

Playground Safety for the 21st Century

by Betsy Caesar
edited by Susan S. Aronson, MD

It is mid-winter and the playground catalogs start arriving as they do every year. As you review them, you start thinking . . . “Everything is so expensive, and there’s almost nothing for my littlest ones. I know playground safety is important; if I buy new equipment, will my playground be safe? Is the equipment really appropriate to the needs of my children? What’s the best use of my money?” This article will attempt to help you resolve these and other playground safety and design questions.

Safety Audit

Before you do anything else, do a safety audit of your playground. For a thorough, professional audit, contact the *National Playground Safety Institute* (see “Resources”) for the name of a certified playground safety inspector in your area. There will be a fee for this service, generally between \$250 and \$500.

A safety audit is an essential first step since playground hazards come in many forms and are hard to spot

without knowing what to check. A safety audit rates seriousness of hazards from a priority #1 to a priority #3. A priority #1 hazard can cause death or permanent disability, e.g., a space where a head can get trapped that could lead to strangulation. A priority #3 hazard may cause minor injury such as scrapes or splinters.

A good safety audit will help you decide if you can save hazardous equipment by asking the manufacturer to modify it. In addition to

equipment problems, a good safety audit will highlight other hazards on your playground such as insufficient safety surfacing, lay-out problems, trip hazards, fencing that can cause head and neck entrapment, and sharp edges on playground furnishings such as picnic tables.

Guidelines, Standards, and Laws

A safety audit performed by a certified playground safety inspector will be based on the guidelines, standards, and laws that are the national standard of care for playgrounds. Attorneys use these documents as the basis of playground lawsuits.



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These key reference documents are:

- the United States Consumer Product Safety Commission's *Handbook for Public Playground Safety* (1998).
- the American Society for Testing and Materials (ASTM), *ASTM F 1487-98 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*.
- *ASTM F 1292-96 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment*.
- *the Americans with Disabilities Act of 1990 (ADA) — the Americans with Disabilities Act Accessibility Guidelines (ADAAG)*.

Three types of evaluation are not included in this audit:

- compliance with individual state licensing regulations.
- compliance with individual state playground safety laws.
- information about how to make your playgrounds safe for children under two years of age.

State licensing requirements. In many cases, state regulations are much less stringent than the national standard of care. Therefore, you are most likely to be in compliance with state regulations if you follow the national safety guidelines, standards, and laws. However, in a few cases, the licensing regulations conflict with the national standard of care. Ask your certified playground safety inspector to review the licensing requirements with you to resolve any conflict.

State playground safety laws. The following states have developed playground safety laws: California,

Michigan, Texas, North Carolina, New Jersey, and Connecticut. Other states have proposals for laws. Be sure that your certified playground safety inspector is familiar with the specifics of these laws as well.

Standards for playgrounds used by children under two years of age.

The national standard of care for playgrounds has been developed for children 2 to 12 years of age. The organization responsible for this work is the American Society for Testing and Materials (ASTM), which is chartered by Congress to do this work. An ASTM committee, ASTM F 15.44, is currently working on developing play equipment standards for children under two years of age.

Until this standard is complete, you should apply the current national standard of care for playgrounds and use your own experience to guide you in providing outdoor spaces for infants and toddlers. Some basics for this age group are: the areas are free of choking hazards, the area has shade, the surfaces are stable and free of tripping hazards, children who are walking are separated from those who are crawling.

Hazard Removal

No experience of play is so important that a child's welfare should be at risk. Keep this in mind as you decide how to proceed with renovation of your playground.

Using the results of your safety audit, make a plan for removing hazards. If you have a priority #1 hazard, either remove the hazard immediately or put the piece of equipment off bounds until you have contacted the manufacturer about correcting the problem. Never attempt to correct a problem with manufactured equipment yourself,

as that will void the manufacturer's warranty and could create other hazardous situations. Plan how and when to correct the other hazards on your playground.

