Playground Safety and Maintenance

- A vast number of public playgrounds do **NOT** comply with all provisions of the 1991 CPSC Handbook for Public Playground Safety?

Agree or Disagree
Playground Safety and Maintenance

- 30-40% of all accidents could be avoided through a good preventative maintenance program? 
  
  Agree or Disagree?

- 60-70% of playground litigation alleges “poor maintenance” or “lack of maintenance” as the primary causes of injuries?

  Agree or Disagree?
WHERE DO YOU BEGIN ????

Most public agencies are now facing a real dilemma in attempting to:

- Meet current playground safety standards
- Avoid potential legal liabilities arising from non-compliance,
- Balance budgets

And still provide a reasonably safe, enjoyable playground environment.
WHERE DO YOU BEGIN ????

Identify Equipment that:

- Caused a reported injury because of poor maintenance, lack of repairs, poor design, etc.

- Make sure the cause of the injuries have been corrected.
Remove any existing equipment that is **NOT** recommended by CPSC

- Heavy animal swings
- Multiple occupancy swings (not tire swings)
- All rope swings
- Swinging exercise and trapeze bars
- Swinging gates
- Giant Strides (May Poles)
You Should Also:

- Cover or replace exposed concrete footings,
- Remove cement landings pads in “use zones”
- Evaluate older equipment for toxic substances
You Should Also:

- Ensure adequate depths of surfacing material

- Adjust playground borders to comply with “use zones”

- Identify and repair areas of non-compliance by beginning or improving inspection/maintenance programs.
You Should Also:

- Conduct and document a comprehensive playground safety audit
- Formalize playground maintenance program policies and procedures
- Establish long-term action plan to upgrade sites based on budget, goals, etc.
Allegations of Negligence Include:

- Improper Design
- Improper Installation
- Failure to inspect equipment/area
- Failure to maintain or repair
- Failure to warn of a dangerous condition.
Injury Overview
From National Playground Safety Institute

- 40 million children in US between 2 and 12
- 205,850 estimated playground equipment related injuries (many are not reported/no medical treatment)
- 79% of all injuries are due to falls!
- 68% are falls to surface
- 10% fall to other parts of the equipment
- 1% falls to unknown
Major Causes of Death and Serious Injury

- Entanglement of clothing, strings or rope
- Falls to underlying hard surfaces
- Impact by moving swings, tipped or loose equipment
- Head Entrapment in equipment openings
Causes of Public Playground Injuries

- Improper use and lack of supervision – 44%
- Poor Maintenance - 36%
  (once safe, now below the standard of care)
- Improper equipment - 10%
- Poor Installation - 6%
- Poor Layout - 4%
Risk vs. Hazard

- **Risk** is a challenge we are willing to do. (Children climbing to the top of a climber)

- **Hazard** is something unknown, hidden, unforeseen or unexpected. (concrete slab under the climber)

- Inspections and Maintenance focus on reducing Hazards!
Current Safety Standards

  [www.cpsc.gov](http://www.cpsc.gov)


- Both of the above are Voluntary Standards, but are considered the “standard of care”
The scope of the CPSC and ASTM standards is to minimize the top tier of injuries.
Hazard Identification/ “The Dirty Dozen”
From the National Playground Safety Institute

1. Improper protective surfacing – depth of mulch, sand, etc. must be sufficient to prevent injury when a fall occurs. (Check CPSC critical height chart)

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>UNCOMPRESSED DEPTH</th>
<th>COMPRESSED DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 inch</td>
<td>9 inch</td>
</tr>
<tr>
<td>Wood Chips*</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Double Shredded Bark Mulch</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Engineered Wood Fibers**</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Fine Sand</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Coarse Sand</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fine Gravel</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Medium Gravel</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Shredded Tires***</td>
<td>10-12</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* This product was referred to as Wood Mulch in previous versions of this handbook. The term Wood Chips more accurately describes the product.

** This product was referred to as Uniform Wood Chips in previous versions of this handbook. In the playground industry, the product is more commonly known as Engineered Wood Fibers.

