that climbers (monkey bars, dome climbers, arch climbers) are the piece of playground equipment from which children six and older are most frequently injured, with limb fracture being the most frequent type of injury. Swings and slides are the next most frequent sources of injury.

Children have died on the playground. The National Parks and Recreation Association lists the four top reasons why children die on playgrounds:

- Falls to hard surfaces
- Head entanglement and strangulation
- Head entrapment in openings
- Impact by moving equipment or tipped/loose equipment

2. School playground injuries

The National Injury Foundation statistics show playgrounds as the most injury-intensive activity in primary schools, with up to 80% of all primary school injuries occurring on the playground.

Accidents on and around the playground account for a statistically significant percentage (around 15% in many districts in Washington State) of injuries to all children in school.

Six years of school injury data (from a northwest Washington State school cooperative) show that the top five causes of injury on the playgrounds are as follows:

Falls from equipment 25%



| Athletic participation (in a game) | 17% |
|------------------------------------|-----|
| Slip, trip, or fall | 16% |
| Struck against object | 13% |
| Struck by object | 11% |
| All others | 18% |

In almost half of the playground injuries, equipment was involved. The types of equipment most frequently involved in school playground injuries are as follows:

| Bars | 29% |
|--------------------------------|-----|
| Balls, bats, racquets | 23% |
| (tetherballs, baseball bats) | |
| Composite structures | 14% |
| (like Big Toys) | |
| Climbing apparatus | 10% |
| Non-play equipment | 8% |
| (such as poles & posts) | |
| Swings (including tire swings) | 7% |
| Slides | 5% |
| Other play equipment | 3% |
| Tires & tire climbers | 1% |

The most severe school playground claims involve falls from equipment and being hit with balls.

B. Legal duties and liability on the playground

1. Liability

Negligence creates potential liability. Negligence is the unintentional doing or not doing of something which causes injury to another. Negligence is the failure to use that degree of reasonable care which is considered a reasonable precaution under the given circumstance. It is the unintentional doing (commission) or not doing (omission) of something which causes injury to another.

Negligence involves four elements, and all four must be present to be found negligent in a court of law:

- * Duty an official or reasonable expectation
- * Breach of duty the expectation was not met
- Proximate cause not meeting that duty caused or exclusively contributed to the accident



 Damages – the accident caused someone to be injured or property to be damaged

2. Duties

A school district (and its employees, who are its agents) has certain basic duties that are summarized as follows:

- The duty to warn and inform
- The duty to provide proper instruction
- The duty to condition and equip participants properly
- The duty to provide proper supervision
- The duty to provide safe facilities
- The duty to provide safe equipment
- The duty to provide prompt and appropriate post-injury care

When those duties are not fulfilled, the district could be held liable for a student's injury. All the above are duties owed to students on the school playground. In most legal cases on school playgrounds, inadequate supervision is alleged.

3. Parental expectations

In addition, the students' parents/guardians have expectations for their children on the school playground. Parents expect that their children:

- Will be returned to them in basically the same condition as when they left for school in the morning
- Will be kept safe
- Will have fun
- Will be listened to
- Will be provided safe play equipment
- Will be provided a variety of activities
- Will receive fair discipline

C. Duties of playground supervisors

A "playground supervisor" is any adult, paid or volunteer, charged with supervising students on a playground.

One of the duties owed to students on the school playground is proper supervision. The main purpose of supervision on the playground is to help protect students from injury or diminish the risk of student injury.



Proper supervision has four basic components:

Presence and attentiveness

Being on the playground before students start playing. Staying in a reasonable proximity to the areas of activity. Keeping all students easily in sight (if one of the supervisors cannot see the students, the students are not being properly supervised). Not becoming distracted from duties.

2. Student behavior monitoring and intervention

Being knowledgeable of and consistently enforcing school rules and policies. Restricting students from roughhousing, horseplay, or other inappropriate behavior on or near any apparatus. Controlling the play environment.

3. Hazard surveillance and intervention

Being risk-conscious (prioritizing attention into the areas where accidents are most likely to occur). Checking the playground daily, and appropriately addressing ground and equipment hazards.

4. Responding appropriately to emergencies

Handling emergencies that occur on the playground properly to reduce potential injury and damage. This involves being CPR/first aid certified, or having such a staff member readily accessible.

D. Effective playground supervision

1. Written policy

A district should have a written policy on playground supervision to ensure adequate supervision of the playground whenever it is occupied during the school day. Include at least the following in this policy:

- Written duties of playground supervisors
- Requirement for and an outline of initial and annual training for all playground supervisors
- Written playground rules
- Emergency procedures
- List of required safety equipment
- Results of the evaluation of an appropriate number of supervisors for the playground (see section E of these guidelines)



"Ranking the risks" on the playground

Since a playground supervisor cannot focus on all the students at one time, a "rank the risks" approach should be used to prioritize attention to the areas where accidents are most likely to occur.

School playground accident statistics (delineated briefly in section A.1. of these guidelines), combined with a supervisor's own experience on the school playground, help identify the most serious injury risks on the playground (areas where students are most likely to get hurt).

After the risks are identified, the supervisor can set supervision priorities on the playground based on this risk ranking. This means monitoring the areas with the highest and most severe risk of injury more closely. Have the supervisor:

- * Put HIGH risks directly in front of the supervisor HIGH risk activities traditionally include climbers, slides, composite [multi-function] play equipment, and high (over 7 feet) play equipment
- * Put LOW risks on the periphery (beside the supervisor)

 LOW risk activities traditionally include field sports and games and basketball.
- * Put NO risks at the supervisor's back NO risk activities traditionally include other games played on the blacktop.

AND KEEP MOVING! Activities on the playground change constantly.