Renovation

Don't open those glossy playground equipment catalogs yet. Instead, take a couple of deep breaths and remember that you're a professional early childhood educator. You know what children like, what they need developmentally, how they play, what your program is, and what your outside space is like. So start with the basics:

- a fence that is non-climbable and doesn't pose hazards.
- shade over at least a third of your play area, especially in the summer months.
- separate areas for infants and young toddlers that are free of choking hazards.
- surfaces that are stable and free of trip hazards.
- an area that is free of visual barriers to good supervision.
- an area free of poisonous plants and stinging insects.
- an area free of environmental hazards.

If you achieve this, you are already much further along than if your children are playing in a hazardous space with possibly hazardous equipment.

What do children experience in this simple space? Safety, sunshine, shade, changing weather, experience with natural materials, opportunities to make noise, opportunities to listen to the sounds of the outdoor world, freedom to run, experience with animals, opportunities to dig

and create, unstructured time, freedom to choose playmates, and an opportunity to feel and experience the textures and topography of the outdoor world.

What don't children experience in this space? They are missing props to enrich their play. So consider a well-organized storage shed as one of your first purchases. The children are missing a wide range of experience with natural materials, so add sand and water and plants. They are missing places to be quiet or alone, so add a playhouse or plant some small bushes to hide behind. They are missing the experience of variety of texture and topography so build a little hill with grass and textured pathways. They are missing the opportunity to ride tricycles, so consider building a tricycle pathway that is separate from other activity. They are missing the physical stimulation of climbing, rocking, rotating, crawling through, sliding, swinging, balancing, and hanging.

Now you can open the glossy catalogs, but keep in mind the kind of movement that is important to children and try to find right-sized, safe equipment that will meet these needs. Consider equipment that can be used by different age groups in different ways such as ground-level tunnels, tire swings, and rockers.

Choosing Equipment

Before you purchase equipment, get a copy of the United States Consumer Product Safety Commission's *Handbook for Public Playground Safety* (see "Resources"). You should have a copy of this document on file since it is the one document in the national standard of care for playgrounds that is intended for use by the general public.

First, make sure that the equipment you purchase will be safe for your

children. Make sure that what you are getting is age appropriate for your children. Some equipment is not recommended for public playgrounds; some equipment is not recommended for children under the age of five. You will find these lists in the *Handbook for Public Playground Safety*.

Look again in the *Handbook for Public Playground Safety* at the layout section and get an idea of how much room you will need to devote to the play equipment you have chosen. Remember to keep at least a third of your area open for running and games. The layout section will also tell you how much of your area will need to be covered by safety surfacing. The *Handbook* also has an important section on the selection of safety surfacing materials. Be sure to review that section carefully.

Any equipment which you purchase or have built should meet *ASTM F 1487-98 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*. If the equipment is certified by the International Playground Equipment Manufacturer's Association (IPEMA), then that means that it meets the ASTM F 1487-98 Standard. If the equipment is not IPEMA certified, the play equipment manufacturer should confirm, in writing, that the equipment meets the ASTM F 1487-98 Standard.

The ADA law requires that children be able to access, enter, and use the playground. The United States Architectural and Transportation Barriers Compliance Board is developing the specific requirements for playground equipment. It is not known when this equipment law will be published. In the meantime, meet the spirit of the law by selecting some equipment that can be accessed by children with varying abilities and special needs.

Many playground equipment salespeople offer a *free* service of designing your playground for you. This is very helpful, but be aware that the design may be based too heavily on equipment and that you will have to purchase all your equipment from the one company that the salespeople represent. If you have already selected equipment from more than one company or considered non-equipment design elements, insist that the salespeople include all your ideas in the final design. If the salespeople will not work well with you, consider hiring an independent playground designer.

Choosing Safety Surfacing

Safety surfacing must be selected with the ADA law in mind. If you decide to use a loose fill material that is not accessible to the disabled, like sand, then you will need to provide accessible pathways made out of accessible materials such as engineered wood fiber or manufactured rubber. Remember your user group as well. Select materials that will not cause a choking hazard for children under three. Select materials that toddlers can walk and run on easily.

