



# Safety At Your Playground



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The Protection Series

Steps you  
can take  
to make your  
playground  
safe.

*As the leading insurer of worship centers and other religious institutions in the United States,* Church Mutual has handled thousands of claims involving playground injuries.

Any instance in which a child is harmed is a tragedy. But when a child is harmed at your playground and the accident could easily have been avoided, the tragic elements of the situation are compounded.

This booklet is designed to help you plan or make improvements to your playground. Use the checklist to evaluate your playground, identify hazards, and fix them to reduce the likelihood of an injury. If you have any doubt regarding the safety of a piece of equipment, stop using it until the situation is remedied.

We hope this booklet will help you make your playground a safe and enjoyable place for the youngsters in your congregation.

Sincerely,



Gerald Whitburn  
*President*

**Church Mutual Insurance Company**

There are few things more enjoyable than seeing a group of children having the time of their lives at a playground. Unfortunately, many of these scenes end with a child being injured — oftentimes seriously — because safety hazards were not dealt with or supervision was lacking.

Playground equipment has improved greatly over the years, but the number of children injured while playing continues to climb.

The number of injuries occurring at playgrounds in the United States is staggering. More than 200,000 playground-related injuries requiring emergency room visits occur each year, which means a serious injury happens at a playground every 2.5 minutes. At schools across the country, accidents at the playground are the leading cause of injuries to students age 5 to 12.

The challenges found at a playground are a great asset for the physical, emotional, social and intellectual development of the children who use them. And for many, it is their first social experience.

The benefits of a playground certainly should not be eliminated, but steps need to be taken to reduce the risk of injury. Most safety improvements only require a simple maintenance plan and your commitment to carry them out.



### *Planning your playground.*

Designing your playground can be an exciting time for adults and children alike, and the process should include both. The first step in planning a playground is to find out what is wanted. A committee of 6 to 10 people, with varying points of view, should be formed. Members should be teachers, directors, custodians, parents, members of the congregation and a child from at least two age groups. A member from your local parks department also can be a valuable resource.

Factors to consider include size of the playground, location, age of users, activities taking place, equipment and a budget.

After the preliminary questions have been answered, contact a playground consultant for assistance. A list of consultants is available through the National Program for Playground Safety and the U.S. Consumer Product Safety Commission. Contact information for these organizations can be found on page 13 of this booklet. These groups also have written material that will help you. We recommend you gather material before you begin to plan your playground, especially the U.S. Consumer Product Safety Commission's "Handbook for Public Playground Safety."

When you are ready to purchase playground equipment, send for equipment catalogs from several equipment manufacturers. Also send for catalogs from several companies in the industry of playground surfacing.

When asking for bids, go to at least three companies. Gauge their knowledge of the industry before accepting one.

Also, some states and municipalities have specific guidelines and ordinances regarding playground requirements. Always check with your state and local governments early in the planning process to ensure compliance with all laws.

Whether building a new playground or maintaining an existing one, all U.S. Consumer Products Safety Commission standards should be met.

### **Children with disabilities.**

Remember to plan for children with disabilities. Provide proper access and space for children with wheelchairs. According to the National Program for Playground Safety, wheelchair paths should be at least 60 inches wide and slip resistant with a maximum slope of 1:12.

Transfer stations on playground equipment and parking areas for wheelchairs also are a good idea.



### *Age-appropriate equipment.*

Although many of the factors in planning a playground are important, selecting the correct equipment for the users provides the foundation on which all of your safety measures will be built.

Playgrounds should be built for two age groups, 2-5 and 5-12. If both age groups will be served, the playground should be divided by a buffer zone of shrubs or benches. Children also should be directed by supervisors to the correct equipment for their age.

A 4-year-old attempting to play on equipment intended for a 10-year-old will find the steps and railings too far apart and will not possess the strength needed to use the equipment correctly. The majority of age-inappropriate injuries occur when 1- to 4-year-olds are using equipment designed for older children.

