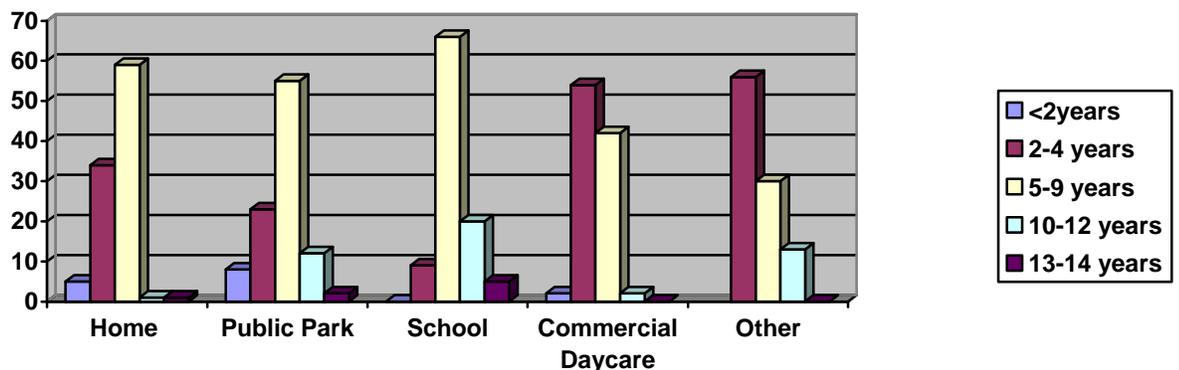


# Playground Safety

**Key Facts:** Non-fatal playground injuries are most often due to falls. The leading cause of death related to the playground and playground equipment is strangulation, and the majority of these deaths occur on home playgrounds.

- From 1990 to 2000, at least 147 children have died from playground equipment-related injuries. Nearly 70 percent of these deaths occurred on home playgrounds.<sup>1</sup>
- About 45% of playground-related injuries are severe, which include fractures, internal injuries, concussions, dislocations, and amputations.<sup>2</sup>
- In 2004, nearly 206,900 children ages 14 and under were treated in hospital emergency rooms for playground equipment-related injuries; children ages 5 to 14 accounted for nearly 75 percent of these injuries.<sup>3</sup>
- The public playground injury rate among children ages 5 and under has doubled since 1980.<sup>45</sup>
- In 2001, an estimated 8,250 children under the age of 2 years were treated in hospital emergency rooms for injuries associated with playground equipment; 95 percent of the injured were between 1 and 2 years old. Ninety-five percent of the injured children were 12 to 23 months of age.

**Percentage of Playground Equipment-Related Injuries Treated in U.S. Hospital Emergency Rooms, Ages of Victims by Location of Incident (NEISS data 1998-1999)<sup>6</sup>**



## Who

- Children ages 5 to 9 account for more than half of all playground-related injuries. The majority of these injuries occur at school.<sup>7</sup>
- Children less than 4 are more likely to suffer head and face injuries, while children ages 5 to 14 are more likely to suffer injuries to the arm and hand.<sup>8</sup>
- Female children hold a slightly higher risk of experiencing playground-related injuries than males.<sup>9</sup>

## How

- Falls are the most common mode of playground injury accounting for approximately 80 percent of all playground-related injuries.<sup>10</sup>
- Strangulation is the primary cause of playground fatalities, accounting for over 50 percent of the deaths. Falls to the ground are responsible for an additional 20 percent of the deaths.<sup>11</sup>
- Head injuries are involved in 75 percent of all fall-related deaths associated with playground equipment.<sup>12 13 14</sup>
- In a study conducted by CPSC, it was found that only 9 percent of home playgrounds had proper protective surfacing. About 80 percent of public playgrounds in the study had proper protective surfacing.<sup>15</sup>
- Lack of supervision is associated with approximately 40 percent of playground injuries.<sup>16 17</sup>
- A recent study found that children play without adult supervision more often on school playgrounds (32 percent), following park playgrounds (22 percent) and lastly, childcare centers (5 percent).<sup>18</sup>

## Where and When

- It is estimated that one-third of playground deaths and 75 percent of playground injuries occur on public playgrounds.<sup>19 20</sup>
- Nearly 40 percent of playground injuries occur during the months of May, June and September.<sup>21</sup>
- On public playgrounds, over half of the injuries occur as a result of the child climbing on equipment and falling, and 67 percent of injuries that occur on home playgrounds involve swings.<sup>22</sup>

## Prevention Strategies:

- Increasing adult active supervision of children on playgrounds.
- Decreasing the height of playground equipment and using protective surfaces on the playground (energy-absorbing materials)—such as shredded rubber, wood chips, wood fiber, and sand—that reduce injuries related to falls.<sup>23</sup> Both have shown to markedly reduce injury risk to children.<sup>24</sup>
- Educating the public about the need for playgrounds to have separate age-appropriate playground areas for children.<sup>25</sup> Only 42 percent of U.S. playgrounds have separate play areas for children ages 2 to 5 and children ages 5 to 12, and only 9 percent have signs indicating the age-appropriateness of equipment.<sup>26</sup>
- A recent study found that the rate of playground-related injuries at North Carolina childcare centers dropped 22 percent after a law was passed requiring new playground equipment and surfacing in childcare facilities to conform to U.S. Consumer Product Safety Commission guidelines.<sup>27</sup>

## **Laws and Regulations**<sup>28</sup>

- Playground equipment guidelines and standards have been developed by the U.S. Consumer Product Safety Commission and the American Society for Testing and Materials. Fifteen states have enacted some form of playground safety legislation.
- The CPSC has issued voluntary guidelines for drawstrings on children's clothing to prevent children from strangling or getting entangled in the neck and waist drawstrings of outerwear garments, such as jackets and sweatshirts. Children are at risk from strangulation when drawstrings on clothing become entangled in playground equipment.