*** This data is from tests conducted by independent testing laboratories on a 6 inch depth of uncompressed shredded tire samples produced by four manufacturers. The tests reported critical heights which varied from 10 feet to greater than 12 feet. It is recommended that persons seeking to install shredded tires as a protective surface request test data from the supplier showing the critical height of the material when it was tested in accordance with ASTM F1292.
Hazard Identification/ “The Dirty Dozen”

From the National Playground Safety Institute

2. Inadequate use zone – A use zone is the area under and around the playground equipment where a child might fall.
3. **Protrusion and Entanglement Hazards**

![Diagram showing playground safety measures]

- Avoid strangulation hazards by ensuring no gaps or spaces between slide and platform.
- Enclosed openings measuring between 3 1/2” and 9” should be checked for head entrapment hazards.
- Guardrails and enclosures on elevated platforms should be used as a precaution.
- Use zones and strangulation hazards should be clearly marked.
- Protective surfacing material such as rubber tiles, mats, shredded rubber or 1/2 of loose wood mulch, sand or pea gravel should be used.
Hazard Identification/ “The Dirty Dozen”

From the National Playground Safety Institute

4. **Entrapment in Openings**

Generally, an opening presents an entrapment hazard if the distance between any interior opposing surfaces is greater than 3.5 inches and less than 9 inches.

5. **Insufficient Equipment Spacing**

Improper spacing between pieces of play equipment can cause overcrowding of a play area, resulting in unsafe play conditions.
6. **Trip Hazards**
Exposed concrete footings, abrupt changes in surface elevations, containment borders, tree roots, tree stumps, and rocks are common trip hazards.

7. **Lack of Supervision**
Signs advising the requirement of supervision need to be installed and maintained. Parents and guardians should have seating areas where it is easy to view their child playing.
**Hazard Identification/ “The Dirty Dozen”**

*From the National Playground Safety Institute*

**8. Age-Appropriate Activities**

pre-school age (2-5 yrs old)
school age (5-12 yrs old)

Activities should be separated by age group to ensure safety of users.

**9. Lack of Maintenance**

Systematic inspection and maintenance of equipment and surfacing is essential to reducing injuries. A program should be in place for inspection and repair on a consistent basis.
Hazard Identification/ “The Dirty Dozen”

From the National Playground Safety Institute

10. Pinch, Crush, Shearing and Sharp Edge Hazards

Components in the play environment should be inspected for sharp edges, points, or other injury hazards. Moving components should be checked for crush and shear hazards.

11. Platforms with no Guardrails

Guardrails are needed when:

- Elevated surfaces higher than 20” for 2-5 yrs old
- Elevated surfaces higher than 30” for 5-12 yrs old
12. Equipment not recommended for public playgrounds due to accidents resulting in death or serious injury:

Animal Figure Swings

Subject of a recall in 1995 by CPSC. Two deaths and 42 cases of serious injuries are attributed to being struck by the swings.
12. Equipment not recommended for public playgrounds due to accidents resulting in death or serious injury:

Free Swinging Ropes that may fray or form a loop
Hazard Identification/ “The Dirty Dozen”

From the National Playground Safety Institute

12. Equipment not recommended for public playgrounds due to accidents resulting in death or serious injury:

Swinging Exercise rings and trapeze bars
1. Make sure surfaces around playground equipment have at least 12 inches of wood chips, mulch, sand, or pea gravel, or are mats made of safety-tested rubber or rubber-like materials.

2. Check that protective surfacing extends at least 6 feet in all directions from play equipment. For swings, be sure surfacing extends, in back and front, twice the height of the suspending bar.

3. Make sure play structures more than 30 inches high are spaced at least 9 feet apart.

4. Check for dangerous hardware, like open "S" hooks or protruding bolt ends.
Safety Inspection Checklist
10 Tips from CPSC

5. Make sure spaces that could trap children, such as openings in guardrails or between ladder rungs, measure less than 3.5 inches or more than 9 inches.