### *Appropriate for 2- to 5-year-olds.*

- Areas to crawl.
- Low platforms with multiple access points, such as ramps and ladders.
- Ramps with handles attached for grasping.
- Low tables for sand, water and manipulation of materials.
- Tricycle paths with various textures.
- Flexible spring rockers.
- Sand area with covers.
- Shorter slides.

The equipment for the younger group also should be kept closer to the ground.

### *Appropriate for 5- to 12-year-olds.*

- Rope or chain climbers on angles.
- Climbing pieces.
- Horizontal bars.

- Cooperative pieces, such as tire swings.
- Merry-go-rounds.
- Seesaws.
- Swings.
- Slides.
- Spiral slides.
- Sliding poles.
- Open space to run and play ball.
- Semi-enclosed structures to promote fantasy play and socializing.

Heavy-use equipment for the older children should be spread out around the playground to avoid heavy concentration of users in a single area and improve safety. It is especially important to locate swings, slides and merry-go-rounds in remote areas. Be careful not to locate swings too close to a fence.

Equipment recommended to avoid include ropes that become frayed at the ends, trapeze bars, exercise rings and trampolines.



### *Surface.*

Falls from equipment account for more than 70 percent of the playground injuries, and 80 percent of those occur at playgrounds with unsuitable surfaces. There is no perfect playground surface, but surfaces need to absorb some of the force of a fall to prevent an injury.

Falls from only 1 foot can cause a concussion, and a fall from 8 feet onto dirt is equivalent to hitting a brick wall at 30 mph.

Appropriate surfaces are loose fill, such as sand, pea gravel, shredded tires, wood chips or wood mulch, or synthetic surfaces, such as rubber tiles, rubber mats or poured-in-place rubber. Inappropriate surfaces include asphalt, concrete, dirt and grass.

Loose surfaces are less expensive to install but require more maintenance than synthetic surfaces. Loose fill must be raked, tilled and replaced on a regular basis, especially in high-traffic areas. Synthetic surfaces need to be cleaned and repaired occasionally.

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### **Loose materials Advantages**

- Low initial cost.
- Easily installed.
- Does not pulverize.
- Not ideal for microbial growth.
- Material is readily available.
- Not susceptible to vandalism.

### **Synthetic materials Advantages**

- Some can be installed over asphalt.
- Low maintenance.
- Consistent shock absorbency.
- Not displaced by use.
- Accessible to the handicapped.
- Provides good footing.

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### **Disadvantages**

- Requires regular maintenance.
- Weather reduces cushioning potential.
- Depth is displaced by use.
- Can be swallowed.
- Conceals animal excrement and trash.
- Spreads easily outside containment area.
- Can't be installed over asphalt.

### **Disadvantages**

- High initial cost.
- Must be used on level surfaces.
- Can be flammable.
- Subject to vandalism.
- Rubber tiles can curl up and cause a tripping hazard.

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The entire surface of a playground should be of appropriate material, but the fall zones, those areas directly under and around equipment, are the most dangerous.

There are different depth requirements for loose fill based on the height and the activity taking place on the equipment, but according to the U.S. Consumer Product Safety Commission, the general rule is 12 inches of loose material is sufficient. Synthetic material is rated by the manufacturer.

Fall zones are defined as the area under the equipment and 6 feet in all directions from the edge of the equipment. Slides and swings have different fall zones based on the height of the apparatus.

To determine the fall zones for slides higher than 4 feet, add 4 feet to the height of the slide. For example, a 6-foot slide has a fall zone of 10 feet beyond the exit of the slide.

For swings, the fall zone is twice the height of the cross bar or swing hanger the swing is attached to. For example, if the swing hanger is 10 feet high, the fall zone is 20 feet in front and 20 feet in back of the swing seat when it's directly under the swing hanger.

Always make sure all concrete footings are properly buried and keep in mind the climate and availability of material when selecting the surfacing material.

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### ***Supervision.***

As with all events involving children, supervision at your playground is a requirement that cannot be overlooked. More than 40 percent of playground injuries at schools are related to inadequate supervision. There is no recommended ratio of children to adults, but a ratio similar to a classroom, such as 20 to 1, generally is considered adequate.

