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ABSTRACT

The booklet considers ways of developing new playground areas that are accessible to all children and adapting existing areas to make them suitable for use by handicapped and nonhandicapped children alike. Criteria for selecting equipment includes the interests and needs of the users: the movement needs of children (including movement involving perceptual motor functioning, object manipulation, and fantasy play): changes in accessibility (ramps, railings, height variance, walkways, and specially designed equipment): and safety factors (specific considerations of such materials as metal, wood, rope, and paint). Playground layout is discussed. A final section considers guidelines for equipment use. (CL)

PRACTICAL POINTERS

American Alliance for Health, Physical Education, Recreation and Dance
Physical Education and Recreation for the Handicapped: Information and Research Utilization Center
1900 Association Drive,
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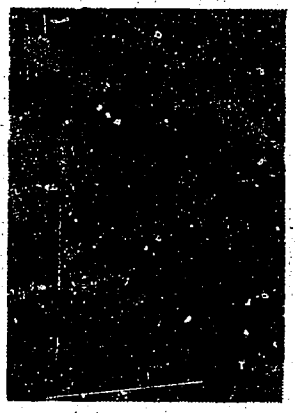
MAKING OUTDOOR PLAY AREAS USABLE FOR ALL CHILDREN

Susan J. Grosse

IN THIS ISSUE



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Research and experience both have shown that the single best predictor of how successful a child with a handicapping condition can be integrated with able-bodied classmates is how well he/she plays with abled-bodied peers in his/her neighborhood. Foundations for these important interpersonal relationships are often established on playgrounds. However, such interactions still are not possible on many playgrounds which simply are not accessible to children with handicapping conditions!

Legal, moral, ethical, and professional responsibilities as we enter the decade of the '80s demand that playgrounds for all children become realities. Sue Grosse (Frederick J. Gaenslen School, Milwaukee, Wisconsin) draws from her varied personal experiences and vast professional expertise to share practical pointers to help planners, designers, builders, and users of playgrounds make them accessible to and functional for all children, including those with the most severe types of handicapping conditions. Emphases are upon seeing that new playgrounds and renovations of existing ones make them suitable for use by all children. This Practical Pointer does not address directly special playgrounds.

Ways to put into action principles of least restrictive environment are basic to this publication. Positive expectations, focus on abilities, and willingness to challenge each child to extend him/herself in efforts to fulfill his/her potential are inherent in Sue Grosse's approach to this important topic. Her personal and professional philosophies are ones that each of us will do well to emulate. With such approaches, many more individuals with handicapping conditions will be assured opportunities to develop in ways that result in happier, healthier, more productive, and fun-filled lives with peers in integrated settings. Sincere thanks, much appreciation, and well done to Sue Grosse.

Julian U. Stein
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All children need places to play, yet how often is a child in a wheelchair seen at a neighborhood playground? Children love to run, climb, slide, and swing, but how frequently is the young retarded, blind, deaf or emotionally distrubed child seen at a tot lot play area? Though children with handicapping conditions have the same needs and desires for play as able-bodied peers, opportunities to engage in successful play experiences are few.

It may be that equipment is not accessible for someone in a wheelchair, on crutches, or in braces. Another possibility is that equipment is too difficult to use for the skill levels of a child. Even if equipment is accessible and could be used by the child in question, he/she might not understand what to do. Many children with handicapping conditions find it difficult to fit into neighborhood peer play groups. Successful playground experiences can not only satisfy these children's play needs and provide good exercise, but also aid in peer group acceptance. Once able-bodied children find that peers with handicapping conditions can do things just like they can, acceptance into their play groups is more likely.

Equipment available at play areas, whether at school, park, or neighborhood playgrounds, is important in determining which children have opportunities to play and types of activities in which individuals participate. Overall objectives of this Practical Pointer are to (1) provide a format for having all newly constructed play areas built so they are usable by all children, and (2) offer ideas for modifying existing play equipment to make it more suitable for use by all children. Making playgrounds specially for children with handicapping conditions is not part of this picture. This would only promote the very segregation that mainstreaming and integration efforts have sought to eliminate. Key is the term all children--the word all automatiqally includes anyone who happens to have an impairment, disability or handicapping condition, regardless of types or severities.

