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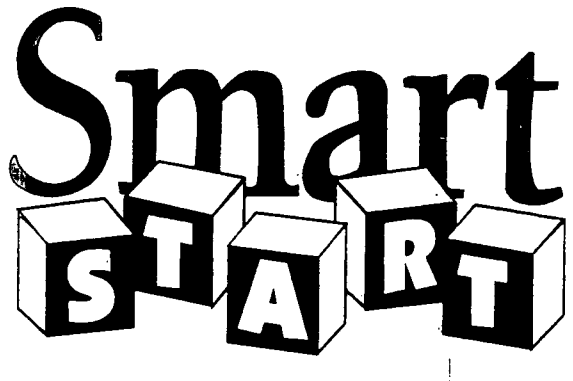
ABSTRACT

Smart Start (North Carolina) playground improvement grants were awarded to cover playground safety assessment, planning and evaluation, quality enhancements (such as fencing, surfacing, and new equipment), and safety programs. Visual inspections were conducted of the safety of child care home and center playgrounds after Smart Start-sponsored safety improvements were made. The inspections were conducted by specially trained playground safety inspectors, and the findings compared with those of similar inspections made in a non-Smart Start county. Comparison findings indicated that on each of 15 safety criteria, the Smart Start facilities were rated higher than the those in the non-Smart Start county. The findings suggest that improved child care playground safety is related to receipt of Smart Start playground improvement grants. The study also demonstrated the feasibility of conducting abbreviated playground safety surveys with minimal demand on the time of child care staff. Statistical data of the inspections and glossary of safety inspection points are included. Contains 16 references. (JPB)



Effect of a Smart Start Playground Improvement Grant on Child Care Playground Hazards

UNC Smart Start Evaluation Team
August 1998

EFFECT OF A SMART START PLAYGROUND IMPROVEMENT GRANT ON CHILD CARE PLAYGROUND HAZARDS

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The authors wish to thank Dee Gray, Beth Partington and Adam Zolotor for their work in developing, field testing and implementing the playground safety survey.

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Introduction

The North Carolina Early Childhood Initiative, better known as Smart Start, is a partnership among state government, local leaders, service providers, and families to better serve young children. The main goal of Smart Start is to ensure that all children enter school healthy and prepared to succeed. Smart Start's innovative approach requires that local community partnerships plan how best to meet the needs of children and families, by improving and expanding existing programs and/or designing and implementing new programs. Using funds allocated by the state legislature and additional funds contributed by the private sector, each partnership is working to improve the quality of child and family services.

All partnerships are obliged to spend no less than 70% of their resources on improving the availability, accessibility, and quality of child care. Given that recent studies in the health and child care literature have called attention to the safety of young children in out-of-home care, twenty five of Smart Start's 47 partnerships (as of this writing) have chosen to spend some of their funds on reducing injury hazards on child care playgrounds. These 25 partnerships have allocated $4,165,763 for playground improvement projects since the initiation of Smart Start. The projects have included playground safety assessment, planning and evaluation, quality enhancements (such as fencing, surfacing, and/or new equipment), and safety programs. In this report, the results of visual inspections of child care home and center playgrounds in a Smart Start county which invested $675,000 to improve child care playground safety are compared with the results of similar inspections in a non-Smart Start county.

Effect of a Smart Start Playground Improvement Grant on Child Care Playground Safety Hazards

Background

Concern for the safety of children in out-of-home care is growing along with the number of such children. Studies of injuries among children in child care centers have demonstrated that most injuries occur on playgrounds and are the results of falls affecting the head and upper limbs. Such injuries appear to be related to reversible hazards on child care playgrounds.

Methodology

The Durham County Partnership for Children allocated $675,000 to the Durham Day Care Council for playground safety enhancements in child care centers and family child care homes in the county. Some of this money was spent on child care playground hazard reduction. The Frank Porter Graham Smart Start Evaluation team matched 17 child care facilities in Durham which used playground safety improvement grants with 17 similar facilities in Alamance County, a non-Smart Start county. Specially trained playground safety inspectors completed structured playground safety surveys in all 34 child care facilities. The results were analyzed using t-tests and general linear modeling techniques.