A supervisor can position themself, or arrange the activities on the playground, to use supervision to the maximum; and make informed decisions about what to watch, how often, and when.

Controlling the play environment may involve:

- Decreasing the number of children in an area or on a piece of equipment
- Rearranging the games on a field
- Acting to help alter the behavior of children

3. Adequately addressing hazards

When a hazard arises (such as a broken piece of play equipment) that a playground supervisor must deal with immediately, remember the following:



- Disable (take off the swing), immobilize (secure the merry-go-round so it cannot spin), or make hazardous conditions inaccessible (by warning cones and tape) – but be careful not to create a worse hazard (like leaving an unguarded platform when a broken slide bed is removed)
- Warning signs are not enough of a deterrent since some students cannot read them
- Supervise more closely (stay near to) a hazardous area; this is effective only at times when the playground is supervised

E. What is enough supervision on the playground?

There has been much discussion in schools and in courts regarding how many adult supervisors there should be on school playgrounds. Supervisor-to-student ratios consider only the number of students present, which can be misleading because there are several factors which determine adequate playground supervision.

An interdisciplinary group can be used to evaluate adequate supervision on a playground. The group may include a playground supervisor, the building administrator, a parent, a teacher, and the safety officer.

To determine adequate supervision, conduct an evaluation using the following factors:

- 1. The number of students (this may be different at different times)
- 2. The ages of the students (younger children need closer supervision)
- The mental and physical capabilities of the students including discipline issues
- 4. The configuration of the play area, including visibility and size
- 5. The play equipment used and activities available
- 6. The emergency procedures used on the playground
- The weather conditions

For example, six students with severe physical disabilities may require three supervisors, while sixty students playing kickball in a field area may only need two supervisors.

Establish the minimum number of playground supervisors needed for a facility (or a supervisor-to-student ratio), taking into consideration the factors previously noted. In most cases because of the size and configuration of many playgrounds and the school's emergency procedures, a minimum of two adult supervisors should be on duty whenever the playground is in use during the



school day. More than two may be necessary based on the results of the school's evaluation.

F. Selecting, training, and equipping playground supervisors

Playground supervisor competency is an important factor to ensure good supervision. Playground supervisors, including volunteers, should meet selection criteria and be trained for their duties.

1. Selection criteria

The playground supervisor should:

- a. Be physically able to do the job (walk around and see the whole playground, climb, free a trapped child, intervene to stop a fight, etc.)
- b. Have passed a Washington State Patrol criminal screening as specified in RCW 43.43.830
- c. Hold a currently valid CPR/first aid card (at least one supervisor on each playground during each recess should be so certified)
- d. Be able to work well with students

2. Initial Training

Adults do not automatically have the skills necessary to appropriately supervise students at play on a school playground. In playground supervisor training, include general playground supervision information, and information specific to the school at which they will supervise. Teach playground supervisors applicable school district policies and procedures and their duties and responsibilities.

Include the following basic information in the initial training session(s):

- a. General playground information should include:
 - * The causes of injuries on school playgrounds
 - * The requirements of the CPSC Handbook for playground equipment
 - * The basics of how to inspect playground equipment
 - * How to identify, report and help protect students from hazards on the playground
 - * How students should safely use play equipment
- b. General supervision information:
 - Understand the importance of playground supervision



- * Be familiar with the school's method of playground discipline
- * Understand the difference between discipline and punishment
- * Be able to enforce rules
- * Know how to alter student's behavior positively
- Understand that constant diligence in monitoring the playground is essential
- * Understand that the location of the supervisor on the playground is very important, that supervisors should have an unobstructed view of the entire play area, and supervisors should avoid standing together and chatting
- c. School specific information should help the playground supervisor:
 - Know the established playground rules
 - * Know what playground equipment is designed for younger students
 - * Know the importance of and appropriate ways to respond to various emergencies on the playground
 - Know how to handle injuries on the playground
 - * Know procedures for visitors at the school
 - * Know the layout of the entire school grounds, all playground apparatus, and out-of-bounds areas
 - * Be familiar with games used on the playgrounds and their rules
 - * Know the locations of first aid kits, telephones, fire extinguishers and the school nurse or designated emergency aide
 - * Know how to handle discipline problems
 - Understand the role of playground supervisor in a crisis (earthquake or other school emergency)
 - * Be able to correctly complete a student accident report for a playground incident

3. Follow up training

Conduct annual training with all playground supervisors. Design annual training to reinforce the initial training, update the supervisors as to any changes, and address specific playground problems and issues at the school.

4. Supplies and equipment

Equip playground supervisors to do their job. Appropriate supplies and equipment may include:

- * A whistle or other means of communicating with students quickly
- * A clipboard, paper, and pen



- * A means of emergency communication with the office (a two-way radio system is often chosen because it is fairly reliable and inexpensive)
- * Minor first aid supplies, including protective gloves
- 5. Supervision of the playground supervisors

Charge a knowledgeable administrator with training and overseeing playground supervisors. Administrators should evaluate playground supervisors periodically and analyze their effectiveness in that position.

The administrator charged with the management of the playground supervisors should periodically (quarterly is suggested) review student playground accident reports to look for patterns of causes and initiate or ensure corrective action.

G. Handling emergencies on the playground

One of the duties owed to students on the school playground is prompt and appropriate emergency medical care.

- 1. Types of emergencies that can occur on the playground include:
 - a. Medical emergencies, including serious injuries

Prompt, appropriate medical attention can often reduce the severity of injuries. Ensure the medical emergency plan for the playground addresses the following:

- * Who assists the injured
- * Who maintains control of the playground
- * Who goes for help during the medial emergency
- How the above is accomplished
- b. Unidentified visitors/strangers on or near the playground

Enforcement of visitor rules is important on the playground as well as in the school building. Challenge strangers on or around the playground by asking them who they are and what they are doing. If the stranger is outside of the playground, call an administrator to handle the situation (the playground supervisor should not leave the supervision area to question a visitor). If a stranger gives evidence of being dangerous, call for emergency assistance from the office via the established emergency communication system.