CRITERIA FOR SELECTING EQUIPMENT

Whether a play area is being designed from scratch or an already existing playground is being revitalized, decisions need to be made about equipment to be included. Ideally such equipment should meet movement needs of children in ways that are both safe and fun. Equipment should be easy to maintain, resistant to vandalism, and accessible to all children. Selecting and/or modifying equipment must, therefore be well thought out before actual work on a play area is begun.

Users of Play Areas

Children to use play equipment are the most important criteria in the selection process--their interests and needs must come first. Therefore, the initial step in the selection process is determining types of youthful populations to use equipment. Preschool children require different sizes and types of equipment than that needed by children in lower elementary school grades (ages six to eight). Upper elementary school age students--those in fourth, fifth, and sixth grades--need equipment that is larger in scale than that

required by preschoolers. Both differences in sizes and activity levels among various age groups require that their play equipment be different. A play area for one specific age group--e.g., preschoolers located at a building used only for preschool children--can be constructed with equipment just for that age group. If an area is to be used by all age groups, then planners must make sure that selected equipment reflect traits of different age groups that are to use it.

A vertical ladder provides climbing experiences for challenging more able children.

Ability levels of students are also important factors. A playground to be used by all children should have equipment usable by children of all ability levels. Something should be available so a child with little movement capability can use equipment successfully. Equipment should be simple to figure out so mentally retarded children can go right to and use pieces of equipment. Some pieces should be scaled down and placed close to the ground so small and less able children can not only reach them but will be less likely to get hurt if they fall off accidentally. There should be something for an extremely capable child--places to climb, slide, and maneuver that make specific demands on his/her special capabilities. If there is no place for more able youngsters, it is possible they will intrude on spaces designed for less able children. More importantly, if a play area is for all children--and it should be--then needs of highly skilled children must be met.

Movement Needs of Children

Children playing on playground equipment use a variety of movements in their activities. Part of the reason for this is an inherent need in every child to be active. However the prime reason for such a variety of movements is that every piece of equipment demands particular types of activities. For example, to make a swing move, a child must push off with the feet or use the body to pump. To reach the top of a jungle gym a child has to climb. To get to the top of a slide and slide down a child must first go up the ladder. In each case movements are built-in. When selecting playground equipment, be sure as many different kinds of movements as possible are built into the total playground. Movements can be grouped into the following categories --

- **Movements in place**-- body stays in one place in relation to equipment.

  -- Movements by arm propulsion...

  ...swings that can be pumped with the arms;

  ...merry-go-rounds that can be ridden by holding on with the hands.

  -- Movements by leg propulsion...

  ...swings that can be pushed with the feet;

  ...equipment that can be pedaled to make it move.

  -- Movements by total body propulsion...

  ...cars, trucks, or animals that a child can sit in or on and bounce;

  ...saucers that can be turned by moving the entire body;

  ...swings that can be pumped with the entire body.

Cars (foreground), saucers (to the right), and bouncing seats are ridden with whole body propulsion.

- **Movements through space**-- body moves in relation to equipment.

  -- Movements involving locomotor patterns...

  ...ramps or inclined planes on which to walk up and down;

  ...mazes to run through;

  ...tunnels to crawl through;

  ...ladders or cargo nets to climb;

...tires to jump through;

...inclined planes or fireman's poles on which to slide;

...footprints on the surface to hop on and follow.

-- Movements involving perceptual-motor functioning...

...swinging bridges or balance beams on which to balance while walking;

...railroad tie fences to move over and under;

...free form sculptures to move around and through;

...very small spaces to move between.

- Object manipulation

-- Movements involving interactions with natural elements...

...ground boxes or elevated tables for play with sand and/or water;

...places to garden;

....nature trails.

-- Movements involving outdoor games...

