

## Hot Cars and Kids, a Deadly Combination

It happens once every 10 days, on average – more frequently in the warmer months. A parent unintentionally causes the death of their own child by leaving them in the back of the car where the child succumbs to Heat-related Vehicular Death (HRVD). Why is this unthinkable tragedy happening with such frequency? There are several factors, but paramount is the fact that our brains are not keeping up with the demands of our busy lives.

The stories are similar and usually involve a loving, busy parent hustling off to work; but with a change in routine or even a minor distraction such as a cell phone call—or even a detour – people’s lives can be changed forever. Think it couldn’t happen to you? It’s happened to a dentist, scientist, professor, paralegal, assistant principal and even a clergyman. All were educated, caring parents.

On average, **37 children die in cars each year from heat-related deaths**. This phenomenon has increased 10-fold since car seats were moved to the backseat. **This does not mean it is safe to place children in the front seat**, but it does mean that, out of sight, has sometimes meant “out of mind” – with tragic results. From 1998 - 2008, there have been more than 445 heat-related vehicular deaths for infants and children. The National Highway Traffic Safety Administration reports, according to new research, this is the leading cause of non-crash vehicle deaths.

### How fast can cars heat up?

10 minutes: 19°  
20 minutes: 29°  
30 minutes: 34°  
1 hour: 43°

### What this means:

On an 80° day, a car can be 99° in 10 minutes and 114° in 30 minutes.  
Children have died of heat stroke in cars on a 66° day.

### Contributing factors in Heat-related Death:

A child’s body temperature rises 3-5 times faster than an adult’s, making them more vulnerable to temperature changes. And even with the windows partially down, the temperature inside a parked car can reach 125 degrees in just minutes. In a process similar to that of a green house, vehicle interiors heat up rapidly, with the majority of the temperature rise occurring within the first 15 to 30 minutes. Leaving the windows opened slightly does not significantly slow the heating process or decrease the maximum temperature attained.

### When memory fails:

But how can a parent fail to remember something—*someone*—so important? A combination of a lack of sleep, stress, emotion, and change of routine are often contributing factors in memory failure that has led to HRVD. When children are left behind, researchers believe that competing interests are at play in three parts of the brain: the basal ganglia, hippocampus and prefrontal cortex. The basal ganglia is the part of the brain that remembers and enacts the familiar and routine, enabling you to do things as if on autopilot. The hippocampus holds our immediate

memories and the prefrontal cortex is responsible for thinking and analyzing. When things run smoothly, the brain – and therefore the person – can multi-task fairly well. But add stress, sleep deprivation, change in routine, and/or distractions and the ability to multi-task is diminished. Then the basal ganglia dominates, meaning the person continues on auto-pilot, with less access to immediate memory. As parents know, life with newborns and small children is full of stress, sleep deprivation and distractions. And young children, especially babies, often fall asleep in their car seats; becoming quiet, unobtrusive little passengers. And sadly, for babies with rear-facing seats, the seat looks the same from the front – whether occupied or not.

### **Kids Playing in Cars:**

Thirty percent (30%) of HRVD cases involve children who have been playing unsupervised in or around cars or trucks and become trapped with deadly consequences. Some of these children are unable to use the lock system or door releases to open the doors of the automobile and others become trapped when hiding in the trunk.

### **What to do to prevent Heat-related Vehicular Deaths for children:**

- - Never leave a child unattended inside a motor vehicle – even if the air-conditioning is on or a window is cracked
- - Never let children play in or around a parked car, keep it locked even in your garage
- - Have a visual cue, you can keep a teddy bear in the car seat when it's empty but place it upfront when your child is riding in their car seat.
- - Make it a habit to open the back door and look in the backseat of your vehicle before locking the doors and walking away
- - Make it routine to put your handbag, wallet, cell phone or any important item on the floor of the backseat Make sure this item is light and won't become a projectile if your - vehicle is in an accident. Items like laptops, umbrellas or books need to be secured at all times. Weight of the item multiplied by speed is the amount of force coming at your child
- - Arrange to have your daycare provider call you if your child has not been dropped off within 30 minutes of your usual routine.
- - If you normally bring your child to daycare, and your spouse happens to take the child instead, have your spouse or partner call you to verify the child arrived safely at daycare
- - If you see a child left alone in a car, call 911 immediately, if the baby is in distress, or it is hot outside, break the window farthest away from the baby.
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Get Get active; go to [www.KidsAndCars.org](http://www.KidsAndCars.org) to find out how you can support manufacturers' use of child warning systems. For more information on keeping children safe in and around motor vehicles, visit [www.KidsAndCars.org](http://www.KidsAndCars.org).