 Abduction of a student or a student leaving the school grounds during the school day

Report a student's leaving or abduction from the school playground to the office as soon as it happens or is noticed. Then follow district procedures.

d. Physically dangerous acts, illegal acts, or overt defiance

Handle dangerous and illegal actions according to district discipline procedures. Call for emergency assistance from the office via established emergency communication system.

2. Preparing for an emergency

To be better prepared to handle an emergency:

- a. Establish written plans (involve affected staff)
- b. Train playground supervisors and office staff
- c. Establish an emergency communication system
- d. Test the emergency system: practice, drill, and practice some more
- e. Ensure a process for prompt notification of parents

3. Summoning assistance during emergencies

Some system of communication with the school main office is essential. This can be done several ways, including the use of:

- Two-way radios
- Cellphones
- An emergency card system (with student or adult runners)
- Special whistle signals
- Bullhorns

Whatever you choose, it is important to find a system of emergency communication that works at the school.

Once an emergency communication system is established, train both the playground supervisors and office staff in its use. Test the emergency system periodically to ensure that it will work in an emergency situation.

4. Emergency medical care

When an accident occurs, and a child is hurt:



- * Never fail to give aid (err on the side of caution)
- * Do not move the child (due to the possibility of neck and spinal injury)
- Summon professional medical attention
- * Report the accident to the school office
- * Administer first aid as trained
- * Make sure the injured child is always attended by an adult
- * Contact parents as soon as possible
- * Do not discuss who will pay for medical care and do not admit liability
- * Complete an accident report promptly

Be sure to follow school district policies and procedures!

5. Proper completion of accident/incident reports

Document all playground injuries other than minor scrapes and bruises. In completing student accident reports, be sure to:

- * Write legibly
- * Report all information that you have at the time; someone may need to complete it more fully later
- * If you did not observe the incident yourself, say how you found out about it
- * Report **just the facts** no opinions
- * In the injury description, do not give a medical diagnosis (unless you are a trained medical professional); if the injury is suspected, state that
- * Be as specific as you can as to where on the playground (location and equipment) the injury occurred.

H. Establishing playground rules

One of the duties owed to students is proper school playground rules and instruction in language that students understand as to:

- how to play on the playground equipment,
- how to play games,
- the playground rules, and
- the consequences for misbehavior.

Establish and publish written playground rules that give students guidelines for safe, happy, and constructive playground behavior. Include in these rules, topics such as general behavior, general safety rules, and equipment use detailed by each piece of equipment, playground games and special circumstances.



Try to make the rules positive ("do this") instead of negative ("don't do this"). Sample playground rules, both general and equipment-specific, are included in section J.

To solicit parental involvement in playground behavior and help ensure fairness in the rules, the school may want to involve the PTA in the development of these rules.

I. Teaching playground rules

Children are inventive and use playground equipment in many different ways not intended by the manufacturer. They must be instructed how to play and how not to play on the equipment.

- Teach playground rules to students at the beginning of the school year.
 Either the teacher or playground supervisor or both can do this. Review the rules periodically.
- 2. Post a copy of playground rules in the classroom and/or on the playground for easy reference.
- 3. Provide copies of the school's playground rules to students' parents or guardians.
 - Publish playground rules in the school or student handbook.
 - Consider using parental and student acknowledgement forms, which
 can help ensure that rules are reviewed at home with the students. A
 parental and student acknowledgment form lists the school's rules and
 has the parent and student both sign that they both have read and
 understand the rules.
- 4. Familiarize playground supervisors (including subs) with playground rules and what is in the school procedures about safe play, so they can reinforce these practices on the school playground.

J. Example playground rules - general and equipment-specific

There are two types of playground rules: general playground safety rules and rules for specific playground equipment use. Following are example rules. These rules are general in nature and should be tailored to each school's specific situation and facilities.

- 1. General playground safety rules
 - a. Obey directions given by all playground supervisors



- b. Stay within playground boundaries and away from off-limit areas. Play games only in approved and designated areas. *Include school specific information about playground boundaries.*
- c. Follow play equipment and game rules.
- d. Use school equipment; do not bring toys and equipment from home.
- e. Avoid wearing loose jewelry.
- f. Avoid wearing clothing with drawstrings.
- g. Leave pens or pencils in the classroom.
- h. Leave dirt, sawdust, stones, sticks, snowballs, rocks, or other objects alone. Leave surfacing materials on the ground.
- i. Stay away from structures such as fences, trees or other things not intended as playground equipment.
- j. Respect other people's space. Keep your hands and feet to yourself.
- k. Be courteous and a good sport.
- I. Speak respectfully to each other.
- m. Stop playing immediately when the signal is given. List type of signal, such as a whistle being blown twice.
- n. Report bullying to a teacher or supervisor.

2. Weather considerations

Establish a procedure for evaluating the use of play equipment in inclement weather:

- a. In freezing weather, many types of playground surfacing freeze, losing their resilient and protective properties. Warm skin may stick to freezing metal surfaces. Ice can make surfaces slippery.
- b. In wet weather, surfaces that students walk on and hold on to become slippery and can cause them to fall. Puddles may form, and students cannot use the equipment without walking in these puddles.

In inclement weather, consider restricting equipment and areas that can be used for that recess (such as only under the covered play area), or dry slippery surfaces before the students use the play equipment.