Always keep in mind the age of the children and children with special needs can affect the proper ratio.

In addition to keeping order at the playground, a supervisor has a number of duties:

- Performing routine inspections of the equipment.
- Completing simple maintenance tasks.
- Reporting hazards that cannot be immediately fixed. If a piece of equipment is broken and the supervisor cannot fix it, children should not be allowed to use the equipment until it is fixed.
- Be aware of all hidden areas — crawl spaces, tunnels and boxes — and do periodic checks of those places.
- Continuously move throughout the playground.
- Realize that children can wander into hazardous situations in less than 1 minute.
- Be aware that direct eye contact with a child oftentimes will halt inappropriate behavior.
- Be aware of strangers. A playground is a common target for child abduction and molestation.
- Stress the don't-talk-to-strangers message at the playground.

Supervisors should receive annual training on the use of the equipment and different supervision techniques — facilitating, teaching and commanding.

A supervision plan should be tailored to the site. When developing the plan, get the children involved in creating the rules, observe the playground in use and evaluate the site. Once the rules are established, post them in the playground and review them with the children. Remember, a 2- to 5-year-old will remember 2 or 3 rules, and children 5 and older will remember up to 5 rules. Always enforce the rules in a consistent manner.

Also, have a plan in place for when an injury occurs. Supervisors should be trained in first aid and have a stocked first-aid kit available at all times. File an injury report after all injuries. Have the child identify which piece of equipment the injury occurred on and give details of what happened.



## *Safety.*

Looking back, many of the injuries at playgrounds could have been avoided with some safety precautions.

Strangulation is the leading cause of playground fatalities. In many cases, drawstrings in sweatshirts and coats or clothing become entangled in a piece of equipment. The top area of slides and higher climbing apparatus are two trouble spots.

The best way to avoid the hazard is to close all gaps in equipment, eliminate any protruding bolts or nuts, and never have V-shaped openings where material or body parts can become stuck.

Entrapment is another key safety hazard. The general rule is all openings must be smaller than 3.5 inches or larger than 9 inches. Head entrapment occurs when the body fits through a space but the child's head does not. Young children's heads are larger than their bodies. An opening of 3.5 inches is too small to allow feet-first entry and a 9-inch opening is large enough for a head to pass through.

Test templates for the torso and head can be made of cardboard or wood. The torso template should measure 6.2 inches by 3.5 inches. The head template should be a circle 9 inches in diameter. Use the template to test the opening in guardrails, between ladder rungs and openings in other pieces of equipment.

Don't allow bike helmets to be worn while on playground equipment. The standards for head entrapment spacing do not include adequate spacing for bike helmets.

## *Safety tips.*

- Platforms more than 6 feet in height should provide an intermediate standing surface where the decision to halt ascent and pursue an alternative means of descent can be made.
- Guardrails or protective barriers should be in place to prevent children from falling or jumping

from elevated platforms. Remember, children will come up with creative, and sometimes dangerous, uses for playground equipment.

- There should not be more than two swings in a bay or support structure. Swings should be at least 24 inches apart from each other and 30 inches from a side support. This also applies to tire swings.
- All S-hooks on hanging or swinging equipment should be closed.
- All pinch points, such as on teeter-totters, should be closed.
- Partial car tires or other shock-absorbing material should be embedded in the ground underneath the seats of a teeter-totter or attached to the bottom of the seats to prevent a child's limb from being crushed under the seat. Teeter-totters also can be equipped with a spring mechanism that will eliminate this risk and allow a child to use the teeter-totter alone.
- Keep children off the equipment if it is wet.
- Animal swings that could ram into a child should be eliminated.
- Your playground also should be fenced. This will keep the children from wandering away as well as keep others out.

Encourage the children to report broken equipment and other hazards.



### *Maintenance.*

The best playground safety plan will be ineffective if a solid maintenance program is not in place. More than 30 percent of playground injuries are related to inadequate or inappropriate maintenance.

Inspections of the equipment should occur on a regular basis. All repairs should comply with the manufacturer's instructions and be completed in a timely fashion. A piece of broken equipment is an accident waiting to happen.

