Motor Vehicle Fatalities

There were 135 motor vehicle fatalities among Missouri children in 2004. Of those, 86 were reviewed by CFRP panels.

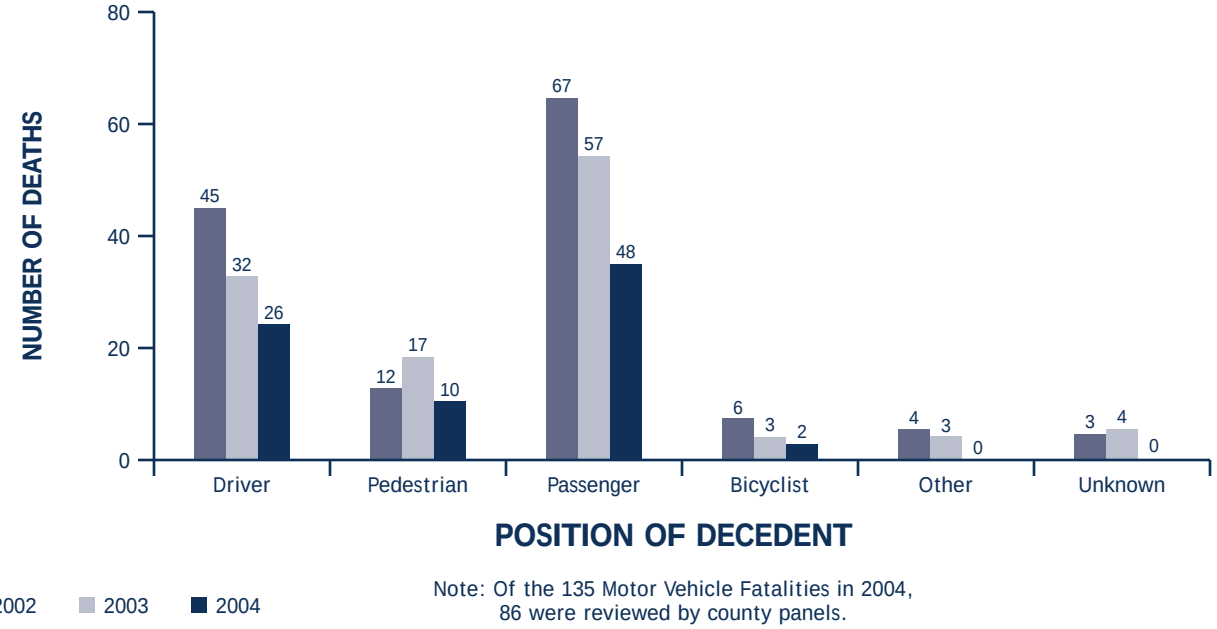
"We use the term 'crash' instead of 'accident' because we want people to realize that when cars run into each other, or run off the road and hit something or crash into something it is almost always caused by driver error - it is seldom an 'accident'."
- Missouri State Highway Patrol

Motor vehicle crashes remain the leading cause of unintentional injury deaths among Missouri's children, ages 1-17. Motor vehicle fatalities include drivers and passengers of motor vehicles, pedestrians who are struck by motor vehicles, bicyclists and occupants of any other form of transportation. Of the **135** motor vehicle deaths among Missouri children in 2004, **114** were reported to the Child Fatality Review Program; **86** (75%) were reviewed by county panels.

ACCIDENTAL MOTOR VEHICLE FATALITIES BY SEX AND RACE

SEX	2002	2003	2004	RACE	2002	2003	2004
FEMALE	57	60	51	WHITE	115	127	99
MALE	80	87	63	BLACK	20	19	13
				OTHER	2	1	2
	137	147	114		137	147	114

MOTOR VEHICLE FATALITIES BY POSITION AT TIME OF INJURY (AS REPORTED BY CFRP)



Note: Of the 135 Motor Vehicle Fatalities in 2004, 86 were reviewed by county panels.

Motor Vehicle Fatalities as Reported on CFRP Data Form 2

TYPE OF VEHICLE			
Car	50	ATV	5
Truck/RV/Van/SUV	17	Not Applicable	10
Bicycle	2	Not Answered	2

CONDITION OF ROAD	
Normal	53
Loose Gravel	4
Wet	15
Ice or Snow	4
Other	1
Unknown	3
Not Answered	6

RESTRAINT USED	
Present, Not Used	27
None in Vehicle	1
Used Correctly	20
Used Incorrectly	1
Unknown	19
Not Applicable	13
Not Answered	5

PRIMARY CAUSE OF ACCIDENT	
Speeding	14
Carelessness	17
Mechanical Failure	1
Weather	7
Driver Error	25
Other	13
Unknown	4
Not Answered	5

ALCOHOL AND/OR OTHER DRUG USE	
Decedent Impaired*	4
Driver of Decedents Vehicle Impaired	13
Driver of Other Vehicle Impaired	7
Not Applicable	51
Not Answered	11

*NOTE: In two cases, decedent was the driver of the vehicle.

HELMET USE	
Helmet Worn	2
Helmet Not Worn	7
Not Applicable	66
Not Answered	11

Driver and Passenger Fatalities

Representative Cases:

- **Children age 4 years and under should ride appropriately restrained in a child safety seat.**

  A two-year-old child was riding in the back seat of a car driven by her mother. The child was not restrained and there was no child safety seat present. The mother, who was driving at a high rate of speed, lost control of the vehicle and struck a tree. The child was ejected and died at the scene.

- **The most significant risk factors among teen drivers are inexperience, low rates of seatbelt use and alcohol.**

  A 15-year-old was riding in a car driven by a 17-year-old friend. As the car approached an intersection, where the asphalt road continued as a gravel road, the driver lost control. The passenger, who was not restrained, was partially ejected through the open window, as the vehicle overturned. The vehicle was traveling too fast for foggy conditions. Alcohol was found in the car.

Of the **86** reviewed motor vehicle deaths in Missouri in 2004, **74** (86%) involved drivers and passengers. The National Center for Injury Prevention and Control lists two factors as most significant in contributing to motor vehicle-related fatalities among children: (1) unrestrained children and (2) drunk drivers. ("Unrestrained children" refers to infants and toddlers who are not riding in properly installed car seats and older children whose seatbelts are not fastened.)

The National Safe Kids Campaign reports that 40% of children age 4 and under ride unrestrained, placing them at twice the risk of death and injury as those riding restrained. Missouri law requires restraint for children under age 4 and allows for primary enforcement, meaning that a police officer can stop and cite the driver solely for violation of the restraint law. **Twenty-two** of the child passenger fatalities in Missouri in 2004 were known to be riding unrestrained. The most common reasons restrained children are killed are misuse of child safety seats and premature graduation to safety belts.

Alcohol interferes with driving because it impairs the driver's mental and physical abilities. Of the **86** reviewed motor vehicle fatalities reviewed in 2004, **15** involved a driver of decedent's vehicle impaired by alcohol. **Eight** of those fatalities involved a teen riding with a driver who was impaired; **2** involved a teen driver impaired by alcohol; and **7** were involved in collisions with other vehicles driven by an impaired driver.

Teenagers are three to four times more likely to be involved in a crash than the driving population at large. The highest fatality rates are found among teenage drivers. According to the National Center for Injury Prevention and Control, the most significant risk factors among teenage drivers are inexperience, low rates of seatbelt use and alcohol. Inexperienced drivers lack the perception, judgement and decision-making skills that take practice to acquire.

Missouri's graduated licensing system took effect in January 2001. In states with GDL systems, teen fatality rates have been reduced as much as 43%. It is important to note, however, that graduated licensing must be combined with education for parents and teens about risks to teenage drivers, including the dangers of underage drinking, speeding, inattention and low seatbelt use.