- 3. Rules for playground equipment use (suggested)
 - a. Climbing apparatus
 - * When holding on to equipment, use a firm grip by hooking the thumb around the equipment to meet the opposing fingers (the "thumb opposing grip").
 - Hold on with both hands.
 - * Do not sit on the apparatus



- * Do not play under the apparatus
- * Do not carry anything when climbing on the apparatus

b. Hanging rings

- * When holding on to equipment, use a firm grip by hooking the thumb around the equipment to meet the opposing fingers (the "thumb opposing grip").
- * Allow only one person at a time on the rings.
- * Travel in the same direction.
- Do not crawl through the rings.
- * Do not hang by the legs. Do not perform stunts.

c. Horizontal ladders and bars

- * When holding on to equipment, use a firm grip by hooking the thumb around the equipment to meet the opposing fingers (the "thumb opposing grip").
- * Allow only one person at a time on the ladder.
- * Start at one end of the apparatus and move in one direction
- * Stay well behind the person in front and watch out for swinging feet.
- * Avoid speed contests; do not try to cover too large a distance with one move.
- * Do not hang by legs.
- * Do not stand or sit on the top bar.

d. Seesaws (Teeter-totters)

- * Sit facing each other and do not lean back.
- * Keep a firm hold with both hands.
- * Do not walk on seesaws.
- * Keep feet out from underneath the board.
- * Have both partners keep their feet on the ground before one gets off.

e. Slides

- * Allow only one person at a time on the sliding surface (unless it is designed as a two-person slide).
- * When climbing, hold on with both hands.
- * Climb one step at a time.
- * Do not go up the sliding surface or the frame.
- * Slide down feet first, sitting up, one at a time.
- * Be sure no one is in front of the slide before sliding down.



* Avoid pushing or shoving.

f. Regular (to-fro/single axis) swings

- * When holding on to equipment, use a firm grip by hooking the thumb around the equipment to meet the opposing fingers (the "thumb opposing grip").
- * Allow only one person at a time on the swing.
- * Sit in the center of the swing; do not stand or kneel.
- * Hold on with both hands.
- Come to a complete stop before getting off the swing.
- * Walk around the swing not too close to the front or back.
- * Do not push anyone in the swing or allow others to push you.
- Avoid swinging or twisting empty swings.
- * Do not touch other swings or swing frame when swinging. No twisting or turning the swing.

g. Tire swings

- * When holding on to equipment, use a firm grip by hooking the thumb around the equipment to meet the opposing fingers the "thumb opposing grip."
- * Hang on with both hands to the swing chain.
- * Do not touch the connecting joint.
- * Allow maximum of two persons on the tire swing at a time.
- * Stop the swing before getting on or off.

h. Other equipment

There are other types of play equipment found on school playgrounds which do not have rules listed in this section. Establish rules for all play equipment on the school grounds. Often equipment manufacturers include information about safe play on their equipment in the equipment use manuals, and staff should refer to these equipment-specific rules.

K. Enforcing rules and using discipline

- Use the school's established procedures for discipline. Never use unreasonable or excessive punishment. Ensure all school employees are consistent with all students.
- Communicate rules routinely with students. Let them know that misbehavior will be dealt with through a system of warning and prescribed action.



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- 3. Act to control repeated violators of playground rules. Involve school administrators in repeat offenders and serious cases.
- 4. Ensure staff understands the difference between discipline and punishment. Punishment intends to harm; discipline intends to change behavior (its methods are previously established).
- 5. Ensure playground supervisors understand the difference between rough play and bullying. One source says that bullying is violent behavior directed specifically towards injuring, intimidating, or belittling another child, and rough competitiveness is aggressive behavior aimed at a game-related objective.
- 6. To help maintain discipline on the playground, a school can teach peacekeeping techniques such as conflict resolution strategies, and/or use trained student mediators.

L. Games on the playground

District-approved games

To help ensure that safe games are played during recess, establish approved games, and encourage students to use these games in free play. Make these pre-approved games a part of the established school procedures. Provide the right equipment for these games to players.

Do not include games with names that might be offensive to parents, represent acts of violence, or indicate that a game is too rough, such as "Hell Ball" and "King of the Mountain" in district-approved games.

Include information about district-approved games in the playground supervisor's handbook: how to play the games, game rules, and equipment and set-ups used. Physical education texts are a good source of game-playing information.

2. How to make game playing safer

To make play safer, consider the following:

a. The space in which the games are played

Ensure that there is enough space and the right kind of space to play games. Check the play area for dangerous objects and hazards. Identify boundaries for games. Ensure that activities do not interfere with or encroach on one another.



There are additional safety considerations indoors. Stored items such as tables, chairs, equipment, and apparatus can become hazards when a high-speed game is under way and these items are stored near boundaries. Relocate stored items in or near play areas or sufficiently pad them to prevent student injury. For games that involve a goal line, draw zones or place cones at least 10 feet from the wall to allow for deceleration before a running student would hit the wall. Do not play games involving high-speed balls indoors without protecting students from injury and facilities from damage.

b. The skill level of the participants

Ensure that playground supervisors are aware of the different developmental levels in students. In evaluating skill levels, consider the variety of activities present, the ages of the children, the mental and physical capabilities of the students, and the equipment and facilities that they are using in games. Group children with similar skill levels together for game playing.

c. The supervision of the play area

Good supervision is critical to safe play and helps protect students from dangerous activities and hazards. Ensure that playground supervisors know that students create and modify games to match their imaginations and meet their needs. Have supervisors continually assess these games for appropriateness and assist students with ideas to make the games safer or stop unsafe games.

M. Introducing new games and equipment

Introduce new games to students in Physical Education (PE) class since PE teachers are qualified to do this. The PE teacher's ability to evaluate games is used to select new games and to modify previously learned games to ensure that the activities are suited to the maturity and skill level of the children. Closely supervise games while students are practicing them and be sure to identify safety hazards to the students. Ensure that the supervisory component of games is taught to playground supervisors.