Results

On each of 15 safety criteria, the Durham facilities were rated higher than the Alamance facilities. Eleven of these differences were statistically significant. Facilities were separated according to whether they were homes or centers, and the Durham facilities again scored consistently higher. Thirteen centers in Durham and no centers in Alamance were licensed at the AA level, but even when this difference was taken into account, the results significantly favored the Smart Start centers in Durham. Six of the differences, including the total playground safety score, were statistically significant.

Discussion

The outcomes of this study demonstrate that improved child care playground safety is related to receipt of Smart Start playground improvement grants. This study also demonstrated the feasibility of conducting abbreviated playground safety surveys with minimal demand on the time of child care staff. A limitation of this study is the lack of a pre-test. It seems logical to conclude that playground safety improvements resulting from Smart Start grants can reduce the injury rate among children, although answering this question will require a longitudinal study of a larger number of child care centers.

Effect of a Smart Start Playground Improvement Grant on Child Care Playground Safety Hazards

BACKGROUND

In response to concern for the safety of the growing number of children in out-of-home care, some researchers and policy makers have looked at the numbers and rates of injuries at child care centers. Others have studied hazards or the adherence to playground safety standards in child care centers or family child care homes. Still others have sought to obtain a comparison of the rate of injuries in out-of-home care versus own-home care in an attempt to answer the question, "Is out-of-home care as safe as own-home care?" These three approaches will be discussed in turn.

Studies have categorized child care injury by type and severity, cause of injury, site of injury, body part injured, day of injury, and season of injury. Most have looked only at injuries that received medical attention. Only two studies attempted to identify minor or non-medically attended injuries. [1, 2] Rates of injury have been calculated for all injuries in general and also for injuries by severity and age and sex of children. Some common conclusions that researchers have drawn are:

- falls, both indoor and outdoor, account for the largest proportion of injuries
- 47–67% of injuries occur on the playground
- the most severe injuries, such as fractures and concussions, occur as a result of falls from playground equipment
- the peak season for injuries is summer
- peak times of day for child care injury are late morning and mid-afternoon
- major body parts injured are the head and upper limbs.

Two studies noted that 88–90% of injuries were minor.[3, 4] Chang and coworkers also recorded that the risk of injury was somewhat higher for boys than girls, particularly younger boys (2 to 3 years of age).[4]

Studies of adherence to playground safety recommendations include two from North Carolina. The first, a national survey of child care regulators, concluded that adherence to national child care safety standards, as those promulgated by the American Association of Pediatrics and the American Public Health Association among others,[5] was very

variable.[6] A second study of a random sample of North Carolina child care centers specifically demonstrated that, although center directors reported a wide range of compliance with the same standards, compliance was best when a standard was reflected in a state regulation.[7]

Early reports of hazards and injuries in child care centers (1983-1988) seemed to suggest that centers and family child care homes were unsafe.[8, 9] A few researchers have tried to challenge this assertion. Rivara and coworkers concluded that child care centers were at least as safe as home environments, if not safer.[10] Similarly, Sacks and others found injury rates in 71 Atlanta child care centers to be lower than published child injury rates for the general population of preschool children.[11] Gunn and colleagues arrived at a similar conclusion.[12] However, Kopjar and Wickizer conducted a large, prospective study looking at child care and home care injury in Stavanger, Norway. They concluded that for children aged 6 months to 2 years, the risk of injury is higher at home, but for children ages 3 to 6 years, the risk of injury at child care centers is similar to the risk of injury at home (1.3 and 1.5, respectively, per 100,000 child-hours).[13] In other words, for the older age group, child care is no safer than home care. Kotch et al. (1997) also concluded, in their telephone survey study of three counties in North Carolina, that the rate of serious injury in child care centers is not different from the rate of injury occurring in children's own homes.[2]

METHODOLOGY

Ideally, children in a safe, professionally supervised environment should experience lower overall injury rates than children cared for at home. Children cared for at home are exposed to both home injury hazards and the risk of motor vehicle injury while accompanying parents on errands. On the other hand children in out-of-home care, particularly those in centers, are in facilities subject to health and safety inspections at least once a year for licensing purposes. Mindful that child care playground safety could be improved, the Durham County Partnership for Children allocated $675,000 to the Durham Day Care Council to improve playgrounds in Durham County child care centers and child care homes. Distribution of the funds was at the discretion of the Council. The Frank Porter Graham Smart Start Evaluation team was interested in using this opportunity as a case study applying a cross-sectional design to the evaluation of a Smart Start health intervention.