There are two ways to determine the appropriateness of safety surfacing:

- Use the *Handbook for Public Playground Safety* for information about loose fill materials such as sand and wood mulch.

- Manufactured rubber materials must meet the *ASTM F 1292-96 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment*.

Installation

People knowledgeable about basic construction can do the installation.

There are also certified playground equipment installers. A manufacturer of playground equipment certifies these people. Some installers are certified by more than one manufacturer.

A new playground is not considered safe until it has had a safety audit performed. IPEMA certification only certifies that the components of the equipment meet the ASTM F 1487-98 Standard; it does not mean that the play equipment as installed meets the standard. So bring back your certified playground safety inspector and ask for a final safety audit before you open the playground.

Maintenance

Forty percent of all playground injuries are attributable to lack of maintenance. This is a very impor-

tant part of any playground safety effort. Before you make any improvements, ask yourself how you intend to do the follow-up maintenance that will be required. This involves not only time but money. Many child care facilities do not have maintenance staff who can work on the playground. You may need to hire someone for that purpose. There are some small organizations starting playground maintenance businesses. Even if you can absorb the maintenance in house, you will need money to replenish safety surfacing if you have used loose fill and/or replace parts as they wear.

Playground manufacturers are required by the ASTM F 1487-98 Standard to provide complete maintenance instructions with all of their playground equipment. This maintenance program should

become part of a regular inspection and maintenance program that is written out and documented by your staff.

Fun

Outdoor free play is one of the essential elements of a good child care program. Doing it right will add greatly to the welfare and happiness of you and your children.

Resources

National Playground Safety Institute
National Recreation and Parks Assoc.
22377 Belmont Ridge Road
Ashburn, VA 20148
(703) 858-0784

The United States Consumer
Product Safety Commission
Washington, DC 20207
(301) 504-0580

► Buyer's Guide on Playground Equipment and Surfaces ◀

This directory is a partial listing of companies manufacturing or selling playground equipment and/or surfaces. Companies were included free of charge. Inclusion does not imply endorsement by *Child Care Information Exchange*. Request free information about these companies by circling the number for each company on the Product Inquiry Card (between pages 72 and 73).

Debbie King
American Swing Products
2533 North Carson Street, #1062
Carson City, NV 89706
(800) 433-2573
swingprd@adnc.com
americanswing.com
Circle 70 on Product Inquiry Card

American Swing Products is your reliable source for playground equipment and component and replacement parts. Replace worn or broken swing parts now to prevent injuries.

Sharon Turnbough
Angeles Group
9 Capper Drive
Pacific, MO 63069
(314) 257-0533
www.angeles-group.com
Circle 71 on Product Inquiry Card

Your playground can be educational and recreational. Add Angeles' cooperative and dramatic play trikes, a fire truck, a school bus, and a rickshaw. Include our sturdy traffic signs and mailbox for greater play value. With a 40 year history of reliability and attention to safety, Angeles' SilverRider™ Trikes are most preferred.

Tom Holzman
BCI Burke/Cushiondeck
660 Van Dyne Road
PO Box 549
Fond Du Lac, WI 54936
(920) 921-9220
tholzman@bciburke.com
Circle 72 on Product Inquiry Card

Always mixing the perfect blend of color, design, and fun! Cushiondeck poured-in-place safety surfacing offers a practically maintenance free solution to the problems of loose-fill materials on your playground. Solids, color combinations, and even logos are available in an endless variety of designs. Call for a free site proposal.

Scott Lynch
Border Systems Inc.
714 Valentine Lane
Claremore, OK 74017
(918) 342-8078
borderystems@juno.com
Circle 73 on Product Inquiry Card

We offer fallzone border that is safer and stronger than any competitor. It features a unique patent pending design, optional round corners, virtually no maintenance, recycled material construction, and a 20 year warranty. We also offer sandboxes and gardening beds. We can supply wood chips, construct new, or update existing fallzones.

