



Centers for Disease Control and Prevention

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## Unintentional Drowning: Get the Facts

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### Overview

Every day, about ten people die from unintentional drowning. Of these, two are children aged 14 or younger. Drowning ranks fifth among the leading causes of unintentional injury death in the United States.<sup>1</sup>

### How big is the problem?

- From 2005-2009, there were an average of 3,533 fatal unintentional drownings (non-boating related) annually in the United States — about ten deaths per day. An additional 347 people died each year from drowning in boating-related incidents.<sup>2</sup>
- About one in five people who die from drowning are children 14 and younger.<sup>2</sup> For every child who dies from drowning, another five receive emergency department care for nonfatal submersion injuries.<sup>1</sup>
- More than 50% of drowning victims treated in emergency departments (EDs) require hospitalization or transfer for further care (compared with a hospitalization rate of about 6% for all unintentional injuries).<sup>1,2</sup> These nonfatal drowning injuries can cause severe brain damage that may result in long-term disabilities such as memory problems, learning disabilities, and permanent loss of basic functioning (e.g., permanent vegetative state).<sup>3,4</sup>

### Who is most at risk?

- **Males:** Nearly 80% of people who die from drowning are male.<sup>2</sup>
- **Children:** Children ages 1 to 4 have the highest drowning rates. In 2009, among children 1 to 4 years old who died from an unintentional injury, more than 30% died from drowning.<sup>1,2</sup> Among children ages 1 to 4, most drownings occur in home swimming pools.<sup>2</sup> Drowning is responsible for more deaths among children 1-4 than any other cause except congenital anomalies (birth defects).<sup>1</sup> Among those 1-14, fatal drowning remains the second-leading cause of unintentional injury-related death behind motor vehicle crashes.<sup>1</sup>
- **Minorities:** Between 2005 and 2009, the fatal unintentional drowning rate for African Americans was significantly higher than that of whites across all ages.<sup>2</sup> The disparity is widest among children 5-14 years old. The fatal drowning rate of African American children ages 5 to 14 is almost three times that of white children in the same age range.<sup>2</sup>

Factors such as access to swimming pools, the desire or lack of desire to learn how to swim, and choosing water-related recreational activities may contribute to the racial differences in drowning rates. Available rates are based on population, not on participation. If rates could be determined by actual participation in water-related activities, the disparity in minorities' drowning rates compared to whites would be much greater.<sup>5</sup>

### What factors influence drowning risk?



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affect drowning risk are lack of swimming ability, lack of barriers to water access, lack of close supervision while swimming, location, failure to use alcohol, and seizure disorders.

**Swimming Ability:** Many adults and children report that they can't swim.<sup>6,7</sup> Research has shown that participation in formal swimming lessons can reduce the risk of drowning among children aged 1 to 4 years.<sup>8,9</sup>

- **Lack of Barriers:** Barriers, such as pool fencing, prevent young children from gaining access to the pool area without caregivers' awareness.<sup>10</sup> A four-sided isolation fence (separating the pool area from the house and yard) reduces a child's risk of drowning 83% compared to three-sided property-line fencing.<sup>11</sup>
- **Lack of Close Supervision:** Drowning can happen quickly and quietly anywhere there is water (such as bathtubs, swimming pools, buckets), and even in the presence of lifeguards.<sup>12,13</sup>
- **Location:** People of different ages drown in different locations. For example, most children ages 1-4 drown in home swimming pools.<sup>2</sup> The percentage of drownings in natural water settings, including lakes, rivers and oceans, increases with age.<sup>2</sup> More than half of fatal and nonfatal drownings among those 15 years and older (57% and 57% respectively) occurred in natural water settings.<sup>2</sup>
- **Failure to Wear Life Jackets:** In 2010, the U.S. Coast Guard received reports for 4,604 boating incidents; 3,153 boaters were reported injured, and 672 died. Most (72%) boating deaths that occurred during 2010 were caused by drowning, with 88% of victims not wearing life jackets.<sup>14,15</sup>
- **Alcohol Use:** Among adolescents and adults, alcohol use is involved in up to 70% of deaths associated with water recreation, almost a quarter of ED visits for drowning, and about one in five reported boating deaths.<sup>2,14,16</sup> Alcohol influences balance, coordination, and judgment, and its effects are heightened by sun exposure and heat.<sup>16</sup>
- **Seizure Disorders:** For persons with seizure disorders, drowning is the most common cause of unintentional injury death, with the bathtub as the site of highest drowning risk.<sup>17</sup>