Your staff needs to be trained to inspect the equipment and know what to look for. Missing parts, such as a rung on a ladder, are an unnecessary hazard for a child; protruding bolts are dangerous as the children will run around the equipment; exposed metal will rust and weaken, becoming a hazard; plastic equipment can crack; and wooden structures, if not treated regularly, can dry and splinter. The edges and corners of wooden equipment should be sanded to eliminate sharp corners and splinters.

Each playground should have its own comprehensive maintenance plan and designated personnel to follow it. As important as the maintenance is the record keeping. Have a plan in place for reporting a problem, process to fix the problem and a filing system to keep proper records. Maintenance inspection sheets should be filed on a regular basis.



### *Safety and maintenance checklist.*

#### **OK    NEEDS WORK**

- Surfaces around playground equipment have at least 12 inches of wood chips, mulch, sand or pea gravel or have mats made of safety-tested rubber or rubber-like materials.
- Protective surfacing extends at least 6 feet in all directions from play equipment.
- Swing surfacing extends, in back and front of swing seats, twice the height of the suspending bar.
- Slides surfacing extends the proper distance beyond the slide exit.
- All foreign objects have been removed from the loose fill surfacing materials.
- All sharp points, corners or edges on the equipment have been sanded or filed.

**OK    NEEDS WORK**

- All protective caps or plugs are in place.
- All nuts, bolts or other objects protruding from the equipment have been eliminated.
- All potential clothing entanglement hazards, such as open S-hooks, have been removed.
- All pinch, crush or shearing points or exposed moving parts have been eliminated.
- All tripping hazards, such as exposed concrete footings, rocks, stumps, roots or other obstacles have been removed.
- All equipment with rust, deterioration, cracks or splinters, especially near the ground, has been repaired.
- All equipment with broken or missing components, such as handrails or guardrails, steps, rungs or damage to fences or benches has been repaired.
- There are signs at the playground regarding safety and usage rules.
- All equipment is securely anchored.
- There are trash receptacles and they have been emptied.
- All play structures more than 30 inches in height are spaced at least 9 feet apart.
- Openings in guardrails, between ladder rungs and other areas measure less than 3.5 inches or more than 9 inches.
- All elevated surfaces, like platforms and ramps, have guardrails to prevent falls.
- Slides have hoods to encourage the users to sit down when they reach the top.

**OK    NEEDS WORK**

- The playground is regularly inspected to see that equipment and surfacing are in good condition.
- There is proper supervision at the playground to make sure the children are safe.



*For additional safety information, contact:*

**The National Program for Playground Safety**  
School of HPELS  
University of Northern Iowa  
(800) 554-7529  
[www.uni.edu/playground](http://www.uni.edu/playground)

**U.S. Consumer Product Safety Commission**  
Washington, D.C. 20207  
(800) 638-2772  
[www.cpsc.gov](http://www.cpsc.gov)

In most cases, information is free.

### Emergency Telephone Numbers:

Police: \_\_\_\_\_

Fire: \_\_\_\_\_

Gas: \_\_\_\_\_

Electric: \_\_\_\_\_

Ambulance: \_\_\_\_\_

Hospital: \_\_\_\_\_

Church Mutual Insurance Company: (800) 554-2642

## *Other Protection Series Booklets.*

Contact Church Mutual or your Church Mutual representative or agent for additional copies of this booklet and for other booklets in the Church Mutual Protection Series.

- Crime-Proof Your Worship Center
- Fire Safety At Your Worship Center
- Make Activities Safer For Your Congregation
- Recognizing Your Liability Risks
- The Road To Safer Transportation
- Safety Begins With People
- Safety Tips On A Sensitive Subject:  
Child Sexual Abuse
- Safety Outside Your Worship Center
- Weather Protection For Your Ministry
- Youth Safety And Your Congregation

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3000 Schuster Lane | P.O. Box 357 | Merrill, WI 54452-0357  
(800) 554-2642 | [www.churchmutual.com](http://www.churchmutual.com)