

INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants**

November 30, 2006

Fatal Injuries Among Children Left Unattended in or Around a Motor Vehicle in Oklahoma, 2000-2004

INTRODUCTION

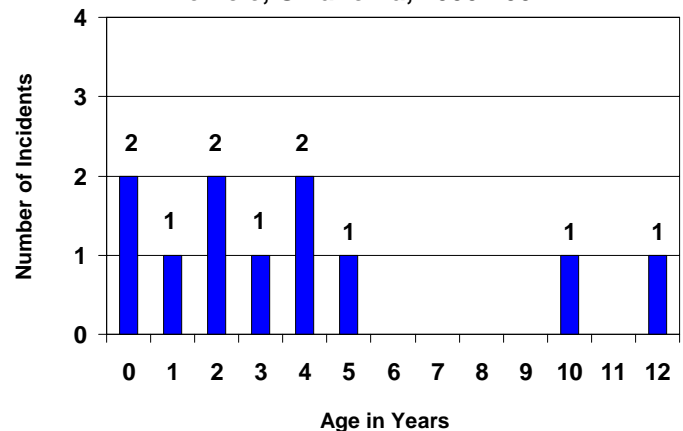
Motor vehicle (MV) injury prevention for children has traditionally focused on increasing the proper use of child safety restraints. Less attention has been given to injuries among children left unattended in or around a MV which is not in traffic. From July 2000 to June 2001 in the United States, an estimated 9,160 nonfatal and 78 fatal injuries occurred among children younger than 14 years old who were left unattended in or around motor vehicles that were not in traffic. In addition, 7,475 (2,492 per year) children aged 1-14 years old were treated for nonfatal MV back over injuries in U.S. hospital emergency departments from 2001 to 2003. In the state of Utah, 175 children younger than 10 years old were injured in driveway back over incidents from 1998 to 2003. In this study, children were more likely to be backed over and seriously injured by minivans, pickup trucks, and sport utility vehicles. Between 1995 and 2002, 171 children aged five and younger died as a result of heat related injuries while confined in a parked motor vehicle in the U.S.

This report describes the occurrence of fatal injuries among children younger than 13 years old who were injured in nontraffic MV incidents while left unattended in or around a MV in Oklahoma from 2000 to 2004. Nontraffic MV injuries were defined as incidents that involved a child left inside a parked MV, slow-moving MVs in driveways or parking lots, MVs set in motion by a child, and MV trunk entrapments. Cases were identified from narratives of medical examiner reports.

DESCRIPTIVE EPIDEMIOLOGY

Overall, 11 Oklahoma children were fatally injured in a nontraffic MV incident while left unsupervised in or around a MV from 2000 to 2004. Eighty-two percent of the incidents occurred among children who were 5 years of age or younger (Figure 1). Nearly two-thirds (64%) of the deaths were among males. White children accounted for 91% of the fatal injuries and Native Americans accounted for 9%; nine percent of the children were of Hispanic ethnicity.

Figure 1. Number of Fatal Injuries by Age Among Children Left Unattended in or Around a Motor Vehicle, Oklahoma, 2000-2004



*The INJURY UPDATE is a report produced by the Injury Prevention Service, Oklahoma State Department of Health. Other issues of the INJURY UPDATE may be obtained from the Injury Prevention Service, Oklahoma State Department of Health, 1000 N.E. 10th Street, Oklahoma City, Oklahoma 73117-1299, 405/271-3430 or 1-800-522-0204 (in Oklahoma). INJURY UPDATES and other IPS information are also available at www.health.state.ok.us/program/injury.

Six injuries occurred in a driveway and five in a parking lot, including two incidents at a place of employment, one at a day care center, one at an apartment complex, and one at a car dealership. The types of MVs involved in these fatal injuries were passenger cars (3), pickup trucks (2), minivans (1), sport utility vehicles (1), and vehicles of unknown type (4). Three incidents occurred when a relative backed over a child. Of these incidents, two involved a parent and one great-grandparent. The types of vehicles involved in the back over injuries were: a minivan, a pickup truck, and a vehicle of unknown type. There were three incidents in which a parent left a child inside a parked vehicle. Two of these children died from exposure to excessive heat (>100°F) and one from smoke inhalation. Other incidents included a vehicle set in motion by a child (1), a child trapped in the trunk of a vehicle (1), and a child struck by a vehicle in a parking lot (3).

CASE BRIEFS

Back Overs

- A 4-year-old child was backed over by his father in the driveway of their home. When the father got out of the vehicle and saw one of the tires on the child's chest, he quickly drove the vehicle off the child and started CPR. The father reported that the child groaned and took a few breaths. Emergency medical services arrived at the scene and transported the child to a nearby hospital where he was pronounced dead from blunt force chest trauma.
- A 2-year-old who left his grandmother's residence through the back door, was hit unknowingly by a minivan driven by his great-grandmother in the driveway. The great-grandmother left the scene because she did not realize that the child had been injured. He was found moments later on the driveway by a family member who quickly took him to a nearby hospital. He was airlifted to another hospital where he was pronounced dead from blunt force trauma.
- A mother drove into her driveway, got out of her pickup truck, and took her 2-year-old son to the front door of her house so that she could park her vehicle on the street. As she was backing, she felt a thud. She stopped to check it out and found that she had backed over her son whom she had just left at the front door of the house. Emergency medical services was summoned to the scene and transported the child to a nearby hospital where he was pronounced dead.