PARTICIPANTS

All 17 child care facilities in Durham County that received Smart Start playground

quality enhancement grants from the Durham Day Care Council were recruited for the study sample. Alamance County, which was not a Smart Start county at the time, was selected as the county from which to draw comparison playgrounds because of its demographic similarity and proximity to Durham. The child care facilities within Alamance were selected on the basis of their ratings (AA, A, GS, or S), size (number of children for which the center was licensed), acceptance or rejection of the purchase of care, the type of operator (church, independent, public, etc.), and the type of physical facility (converted house, built for child care, public school, etc.). Alamance centers and family child care homes were matched with their Durham equivalents based upon the maximum number of similarities. There were insufficient numbers of AA centers in Alamance to use that criterion for matching.

MEASURES

Members of the Smart Start Health Evaluation team, Frank Porter Graham's Head Start Quality Research team, and a playground safety consultant designed the playground safety audit form. The form was designed to address the most salient playground hazards while being relatively short, easy to learn, and easy to use. The content was based on the U.S. Consumer Product Safety Commission's (CPSC) playground safety guidelines and the American Society for Testing and Material's (ASTM) "Standard Consumer Performance Specification for Playground Equipment for Public Use." The audit forms contain age-appropriate guidelines for children ages 2 to 5 years old.

In the interest of developing an instrument that could be applied in one hour per playground, the designers nominated important elements of the CPSC and ASTM guidelines based upon characteristics such as "relative danger" and "commonness of hazard." A total of fourteen parameters were selected for evaluation. In order to use the audit as an evaluation instrument, each parameter of the inspection received a score of from one to three. A score of three meets the guideline for the parameter; a score of two signifies minor violations of the guideline; a score of one reflects poor compliance with the guideline. A summary of the items is included in the Appendix.

PROCEDURES

Observers were systematically trained in the use of the playground safety audit form. Training consisted of a 45 minute educational video presentation, two hours of classroom training, and three hours of applied playground training in the field. The reliability of the instrument was tested through a complete safety check of a local playground by the four safety inspectors in training (two Smart Start evaluators and two Head Start

quality researchers), including those who developed the instrument. The four inspectors achieved consensus for all of the scores without consulting with each other. This process modeled techniques for the inspectors' judging playground hazards and scoring the parameters.

All playground inspections for this study were performed by one of the two trained Smart Start inspectors, with the advance permission of the center director, and when no children were present on the playground. Standard templates for children's head and torso measurements, and gauges to measure protrusions, were obtained from the Iron Mountain Forge, Farmington, Missouri. Reliability checks were completed for five centers and ranged from 86% - 100%. The study was approved by the Institutional Review Board for the Protection of Human Rights of the College of Arts and Sciences, UNC-CH.

ANALYSIS

Student's t-tests were used for unadjusted comparisons of each of the 14 safety criteria and total hazard scores for the Durham and Alamance child care facilities, and separately for centers and homes. In addition, general linear modeling was used to compare Durham and Alamance large homes and centers on the same criteria, controlling for licensing level (A versus AA).

RESULTS

There were 34 child care facilities inspected, 17 in each of the two counties. Twenty seven were centers, 4 were small child care homes, and 3 were large child care homes. Both types of homes were combined into a single category for analysis. (See Table 1.) On most descriptive criteria the Alamance and Durham facilities were similar. The only exception was licensing level. All of the AA centers were in Durham.

There were 15 criteria for comparison, 14 individual criteria and a total. On each of the 15 criteria, the Durham facilities had a higher mean score than did the Alamance facilities. (See Figure 1.) Eleven of the fifteen differences were statistically significant at the $p \leq 0.01$ or $p \leq 0.05$ level.