...playgrounds for ball games;

...grassy areas for individual or dual play with toys from home.

- Fantasy play

-- Movements involving structures that have places for hiding, climbing, and exploring.

-- Movements involving equipment that looks like animals, magic castles, cars, trucks, forts.

-- Movements involving free form equipment that encourages children to use their own imaginations.

- Movements structured to improve physical fitness

-- Movements involving equipment that demands both large and small muscle activities.

-- Movements directed by a specific exercise courses or trails.

No one piece of equipment does everything for every child--there is no perfect selection! With a variety of choices most of the movement categories can be incorporated in any play area.

Making Play Areas More Accessible

Whether designing a completely new play area or working on improving an existing one, changes can make any area more accessible to children with handicapping conditions.

Ramps

Usual methods of getting to the top of slides or onto structures include climbing stairs or ladders. Ladders can be replaced by inclined ramps with pitches to allow someone with balance problems or on crutches to walk up easily. Sides of ramps should have railings so that no child accidently walks or crawls over the edges. An adult can take a child

Many walkways provide access to all areas of the play lot. Ramps (back left) provide access to bridges and slides; long ramp (center) provides access to a circular slide.

in a wheelchair up a ramp, assist him/her out of the chair, and slide to the bottom together--the chair is retrieved later! Someone with crutches can go up a ramp, drop crutches over the side, come down the slide, and pick up the waiting crutches. The slide--with unaccessible ladder--is now easily used by all children.

Railings

Steady hand holds on one or both sides of stairways, swinging bridges, balance beams, or uneven surfaces can provide needed extra support for children with balance problems; they can guide someone who is blind or partially sighted and support a child who otherwise needs crutches.

Railings can be added to many pieces of existing equipment.

Railings added to a swinging bridge or balance beam can provide needed additional support.

- Height variance

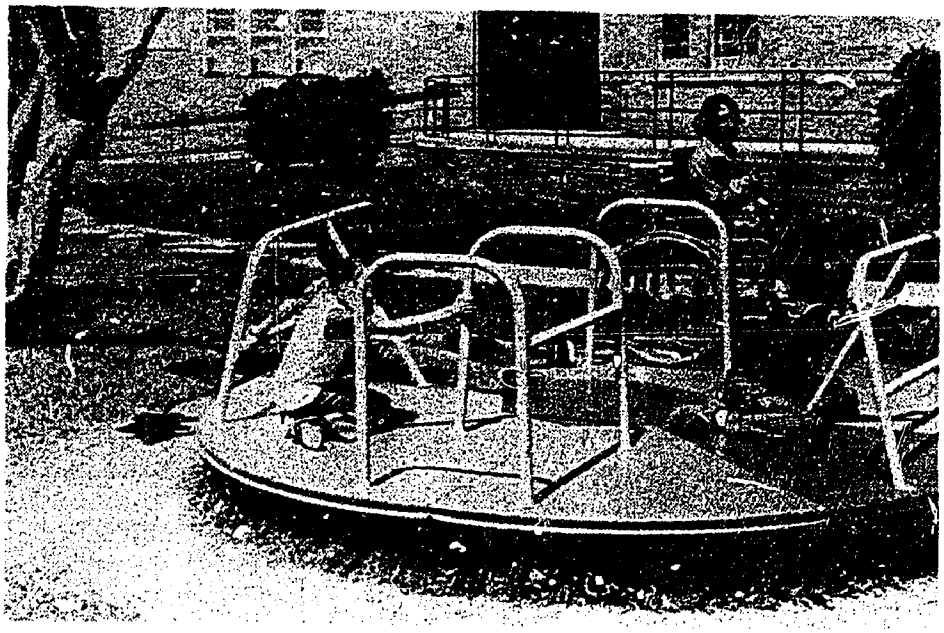
Changing heights of pieces of equipment can many times move them into functioning ranges of children with handicapping conditions. Large climbing structures can be placed further into the ground when built or supports can be shortened. This shortens access distance and makes equipment easier to get onto as well as safer for a child who falls off--the child is closer to the ground! Raising height of a piece of equipment--putting a sand box on legs, for example--puts it into reaching range of someone in a wheelchair or makes it more usable for a child who needs to be seated while working with the hands.