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- <sup>1</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>2</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment. Washington (DC): U.S. Consumer Product Safety Commission; 2001.
- <sup>3</sup> United States Consumer Product Safety Commission. 2003 Product summary report. Washington (DC): US CPSC, 2005.
- <sup>4</sup> Weintraub R, Cassidy A. Playing it safe: the sixth nationwide safety survey of public playgrounds. Washington (DC): U.S. PIRG Education Fund and Consumer Federation of America, 2002 June.
- <sup>5</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>6</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>7</sup> Phelan KJ, Khoury J, Kalkwarf HJ, Lanphear BP. Trends and patterns of playground injuries in United States children and adolescents. *Ambulatory Pediatrics* 2001;1(4):227-33.
- <sup>8</sup> Mack MG, Hudson S, Thompson D. A descriptive analysis of children's playground injuries in the United States 1990-4. *Inj Prev* 1997;3:100-03.
- <sup>9</sup> Consumer Federation of America, U.S. Public Interest Research Group. Playing It Safe: The Sixth Nationwide Survey of Public Playgrounds. Washington (DC): CFA, PIRG, 2002 June.
- <sup>10</sup> Consumer Federation of America, U.S. Public Interest Research Group. Playing It Safe: The Sixth Nationwide Survey of Public Playgrounds. Washington (DC): CFA, PIRG, 2002 June.
- <sup>11</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>12</sup> Consumer Federation of America. Executive summary: report and model law on public play equipment and areas. Washington (DC): CFA, 1992 January.
- <sup>13</sup> Petruk J, Shields E, Cummings G, et al. Fatal asphyxiations in children involving drawstrings on clothing. *Canadian Med Assoc J* 1996;155(10):1417-9.
- <sup>14</sup> Consumer Federation of America, U.S. Public Interest Research Group. Playing It Safe: The Sixth Nationwide Survey of Public Playgrounds. Washington (DC): CFA, PIRG, 2002 June.
- <sup>15</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>16</sup> National Playground Safety Institute. Dirty dozen: are they hiding in your child's playground? Arlington (VA): National Recreation and Park Association, 1996.
- <sup>17</sup> National Program for Playground Safety materials. King S. Presentation at the Minneapolis Recreation and Park Congress. Minneapolis (MN): National Program for Playground Safety, 1991.
- <sup>18</sup> Hudson S, Mack M, Thompson D. How safe are America's playgrounds? A status report on childcare, school, and park playgrounds. Cedar Falls (IA): The National Program for Playground Safety, 1999.
- <sup>19</sup> Mack MG, Hudson S, Thompson D. A descriptive analysis of children's playground injuries in the United States 1990-4. *Inj Prev* 1997;3:100-03.
- <sup>20</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment.. Washington (DC): US CPSC, 2001 April.
- <sup>21</sup> Mack MG, Hudson S, Thompson D. A descriptive analysis of children's playground injuries in the United States 1990-4. *Inj Prev* 1997;3:100-03.
- <sup>22</sup> Tinsworth D, McDonald J. Special Study: Injuries and Deaths Associated with Children's Playground Equipment. Washington (DC): US CPSC, 2001 April.
- <sup>23</sup> Mack MG, Sacks JJ, Thompson D. Testing the impact attenuation of loose fill playground surfaces. *Injury Prevention* 2000;6:141-4.
- <sup>24</sup> La Forest S, Robitaille Y, Lesage D, Dorval D. Surface characteristics, equipment height, and the occurrence and severity of playground injuries. *Injury Prevention*, 2001; 7: 35-40.
- <sup>25</sup> National Center for Injury Prevention and Control. *Playground Injuries: Prevention Strategies*. National Program for Playground Safety. 2006 Sept.
- <sup>26</sup> Hudson S, Mack M, Thompson D. How safe are America's playgrounds? A status report on childcare, school, and park playgrounds. Cedar Falls (IA): The National Program for Playground Safety, 1999.
- <sup>27</sup> NC Playground Regulations Resulted in Fewer Injuries. Associated Press Newswires, Chapel Hill, NC, January 19, 2002. Cited in: Weintraub R, Cassidy A. Playing it safe: the sixth nationwide safety survey of public playgrounds. Washington (DC): U.S. PIRG Education Fund and Consumer Federation of America, 2002 June.

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<sup>28</sup> National Program for Playground Safety, “Standards – State Regulations,”  
<http://www.playgroundsafety.org/standards/state.htm>