The only descriptive characteristic with sufficient numbers in each category for separate comparisons was home vs. center. When Alamance and Durham child care facilities were compared within each category, Durham facilities again scored consistently higher. Controlling for type of facility (home vs. center), there were three significant differences ($p \leq 0.05$) in both homes and centers, sharp points, surfacing, and total.

There were an additional two significant differences in homes only and 8 in centers only. (See Table 2.)

Because the counties differed so much on licensing level (A vs. AA), the analysis was repeated using the general linear models procedure. After dropping the homes from the analysis and controlling for licensing level, there were still six significant differences (three at $p \leq 0.05$ and three at $p \leq 0.01$) between Smart Start and comparison centers. One of these ($p \leq 0.01$) was in total playground safety scores. All the differences favored the Smart Start centers. (See Table 3.)

DISCUSSION

OUTCOMES

Child care facilities in a county that used Smart Start funding specifically for the purpose of upgrading playgrounds had fewer playground safety hazards than did matched facilities in a non-Smart Start county. The differences in all categories of hazard were in the direction of safer playgrounds in the Smart Start county, and the majority of these differences were statistically significant. Furthermore, the differences hold up even within the sub-categories of homes and centers. These relationships do not "prove" that Smart Start funding was the sole reason for the difference, since we do not have baseline data with which to demonstrate that the differences in safety hazards did not exist prior to the playground safety enhancements in the Smart Start county. It is possible that something else, such as the disproportionate number of AA centers in Durham, could explain Durham's higher playground safety ratings, since AA centers are by and large of higher quality than A centers. However, playground safety is not among the criteria used for determining a center's licensing level, and the differences remained even after adjusting for licensing level. Therefore, these results are consistent with the expectation that the Smart Start child care facilities which received playground safety enhancement grants would have better safety scores.

PROCESS

In the process of conducting this project, it was found that such an observational study is feasible with minimal demands on the time of child care staff. In the future, it would be preferable to elicit the cooperation of participating facilities in the study county before the monies are distributed and the improvements completed. Surely child care facilities benefiting from playground safety enhancement grants would be willing to agree to participate in an evaluation before the first dollar changes hands. If possible, a baseline survey prior to playground improvements would be desirable.

It the case of the non-Smart Start county, providing a copy of the completed playground safety assessment to participating centers and homes was a useful incentive, as all counties anticipated that more rigorous playground safety regulations might be implemented in North Carolina. Having the results of the hazard survey would give the facilities a head start should they have occasion to implement playground safety enhancements in the future.

CONCLUSIONS

This study has demonstrated that a brief playground safety audit is a reliable tool for measuring and comparing child care playground hazards. Trained inspectors can use the tool to measure playground safety hazards with little to no interference with children or staff. Hopefully, the tool can be modified further to permit child care staff themselves to conduct their own periodic audits of child care playground safety.
The results also suggest that playground safety enhancement grants, such as those allocated by the Durham Partnership for Children (Smart Start), may be associated with a statistically significant reduction in playground hazards. That there is an association between playground hazards and injury has been shown in the US[14], New Zealand[15], and Canada[16]. There would not have been enough serious injuries in these two counties to justify a study of injury outcomes.

There are several limitations to this study. First, the evaluation design is not ideal. The study would have been strengthened had pre- and post-tests been administered in both the study and the comparison counties. Second, the playground safety inspectors should have been blinded to the status of the counties. Finally, as mentioned above, injuries themselves were not measured, nor could they have been in so few facilities. Nevertheless, these data indicate that county involvement in Smart Start can contribute to the improvement of playground safety conditions, thereby reducing children's risk of unintentional injury. A longitudinal study of the relationship between playground safety and child care injury is in its early stages.