Teach the proper use of play equipment in a similar fashion using a qualified person. Students will probably not play properly on a new piece of play equipment without being taught.

N. Playground equipment standards - CPSC & ASTM



One of the duties owed to students on the school playground is to provide safe facilities and equipment. This includes the following elements:

- * Safe location, design, and maintenance of play equipment and surfacing (meeting CPSC Handbook for Public Playground Safety guidelines)
- * Safe facilities for play (both outside and inside)
- * Adequately addressing hazards
- 1. Playground equipment safety standards The CPSC Handbook

Although currently there are no legislated mandatory safety standards for playgrounds and playground equipment in Washington State, the United States Consumer Product Safety Commission (CPSC) provides guidelines for public playgrounds, which includes those owned by schools. The *CPSC Handbook*, which was first issued in 1981, is a consensus standard based on public playground accident experience.

A copy of the Consumer Product Safety Commission's *Handbook for Public Playground Safety (CPSC Handbook)* follows these guidelines. Note: it is a public document and can be copied as needed.

These playground equipment safety guidelines are considered an accepted safety standard. Many manufacturers and public entities have adopted these guidelines as internal standards for equipment and playgrounds.

The recommendations included in the *CPSC Handbook* address the layout and design of playgrounds, installation and maintenance of equipment, materials of manufacture and construction, general hazards, access and platforms, specific requirements for major types of playground equipment, requirements for adequate surfacing, and use zones for equipment. Appendix information includes a suggested maintenance checklist, entrapment requirements, and advantages and disadvantages of the various types of playground surfacing materials.

2. Playground equipment safety standards – ASTM 1487

The other playground safety standard is ASTM (American Society for Testing and Materials) standard F 1487-21, "Standard Consumer Safety Performance Specification for Playground Equipment for Public Use." This ASTM standard has requirements similar to those in CPSC, but ASTM 1487 does include brief sections on accessibility and equipment labeling. Note: ASTM standards are copywritten and must be purchased from ASTM.

3. Equipment manufacturers requirements



If the manufacturer publishes guidelines for its playground equipment, these also need to be followed (manufacturers traditionally provide information on installation and inspection).

4. Health department safety guidelines

The local health department may have additional guidelines that should be included in playground selection, placement, and inspections.

O. Playground equipment selection; ADA requirements

1. Playground equipment selection criteria

Always consider the suitability of playground equipment before purchasing and installing it on a school playground. In preparing to purchase new or replacement equipment, ask and satisfactorily answer the following questions during the selection process:

- a. Is this piece of equipment in compliance with the CPSC Handbook and ASTM 1487 guidelines? Ensure that the playground equipment manufacturer puts that compliance in writing and proves it with documented testing results.
- b. How durable is the equipment? Looking at the expected life of the equipment is an important consideration for school districts. Evaluate the strength of the material and its ability to withstand heavy use and exposure to weather. Can the wood stand up to prolonged wet weather and wet ground conditions? Where can you go to see this type of equipment both new equipment and equipment that has been in use for over five years? It is often advantageous to see what the play equipment looks like and how it has held up over the years.
- c. Are detailed, understandable installation instructions provided for the equipment? Ask for specifications on each piece of equipment. Is the manufacturer's representative available to perform the installation or assist with it by certifying that the equipment is installed properly? Many manufacturers' representatives will help in the design and layout of playgrounds – ask if they provide that service.
- d. What kind of maintenance program does the manufacturer of the equipment suggest? Are there ongoing maintenance instructions? Can the district provide the necessary routine maintenance with current staff? What are the procedures for ordering replacement parts and what is the availability of these parts? Request detailed product information from the manufacturer.



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- e. Are there warranties on all the materials and workmanship of the product? Obtain and retain copies of these warranties. Choose a company that stands behind materials used in its product (the component parts) as well as the product itself.
- f. How many years has the manufacturer been in business? Preferably choose a play equipment manufacturer that has been in business several years and has continually improved its products.
- g. Does the playground equipment manufacturer carry product liability insurance, and what are the limits? Choose a company that carries at least \$1 million worth of liability insurance and has carried the same amount for the last five years or longer. Longer coverage periods and greater insurance amounts carried may indicate greater stability in the company. Ask what type of claims, if any, has the company had on the piece of equipment you are investigating.
- h. What type of protective surfacing has been selected to place beneath the playground equipment? The previous questions should also apply to surfacing manufacturers. Remember the "Americans with Disabilities Act" requires that all public playgrounds be accessible to people with disabilities: those who may use wheelchairs, walkers, be blind, etc. Acceptable surfaces must pass impact testing as specified by CPSC. Never use concrete, asphalt, brick, wood, or other hard surfaces under playground apparatus.

Screening of playground equipment, and choosing tested products that meet accepted standards, will help ensure that students are better protected from injury, and that the district is protected from the financial consequences of injuries caused by the equipment as much as possible. It is worth the time and effort needed to evaluate playground equipment before purchasing it.

2. Equipment not recommended for public playgrounds

The CPSC Handbook (section 2.3.1) lists certain types of equipment that should not be placed in public playgrounds due to its injury potential, including:

- Hard animal swings and hard wheelchair swings
- Multiple occupancy swings (except for tire swings)
- Rope swings
- Swinging dual exercise rings and trapeze bars
- Trampolines
- Equipment over 10 feet high



3. Separate play areas and equipment for young (aged under 6 years old) children

Pre-school age children (aged under 6 years old) are injured more frequently on playgrounds partly because they have less climbing ability, stepping height, reaching height, grasping strength, coordination, balance, and self-confidence than older children. Those abilities develop with age. Therefore, children aged under 6 years old need different play equipment than older children.