Seatbelts are known to reduce the risk of fatal motor vehicle injury by as much as 45%. There is a low rate of seatbelt use among teens. **Fifty-one** (59%) of the reviewed motor vehicle fatalities among children in Missouri in 2004 were teenagers age 15-17. Of those **21** (41%) were known to be unrestrained at the time of the crash; **15** were passengers and **six** were drivers.

Pedestrian Fatalities

Representative Cases:

- **Young children require constant supervision.**

  A five-year-old child got off her school bus, along with several other children. He dropped his lunch box and bent down to pick it up, so that he was out of view of the driver. The bus ran over the child.

  A nine-year-old child was chasing her dog. When she ran into the street, she was struck by a car. She died at the hospital a short time later.

  A father was backing his pick-up truck out of the driveway and ran over his one-year-old toddler.

Of the **86** reviewed motor vehicle fatalities among Missouri children in 2004, **10** were pedestrians. **Four** of those were age 4 and under; **3** were between the ages of 5 and 9.

Pedestrian Deaths Among Children

- Children are particularly vulnerable to pedestrian death, because they are exposed to traffic threats that exceed their cognitive, developmental, behavioral, physical and sensory abilities. This is exacerbated by the fact that parents overestimate their children's pedestrian skills. Children are impulsive and have difficulty judging speed, spatial relations and distance.

- Toddlers (ages 1 and 2 years) sustain the highest number of pedestrian injuries, primarily due to their small size and limited traffic experience. More than half of all pedestrian injuries involving toddlers occur when a vehicle is backing up. Young children are at increased risk of pedestrian death and injury in driveways and other relatively protected areas.

- Children, age 5 through 9, are at the greatest risk from pedestrian death and injury. Children, ages 14 and under, are more likely to suffer pedestrian injuries in residential areas with high traffic volume, a higher number of parked vehicles on the street, higher posted speed limits, few pedestrian-control devices and few alternative play areas.

- Practical, skills-based pedestrian safety training efforts have demonstrated improvements in children's traffic behavior. Environmental modifications are effective at reducing pedestrian-motor-vehicle related incidents. *(Safe Kids)*

Bicycle-Related Fatalities

Representative Cases:

- **Children should always wear helmets when riding bicycles.**

  A 10-year-old was riding a bicycle on a busy street, when he was struck by a car. He died on the way to the hospital. He was not wearing a helmet.

  A 16-year-old was riding a bicycle down a sidewalk. When a truck turned into a parking lot, the teen ran into the side of the truck. He died of head injuries at the hospital.

Motor vehicle fatalities among Missouri children also include **2** bicyclists who died in 2004, when they were either struck by a motor vehicle or fell. **Both** of those fatalities were reviewed by local panels. Neither of the bicycle-related fatalities were reported to be wearing a helmet.

The single most effective safety device available to reduce head injury and death from bicycle crashes is a helmet. In the event of a crash, wearing a bicycle helmet reduces the risk of serious head injury by as much as 85% and the risk for brain injury by as much as 88%. Unfortunately, national estimates on helmet usage suggest that only 25% of children, ages 5-14, wear a helmet when riding. Helmet usage is lowest among children ages 11 to 14. *(Safe Kids)* The primary strategies to increase bike helmet use include education, legislation and helmet-distribution programs. *(National Center for Injury Prevention and Control)*

Fatalities Involving All-Terrain Vehicles

Representative Cases:

- **Children younger than 16 should not ride adult-size all-terrain vehicles.**

  An eight-year-old child was riding as passenger on an ATV driven by her adult sister. The adult driver lost control of the ATV on a gravel road and overturned. The child, who was not wearing a helmet, died of severe head injuries.

- **Children should always wear motorcycle-style helmets when riding ATV's.**

  A 13-year-old was riding an ATV in a farm field, checking on cattle with his grandfather. He was not wearing a helmet. When he drove into a dry creek bed, he lost control and the ATV flipped over, landing on top of him. He died a short time later.

Five of the **86** reviewed motor vehicle fatalities reviewed in 2004, involved all-terrain vehicles. Only **one** of those five children was reported to be wearing a helmet.

All-terrain vehicles (ATVs) are motorized cycles, with 3 or 4 balloon-style tires, designed for off-road use on a variety of terrains. Although ATVs give the appearance of stability, the 3-wheeled design is especially unstable on hard surfaces. The ATV stability is further compromised by a high center of gravity, a poor or absent suspension system, and no rear-wheel differential. The danger is magnified because these vehicles can attain substantial speeds (30-50 mph). Most injuries involving ATVs occur when the driver loses control and the vehicle rolls over, the driver or passenger is thrown off, or there is a collision with a fixed object.

Despite a significant reduction in ATV-related injuries and deaths since the mid-1980's, children under the age of 16 accounted for 47% of injuries and 36% of the deaths from 1985 through 2001. Head injuries account for most of the deaths, which are usually instantaneous.

In June 2000, the American Academy of Pediatrics (AAP) issued a policy statement with recommendations for public, patient, and parent education by pediatricians; equipment modifications; the use of safety equipment; and the development and improvement of safer off-road trails and responsive emergency medical systems. The AAP also recommended legislation in all states prohibiting the use of 2 and 4-wheeled off-road vehicles by children younger than 16 years, as well as a ban on the sale of new and used 3-wheeled ATV's.

Prevention Recommendations:

For parents:

- Children, 12 years old and younger, should always ride appropriately restrained in the back seat of all passenger vehicles, particularly vehicles with airbags.
- Never allow children under age 12 to cross streets alone.
- Always model and teach proper pedestrian behavior.
- Never leave children alone in a motor vehicle, even when they are asleep or restrained.

For community leaders and policy makers:

- Community leaders should encourage enforcement of existing child restraint laws.
- Missouri lawmakers should strengthen child restraint laws by mandating the following:
  - Include children age 4 through 15 in the child restraint law; thereby, making restraint use in the age group subject to primary enforcement.
  - Raise the penalty for violation of child restraint laws to at least $100 and one driver's license point.
  - Remove the provision of the vehicle equipment regulations that states if there are not enough safety belts for all passengers, they are not in violation for failure to use.

For professionals:

- Facilitate and implement programs that educate parents on appropriate restraint of children in motor vehicles, and provide child safety seats to those who do not have them, such as safety seat check-up events.

- Facilitate and implement programs that educate parents and children on helmet use, instructions on fitting helmets properly and events that provide helmets at little or no cost.

For Child Fatality Review Panels:

- Ensure that speed limits, and laws prohibiting driving while intoxicated, along with other traffic safety laws, are strictly enforced.

Resources and Links:

American Academy of Pediatrics . . . . . www.aap.org
Children's Safety Network . . . . . http://research.marshfieldclinic.org
National Safe Kids Campaign . . . . . www.safekids.org
National Center for Injury Prevention and Control . . . . . www.dcd.gov/ncipc
Harborview Injury Prevention and Research Center . . . . . http://depts.washington.edu
National Highway Transportation Safety Administration . . . . . www.nhtsa.dot.gov
Think First . . . . . www.thinkfirst.org
Kids 'N Cars . . . . . www.kidsncars.org

Keeping Children Safe In and Around Motor Vehicles

Attention concerning child safety and motor vehicles has focused largely on protecting children as they ride in and on vehicles of all kinds, primarily motor vehicles on public roads. The Missouri CFRP reviews and collects data on motor vehicle fatalities among children as passengers and drivers, pedestrians and bicyclists. However, children who are unsupervised in or around motor vehicles that are not in traffic are at an increased risk for injury and death.

The Centers for Disease Control (CDC) examined injuries and fatalities among children involved in non-traffic, motor vehicle-related incidents from July 2000-June 2001 and documented 78 fatal injuries. Of the fatally injured children, most were age <4 years. The most common type of fatal incident was exposure to excessive heat inside a motor vehicle, followed by being backed over and being hurt when a child put a motor vehicle in motion.