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TABLE 1. DESCRIPTIVE STATISTICS

	Alamance N=17 Number	Durham N=17 Number	Total N=34 Number
Setting			
Center	13	14	27
Small Home	2	2	4
Large Home	2	1	3
License Level			
NA	2	2	4
A	15	2	17
AA	0	13	13
Operation Site			
Built for Child Care	2	3	5
Church	3	3	6
Community Building	2	2	4
Converted Building	5	6	11
Family Residence	4	2	6
School	1	0	1
Other	0	1	1

TABLE 2. UNADJUSTED MEAN PLAYGROUND SAFETY SCORES BY TYPE OF FACILITY, N=34

	Homes		Centers	
	Alamance N=4 Mean Score	Durham N=3 Mean Score	Alamance N=13 Mean Score	Durham N=14 Mean Score
PSA 1				
Sharp Points	1.25	3.00*	1.62	2.64*
PSA 2				
Protrusions	1.50	3.00*	1.69	2.14
PSA 3				
Pinch Points	2.00	3.00	2.15	2.93*
PSA 4				
Tripping Hazards	1.50	2.00	1.54	2.29*
PSA 5				
Head Entrapment	2.25	2.33	1.23	1.93*
PSA 6				
Handrails	2.50	3.00	1.77	2.71*
PSA 7				
Handrail Height	2.50	2.67	1.92	2.86*
PSA 8				
Slide Platforms	1.75	2.33	1.62	2.64*
PSA 9				
Guardrail	3.00	2.67	2.31	2.50
PSA 10				
Protective Barrier	2.25	3.00	1.54	2.57*
PSA 11				
Hardware	1.50	2.67*	1.69	1.93
PSA 12				
Surfacing	1.00	2.67*	1.15	2.07*
PSA 13				
Use Zones	1.00	2.33	1.00	2.14*
PSA 14				
Disabled Access	1.00	1.00	1.15	1.14
PSA 15				
Total	1.79	2.55*	1.59	2.32*