The pieces of play equipment that present more challenge to children include rung ladders, horizontal ladders, chain nets, climbers, sliding poles, and other upper body equipment (such as the track ride and overhead rings).

Per *CPSC Handbook* guidelines (section 2.2, "Playground Layout"), separate the play areas and equipment for different age groups on the playground. Provide size appropriate equipment, with separate playground equipment designed for preschoolers.

4. Homemade play equipment

School districts receive offers for donations of equipment from a variety of sources. PTAs often help elementary schools in procurement of play equipment for playgrounds, and they sometimes look for the most inexpensive and resourceful way of meeting that need. Occasionally PTAs or the community may build the play equipment or parts of it themselves.

The Risk Co-Op recommends that schools <u>not</u> install homemade play equipment based on our inspection of and experience with homemade play equipment (homemade refers to equipment not built by a recognized playground equipment manufacturer). The Risk Co-Op has specific concerns with homemade play equipment that, if not addressed appropriately, will increase the potential for injury to students. These include:

- equipment not meeting CPSC or ASTM guidelines
- * inadequate protective surfacing
- * no manufacturer to offer financial protection to the district for injuries occurring on the equipment
- * suitability of materials and hardware
- * stability of the equipment
- maximum weight load for the equipment
- * height of the equipment



- * quarding of platforms
- * entrapment hazards
- * trip and slip hazards

5. District policy on play equipment

Ensure the district has a written policy addressing selection, placement and installation of playground equipment and surfacing. This policy should address donated equipment.

To help ensure an appropriate selection process for playground equipment, provide those who purchase playground equipment for the district (PTAs, school principals, and maintenance/operations representatives) with the following information:

- * A copy of the CPSC Handbook
- Equipment selection criteria (as above)
- * Any special district requirements concerning playground equipment. Some school districts do not allow certain types of play equipment such as swings or merry-go-rounds on their playgrounds.

6. The "Americans with Disabilities Act" (ADA) requirements

The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination against people with disabilities in public accommodations, including school playgrounds. Districts must therefore plan to make playgrounds accessible to students with disabilities.

Individuals with various disabilities must be able to access the playground. Every play activity does not have to be accessible for every child, but every playground must be accessible. Portions of the playground to consider for handicap accessibility include the following: play equipment area access, ramps, surfacing around play equipment and play structures. Existing sites and structures should be made accessible if the change is "readily achievable," e.g., if it can be done at a reasonable cost. New playgrounds should comply with these requirements.

P. Playground surfacing

1. Importance of Surfacing

The Consumer Product Safety Commission reported that nearly 80% of playground injuries are caused by falls.



Surfacing is a major factor in determining the injury-causing potential of a fall. How much the surfacing absorbs the momentum helps determine the severity of the injury. The CPSC has tested the shock absorbency of some frequently used loose-fill surfacing materials. Unitary materials, such as rubber mats, should have shock absorbency testing done by the manufacturer with results of this testing provided to the school prior to purchase.

2. CPSC Handbook guidelines

Section 2.4 of the *CPSC Handbook*, "Surfacing", outlines the requirements for the protective surfacing and the amount of surfacing needed for the tested materials.

Hard surfaces such as soil, concrete, asphalt and similar materials do not provide adequate protection from fall impact and are not recommended. Replace hard surfaces under play equipment with approved, shock absorbent surfacing as soon as possible.

3. Fall Zones

To protect students from injury, install this protective surfacing under and around the equipment, and beyond the edge of the play equipment, where protective surfacing is required. A minimum of 6 feet in all directions from the perimeter of the equipment is required around most play equipment. Two notable exceptions to the 6-foot fall zone rule requiring additional surfacing length are swings and slides; see Section 5 in the *CPSC Handbook* for more detailed information.

Q. Playground equipment placement

The correct placement of play apparatus can be critical in the prevention of playground accidents, so choose the location of the equipment carefully. There are several considerations in choosing the best location for a piece of playground equipment:

1. Size of play area

Make the play area large enough to contain all the equipment and necessary surfacing. Be sure to provide appropriate fall zones (the area under and around the equipment where protective surfacing is required) and no-encroachment zones (an additional area beyond the fall zone where children using the equipment can be expected to move about). See the *CPSC Handbook*, section 5.



2. Separation by age groups

As mentioned previously, separate the play areas and equipment for different age groups on the playground.

3. Proximity to external hazards

Consider hazards and obstacles to students traveling to or from the playground and ensure that the students are protected from them. The playground should be away and separate from:

- * busy streets
- * water
- railroad tracks
- * ravines
- * wooded areas
- * industrial plants
- dumpsters and recycle bins
- * storage of dangerous materials
- excessive noise or noxious odors from nearby sources

Provide at least eight feet between estimated use zones of the apparatus and adjacent buildings, paths, fences, and adjoining play areas.

4. Fencing and barriers

A barrier surrounding the playground is recommended. Fencing keeps the students within the play area and prevents them from running into the street or other undesirable areas. Fencing also helps keep stray animals and strangers off the playground. Install fencing and barriers (such as landscaping) where needed to isolate hazards, and to separate from other activity areas.

5. Proximity to internal hazards

- Separate activities involving much movement from activities where students stay in one place. Locate playgrounds away from other activity areas, such as ball fields.
- b. Locate heavily used equipment away from each other to prevent crowding in any one area.
- c. Place moving equipment such as swings and merry-go-rounds in a corner, away from main traffic areas.



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- d. Locate the slide exit in an uncongested area. Have slides placed facing north or in the shade to prevent hot metal surfaces that can burn a student's skin.
- Design user circulation patterns around equipment to promote safe movement in and about the equipment. Consider play and traffic patterns for composite (multi-function) play structures.
- f. Ensure that equipment is placed so that play apparatus is approached from the desired direction (e.g., not located right at the bottom of a hill where children would run down into the play area too fast).