- Walk-ways

Wheelchairs are difficult to move on grass. Hard top walk-ways surrounding all pieces of equipment make it easier for a child in a wheelchair as well as one on crutches to go from place to place. A child not likely to use a specific piece of equipment because it is particularly difficult or just not something of interest should still be able to get to it, if for no other reason than to be able to see what other children are doing.

- Specially designed equipment

Increasingly many manufacturers are designing equipment with use by all children in mind. They have added special features that enhance use by children with handicapping conditions. A merry-go-round, for example, has been designed to accommodate wheelchairs. Before selecting new or replacement equipment check as many suppliers as possible to be sure equipment selected is the most usable and functional available.

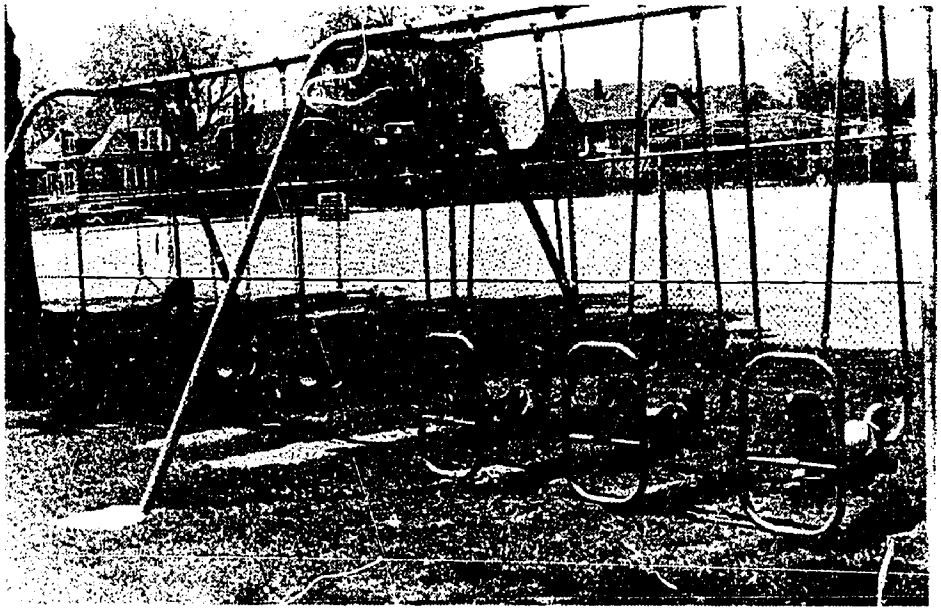


Some merry-go-rounds are designed and built to carry wheelchairs.

In addition to these general adaptations, attention to many small details can improve usability of any play area --

- Can stairs be used in place of some ladders? If so, are width and depth of steps appropriate for ages and ability levels of children using equipment?

- If pieces of equipment have seats--e.g., swing seats, riding seats--are they all the same or are there different types? Different size children need different size seats. Children with sitting balance