***p* values**
* $p \leq 0.05$

TABLE 3. MEAN PLAYGROUND SAFETY SCORES, ADJUSTED FOR LICENSING LEVEL, N=30 CENTERS

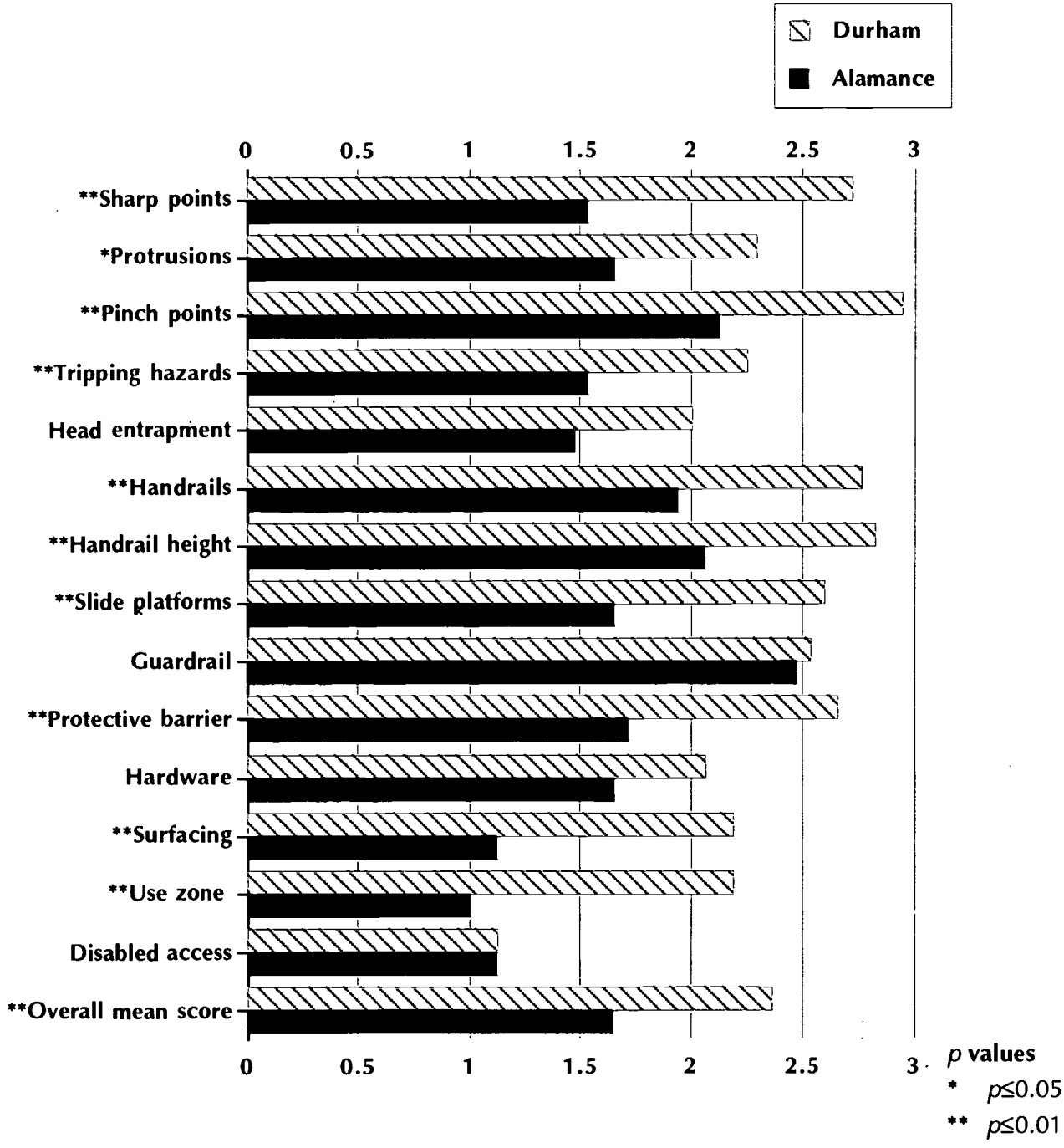
	Alamance N=15 Mean Score	Durham N=15 Mean Score
PSA 1		
Sharp Points	1.63	2.60
PSA 2		
Protrusions	1.78	2.12
PSA 3		
Pinch Points	2.09	2.96
PSA 4*		
Tripping Hazards	1.40	2.37
PSA 5		
Head Entrapment	1.65	1.75
PSA 6		
Handrails	2.22	2.42
PSA 7*		
Handrail Height	1.82	2.88
PSA 8*		
Slide Platforms	1.50	2.77
PSA 9		
Guardrail	2.42	2.52
PSA 10		
Protective Barrier	1.66	2.56
PSA 11		
Hardware	1.44	2.21
PSA 12**		
Surfacing	0.63	2.50
PSA 13**		
Use Zones	0.83	2.33
PSA 14		
Disabled Access	1.21	1.08
PSA 15**		
Total	1.59	2.36

***p* values**

* $p \leq 0.05$

** $p \leq 0.01$

FIGURE 1. MEAN PLAYGROUND SAFETY SCORES FROM TWO COUNTIES, N=34



APPENDIX

PSA 1

Sharp Points, Corners, and Edges

- No sharp points, corners or edges on any component of playground equipment.
- Wood parts to be smooth and no splinters.
- All corners, metal and wood, should be rounded.
- Exit end and sides along a slide bed should have special attention.

PSA 2

Protrusions and Projections

- No protrusion or projection allowed that is capable of entangling children's clothing.
- Special attention required at the top of slides to minimize clothing entanglement.
- All protrusions are to be tested in accordance with test procedures. No protrusion should extend beyond the face of the gauge.

PSA 3

Pinch, Crush, and Shearing Points

- There are no accessible pinch, crush, or shearing points on playground equipment. To determine if there is a possible pinch, crush, or shear point, consider the likelihood of entrapping your body part.

PSA 4

Tripping Hazards

- All anchoring devices, such as footings and horizontal bars at the bottom of flexible climbers, to be installed below playing surface.
- Special attention to be given to environmental obstacles such as rocks, roots, and other protrusions from the ground.

PSA 5

Head Entrapment (includes non-rigid openings)

- A component or group of components should not form openings that could trap a child's head.
- The distance between any interior surfaces is to be less than 3-1/2 inches or greater than 9 inches.
- The above opening requirement applies to all openings regardless of their height above the ground except where the ground serves as the opening's lower boundary.

