

by Susan S. Aronson, MD

## Is Playground Safety Being Taken Seriously?

No one wants to hurt a child. Yet, many early childhood programs are taking chances that could result in serious injuries for the young children in their care. Most injuries that take place in child care centers occur on the playground; many centers are not doing what they can to make their playgrounds as safe as possible — even when they are informed about playground safety and the particular hazards on their own playgrounds.

In 1988, the Centers for Disease Control (CDC) conducted a study of playground hazards at 58 child care centers in Atlanta, Georgia. After identifying hazards at these playgrounds, the researchers pointed out these hazards to the director at each center. The directors were also given playground safety information.

Two years later, the researchers arranged for licensing inspectors to evaluate playground hazards at centers in Atlanta. The researchers wanted to find out if the hazards had been corrected at the centers where safety information was given. The researchers provided training in playground evaluation to the state licensing inspectors, but the inspectors were not told which of the sites they would visit had been given playground safety advice.

In the CDC study, the median number of hazards per playground was seven. Of 258 playgrounds, only 14 had no hazards. The sites where directors had been shown the hazards and given information about them actually had higher hazard scores.

The researchers looked at director turnover during the time of the study. They found that the playgrounds of sites that had changed directors had fewer hazards than those where the director was the same. Does this mean that new people are more likely to make playground safety a priority? Do directors ignore the risks they see every day?

For example, inspectors found the surfacing under climbing equipment to be a common and critical hazard.

Over half of the climbing structures four feet or more in height had earth, grass, or concrete beneath them. Only 7.1% had three or more inches of loose-fill surfacing material, although 10 to 12 inches of cushioning material is desirable.

Centers were informed that many loose-fill materials lose their impact absorbency when compressed by children's play. Therefore, in order to reach safety levels, the compressed depths that are associated with critical heights of playground equipment must be exceeded.

Engineering studies by the US Consumer Product Safety Commission (CPSC) have identified critical heights at which a head form, upon impact, yields a peak deceleration of less than 200 G's and head injury criteria values of 1,000 or less when dropped on specific depths of uncompressed loose-fill surfacing materials. These values are considered the thresholds for forces that are likely to cause a life-threatening injury. Brain damage, however, can occur at lower levels of force.

At the compressed depth of nine inches of material, the critical height for wood mulch is ten feet. This means that if a three foot tall child is standing on a six foot high piece of equipment and dives off into a nine inch depth of wood mulch, the child is unlikely to sustain a life-threatening injury. Wood mulch is now the CPSC's favorite recommendation for loose fill materials. Based on the CPSC studies and the reality that loose fill materials will get scattered and compressed, there should be 10 to 12 inches of wood mulch in the landing zone around climbers at all times. Note that the recommended compressed depth is different for each loose-fill material.

What does it take to reduce hazards such as these? Clearly, just pointing out the hazards and providing

*Ask  
Dr. Sue*

## Types of Playground Hazards Identified by the CDC

- Inadequate surfacing material in fall zones around equipment
- Exposed concrete anchoring
- Inadequate clearance around equipment for traffic patterns
- Rocks in fall zone
- Exposed roots, concrete, rocks, nails, or other sharp objects
- Tripping hazards
- Broken equipment, sharp or splintering surfaces
- Open "S" hooks on swings
- Rusting surfaces

information is not enough. The CDC researchers suggest several interventions: more explicit regulations, better training of regulators, support for enforcement of regulations, more extensive training of child care center directors, and increasing parental awareness. They also suggest that the results of the inspections be posted conspicuously at the center.

A well organized, user friendly **Playground Safety Manual** was published in 1991 by the Alabama Chapter of the American Academy of Pediatrics (AL AAP). Single copies are available for less than \$4 from AL AAP, 115 West Clay Street, Sylacauga, AL 35150. The CDC published a **Handbook for Public Playground Safety** in November 1991. For a copy, write to CPSC, Washington, DC 20207. NAEYC's manual, **Healthy Young Children**, also includes playground safety information.

Studies like the recently published work from the CDC will be featured at the upcoming International Conference on "Child Day Care Health: Science, Prevention, and Practice" scheduled for Atlanta, Georgia, on June 15-17, 1992. The conference is co-sponsored by the Centers for Disease Control, the World Health Organization, and a large number of health professional organizations. Representatives from health agencies, researchers, and others interested in child day care health are invited to attend. (For more information, or to register, call

404-633-8610.) The cost of registration is deliberately being kept low to encourage participation by those with real life experience and questions for the scientists.

In addition to concern for children's well-being, legal consequences can also be a strong motivation for playground safety. California has passed a law requiring all playgrounds to meet basic safety standards by January 1, 2000. Several other states are considering similar legislation (Colorado, Minnesota, Massachusetts, Iowa, and Pennsylvania). Don't wait for a child to be seriously hurt or for your center to be sued or forced to comply with a playground safety law. Take a look at the list of hazards identified in the CDC study and take action!

## References

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