See the *CPSC Handbook*, section 2.2.4, "Conflicting activities," for more information.

6. Ease of supervision

Ensure that people can observe the entire play area, including both the equipment and the fields. It is also important that police and security personnel can see the area day and night from patrol vehicles. Keep the site free of visual barriers (such as trees and bushes) that hamper visibility for supervision.

7. Drainage considerations

Locate the playground so that the site will dry out quickly. Ensure that there is proper drainage within the play equipment area, beneath its surfacing, and in the play fields so that there is no standing water.

8. Surfacing

Ensure that protective surfacing CPSC guidelines are followed.

R. Playground equipment installation

1. Installed by the manufacturer

The apparatus manufacturer or distributor should perform the installation. If this is not possible, assemble and install the apparatus according to the manufacturer's specifications and have a representative from the manufacturer field check the installation to ensure that all manufacturer's specifications are met and documented. The anchoring process is very important for the stability of the equipment – be sure the manufacturer's instructions are followed precisely. Having the manufacturer certify the installation provides a tie back to the manufacturer in the event of a claim



resulting from the product design, malfunction of apparatus or improper installation.

2. Appropriately labeled

Place identifying information about the play equipment, such as a durable and prominently placed label showing manufacturer, model, and date manufactured (as required in ASTM 1487) on the apparatus.

3. Inspected before use

Have a qualified individual inspect the play equipment thoroughly after installation. The Risk Co-Op's Loss Control staff are National Recreation and Parks Association - National Playground Safety Institute Certified Playground Safety Inspectors and can assist if needed.

- 4. Maintain manufacturer's information in a permanent file, and include:
 - a. Manufacturer's list of all components, including part names and numbers where appropriate.
 - b. Manufacturer's instructions and necessary drawings or photos for proper assembly and installation.
 - c. Manufacturer's recommended use zones.
 - d. Use rules (if provided)

S. Playground equipment preventive maintenance

Preventative maintenance helps ensure that play equipment is maintained in as safe a condition as possible.

Following are general guidelines for playground equipment maintenance:

- Perform routine preventive maintenance on protective surfacing at least weekly by cleaning loose surfacing material, maintaining materials to specified depth, putting surfacing material back inside the border, and picking up litter.
- 2. Perform periodic maintenance and repair equipment according to the manufacturer's specifications. This keeps the warranty intact and ensures appropriate and quality replacement parts.
- 3. Use only equipment parts manufactured and tested by playground equipment manufacturers.



- 4. Perform routine preventive maintenance on playground equipment periodically. This includes regularly lubricating unsealed bearings, closing Shooks, tightening bolts, sanding sharp edges, etc. Visually check other parts. An in-depth preventative maintenance is usually done in the summer.
- 5. Do not modify equipment unless manufacturer's recommendations are followed. Ask the manufacturer to certify in writing that it recommends or approves of the modification.
- 6. When you remove equipment or parts of equipment, take care not to create a greater hazard in the pieces left behind. For example, removing a tire swing leaves a high beam that tempts children to walk on, and removing equipment on cement footings leaves the footings for children to trip over.
- 7. Fix small problems immediately or on the following workday. Small problems become bigger problems as time progresses.
- 8. Disable, immobilize, or temporarily remove apparatus. If repairs cannot be completed within a reasonable amount of time, put up warning signs until repairs can be made. However, keep in mind that small children cannot read warning signs, so repairs should be expedited.

T. Playground equipment inspections

Institute a comprehensive inspection and maintenance program for playgrounds. Determine the frequency of inspection for equipment by the type of equipment, amount of its use, and local climate. Appendix B of the *CPSC Handbook* lists general equipment maintenance concerns in its "Suggested General Maintenance Checklist."

- 1. Why inspect and maintain school playgrounds
 - a. The district's duty: protecting students from danger

The school district has the duty to maintain its premises in a reasonably safe condition. It is the district's responsibility to discover dangerous conditions that "would reasonably be expected to cause injury to a prudent person using ordinary care under the circumstances" through reasonable inspection, and repair that condition or prominently warn users, unless the hazard is known or obvious. This includes anticipating reasonably foreseeable dangers and taking precautions to protect the children in its custody from such dangers. Routine inspection is one way to look for potential dangers in equipment and facilities.

b. Legal protection: documenting district safety efforts



In the event of a claim, documentation on regular inspections may provide proof that there was no defect in the apparatus, or that the defect arose between regular inspections, so the district had no reasonable notice. Documentation may be crucial in the defense of a lawsuit against the district and could prove that the district routinely corrected unsafe conditions.

c. Identifying equipment and replacement needs

Regular inspections of playground equipment identify equipment problems and equipment maintenance, and replacement needs and can help districts prioritize how to spend limited funds on playgrounds.

2. Recommended frequency of inspection - when and who inspects

There is no "official" recommendation for frequency of inspection other than by some equipment manufacturers. The frequency needed for inspection may vary from location to location and depends on factors such as condition and age of the equipment, frequency of usage, and local climate.

Based on observations conducted on school playgrounds, the Risk Co-Op recommends the following minimum inspection frequencies:

- Daily (informal) inspection by playground supervisors (especially before the day's first use)
- Monthly (formal written) inspection by maintenance or custodians or someone trained in what to look for
- Periodic (at least quarterly) inspection by building administrators

Following is a more detailed explanation of who inspects when and why.

a. Playground supervisors

Have playground supervisors conduct an informal visual inspection of the playground, other play areas, and all play equipment daily before each use by the students. When problems are found that are beyond the scope of the playground supervisor to correct, report and document these hazards for corrective action by the district. Take equipment with serious hazards out of service.

b. Maintenance workers or custodians



Have maintenance or custodial workers perform a thorough, documented inspection of play facilities at least monthly. These workers should be familiar with CPSC/ASTM playground safety guidelines.

c. Principals or administrators

Have principals inspect playgrounds, either formally or informally, periodically, and when problems or concerns arise. The building administrator is responsible for the overall safety of the school facility, so inspections of the playground are part of the administrator's duties.