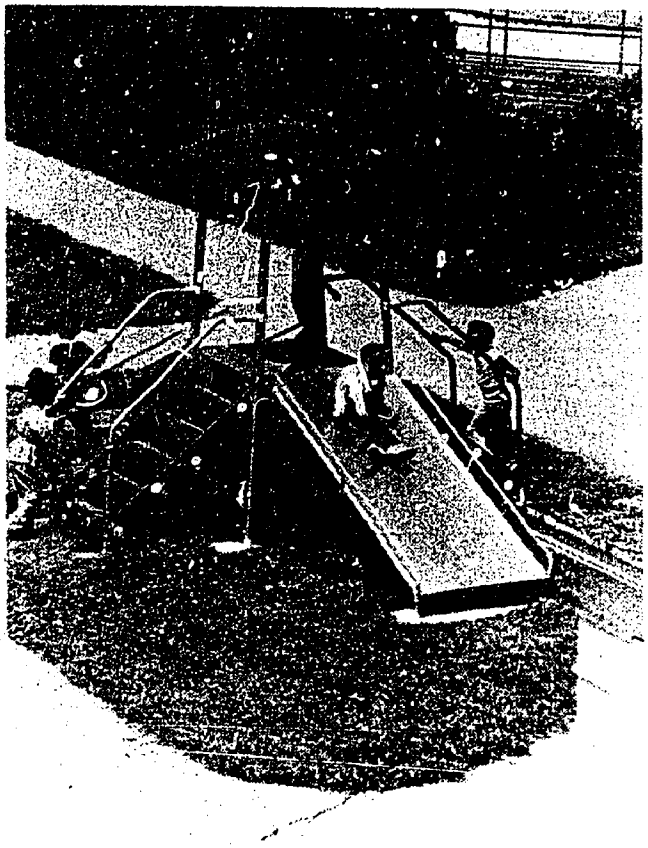
Swing set with a variety of seats can meet needs of all children.

problems or those who have difficulty holding on need more secure seats than children with normal muscle control. Are seats easy for children to get in and out? Are seats easy for adults to place and remove children?

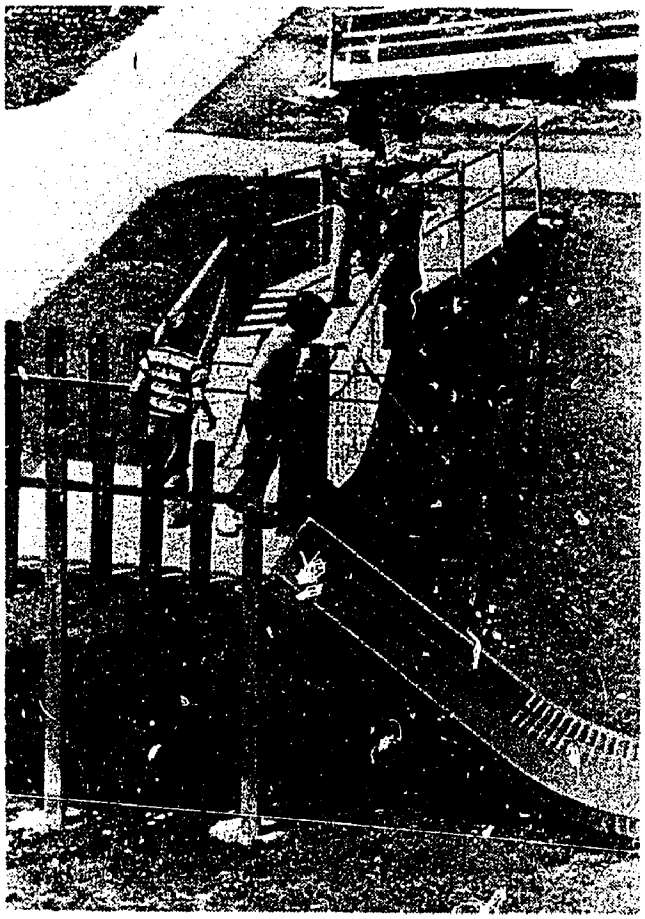
- Are there places where a child crawling on equipment can get fingers caught? Can a crutch tip be trapped? Perhaps a swinging bridge can be pulled up a little tighter so there is no space between slats.

- Are landing areas close to the ground? Coming down a slide is great fun, but with a sharp drop to the ground at the bottom of a slide some children can get unhappy surprises as they land on their seats on the hard ground. Not all children are coordinated enough to stand up as they come off a slide.

- Can seat belts or hand holds be added to riding equipment to assist children with poor balance?



Wide steps, handrails, and keeping the end of the slide close to the ground for soft landings are important details.



Many children of differing abilities can use the same play structures with just a few adaptations. A child with crutches drops one crutch over the railing before going down the slide. Ramp and railings make the equipment accessible for him.