The CDC study recommended several areas for possible prevention, including education campaigns aimed at parents and caregivers that communicate the following: (1) Ensure adequate supervision when children are playing in areas near parked motor vehicles. (2) Never leave children alone in a motor vehicle, even when they are asleep or restrained. (3) Keep motor vehicles locked in a garage or driveway and keep keys out of children's reach.

Kids 'N Cars maintains a national database to evaluate the circumstances and consequences of leaving children unattended in or around motor vehicles. Go to www.kidsncars.com for more information.

Something We Can Do: "Not Even for a Minute" Campaign

Children's Trust Fund points out that a child left alone in an automobile is a car accident that can be prevented. For additional information or to order education materials contact CTF at 573-751-5147 or visit the web site at www.ctf4kids.org.

Resources and Links:

CDC. Injuries and Deaths Among Children Left Unattended in or Around Motor Vehicles-United States, July 2000-June 2001. MMWR 2002;51: No.26.

Kids 'n Cars. . . . . www.kidsncars.com

Unintentional Suffocation/Strangulation, Children Age 1 year and older

Unintentional Suffocation/Strangulation was the cause of death of 8 Missouri children, age one year and older.

Representative Cases:

- **Parents and caretakers often underestimate the degree of supervision required by young children. This is complicated by the mistaken idea that young children have some sort of innate fear of dangerous situations.**

  A one-year-old child was at home with his father and stepmother on a scheduled visitation. While the father was at work, the stepmother put the child to bed and watched television, while talking on the phone. Later, when she checked on the child, she found him unresponsive. During the autopsy a penny was found lodged in the child's upper airway.

  A one-year-old toddler fell asleep in the car on the way home with his parents. In order to avoid waking him, they placed him on a couch in the living room and went to bed. When the parents awoke the next morning, they child was not on the couch. He was eventually found unresponsive in a box full of clothes in his parents' bedroom. He had apparently climbed up on a storage container and fallen into a cardboard box filled with winter clothing. He had become wedged head down in the clothing and suffocated.

  A 10-year-old child was standing on top of a trailer full of soybeans that was being unloaded into a storage bin. He was suddenly caught in the flow of the discharged beans, dragged down beneath the bean flow. Frantic rescue efforts by several adults proved futile and the child suffocated.

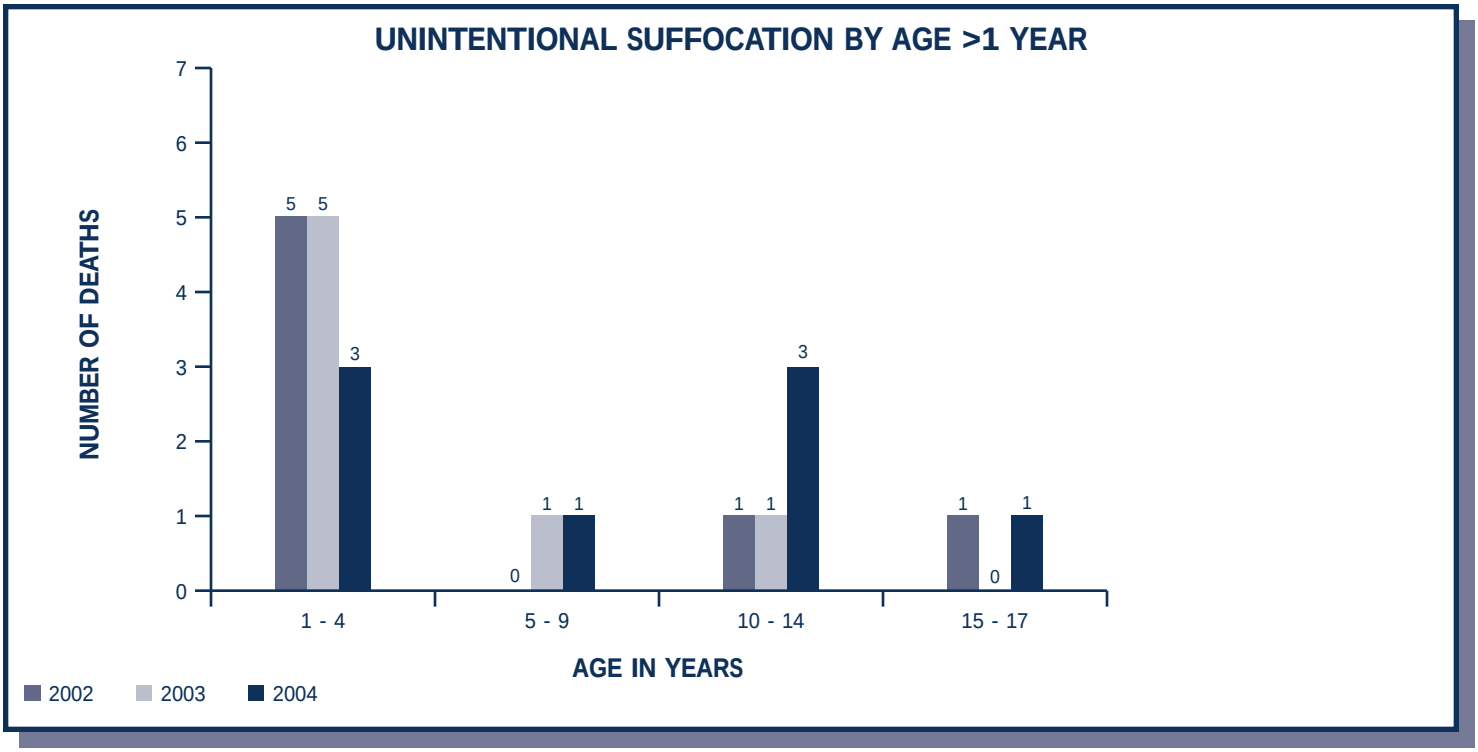
Note: The suffocation/strangulation deaths as reported in this section are unintentional. Suffocation/strangulation deaths may also be intentional, inflicted by others (homicide), self-inflicted (suicide) or of an undetermined manner.

Airway Obstruction Injuries Among Young Children: Choking, Suffocation and Strangulation

The majority of airway obstruction injuries occur among infants less than one year of age. Of those, it is estimated that 60% of infant suffocation occurs in the sleeping environment. Sleep-related deaths of infants <one year are presented in the section entitled "Sudden, Unexpected Infant Deaths." The focus of this section is unintentional airway obstruction injuries that occur among toddlers and young children.

Airway obstruction injuries occur when children are unable to breathe normally because food or objects block their internal airways (choking); materials block or cover their external airways (suffocation);

or items become wrapped around their neck or exert pressure on their neck and interfere with breathing (strangulation). Children, especially those under age 3, are particularly vulnerable to airway obstruction death and injury due to the small size of their upper airways, their relative inexperience with chewing, and their natural tendency to put objects in their mouths. Additionally, infants' inability to lift their heads or extricate themselves from tight places put them at greater risk. *(Safe Kids)*