3. How to inspect

a. Inspect to CPSC guidelines

The *CPSC Handbook*, which provides guidelines for play equipment in public playgrounds, is considered the authoritative source on the safety of play equipment. Inspect play equipment at least to these standards. Include any manufacturer's recommendations if provided.

b. Tips for inspections

- * Train employees charged with the task of inspecting playgrounds in their duties and inspection requirements.
- * Have inspectors observe children at play on the equipment.
- * Equip inspectors to perform their duties with the usual maintenance tools, a ladder to inspect swing brackets and "S" hooks, a penknife to probe wood rot, and a rake to level loose surfacing material.
- * Teach inspectors to mentally view the site from a child's point of view to gain a different perspective on potential misuse or dangers.
- * Have inspectors write up any work orders needed and take immediate action if the potential for serious injury is found. Be sure that notes outlining problems are specific and clear to ensure that the repair will be correct.
- * Follow-up is an important final component of playground inspections. Charge a specific employee with the responsibility of ensuring that corrective action is taken.

4. What to inspect



a. Areas to inspect

Include all areas where students play in the inspection:

- * fields
- * sheds and covered play areas
- * blacktopped and cemented play areas
- * related hardtop equipment, like basketball hoops, tetherball poles, etc.
- * fencing, backstops

b. What to look for during inspections of equipment

Section 3 of the *CPSC Handbook* outlines general playground hazards. Common hazards that should be identified and assessed include:

- * sharp points, corners, and edges
- protrusions and projections
- * pinch, crush, and shearing points
- entrapment hazards
- * tripping hazards
- * suspended hazards

c. The most common maintenance problems

The Loss Control Specialists from the Risk Co-Op identified several common maintenance/safety problems in member school playgrounds:

- * inadequate protective surfacing (none or not enough)
- * broken equipment
- * rotting or otherwise deteriorating wood structures or posts
- * wood with cracks and splinters
- * loose, missing, or worn hardware
- pieces of equipment too close to each other or too tall (over 7 feet high)
- exposed cement footings

In addition, there are several other areas of concern which create hazards in playgrounds:

- exposed rusted metal
- * hard, suspended equipment that may strike a child
- * toxic paints, stains, or coatings



- * water puddles or slippery surfacing
- * obstructions or obstacles in the activity zone
- d. The National Playground Safety Institute has issued their **Dirty Dozen Checklist** of those things that have contributed to accidents on the playground:
 - i. Improper protective surfacing
 - ii. Inadequate use zone
 - iii. Protrusion and entanglement hazards
 - iv. Entrapment in openings
 - v. Insufficient equipment spacing
 - vi. Trip hazards
 - vii. Lack of supervision
 - viii. Age-inappropriate activities
 - ix. Lack of maintenance
 - x. Crush, shearing, and sharp edge hazards
 - xi. Platforms with no guardrails
 - xii. Equipment not recommended for public playgrounds

5. Playground inspection form

The "Playground Inspection Report:" is a one-page, easy to use check sheet, which includes a section for remarks and a system for follow up.

To make this form usable, the Risk Co-Op has assumed that the user is familiar with the *CPSC Handbook* guidelines. The form's criteria are not detailed but should serve as reminders to playground inspectors. The form addresses five areas of the playground: ground hazards, related areas, surfacing, general equipment, and specific equipment. Only the most popular types of playground equipment have equipment specific criteria.

Since corrective action is an important part of the inspection, the form is designed to be a three-part form. The original is for maintenance/grounds and copies for the building principal and the safety officer. "Repair Priority" is included to help prioritize the needed repairs.

U. Upgrading existing playgrounds/prioritizing corrections

1. What to do with old equipment

Districts should upgrade or retrofit all older (pre-1982) or non-conforming playground apparatus to CPSC guidelines or remove or replace the apparatus if it cannot be upgraded. Consider the following improvements when surveying existing sites:



- a. Remove apparatus from asphalt or concrete surfaces or install suitable surfacing under the apparatus. The hard surface area can be repurposed for games, which require a hard surface, such as hopscotch or basketball.
- b. If pieces of play equipment are crowded together, move, or eliminate equipment to achieve proper spacing.
- c. Remove pieces of equipment that have been the source of frequent injuries.
- d. Remove or modify slides or other equipment which are more than 10 feet high, or which do not provide a horizontal exit.
- e. Remove one or two swings to reduce overcrowding of swing sets. The CPSC Handbook allows for two single-user swings per bay. Replace heavy swing seats with lightweight seats of plastic or canvas.
- f. Inspect and properly repair homemade or community-built apparatus made of wood, logs, or landscape timber. Look for rough edges, splinters, loose or protruding nails or bolts, and rotted support members. Remove them if there are unsafe conditions that cannot be repaired.
- 2. Where to begin when making corrections

When equipment does not meet CPSC standards, we suggest the following steps in bringing playgrounds up to standards:

- Address the biggest problem areas and/or the easiest to fix first.
- b. Continue to inspect play equipment, documenting areas of concern for administration to address.
- c. Use the district's work order system to try to get problems corrected.
- d. Involve the building principal with the correction process.
- e. Mark certain hazardous areas "off limits," and more closely supervise other areas.
- f. Closely supervise the more hazardous areas.



For more information about any of the information contained in these guidelines, please contact the Risk Co-Op at <u>riskcoop@esd112.org</u> or (360) 750-7504.

Playground Safety Guidelines – updated October 2024