PSA 6

Handrails

- Handrails on stairways and stepladders to be continuous, extending the full length of the access and provided on both sides.
- Handrails required regardless of the height of the access.

PSA 7

Handrail Height

- The vertical distance between the top front edge of a step and the top surface of the handrail should be no less then 22 inches and no more than 38 inches.
- Handrail diameter should be between 1 and 1.67 inches. Any transition from an access to a platform must have handrails or handholds.

PSA 8

Slide Platforms

- Minimum length of 22 inches.
- Width equal or greater than width of slide.
- Guardrails or protective barriers to surround platform (protective barrier for platforms above 4' high).
- No spaces or gaps between platform and start of sliding surface.
- Handholds provided at slide entrance.
- Means provided to channel user into sitting position. (Guardrail or hood that does not encourage climbing.)

PSA 9

Guardrail (2–5 year-olds)

- Elevated surface more than 20" high to have guardrail.
- Top surface of guardrail to be 29" high and bottom surface no more than 23" above platform.

PSA 10

Protective Barrier (2–5 year-olds)

- Elevated surface more than 30" high to have a protective barrier.
- Top surface of protective barrier to be 29" high and non-climbable.

PSA 11

Hardware

- All fasteners to be tight.
- Fasteners, connecting or covering devices not removable without the use of tools.

PSA 12

Surfacing (including under fall zones*)

- Surfacing under each structure must meet requirements as specified in Attachment 1.

*Fall zone: An area under and around equipment where surfacing is required.

PSA 13

Use Zones for Equipment (barriers and obstructions)

- Use zones for each structure must meet requirements as specified in Attachment 2.

PSA 14

Disabled Access Route

- At least one accessible route within use zone, from perimeter to all accessible play structures.
- Clear width of route not less than 60".

PSA 15

Mean Total Score

ATTACHMENT 1

SURFACING

The depth of surfacing material used under and around a particular piece of playground equipment is determined according to a critical height value of at least the highest accessible part of the equipment.

The highest accessible part of the equipment is defined for the following pieces of equipment:

Swings

- The highest accessible part of the swing is the height of the pivot point where the swing's suspending elements connect to the supporting structure.

Elevated platforms surrounded by guardrail

- When a guardrail surrounds the platform, the highest accessible part is the height above the playing surface of the top of the guardrail.

Elevated platform surrounded by protective barriers

- When a protective barrier surrounds a platform, the highest accessible part is the height of the platform surface above the playing surface because protective barriers minimize the likelihood of climbing.

Climbers and horizontal ladders

- The highest accessible part is the maximum height of the structure.

Merry-go-rounds

- The highest accessible part is the height above the ground of any part at the perimeter on which a child may sit or stand.

Seesaws

- The highest part is the maximum height above the ground of any part at the perimeter on which a child may sit or stand.

Spring Rockers

- The highest accessible part is the maximum height above the playing surface of the seat or designated play surface.

Acceptability of various surfacing materials

- Hard surfacing materials such as asphalt or concrete are unsuitable for use under and around playground equipment.
- Earth surfaces such as soils and hard packed dirt are unsuitable for use under and around playground equipment.
- Grass and turf are unsuitable for use under and around playground equipment.

Unitary materials (rubber mats or rubber-like materials)

- Information of identification of critical height rating is to be obtained from the manufacturer of this material. (No available products for falls over 8'.)

Loose-fill materials

- Not to be installed over hard surfaces such as asphalt or concrete.
- Requires a method of containment.
- Requires good drainage under material.
- Pea gravel is inappropriate for children under three years due to choking hazard.

ATTACHMENT 2

CRITICAL HEIGHTS OF TESTED MATERIALS

Equipment Height	Wood Mulch	Double Shredded Bark Mulch	Uniform Wood Chips	Fine Sand	Course Sand	Fine Gravel	Medium Gravel
	Uncompressed Depths of Material (in inches)						
Five feet or less	6 in.	6 in.	6 in.	6 in.	6 in.	6 in.	6 in.
Six feet	6 in.	6 in.	6 in.	12 in.	12 in.	6 in.	12 in.
Seven feet	6 in.	9 in.	9 in.	12 in.	N/A*	9 in.	N/A*
Eight feet	9 in.	9 in.	12 in.	12 in.	N/A*	12 in.	N/A*
Nine feet	9 in.	9 in.	12 in.	12 in.	N/A*	12 in.	N/A*
Ten feet	9 in.	9 in.	12 in.	N/A*	N/A*	12 in.	N/A*
Eleven feet	12 in.	12 in.	12 in.	N/A*	N/A*	N/A*	N/A*

*This type of material is not allowed due to the lack of scientific testing of shock-absorbing properties at this height.