UNINTENTIONAL SUFFOCATIONS BY SEX AND RACE >1 YEAR

SEX	2002	2003	2004	RACE	2002	2003	2004
FEMALE	4	3	0	WHITE	4	7	7
MALE	3	4	8	BLACK	3	0	1
	7	7	8		7	7	8

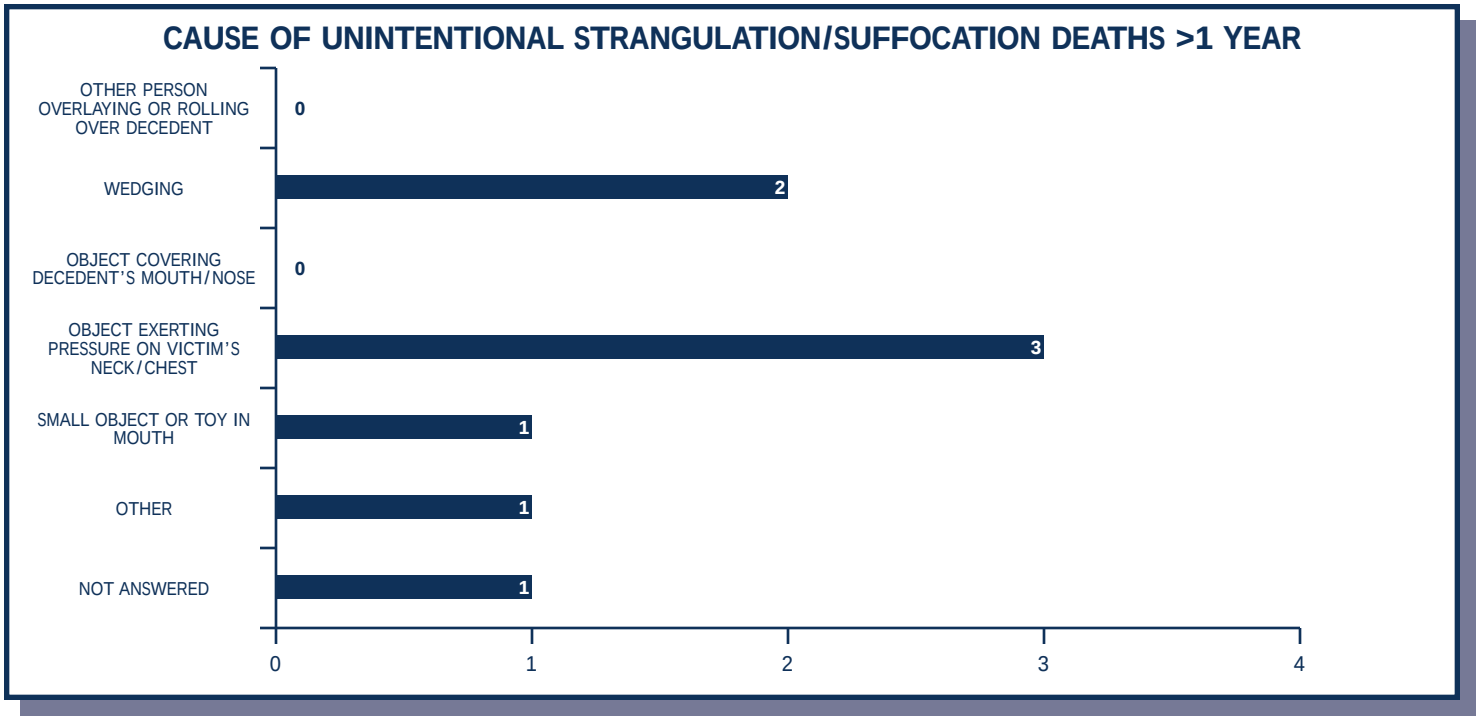
In Missouri, in 2004, **eight** children over the age of one year died of unintentional airway obstruction injuries. Of those, **three** were young children under the age of four years and **three** were ages 10-14.

The majority of childhood choking injuries are associated with food. Young children are at risk from choking on small, round foods such as hot dogs, candies, nuts, grapes, carrots and popcorn. Children can easily choke or aspirate small objects, most often toys, beads, balloons and coins.

Airway obstruction injuries can also result from entanglement or entrapment that result in strangulation and/or suffocation. In the United States, since 1991, at least 130 children have strangled on window covering cords that occurred when the cord was hanging near the floor or crib. In the last twenty years, at least 22 children in the United States have died from entanglement of clothing drawstrings.

The head of a toddler or young children is disproportionately large in relation to the size of the body. Young children strangle in openings big enough for parts of their bodies, but too small for their heads. These include spaces in bunk beds, cribs, playground equipment, strollers, and high chairs. Fortunately, several safety laws and regulations help to protect children from consumer product-related suffocation/strangulation injuries. *(Safe Kids)*

Young children can also become entrapped or wedged in a small space, such as between a bed or mattress and a wall. They can also become entrapped in airtight spaces, such as a cedar chest or unused refrigerator or freezer. In Missouri, in 2004, two children died when they became wedged. A one-year-old became wedged between a toy box and the wall, while his father was in the shower. Another one-year-old climbed onto a container and fell into a cardboard box filled with clothing, where he became wedged head down and suffocated.



Prevention Recommendations:

- Remove drawstrings from children's clothing.
- Tie up or remove all cords for window coverings

For community leaders and policy makers:

Support legislation that requires improved product design, or removal of hazardous products from the market.

For professionals:

- Information about unintentional suffocation/strangulation hazards to young children, including unsafe sleep practices should be widely disseminated.
- Teach parents CPR and the Heimlich Maneuver for infants and young children.

For Child Fatality Review Panels:

- Report any child death that appears to involve a product hazard to Consumer Product Safety Commission. The CPSC can also be accessed for product safety research assistance; contact STAT for assistance.

Resources and Links:

Consumer Product Safety Commission . . . . . www.cpsc.gov
National Safe Kids Organization . . . . . www.safekids.org
American Academy of Pediatrics . . . . . www.aap.org
Missouri Children's Trust Fund, "Safe Crib-Safe Sleep" Campaign www.ctf4kids.org

Fire/Burn Fatalities

Fire/Burn injuries were the cause of 24 deaths of Missouri children in 2004.

Representative Cases:

- **Lighters, matches and other sources of fire should be kept locked away from children.**

  A five-year-old child died in a fire that was apparently started by a three-year-old sibling. The younger child had awakened during the night and began playing with a lighter left in the living room near the sofa. When the sofa began to smolder and caught fire, he became frightened and ran to his parent's bedroom. The fire spread quickly. The five-year-old died of smoke inhalation.

- **Properly installed and maintained smoke detectors are effective in preventing fatalities.**

  A three-year-old child and two adults die in a fire that started when a pan was left on the stove, as the family went to bed. Smoke alarms were present and functional, but failed to warn the victims, because they were mounted to low on the walls.

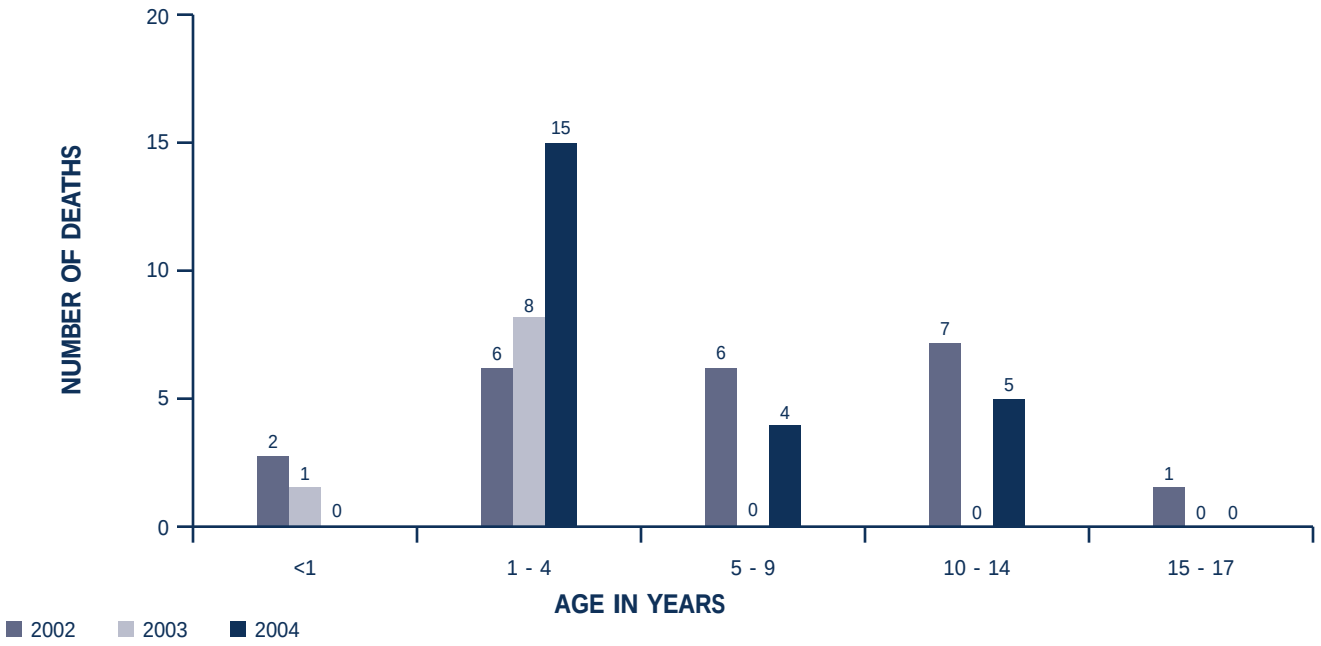
- **Plan and practice several fire escape routes from each room of the home and identify an outside meeting place. Practicing an escape plan may help children who become frightened, and confused in a fire to escape to safety.**