Children Left Inside a Vehicle

- A 5-month-old infant was left inside a vehicle for at least for 8 hours. The father who was supposed to leave the child with the babysitter forgot to do so. He parked his vehicle in front of his place of employment with the child inside. When he got off work, he discovered the child inside the vehicle. He called emergency medical services, which transported the child to a nearby hospital where he was pronounced dead from hyperthermia.
- A mother parked her car in front of her friend's house in order to pick up mail. She turned off the ignition, took the key, and left her three children inside the vehicle. While she was inside the friend's house, her 4-year-old came and told her that something was wrong. The mother and the friend rushed outside to find the car on fire. They were able to rescue the 2-year-old who sustained major burn injuries, but the 1-year-old died from smoke inhalation in the incident. The 4-year-old boy admitted that he had been playing with a lighter in the front seat.
- A 5-month-old was found dead after being left in his mother's vehicle for hours. His mother usually dropped him off first at the babysitter and then his older sister at school. However, the routine was reversed and she forgot to drop him off. After work, she went to the babysitter's to pick up the infant and was told that she did not drop him off. She found the child still strapped in the car seat with a body temperature of 110°F. The child died at the scene from hyperthermia.

Struck by a Vehicle in a Parking Lot

- A 3-year-old went car shopping with her parents. Her whereabouts were unknown when her parents were moving their vehicle so that the salesman could move the new vehicle they were interested in. The salesman reported that the new vehicle was in neutral and the parking brake was on. However, the new vehicle suddenly lurched forward after starting and struck the pipe railing, pushed the concrete footings loose, and struck the sign post of the dealership on the opposite side of the pipe rail. Then the car apparently rolled backwards, further than its original position. It was at that time the child was discovered under the vehicle. The child died at the scene from chest trauma.
- A mother parked her sport utility vehicle in front of a day care center and left it running. She went inside for few minutes. When she came out, the vehicle apparently went in gear and pinned her 10-year-old daughter to the front porch of the day care. The mother got into the vehicle to back it off the child. Emergency medical services was called and transported the child to a nearby hospital where she was pronounced dead from chest injury.
- A 5-year-old was standing next to his bicycle in the parking lot of the apartment complex where he lived. He was hit by a vehicle. The driver reported that he was not able to see the child at the corner where he was standing. Emergency medical services was summoned to the scene. He was transported to the nearest hospital where he was pronounced dead shortly after arrival.

Trunk Entrapments

- A 12-year-old boy crawled into the trunk of his father's automobile and closed the trunk. When he was out of sight for over an hour, his aunt went out to the car where he was last seen playing. She heard a noise in the trunk and called the father. The father did not know where the key to the trunk was. He entered the car and opened the trunk from the inside. He found the child lying in vomitus. The father started CPR, but the fire department pronounced the child dead at the scene from hyperthermia. The outside temperature was 100°F and the child's body temperature was 109°F.

Vehicle Set in Motion

- A 4-year-old was standing next to her mother's pickup truck by the driver's side door, which was open. Her 3-year-old brother put the truck in gear, which caused it to move backwards out of the driveway into the street. She was caught between the door and the truck. The truck hit a curb across the street and caused her to fall off the truck. Then she was run over by the front wheel of the truck. She died at the scene.

DISCUSSION

This report summarizes the 11 fatal injuries of children less than 13 years of age who were left unattended in or around MVs not in traffic in Oklahoma from 2000-2004. In addition to these fatal incidents, many nonfatal events occur. Data from the KIDS AND CARS program (<http://www.kidsandcars.org/>) found that 25 children under 16 years of age were injured and 16 died as a result of being left unsupervised in or around nontraffic MVs in Oklahoma between 1997 and 2005. The KIDS AND CARS program identifies cases through online searches, newspaper articles from a clipping service, contact with child death review teams, and from a nationwide network of professional and personal contacts so these numbers underestimate the true magnitude of the problem. However, these data do suggest that child safety programs and health professionals should educate parents, caregivers, and the public of the risk of injury among children left unattended in or around MVs that are not in traffic.

RECOMMENDED PREVENTIVE MEASURES

Some deaths and injuries may be prevented by sensors that detect unseen objects behind a MV or devices that put off audible signals when a MV is in reverse. These interventions should be fully evaluated to determine their effectiveness in preventing injuries. The following preventive measures can reduce the number of injuries among children.

- Children should not be left alone in a MV, even if they are sleeping or restrained in a carseat.
- Children playing in areas near parked MVs should be supervised by adults.
- Parents should always lock their vehicles and keep keys out of children's reach to prevent them from getting into parked vehicles in garages, driveways, or parking lots.
- Drivers should look carefully for children around their parked vehicle before and while backing up, especially in residential areas where children may be present.
- Pediatric health care providers should educate parents regarding the risk of children being injured or killed when left unattended in or around non-moving MVs.
- A family member should call the parent who is supposed to drop off a child, particularly when there is a change in routine, to confirm that the parent did so.
- Drivers can use visual clues, such as placing a teddy bear in the front seat or putting a briefcase in the back seat, to remind them to drop off young children.
- Vehicles owners should consider installing cameras or devices that emit audible signals inside the vehicle to alert the driver to out-of-sight objects including small children.

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