ATTACHMENT 2

USE ZONES

Regardless of the type of equipment, the use zone should be free of obstacles that children could run into or fall on top of and thus be injured. For example, there should not be any vertical posts or other objects protruding from the ground onto which a child may fall.

Recommendations for Fall Zones

Stationary equipment

- The fall zone is to extend a minimum of 6 feet in all directions from the perimeter of the equipment.

Slides

- The fall zone in front of the exit of the slide is to extend a minimum distance of 6 feet from the end of the slide chute or for a distance of 4 feet plus the height of the slide platform, whichever is greater, up to a maximum of 14 feet.

Single Axis Swings

- The fall zone is to extend to the front and the rear of a single axis swing a minimum distance of 2 times the height of the pivot point above the surfacing material.

Multi Axis Swings

- The fall zone is to extend in any direction from a minimum distance of 6 feet plus the length of the suspending members.

Merry-go-rounds

- The fall zone is to extend a minimum of 6 feet beyond the perimeter of the platform.

Spring Rocking Equipment

- The fall zone is to extend a minimum of 6 feet from the perimeter of the equipment, but adjacent spring rockers with a maximum seat height of 24 inches may share the same fall zone.

REPORTS FROM THE UNC SMART START EVALUATION TEAM

Emerging Themes and Lessons Learned: The First Year of Smart Start (August 1994)
This report describes the first-year planning process of the pioneer partnerships and makes some recommendations for improving the process.

Smart Start Evaluation Plan (September 1994)
This report describes our comprehensive evaluation plan, designed to capture the breadth of programs implemented across the Smart Start partnerships and the extent of possible changes that might result from Smart Start efforts.

Keeping the Vision in Front of You: Results from Smart Start Key Participant Interviews (May 1995)
This report documents the process as pioneer partnerships completed their planning year and moved into implementation.

North Carolina's Smart Start Initiative:1994–95 Annual Evaluation Report (June 1995)
This report summarizes the evaluation findings to date from both quantitative and qualitative data sources.

Reinventing Government? Perspectives on the Smart Start Implementation Process (November 1995)
This report documents pioneer partnership members' perspectives on 2 major process goals of Smart Start: non-bureaucratic decision making and broad-based participation.

Center-based Child Care in the Pioneer Smart Start Partnerships of North Carolina (May 1996)
This brief report summarizes the key findings from the 1994-95 data on child care quality.

Effects of Smart Start on Young Children with Disabilities and their Families (December 1996)
This report summarizes a study of the impact of Smart Start on children with disabilities.

Bringing the Community into the Process: Issues and Promising Practices for Involving Parents and Business in Local Smart Start Partnerships (April 1997)
This report describes findings from interviews and case studies about the involvement of parents and business leaders in the Smart Start decision-making process.

The Effects of Smart Start on the Quality of Child Care (April 1997)
This report presents the results of a 2-year study of the quality of child care in the 12 pioneer partnerships.

Kindergartners' Skills in Smart Start Counties in 1995: A Baseline From Which to Measure Change (July 1997)
This report presents baseline findings of kindergartners' skills in the 43 Smart Start counties.

Families and the North Carolina Smart Start Initiative (September 1997)
This report presents findings from family interviews of families who participated in Smart Start in the pioneer counties. The interviews included questions about child care, health services, family activities with children, and community services and involvement.

Child Care in the Pioneer Partnerships: 1994 and 1996 (December 1997)
This report presents more detailed information about child care centers that were included in *The Effects of Smart Start on the Quality of Child Care* (April 1997).

For more information,
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