  A four-year-old child, his mother and an older sibling all perished in a fire involving a two-story house. All were dressed in night clothes. They were found huddled near a window in a second-floor bedroom.

Each year in the United States more than 600 children ages 14 and under die, and nearly 47,000 are injured in fires. In Missouri, **24** children died as a result of unintentional fire/burn injury in 2004; **15** of those children were under the age of 5. Fire and burn injuries are the third leading cause of unintentional injury deaths among Missouri children.

Children, especially those age 5 and under, at the greatest risk from home fire-related death and injury, and are more than twice as likely to die in a fire than the rest of the population. Young children have a limited ability to react promptly and properly to a fire; they are unable to act, or act irrationally. They may attempt to hide or run from adults attempting to rescue them. More than half the children under the age of 5, who die in home fires, are asleep at the time of the fire. *(Safe Kids)*

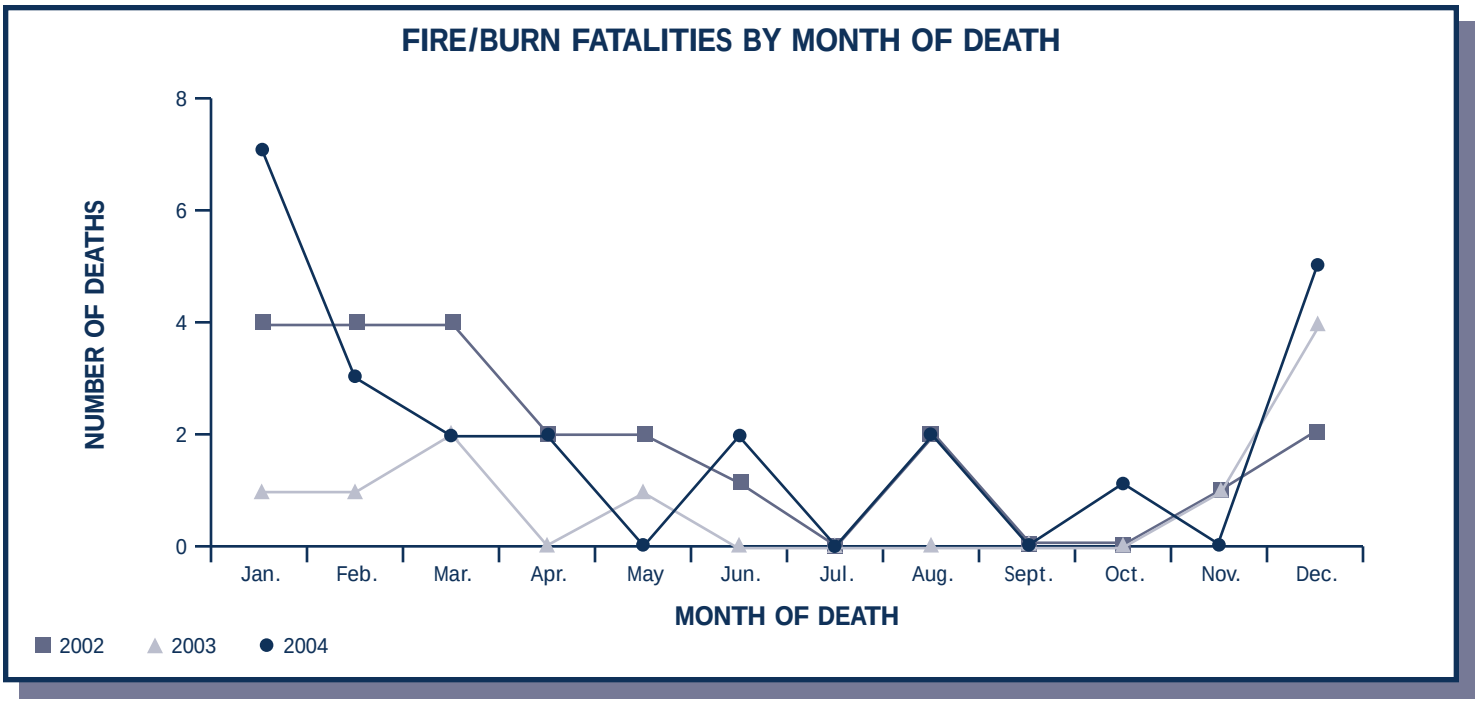
FIRE/BURN DEATHS BY AGE



FIRE/BURN DEATHS BY SEX AND RACE

SEX	2002	2003	2004	RACE	2002	2003	2004
FEMALE	7	4	13	WHITE	14	6	21
MALE	15	5	11	BLACK	6	3	3
				OTHER	2	0	0
	22	9	24		22	9	24

Residential fires and related fatalities tend to occur more often during cold-weather months, when the use of heating systems is at a peak.



Fire/Burn Deaths Among Children

- In the United States, a working smoke alarm is not present in two-thirds of the residential fires in which a child is injured or killed. Smoke detectors were reported to be present in only **6** of the **24** fatal Missouri fires reviewed by county CFRP panels in 2004, of those, **4** were known not to be in working order. Approximately 90% of homes in the U.S. have a smoke alarm; however, these alarms are not always properly maintained.

- Children from low-income families are at greater risk for fire-related death and injury, due to factors such as lack of working smoke alarms, substandard housing, use of alternative heating sources and economic constraints on providing adequate adult supervision. *(Safe Kids)*

- Children living in rural area have a dramatically higher risk of dying in a residential fire. *(United States Fire Administration)*

- Nationally, over 30% of the fires that kill young children are started by children playing with matches or lighters. These fires tend to begin in the bedroom or living room, where children are often left alone to play. *(National Center for Injury Prevention and Control)* In Missouri, in 2004, **3** children are known to have died in fires started by other children playing with matches or lighters.

Juvenile Firesetting

In Missouri in 2004, **three** children were known to have started a fire in their home by playing with a lighter. The United States Fire Administration points out that events such as this are not isolated incidents and the number of fires set by children is growing. In a typical year in the United States, 300 people are killed and $300 million in property is destroyed in fires set by children. Children themselves are usually the victims of these fires, accounting for 85 of every 100 fatalities.