6. Check for sharp points or edges in equipment.

7. Look out for tripping hazards, like exposed concrete footings, tree stumps, and rocks.

8. Make sure elevated surfaces, like platforms and ramps, have guardrails to prevent falls.

9. Check playgrounds regularly to see that equipment and surfacing are in good condition.

10. Carefully supervise children on playgrounds to make sure they're safe.
Playground Inspection Schedule

- Upon installation of new equipment. (Retain all manuals, etc.)

- At least weekly after installation.

- Prior to heavy use, such as Spring into Summer.

- Once inspected, follow-up on needed tasks, or close damaged equipment.

- Policy in Place to Ensure Corrective Actions are Completed. Work Orders, Budget Code, etc.
Playground Inspection Tasks

- Rake mulch, chips or sand back to proper levels (depths should be painted or taped to equipment legs).

- Visually check for broken parts, hardware, etc.

- Repair with appropriate parts.

- Document your actions and save reports.
What’s Wrong Here?
What’s Wrong Here?
What’s Wrong Here?
What’s Wrong Here?
How Times Have Changed
Photos from 1970 GameTime Catalog
How Times Have Changed
Photos from 1970 GameTime Catalog

NEW WIDER BUNKER HILL CLIMBER
A large capacity spider-web of enjoyment

Kids love the Bunker Hill Climber... it suggests a wealth of make-believe adventures, and is a proven muscle-builder. This climber is available as a two- or four-way unit, and offers a wide range of combinations for exercise and fun. Kids can play "mountain climbing", or "lookout post" as they climb up, or climb from side to side.

The Bunker Hill Climber is constructed from 1 1/2" O.D. galvanized pipe. Ladder rungs are 1" O.D. 14 ga. zinc-grip steel. Each single unit is 6' high, 5' wide, and 14 8" long.

No. 552 Bunker Hill Climber 2-way, single unit; wt. 197 lbs. $129.00
No. 554 Bunker Hill Climber 4-way, double unit; 8' high, area covered 14 9" x 19 9", wt. 44 lbs. $398.00

THE BUNKER HILL CLIMBER IS THE PERFECT ADDITION TO YOUR PARK OR PLAYGROUND. IT'S NOW BIGGER AND BETTER THAN EVER.

MOUNTAIN CLIMBERS
The mountain shape, igloo entrance, and dome top, suggest ideas for endless activities. Game Time's Mountain Climber is the safest climber in its field and also the easiest and fastest large capacity climber to erect. The structure itself is manufactured from 2 1/2" and 1 1/2" O.D. galvanized pipe. The unit is braced with aircraft type construction, doing away with multiple legs and making a tremendously strong unit.

No. 986 Mt. Climber—all three sections, 9'5" high, 7'4" total overall diameter, wt. 478 lbs. $279.00
No. 871 Mt. Climber—top and middle section, 7' high, wt. 284 lbs. $145.00

A GAME TIME ORIGINAL U.S. Patent No. 3,648,430
How Times Have Changed
Photos from 1970 GameTime Catalog
How Times Have Changed
Photos from 1970 GameTime Catalog

Buy Game Time’s Lunar Lander now and depict man’s first successful walk on the lunar surface.

Kids can rotate the radar screen to scout the surface, emerge from the ascent module, climb down an authentic space ladder to its support pod, and take those first historic steps on the moon.

Three 10’ space ladders complete with support pods, an ascent module, and a rotating radar antenna make Game Time’s Lunar Lander a timely, right now addition to your playground.

The main deck is 92” wide and made of heavy 11 gauge steel. The 5’1” high ascent module contains controls for the rotating radar antenna. The 12’ 16 gauge stainless steel slide bedway provides exciting escapes for young astronauts.

Decorated in bright blue and white epoxy finish over galvanizing, the 14’ high Lunar Lander stimulates young minds and develops growing bodies.

No. 580 Lunar Lander, wt. 1450 lbs. $980.00

Ground space required is 400 sq. ft.

Patent applied for.
For Further Assistance

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