Dale Ukrainec
Dinoflex Manufacturing Ltd.
5590 46th Avenue SE
Salmon Arm, BC V1E 4S1
(877) 713-1899
sales@dinoflex.com
www.dinoflex.com
Circle 74 on Product Inquiry Card

Dinoflex proudly introduces "The World of Play Tiles," the newest concept in playground surfacing that promotes learning, creativity, interactive play, and fun! Turn your existing playground into a safe and accessible play area with Dinoflex Play Tiles and Safety Tiles.

Jim Dempsey
Grounds For Play Inc.
3501 Avenue E East
Arlington, TX 76011
(800) 552-7529
gfp@onramp.net
www.groundsforplay.com
Circle 75 on Product Inquiry Card

Full-service playground design and construction. Designs are reviewed and approved by experts in play and play environments. Equipment, surfacing, installation, and landscaping from one coordinated source. We help you create safe and stimulating outdoor learning environments. Whole environments for the whole child.

Andrea M. Damitio
Kompan Inc.
7717 New Market Street
Olympia, WA 98501
(360) 943-6374
administrator@kompan.com
www.kompan.com
Circle 76 on Product Inquiry Card

Kompan Inc. is the world's leading manufacturer of playground equipment. With an extensive line designed with the needs of the children clearly in focus, we choose quality materials to create play environments children and adults can trust. Let your imaginations run wild. Call (800) 426-9788 for your free catalog.

Megan Edwards
Landscape Structures Inc.
601 7th Street South
Delano, MN 55328
(612) 972-5292
www.playlsi.com
Circle 77 on Product Inquiry Card

The Splash Circuit allows younger children to interact with each other and create their own unique water and sand fun. Features include: direction and amount of water is controlled by the child, garden hose and/or patio umbrella can be attached, and basins are sturdy and easily removable for cleaning and storage.

Dave Farson/Marty Reardon
Little Tikes Commercial Play Systems
1 Iron Mountain Drive
PO Box 897
Farmington, MO 63640
(800) 325-8828
www.ltcs.com
Circle 78 on Product Inquiry Card

Little Tikes Commercial Play Systems Inc., a Newell Rubbermaid Company, is a manufacturer of playground and park service equipment. We are dedicated to helping children grow and develop from infants to teens. We offer modular systems for both contained and outdoor play.

Roger Maloney
Mat Factory Inc.
760 West 16th Street, Building E
Costa Mesa, CA 92627
(800) 628-7626
matfact@pop3.concentric.net
www.matfactoryinc.com
Circle 79 on Product Inquiry Card

Made from recycled rubber tires and PVC, Safety Deck II 20" x 20" hollow tiles lay directly on the ground and lock together like a jigsaw puzzle to protect and aerate the grass root system. Grass grows through the tiles to create safe and natural surfaces. Meets ADA guidelines.

Thad Joseph
Miracle Recreation Equipment Co.
Highway 60 and Bridle Lane
PO Box 420
Monett, MO 65708
(800) 523-4202
play@miraclerec.com
www.miracle-recreation.com
Circle 80 on Product Inquiry Card

Miracle Recreation Equipment Company is committed to providing safe, fun, and imaginative play environments. Since 1927, Miracle has been developing innovative products designed to enhance play for children of all ages and abilities and to meet or exceed industry standards for quality, safety, and accessibility.

Rachelle Mathias
Mitchell Rubber Products Inc.
10220 San Sevaine Way
Mira Loma, CA 91752
(800) 453-7526
sales@mitchellrubber.com
Circle 81 on Product Inquiry Card

When children rely on safety surfacing, don't fall for second best. Mitchell Rubber Products has a playground surface that offers the combined benefits of maximum safety, reliability, and cost effectiveness. EZ Fall complies with all current requirements of the Consumer Product Safety Commission and meets or exceeds ASTM standards.