It is generally recognized that the motivation for firesetting can be considered in two categories: (1) *Curiosity firesetters* are usually 2-7 year olds, whose fascination leads them to play with matches or lighters. These children do not recognize the consequences of the behavior. They usually respond to educational services, including educational programs, firehouse tours, etc. (2) *Problem firesetters* may also be very young, but generally are 5-17 years old. Their behavior may be considered pathological, a "cry for help." These children appear to light fires because of emotional or mental disturbances ranging from mild to severe. When firesetting appears to be related to emotional problems, referrals should be made to mental health services. *(United States Fire Administration)*

Regardless of the motivation, firesetting behavior must always be taken very seriously. The United States Fire Administration recommends that parent contact their local fire department or state fire services for help. Local fire departments throughout the state are adopting various approaches to critical elements of prevention: (1) identification/referral of the firesetter, (2) evaluation, and (3) intervention.

Fire/Burn Fatalities as Reported on CFRP Data Forms

SMOKE ALARM PRESENT	
Yes	6
No	5
Unknown	8
Not Applicable	1
Not Answered	4

SMOKE ALARM IN WORKING ORDER	
Yes	4
No	4
Unknown	8
Not Applicable	3
Not Answered	5

FIRE STARTED BY	
Decedent	2
Other	3
No One	8
Unknown	8
Not Answered	3

ACTIVITY OF PERSON STARTING FIRE	
Playing	3
Suspected Arson	2
Unknown	3
Not Applicable	12
Not Answered	4

SOURCE OF FIRE	
Matches	1
Lighter	3
Combustibles	1
Faulty Wiring	2
Other	11
Unknown	5
Not Answered	1

MULTIPLE FIRE DEATHS	
Yes	17
No	5
Not Answered	2

FOR A STRUCTURE FIRE, WHERE WAS THE DECEDENT FOUND?	
Hiding	3
In Bed	6
Close to Exit	1
Other	10
Not Answered	4

Something We Can Do: Fire Prevention Awareness Day

When 3 children died in a house fire in St. Louis, CFRP panel members and other community leaders talked about finding a way to target that neighborhood for a fire safety campaign that would provide an appropriate prevention response to those tragic deaths. Smoke detectors, properly installed and maintained, have proven extremely effective in preventing fatalities. For the last 9 years, volunteers have brought "Fire Prevention Awareness Day" to high-risk neighborhoods throughout the region. Working from a staging area where families can gather for food, fun and prevention education, firefighters and volunteers go door to door, installing smoke detectors for fresh batteries and providing fire safety information. Media attention for these events helps spread the prevention message.

Prevention Recommendations:

For parents:

- Young children require vigilant supervision.
- Keep matches, gasoline, lighters and all other flammable materials locked away and out of children's reach.
- Install smoke alarms on every level and in every sleeping area. Test them once a month. Replace batteries at least once a year.
- Plan and practice several fire escape routes from each room of the home and identify an outside meeting place. Practicing an escape plan may help children who become frightened and confused in a fire, to escape to safety.

For community leaders and policy makers:

- Enact laws that require smoke detectors in new and existing housing, and making landlords responsible for ensuring that rental properties have working smoke detectors.
- Enforce building codes and conduct inspections.

For professionals:

- Smoke detector giveaway programs have proven useful when high-risk areas are targeted. Implement such a program in your community.
- Implement a multi-faceted community campaign to prevent burn injuries. Target a well-defined population with a very specific message.

For Child Fatality Review Panels:

- When reviewing a child death that is the result of a residential fire, determine if the local building code requires smoke detectors in residences, and if a working smoke detector was present in the home. Use that information to develop an action plan, such as working to change the code or pursing prosecution of a negligent landlord. Special attention should be paid to the issue of adult supervision, when investigating deaths of young children in house fires.

Resources and Links:

Missouri Division of Fire Safety . . . . . www.dfs.dps.mo.gov
United States Fire Administration . . . . . .www.usfa.fema.gov
National Safe Kids Campaign . . . . . www.safekids.org
Harborview Injury Prevention and Research Center . . . . . depts.washington.edu/hiprc

Drownings

In 2004, 19 children drowned in Missouri.

Representative Cases:

- **Personal flotation devices should be worn at all times in and around open water.**

  A two-year-old child was camping with his family near a lake. He was placed in a child's "duck" float ring by his mother, who could not swim. Without warning a wave pulled the child into deeper water where he could not touch the bottom and his mother could not reach him. He slipped out of the float, went under the water and drowned.

- **Infants and young children require constant supervision while in a bathtub.**

  A six-month-old infant was placed in a bath chair in the tub, as her mother began filling the tub with water. She left the child unattended for approximately 2-3 minutes, while she retrieved a baby bottle. When she returned, she found the baby on her side with her face in the water.

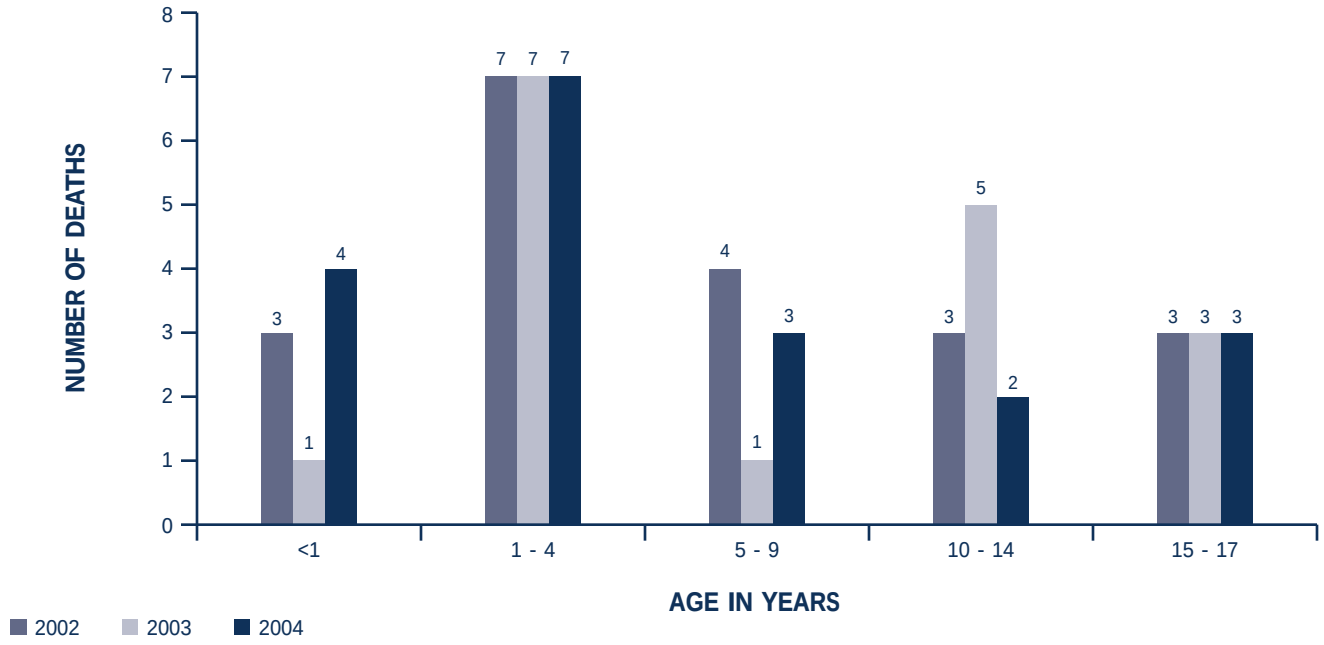
  A father left his 11-month-old child in the bathtub with a three-year-old. When he returned to the bathroom, he found the baby face down in the water.

- **Toddlers and young children require vigilant adult supervision when outdoors near bodies of water, such as pools, creeks and streams.**

  An elderly woman was left in charge of a six-year-old child who was mentally disabled due to a brain injury in infancy. The child apparently roamed away from the house and entered the farm pond, approximately 100 yards from the house. A search of the property eventually revealed that he had drowned.

