



## Children In and Around Cars



- Traffic crashes are the single leading cause of death to children. For the past few decades, many educational programs and laws have been implemented to prevent these deaths and injuries. Safe Kids Buckle Up has been involved in helping families learn how to protect their children by using child restraints and promoting safety in and around cars since 1997.
- Child restraint use is at its highest level since the first child restraint law was enacted in 1978. Ninety-eight percent of infants, 89% of toddlers and 78% of kids 4-7 ride in car seats. Educational programs have helped parents with correct installation and use.
- However, we know that hundreds of other children die each year in or around vehicles who were not involved in vehicle crashes. Data about these types of child fatalities “in and around” vehicles is limited. This fact sheet pulls together the available data sources.
- Safe Kids USA, among other organizations, has developed programs that help raise awareness and provide education about deaths and injuries that can occur in and around vehicles.
- Below outlines these four main causes of death to children in and around vehicles: Frontovers, Backovers, Hyperthermia and Trunk Entrapment.

### HOW THE DATA IS COLLECTED

Non-traffic related vehicle incidents occur in places other than a public highway, street or road. They occur in driveways, parking lots and off-road locations. They can involve pedestrians, bicyclists, non-moving vehicles and vehicles moving in forward and reverse.

Data for this fact sheet are derived from two sources: The National Highway Traffic Safety Administration’s *Not In Traffic Surveillance (NiTS) 2007- Children* report and the Golden Gate Weather website.

The 2007 NiTS study is a virtual data collection system using death certificate data from the Centers for Disease Control and Prevention’s Vital statistics system (NVSS) for 2003-2004. Injury data was derived from the Consumer Product Safety Commission’s (CPSC) National Electronic Injury Surveillance System- All Injury Program (NEISS-AIP) from 2003-2006.

Golden Gate Weather collects their data from publicly reported sources like newspapers, radio or tv reports about heat related deaths. They maintain a national data base that is updated regularly.

### VEHICLE FRONTOVER AND BACKOVERS

NHTSA’s Not in Traffic Surveillance (NiTS) 2007 produced an overall estimate of 262 fatalities and 115,000 injuries to children 14 and younger. The top two leading causes of death were vehicle frontovers and backovers - involving young children who were unseen by drivers usually in their driveways or parking lots. An estimated 106 children who were either pedestrians or non-occupants were struck by forward moving vehicles, while 99 fatalities occurred each year in backovers.

In an effort to educate parents and caregivers, Safe Kids promotes a program called *Spot the Tot* which was developed by Primary Children's Medical Center in Salt Lake City, UT. *Spot the Tot* uses a roll away carpet fitted behind a vehicle to demonstrate to both drivers and children how little visibility the driver has of small children positioned behind a vehicle. It teaches drivers to walk fully around the vehicle before entering and starting the motor so they can look for young children at play.

## **HYPERTHERMIA OR HEAT STROKE**

The third most common cause of death to children was hyperthermia or heatstroke when unattended in vehicles. The NiTS virtual record review estimated that an average of 27 children died annually while records kept by Golden Gate Weather report an average of 38 deaths per year. Golden Gate Weather maintains a national database of publicly reported newspaper clippings, not the virtual data system used by NiTS. While the data system is not perfect it provides a snapshot of preventable deaths due to hyperthermia nationally. According to Golden Gate Weather, in the period of 1998-2010, four hundred ninety-four children died when they were unattended in a vehicle. This type of fatality is totally preventable. 2010 was the worst year for hyperthermia deaths with 49 fatalities. Deaths due to hyperthermia have been recorded when the weather outside was as low as the mid-50 degree range. Sunlight is more the issue than temperature.

A child's body heats up 3 to 5 times faster than an adult's. Death from heat stroke or hyperthermia occurs when the body reaches 107 F degrees.

Within 10 minutes, the inside temperature of a vehicle will be almost 20 degrees hotter than the outside temperature, after 30 minutes the vehicle's temperature will be 34 degrees hotter.

## **TRUNK ENTRAPMENT**

Trunk entrapment occurs when young children play in an unattended vehicle that has the trunk open. Once inside they do not know how to escape. All vehicles since model year 2001 have a glow in the dark trunk release. Very young children may not know to look for it, may become panicked or may not have the strength to pull the lever. The best approach for this is to lock all vehicles and trunks. Adults must be sure young children cannot access remote entry key fobs or keys to open a car or trunk without adult knowledge.

## **LAWS AND REGULATIONS**

Currently, there are 15 states that prohibit leaving children alone in vehicles. Laws vary in scope from weak to strong.

### **Citations:**

NHTSA, June 2009. Traffic Safety Facts Not-in-Traffic Surveillance 2007- Children. Report # DOT HS 811 116. US Department of Transportation. Washington, DC.

Null, Jan. February 2010. Golden Gate Weather, San Francisco State University. Website: [www.ggweather.com/heat](http://www.ggweather.com/heat) San Francisco, CA.

Safe Kids USA, February 2010. [www.safekids.org/safetybasics](http://www.safekids.org/safetybasics) Go to "Little Kids" then "On the Way" on the left. Washington, DC.