

## **DROWNING**

Drowning is the second leading cause of unintentional injury-related death among children ages 1 to 14 and the leading cause of unintentional injury-related death among children ages 1 to 4. The majority of drownings and near-drownings occur in residential swimming pools and in open water sites. However, children can drown in as little as one inch of water and are therefore at risk of drowning in wading pools, bathtubs, buckets, diaper pails, toilets, spas and hot tubs.

Drowning usually occurs quickly and silently. Childhood drownings and near-drownings can happen in a matter of seconds and typically occur when a child is left unattended or during a brief lapse in supervision. Two minutes following submersion, a child will lose consciousness. Irreversible brain damage occurs after four to six minutes and determines the immediate and long-term survival of a child. The majority of children who survive (92 percent) are discovered within two minutes following submersion, and most children who die (86 percent) are found after 10 minutes. Nearly all who require cardiopulmonary resuscitation (CPR) die or are left with severe brain injury.

### ***DROWNING DEATHS AND INJURIES***

- In 2001, 859 children ages 14 and under died as a result of unintentional drowning. Children ages 4 and under accounted for more than 60 percent of these deaths.
- In 2002, nearly 2,700 children ages 14 and under were treated in hospital emergency rooms for unintentional drowning-related incidents.
- Near-drownings have high case fatality rates. Fifteen percent of children admitted for near-drowning die in the hospital. As many as 20 percent of near-drowning survivors suffer severe, permanent neurological disability.

### ***WHEN AND WHERE DROWNINGS AND NEAR-DROWNINGS OCCUR***

- More than half of drownings among infants (under age 1) occur in bathtubs. Drownings in this age group also occur in toilets and buckets. More than half of drownings among children ages 1 to 4 are pool-related. Children ages 5 to 14 most often drown in open water sites.
- Since 1984, more than 327 children, 89 percent between the ages of 7 months and 15 months, have drowned in buckets containing water or other liquids used for mopping floors and other household chores. It is estimated that 30 children drown annually in buckets.
- More than 10 percent of childhood drownings occur in bathtubs; the majority of these occur in the absence of adult supervision. Since 1983, there have been at least 104 deaths and 162 non-fatal incidents involving baby bath seats.
- Among children ages 4 and under, there are approximately 300 residential swimming pool drownings each year. More than half of these drownings occur in the child's home pool, and one-third occur at the homes of friends, neighbors or relatives.
- Most children who drown in swimming pools were last seen in the home, had been missing from sight for less than five minutes and were in the care of one or both parents at the time of the drowning.
- Since 1980, more than 230 children ages 4 and under have drowned in spas and hot tubs.
- In 2002, 16 children ages 14 and under drowned in reported recreational boating incidents. Nearly 45 percent of these drowning victims were not wearing personal flotation devices or life jackets.
- In 2002, more than 189 children ages 14 and under sustained personal watercraft-related injuries.
- Drownings and near-drownings tend to occur on Saturdays and Sundays (40 percent) and between the months of May and August (62 percent).

- Drowning fatality rates are higher in southern and western states than in other regions of the United States. Rural areas have higher death rates than urban or suburban areas, in part due to decreased access to emergency medical care.

### ***WHO IS AT RISK***

- Children ages 4 and under have the highest drowning death rate (two to three times greater than other age groups) and account for 80 percent of home drownings. These drownings typically occur in swimming pools and bathtubs.
- Male children have a drowning rate two to four times that of female children. However, females have a bathtub drowning rate twice that of males.
- Black males ages 5 to 9 have a swimming pool-related drowning rate four and a half times that of their white counterparts. Black males ages 10 to 14 have a swimming pool-related drowning rate 15 times that of their white counterparts.
- Low-income children are at greater risk from non-swimming pool drownings.

### ***DROWNING PREVENTION EFFECTIVENESS***

- Installation of four-sided isolation fencing could prevent 50 to 90 percent of childhood residential swimming pool drownings and near-drownings. Door alarms, pool alarms and automatic pool covers, when used correctly, can add an extra level of protection.
- It is estimated that 85 percent of boating-related drownings could have been prevented if the victim had been wearing a personal flotation device. In 2000, only one-third of the children ages 14 and under who drowned in boating-related incidents were wearing PFDs.
- Educational efforts focused on PFDs and safe boating practices are effective in increasing PFD usage.

### ***WATER SAFETY LAWS AND REGULATIONS***

- The U.S. Consumer Product Safety Commission has developed voluntary guidelines, which include education and labeling, to address the hazard of children drowning in five-gallon buckets.
- Four states (Arizona, California, Florida and Oregon) and many communities have enacted safety laws requiring some type of fencing around residential swimming pools.
- Thirty-eight states have enacted boating safety laws requiring children to wear PFDs at all times when on boats or near open bodies of water. These laws vary in age requirements, exemptions and enforcement procedures. Recreational boats must carry one properly sized, U.S. Coast Guard-approved PFD, accessible and in good condition, for each person onboard.

### ***HEALTH CARE COSTS AND SAVINGS***

- Typical medical costs for a near-drowning victim can range from \$75,000 for initial emergency room treatment to \$180,000 a year for long-term care. The cost of a single near-drowning that results in brain damage can be more than \$4.5 million.
- The total annual cost of drownings among children ages 14 and under is approximately \$6.8 billion. Children ages 4 and under account for \$3.4 billion, or nearly half, of these costs.

### ***PREVENTION TIPS***

- Never leave a child unsupervised in or around water in the home. Empty all containers immediately after use and store out of reach.
- Never leave a child unsupervised in or around a swimming pool or spa, even for a moment. Never rely on a PFD or swimming lessons to protect a child. Learn CPR and keep rescue equipment, a telephone and emergency numbers poolside.
- Install four-sided isolation fencing, at least five feet high and equipped with self-closing and self-latching gates, around a home pool or spa. Fencing should completely surround swimming pools or spas and prevent direct access from a house or yard. Never prop open the gate to a pool barrier or leave toys in and around the pool.
- Always wear a U.S. Coast Guard-approved PFD when on a boat, near open bodies of water or when participating in water sports. Air-filled swimming aids, such as “water wings,” are not considered safety devices and are not substitutes for PFDs.
- Never dive into water less than nine feet deep.
- Children ages 14 and under should never operate a personal watercraft.