In the United States, drowning is the second leading cause of unintentional injury-related deaths among children, taking more than 2,000 young lives each year. In Missouri, drowning ranked fourth as a leading cause of injury death. Young children, age 4 and under, have the highest drowning death rate *(Safe Kids)*. Of the **19** Missouri children who drowned in 2004, **11** (47%) were age 4 and under; **4** of those were infants under the age of 1 year.

DROWNING DEATHS BY AGE

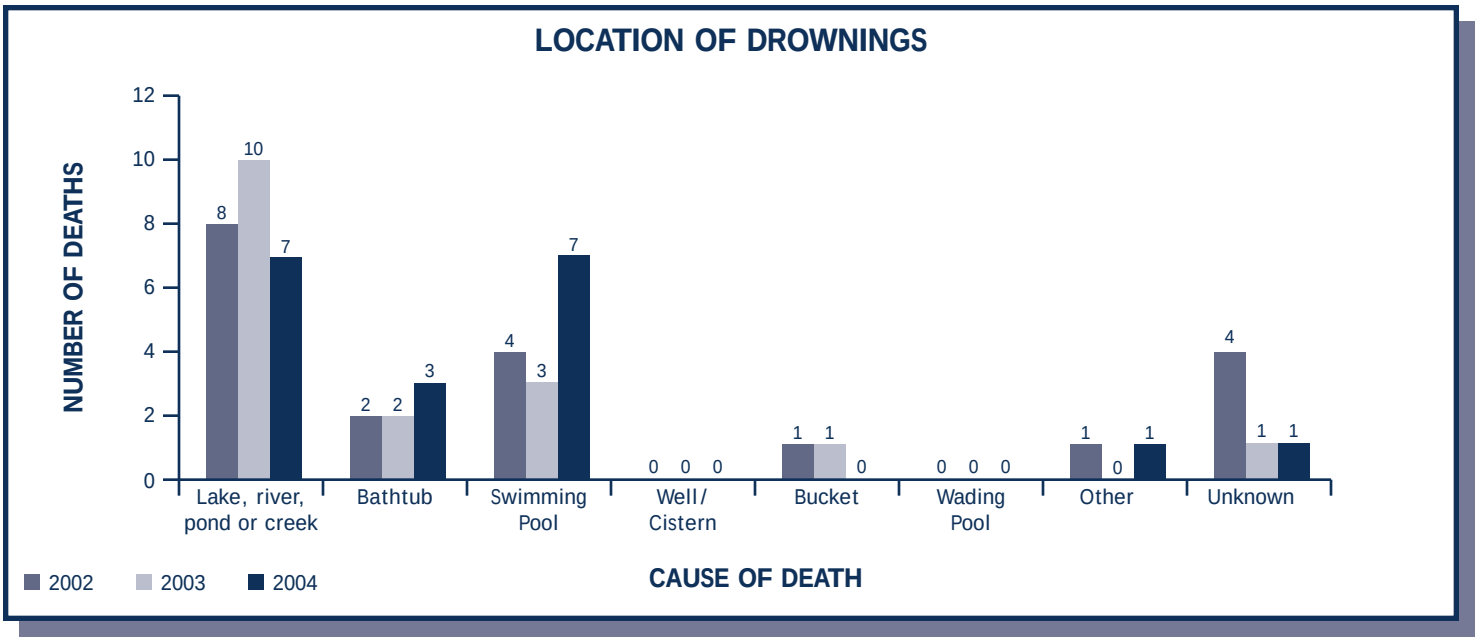


DROWNINGS BY SEX AND RACE

SEX	2002	2003	2004	RACE	2002	2003	2004
FEMALE	7	4	10	WHITE	15	16	16
MALE	13	13	9	BLACK	5	1	3
	20	17	19		20	17	19

Drownings among infants under age 1, typically occur in residential bathtubs. Most drownings among children 1 through 4 years old, occur in residential swimming pools. However, children can drown in as little as one inch of water and, therefore, are at risk of drowning in wading pools, buckets, toilets and hot tubs. Childhood drownings can happen in a matter of seconds and typically occur when a child is left unattended, or during a brief lapse in supervision. Contrary to what many people believe, drowning usually occurs quickly and silently. The scenario that a drowning person will make lots of noise, while thrashing around in the water and resurface several times before actually drowning, is pervasive, but entirely false.

Older children are more likely to drown in open water sites such as creeks, lakes and rivers. Of the **19** Missouri children who drowned in 2004, **7** (37%) occurred in swimming pools, **7** (37%) occurred in open water sites.

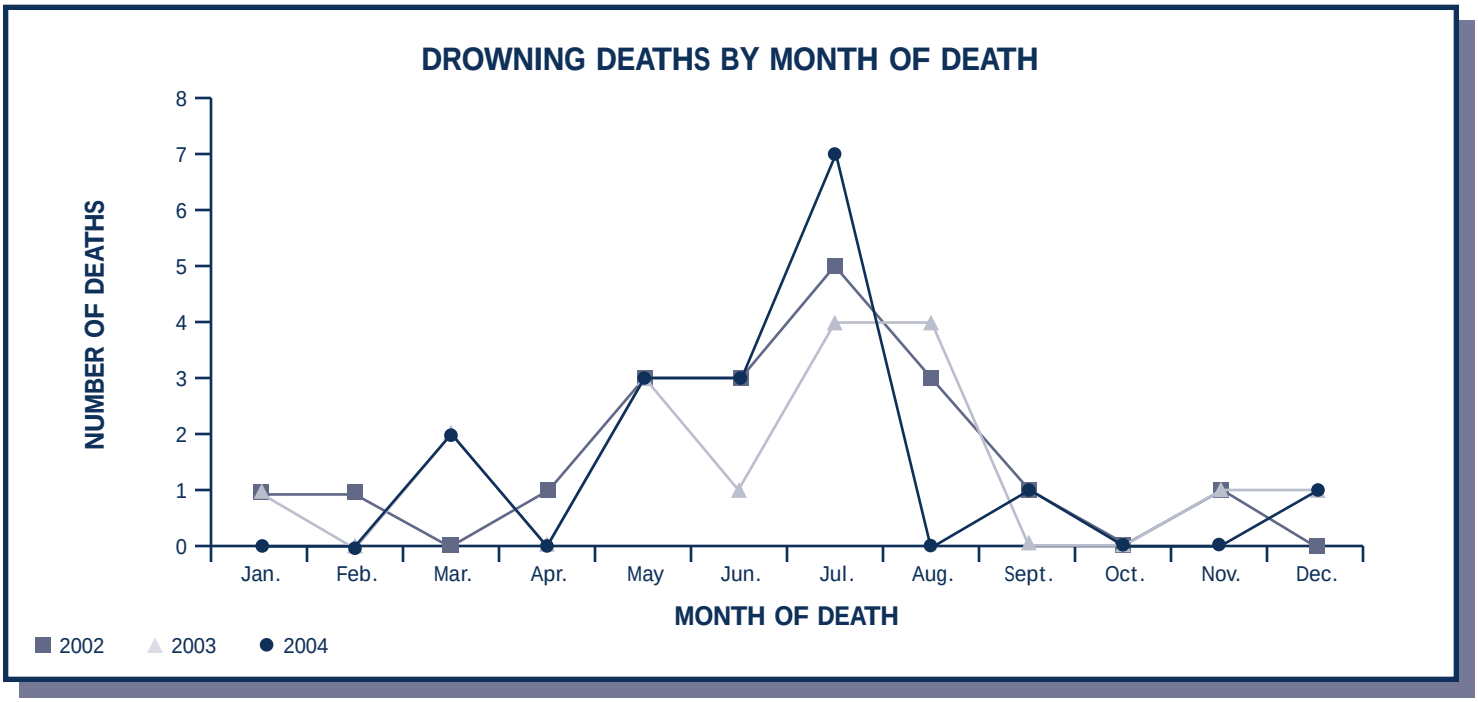


Drowning Deaths Among Children

- Supervision of children in and around water is critical. Of the **19** drowning fatalities in 2004, in which supervision of the child victim was a consideration, panels found that **12** (63%) had entered the water unattended.