Selecting Safe Equipment

Actually no piece of playground equipment is safe! Major responsibilities for safety rest with users of equipment. The safest piece of equipment can be deadly if used incorrectly. However several factors contributing to safe use should be considered when selecting equipment.

If adaptations are made, will they create safety hazards? Most manufacturers attempt to design reasonably safe equipment. If design of equipment is to be changed, will changes enhance or detract from safety? For example, a merry-go-round specially designed to carry wheelchairs is purchased. To make the merry-go-round more accessible a ramp is added so wheelchairs can be rolled right onto the equipment. However, when an ambulatory child rides the merry-go-round with feet and legs hanging over the edge, they will be smashed when the part on which he/she is sitting turns into the ramp. A helpful adaptation for

one child can be a hazard for another. Playgrounds should be for all children without hazards to any child.

Materials of which play devices are made can also contribute to their inherent safety--or lack of it. Factors to keep in mind about various construction materials include --

- Metal

  Resistant to vandalism and capable of withstanding heavy use, metals can be painted bright colors to stimulate children's interests and imaginations. However metals subjected to bright sunlight can become quite hot. Surfaces of slides are especially dangerous for children without complete sensations.

- Wood

  Many companies make complete play structures out of wood so that they blend into natural settings. However, these are more easily vandalized and may tend to sliver with wear. They should be checked periodically for large splinters that can cause injuries.

- Sand

  Sand, long time play favorite of children, can be kept in ground boxes or elevated tables. Sand, however, is also a favorite litter box substance for animals, and a substance that may harbor hidden articles of adult trash--e.g., broken glass and cigarette butts. Sand left open and uncovered when not in use should be sifted regularly to remove foreign particles. Preschool children cannot always differentiate what is and is not safe. An alternative solution involves covering the sand area completely when not in use or under supervision.

- Water

  Water activities can be provided in various ways. An elevated water table--much like a large sink--with drain and plug can be filled every day and emptied every night. Standing water invites bacteria and is unsafe for children who may accidentally drink it, lick their fingers, or put toys in their mouths. Small wading pools are good for water play but water must be kept chemically clean. Even the smallest wading pool must be supervised at all times; a child can drown in only a few inches of water if circumstances are right.

- Grass

  A favorite surface for play areas, grass not only looks nice but makes a soft cushion for landing areas. If an area receives heavy use, grass wears away to dirt. Grass is also somewhat difficult to maintain in play areas because of problems associated with cutting around all pieces of equipment.

- Cement

Cement is a particularly hard surface not especially suitable for equipment areas where children may fall; it does make excellent bases for sinking and anchoring support structures.

- Fiberglass

Fiberglass is being used in place of metal in many pieces of equipment. It is fairly easy to maintain and can be painted various colors. Main hazards to watch for are wear slivers. If equipment is vandalized or receives heavy wear and surfaces are nicked, slivers may result. Equipment should be checked periodically and any rough areas rubbed down.

- Blacktop

Blacktop provides for soft landings. However, in extremely hot weather blacktop surfaces can become soft so that wheelchair wheels make ruts and black surface material comes off on wheels and crutches. Care must be taken to seal the entire surface properly.

- Rubber

Tires are most frequently found rubber items on play areas. Companies and individuals build entire structures out of tires, securing them together, and then anchoring the entire structure in the ground. Tire devices have been painted bright colors and used in an infinite number of ways to stir children's interests and imaginations. They are easy to climb on because edges provide handholds and by nature they are relatively soft to land on or bump against. However, they present several maintenance problems; they are susceptible to burning by vandals. In addition, spaces inside tires serve as collection basins for rain water and debris. These areas need to be policed and cleaned regularly.

- Rope

Since ropes are used mostly for climbing and swinging rather than as supports for equipment, they need to be checked regularly for wear; frayed or cut ropes must be replaced immediately. Though ropes, cargo nets, and hanging ropes make for excellent climbing, they are easily vandalized.