## What has research found?

- **Swimming skills help.** Taking part in formal swimming lessons reduces the risk of drowning among children aged 1 to 4 years.<sup>8,9</sup> However, many people don't have basic swimming skills. A CDC study<sup>6</sup> about self-reported swimming ability found that:
  - Younger adults reported greater swimming ability than older adults.
  - Self-reported ability increased with level of education.
  - Among racial groups, African Americans reported the most limited swimming ability.
  - Men of all ages, races, and educational levels consistently reported greater swimming ability than women.
- **Seconds count—learn CPR.** CPR performed by bystanders has been shown to save lives and improve outcomes in drowning victims. The more quickly CPR is started, the better the chance of improved outcomes.<sup>18</sup>
- **Life jackets can reduce risk.** Potentially, half of all boating deaths might be prevented with the use of life jackets.<sup>15</sup>

## Tips to help you stay safe in the water

- **Supervise When in or Around Water.** Designate a responsible adult to watch young children while in the bath and all children swimming or playing in or around water. Supervisors of preschool children should provide "touch supervision", be close enough to

reach the child at all times. Because drowning occurs quickly and quietly, adults should not be involved in any other distracting activity (such as reading, playing cards, talking on the phone, or mowing the lawn) while supervising children, even if lifeguards are present.

- **Use the Buddy System.** Always swim with a buddy. Select swimming sites that have lifeguards when possible.
- **Seizure Disorder Safety.** If you or a family member has a seizure disorder, provide one-on-one supervision around water, including swimming pools. Consider taking showers rather than using a bath tub for bathing. Wear life jackets when boating.
- **Learn to Swim.** Formal swimming lessons can protect young children from drowning. However, even when children have had formal swimming lessons, constant, careful supervision when children are in the water, and barriers, such as pool fencing to prevent unsupervised access, are still important.
- **Learn Cardiopulmonary Resuscitation (CPR).** In the time it takes for paramedics to arrive, your CPR skills could save someone's life.
- **Air-Filled or Foam Toys are not safety devices.** Don't use air-filled or foam toys, such as "water wings", "noodles", or inner-tubes, instead of life jackets. These toys are not life jackets and are not designed to keep swimmers safe.
- **Avoid Alcohol.** Avoid drinking alcohol before or during swimming, boating, or water skiing. Do not drink alcohol while supervising children.
- **Don't let swimmers hyperventilate before swimming underwater or try to hold their breath for long periods of time.** This can cause them to pass out (sometimes called "shallow water blackout") and drown.
- **Know how to prevent recreational water illnesses.** For more information about illnesses from recreational water, see the [More Information \(#more\)](#) section below.
- **Know the local weather conditions and forecast before swimming or boating.** Strong winds and thunderstorms with lightning strikes are dangerous.

If you have a swimming pool at home:

- **Install Four-Sided Fencing.** Install a four-sided pool fence that completely separates the pool area from the house and yard. The fence should be at least 4 feet high. Use self-closing and self-latching gates that open outward with latches that are out of reach of children. Also, consider additional barriers such as automatic door locks and alarms to prevent access or alert you if someone enters the pool area.
- **Clear the Pool and Deck of Toys.** Remove floats, balls and other toys from the pool and surrounding area immediately after use so children are not tempted to enter the pool area unsupervised.







If you are in and around natural water settings:

- **Use U.S. Coast Guard approved life jackets.** This is important regardless of the distance to be traveled, the size of the boat, or the swimming ability of boaters; life jackets can reduce risk for weaker swimmers too.
- **Know the meaning of and obey warnings represented by colored beach flags.** These may vary from one beach to another.
- **Watch for dangerous waves and signs of rip currents.** Some examples are water that is discolored and choppy, foamy, or filled with debris and moving in a channel away from shore.
- **If you are caught in a rip current, swim parallel to shore.** Once free of the current, swim diagonally toward shore.

## More Information

- [CDC Injury Center: Water-Related Injuries](http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/index.html)  
(<http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/index.html>)
- [CDC Feature Article: Drowning happens quickly – learn how to reduce your risk](http://www.cdc.gov/Features/drowningprevention/)  
(<http://www.cdc.gov/Features/drowningprevention/>)
- [CDC Feature Article: Stay Safe In and Around Swimming Pools](http://www.cdc.gov/Features/dsSafeSwimmingPool/)  
(<http://www.cdc.gov/Features/dsSafeSwimmingPool/>)
- [CDC Feature Article: Drowning Risks in Natural Water Settings](http://www.cdc.gov/Features/dsDrowningRisks/)  
(<http://www.cdc.gov/Features/dsDrowningRisks/>)
- [CDC: Recreational Water Illnesses \(RWIs\)](http://www.cdc.gov/healthywater/swimming/rwi/)  
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Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA  
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC-INFO