- Use of a personal flotation device is well established as an effective means to prevent drowning deaths. Only **one** of the Missouri children who drowned in 2004, was wearing a personal flotation device.

- The warm-weather months of June, July, August and September are peak months for drowning, coinciding with increased activity in swimming pools and open water sites.



Prevention Recommendations:

For parents:

- Never leave a child unsupervised in or around water in the home or outdoors, even for a moment.
- For families with residential swimming pools: Install four-sided pool fencing with self-closing and self-latching gates. The fence should be at least four feet tall and completely separate the pool from the house and play area of the yard.
- Ensure that children always wear U.S. Coast Guard-approved personal flotation devices near open water or when participating in water sports.
- Learn CPR.

For community leaders and policy makers:

- Enact and enforce pool fencing ordinances.
- Enforce existing regulations regarding the use of personal flotation devices when boating.

For professionals:

- Parents, as well as children, should receive water safety education. This should include discussion of water hazards to children (including buckets) and the importance of vigilant supervision.
- Facilitate CPR training for parents of small children.

For Child Fatality Review Panels:

- Promote public education about drowning hazards to children and strategies to prevent drowning.

Resources and Links:

National Safe Kids Campaign . . . . . www.safekids.org
National Center for Injury Prevention . . . . . .www.cdc.gov/ncipc
Harborview Injury Prevention and Research Center . . . . . http://depts.washington.edu/hiprc
Consumer Product Safety Commission . . . . . www.cpsc.org
Red Cross . . . . . www.redcross.org
The United States Lifesaving Association (USLA) . . . . . .www.usla.org

Unintentional Firearm Fatalities

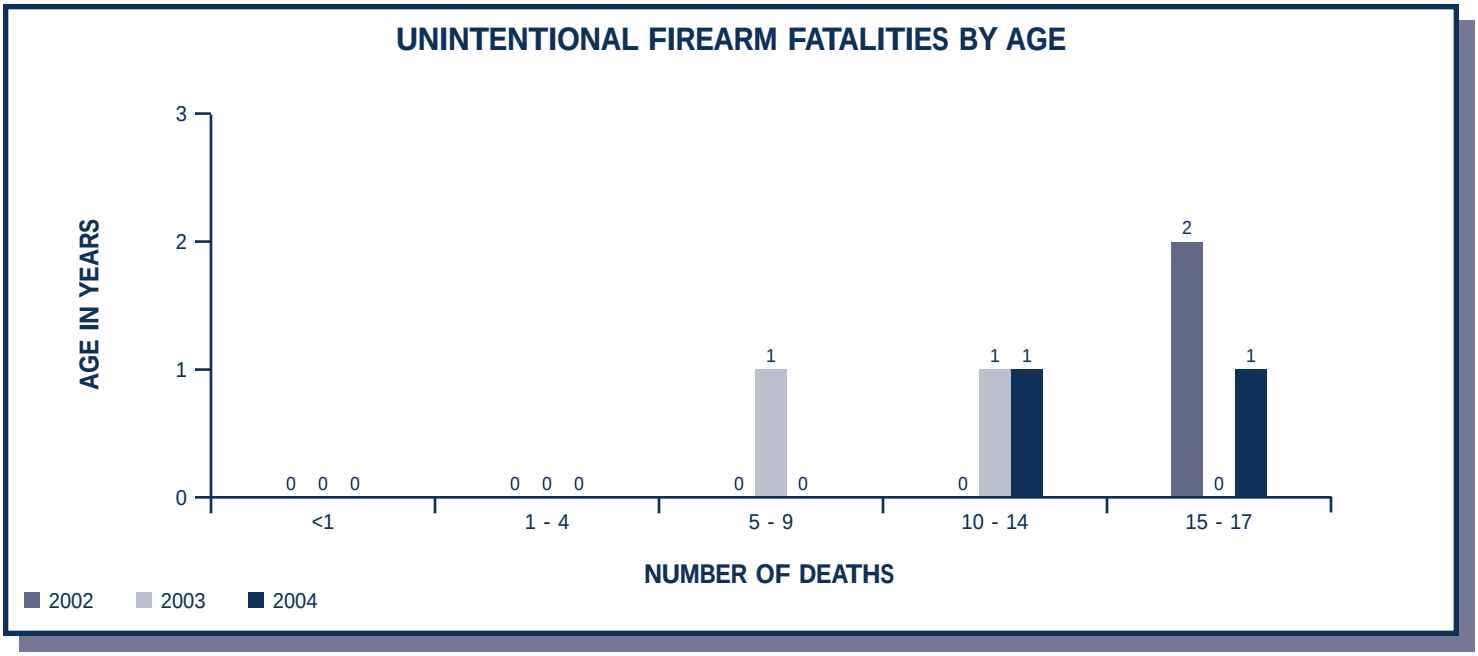
In 2004, two Missouri children died of unintentional firearm injuries.

Representative Cases:

- **Education should be offered in all communities about gun safety. Parents should monitor children who are handling firearms.**

  A fifteen-year-old was emptying rounds from a 270 bolt-action deer rifle, when it went off. His 11-year-old cousin suffered fatal gunshot wound to the heart.

  A 17-year-old male was shot at close range by another student, during practice at a rifle range. An instructor was present, but not in the immediate vicinity.



Boys are for more likely to be victims of unintentional firearm deaths than girls. In the United States, nearly 80% of the children killed in unintentional shootings, are male. **One** of the unintentional firearm deaths among Missouri children in 2004, was male and **one** was female.

Nationally, more than 70% of the unintentional firearm shooting involve handguns.

Unintentional Firearm Deaths Among Children

- Most unintentional childhood shooting deaths involve guns kept in the home, that have been left loaded and accessible to children, and occur when children play with loaded guns.
- Unintentional shootings among children most often occur when children are unsupervised and out

of school. These shootings tend to occur in the late afternoon, during the weekend, and during the summer months and the holiday season.

- Nearly two-thirds of parents with school-age children, who keep a gun in the home, believe that the firearm is safe from their children. However, one study found that when a gun was in the home, 75-80% of first and second graders knew where the gun was kept.
- Generally, before age 8, few children can reliably distinguish between real and toy guns, or fully understand the consequences of their actions.
- Children as young as age 3, are strong enough to pull the trigger of many of the handguns available in the U.S.

Prevention Recommendations:

For Parents:

- Parents who own guns should always store firearms unloaded and locked up, with ammunition locked in a separate location, out of children's reach, use gun locks, load indicators and other safety devices on all firearms.
- All parents should teach children never to touch a gun and tell an adult if they find a gun.

For community leaders and policy makers:

- Enforce laws and ordinances that restrict access to and decrease availability of guns.
- Enact and enforce laws requiring new handguns be designed to minimize the likelihood of discharge by children.
- Enact laws outlining owner liability for harm to others, caused by firearms.

For professionals:

- Implement gun safety education. It is important to include public education about the hazards of firearms, as one component of an overall effort to reduce the incidence of firearm injuries and deaths.

For Child Fatality Review Panels:

- In all cases of firearm fatalities involving children, ensure that every effort is made to determine the source of the gun and consider the responsibility of the gun owner in the incident.

Resources and Links:

National Safe Kids Campaign . . . . . www.safekids.org

Harborview Injury Prevention and Research Center . . . . . http://depts.washington.edu/hiprc