Todd Jennings
Play With A Purpose
220 24th Avenue NW
PO Box 998
Owatonna, MN 55060
(800) 533-0446
email@gophersport.com
www.gophersport.com
Circle 82 on Product Inquiry Card

Play With A Purpose has 168 pages of active play and physical development products to keep young children active and healthy. Choose from a wide variety of outdoor play equipment, including everything from complete playground systems to slides, swing sets, sandboxes, climbers, playhouses, see saws, and imaginary play structures.

Ron Derk
PlayDesigns
1000 Buffalo Road
Lewisburg, PA 17837
(800) 327-7571
www.playdesigns.com
Circle 83 on Product Inquiry Card

PlayDesigns is a complete playground resource focusing on early childhood. We offer everything necessary to create a custom playground including site planning, custom design services, installation, and surfacing. Products include state-of-the-art modular systems, freestanding play items, themed play, site amenities, and unique toddler fun centers.

Peggy Thorne
Playground Environments
22 Old Country Road
Quogue, NY 11950
(516) 653-5465, ext. 132
peplay@mindspring.com
www.playgroundenvironments.com
Circle 84 on Product Inquiry Card

Playground Environments makes the ordinary extraordinary! Custom designed, universal access, commercial playground equipment manufactured for the urban environment, focusing on the safety and developmental needs of the child.

Shane Edge
Playland International
150 Adamson Industrial Boulevard
Carrollton, GA 30117
(800) 356-4727
shaneedge@aol.com
www.playland-inc.com
Circle 85 on Product Inquiry Card

Playland International, the fastest growing commercial playground manufacturer, is the company for all of your playground needs. Please contact us for your local sales representative.

Margie Taylor
Safeplay Systems
4452 Winifred Drive
Marietta, GA 30066
(800) 260-7218
ecoplay1@frontiernet.net
www.safeplaysystems.com
Circle 86 on Product Inquiry Card

Safeplay Systems offers EcoPlay™ — a complete line of modular recycled plastic play structures. Safeplay Systems create innovative, fun playgrounds with lots of learning opportunities to help children develop physically, to interact and use their imagination. Let Safeplay Systems custom design your age appropriate playground equipment.

Scott Burton
Safety Play Inc.
#295 — 10460 Roosevelt Boulevard
St. Petersburg, FL 33716
(727) 522-0061
safetyplay@mindspring.com
www.mindspring.com/~safetyplay
Circle 87 on Product Inquiry Card

Playground safety products and services. "The only way to comply with laws and standards is to have a certified third party to verify your site." Services: audits, planning and design, safety programs, expert witness, playground safety classes. Products: inspection tool kits, playground safety signs.

Boris Gremont
Sun Ports International Inc.
8601 Sovereign Row
Dallas, TX 75247
(214) 905-9500
gremont@sunports.com
www.sunports.com
Circle 88 on Product Inquiry Card

Designs, manufactures, and installs shade canopies using unique colored shade cloth. This canopy system, available in numerous powder-coated steel colors, is ideal over playgrounds, seating areas, play areas, or any area where sun and the risk of skin cancer is prevalent. Over 8000 structures installed in the United States.

Larry Brown
T. L. Clark Inc.
5111 Southwest Avenue
St. Louis, MO 63110
(800) 859-3815
Circle 89 on Product Inquiry Card

Trikes — designed with durability and safety in mind. Come in a variety of styles and sizes to fit your needs. Call us toll free and ask for our customer service department.

Steve Lebwohl
Wildwood Playgrounds
3707 NE Columbia Boulevard
Portland, OR 97211
(800) 875-7529
wildwoodplaygrounds@yahoo.com
Circle 90 on Product Inquiry Card

Age appropriate play structures in three different structural systems. Spring animals, sand and water structures, theme structures, and linked play structures for toddlers, preschool, and elementary age children. ADA accessible structures are our specialty. Rubber resilient surfacing and engineered wood resilient surfacing for safety under play structures.