- Chain

Chain is being used more frequently to support equipment that moves as a child uses it. Traditionally used on swings, chains can now be found as supports for swinging bridges as well. Any chain used should be heavy guage and resistant to rusting. Examine chains periodically for signs of wear and replace any links that show notches or indentations.

- Paint

  Most commercial equipment comes already painted. If a play area is a do-it-youself type or if repairs are being made on already installed equipment, exercise caution in paint selection. Besides making sure that all-weather paint is used, be certain that it is not paint which easily chips and can poison children if eaten.

No equipment should have sharp edges or outcropings of metal or wood that can injure a child. All stationary equipment should be well anchored in the ground, and all parts of equipment firmly bolted together; bolts should be recessed or countersunk. When equipment is installed these are responsibilities of companies doing installations. After equipment is in use, making sure that each piece remains in good condition and proper working order are responsibilities of play area owners. Use sometimes loosens equipment parts; check regularly to be sure everything is secure.

Laying Out Play Areas

Selecting equipment is only the beginning of developing a playground for all children. After equipment has been chosen, decisions must be made regarding where each piece is to be placed. If an original site has to be selected, an already chosen site prepared, or equipment added to an existing site the following factors must be considered --

- Spacing

  Pieces of equipment should be far enough apart so children playing on one piece do not bump into those on other pieces. Particularly important is placement of swing sets. Space is needed for equipment to swing, children to get on and off, and children to wait their turns. Other equipment should not be so close that children come close to swings when they are being used. Even with the need for adaquate spacing, caution should be taken that equipment is not spread out too far. Children with limited mobility require more time to get from place to place; they should not spend more time traveling between pieces of equipment than playing, learning, and having fun.

- Walks and parking areas

  Walk ways leading to each piece of equipment have already been mentioned; they make it easier for children in wheelchairs and on crutches to move from place to place. A small parking area at each piece of equipment provides space where a child can leave wheelchair, crutches, or walker. Many children with handicapping conditions enjoy leaving their hardware behind and crawling or using play equipment for support. It is advantageous if pieces of equipment can be placed where they are not hazards to and cannot be tampered with by others.

- Grouping

  If a play area is to be large some attempt should be made to group equip-

ment designed for specific age groups. For example, all pieces specially designed for preschoolers--really small, scaled down items--should be separate from much larger pieces for older, more active children. When equipment is placed in random fashion very small children may get hurt by older children who often are not as careful as they should be.

- Natural elements

  Take advantage of natural elements already on a site--trees provide welcome shade on hot days; natural hills are fun to climb up and roll down; large boulders make good seats. Natural hazards--and people made hazards--should be avoided; do not place any piece of equipment right next to a street or sidewalk--leave several feet of space for children to get off equipment safely without running into a pedestrian or car.

- Special additions

  Are there special additions that will make a play area more accessible to all children? Perhaps signs with pictures to show how a piece of equipment is used so a less intelligent child can have a start on knowing what to do. Braille signs along walkways help blind children find specific pieces of equipment and get mental pictures of what each piece of equipment is like. If a play area is large, directional signs help children find their ways from piece to piece and to areas with picnic tables or bathrooms.

GUIDELINES FOR USING FACILITIES

Once equipment has been selected and installed the real work begins--insuring that a play area is a fun place for all children all of the time. Play areas should be places where children enjoy coming and can play safely. To have this happen, several procedures are helpful.

Teach Children How to Use Equipment

Children with handicapping conditions often have had little experience with playground equipment. Some able-bodied children may be at losses as to what to do and how to play safely on new and different pieces of equipment. Time should be spent explaining to all children how equipment can be used safely. This can be done on the spot by volunteers of neighborhood tot lots. As last resorts flyers explaining new pieces of equipment can be printed and distributed to children to take home and/or mailed to families in the neighborhood. Whatever methods used the following should be considered for each piece of equipment --

- Where to get on and off safely.
- Where to wait safely when awaiting turns.
- How to handle the equipment--e.g., stop the swing when getting off; do not leave it swinging.

- How to use equipment safely--e.g., come down a slide feet first.

Some of these helpful hints will be old stuff to able-bodied children; but for many children with handicapping conditions they are necessary to make these children safe users of play areas.

Maintain Safe Play Environments

Maintaining safe play environments are adult responsibilities. Children can help and be aware of safety precautions, but the over-all job is the responsibility of adults. Those responsible for a play area should --

- Check all pieces of equipment every day they are used. Keep eyes open for vandalism, general wear, and breakage due to use. Close any areas in need of repairs and see that repairs are made as soon as possible.

- Watch for dangerous litter--e.g., broken glass and beer cans--that children can pick up and from which they can get hurt--dispose of all dangerous litter immediately.

When adults are responsible for supervising children while they use play areas, either in capacities of teachers or playground workers, each should keep in mind the following --

- When students go to a play area in groups the faculty member or group leader is responsible for every child in that group--be alert for children who may wander off; be specific about pieces of equipment they may--and may not--use. It is difficult to watch a group spread out over a large area.

- Children who require seat belts while in wheelchairs should either have seat belts on while riding equipment or have adults holding them.

- If a youngster complains of dizziness or illness while on a piece of equipment, remove him/her immediately from the equipment. Be especially cautious if a child is known to have seizures.

- Metal surfaces get very hot in the sun--be sure to check equipment before used by children without complete sensations.

- Have a first aid kit readily accessible at all times.

Depending on equipment, it may be necessary to have special rules and safety hints concerning specific pieces of equipment. This should be at discretion of persons in charge of play areas. Procedures established when a play area opens are ones that determine its safe--or unsafe--use. Special care should be taken in developing these procedures which affect the fun of many important people--all the children who use these play areas.

SELECTED RESOURCES

The following two books contain extensive bibliographies which have not been duplicated here. Readers should consult these sources directly for more information.

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Stone Muntain Educational Projects Incorporated. Children's Things. Conway, Massachusetts: The Corporation (Roaring Brook Farm), 1975.

Werner, Peter H. and Simmons, Richard A. Inexpensive Physical Education Equipment for Children. Minneapolis, Minnesota: Burgess, 1976.

The following companies supply playground equipment and can be contacted for their current catalogs --

Bigtoys--3113 South Pine Street, Tacoma, Washington.

Burke Miller and Associates--Route 4, Box 17, Mauston, Wisconsin.

Creative Playgrounds--1234 East 99th Drive, Route 23, Terre Haute, Indiana.

Developlay--120 Hawthorne, Palo Alto, California.

Exceptional Play--Box 1015, Lawrence, Kansas.

Flaghouse--18 West 18th Street, New York, New York.

Game Time--Box 121, Fort Payne, Alabama.

Global Games Unlimited--4825 Penn Avenue South, Minneapolis, Minnesota.

Delmer F. Harris Company--Box 278, Concordia, Kansas.

Landscape Structures--Route 2, Box 26, Delano, Minnesota.

Mexico Forge Gerber Leisure Products--Box 5613, Madison, Wisconsin.

Miracle Recreation--Jerry Robinson and Associates, 6207 Mary Lane, Occomowoc, Wisconsin.

Parcourse--3701 Buchanan, San Francisco, California.

PCA Industries--2298 Grissom Drive, St. Louis, Missouri.

Quality Industries--Hillsdale Industrial Park, Box 278, Hillsdale, Michigan.

Recreation Equipment--Box 2188 Department 578, Anderson, Indiana.

Thera-Pla--Box 2186, Madison, Wisconsin.

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A new series of publications providing functional, how-to-do-it information about physical education, recreation, sports, and related activity areas involving impaired, disabled, and handicapped persons. They contain (1) ideas to assist in using various activities to meet unique needs of individuals with different handicapping conditions, (2) adaptations, modifications, and creative approaches that have been successfully used in ongoing programs, and (3) ideas to stimulate creativeness to find new and innovative ways of meeting needs of participants in either special or regular programs and activities. The following issues in the "Practical Pointers" series are now available (each is 8½ x 11, 12-16 pp.):

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