

# Combating Children's Heatstroke Deaths in Cars

## NHTSA Judges New Reminder Devices "Unreliable"

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**Child Left in Car Picture** Every year, an average of 38 children die from heat-related injuries after being trapped inside a motor vehicle. | August 23, 2012 | *iStockphoto*



The heat wave of August 2012 will be remembered not only for the sweltering temperatures that dragged on for weeks but for the tragic loss of young lives. In a six-day period ending August 7, eight children in four states died inside hot cars. As the inside temperatures climbed, the children's core body temperatures rose to lethal levels.

By the time parents and other caregivers found them, there was no hope of resuscitation. They died of [heatstroke](#).

"The worst week ever," says Janette Fennell, founder and president of [KidsandCars.org](#), a safety advocacy group that tracks the numbers.

Sadly, three more children died the week of August 19, bringing the death toll to 11 in August and 26 in 2012 so far, according to KidsandCars.org.

Every year, an average of 38 children die from heat-related injuries after being trapped inside a hot car, according to the National Highway Traffic Safety Administration (NHTSA). While heatstroke is a particular summertime danger, car interiors can get dangerously hot very quickly at other times of the year, even when external temperatures are only in the 60s. The agency is sponsoring a heatstroke prevention campaign, [Where's Baby? Look Before You Lock](#).

More than half of the children who die are left accidentally by forgetful, stressed-out parents and caregivers, according to statistics that Fennell's organization has compiled. Others are left intentionally, perhaps when a parent runs a quick errand that turns into a long one. A minority of kids get into a vehicle, unknown to adults, and become trapped.

Under debate now is the best way to prevent these senseless accidents. Some safety experts, including Fennell, say aftermarket reminder devices, which are used in conjunction with child safety seats, are the way to go. They should be standard on vehicles, Fennell says.

Your vehicle warns you with a beep that you've left on the lights, Fennell says. "Why can't we have technology that could warn you that a child has been left behind?"

### Do Reminder Products Work?

A handful of these battery-operated products are already on the market, and others are in development. They cost about \$70. One example is the ChildMinder Smart Clip System. Drivers attach one device to the child safety seat and another to their car key rings.

When the system is activated, the key ring unit sounds an alarm within 6 seconds after it is more than 15 feet from the child safety seat.

However, [a new report commissioned by NHTSA](#) and released in July 2012 says the products are not ready for prime time.

NHTSA asked researchers from the Children's Hospital of Philadelphia Center for Injury Research and Prevention to evaluate the new heatstroke-prevention technology. The researchers found 18 such products, with just 11 being commercially available when they tested the products in late 2011.

The researchers evaluated three products to represent the field. They conclude that "the devices were inconsistent and unreliable in their performance."

Besides the ChildMinder Smart Clip System, the researchers evaluated two others:

- **Suddenly Safe Pressure Pad:** This system attaches to any safety seat. The keychain receiver sends a loud alarm and vibrates if a child is left in the seat.
  - **ChildMinder Smart Pad:** This system includes a sensing pad, a base unit and a key ring alarm unit. The alarm sounds if the caregiver walks more than 15 feet from the vehicle with the key fob and leaves the child.
- Chief among the findings were that the devices:

- Interfered with other electronic devices
- Required excess effort to be sure they worked correctly
- Malfunctioned in the presence of liquids
- Failed to sync after many attempts

### **The Researcher's View**

While the report found the devices lacking, "the designs are all conceptually sound," says Kristy Arbogast, Ph.D., the lead author of the report and director of engineering for the center.

"It was a reliability issue," she says. "The challenge is, when we are dealing with child safety, it has to work perfectly all the time. And that is what was missing."

Child safety needs several layers of protection, she says. She envisions that the devices, when and if improved, could be part of those layers. "I don't think they should be the only thing."

Developers also need to work out the bugs, researchers say. "We did a simulated commute of about 20 to 25 minutes," she says. "One of the devices synced and unsynced 14 times." As it does so, it beeps. That would be distracting, she says.

### **Products Are "a Work in Progress"**

Product developers, not surprisingly, were dismayed with the critical NHTSA report.

"They really did a disservice to us," says Russ Rusakov, [president of the Suddenly Safe 'N' Secure Systems](#). Rusakov developed and sells the Suddenly Safe Pressure Pad. "They didn't talk to us." The products are a work in progress, he says.

Fennell welcomes evaluation of the products, but she points out that the devices now on the market already have improved since the researchers did their testing in late 2011 — a fact researchers acknowledge in the report.

"I can see where the companies may be discouraged with the report," says Dr. Mark Zonfrillo, a pediatric emergency doctor who heads the Child Road Traffic Research Team at the hospital's Center for Injury Research and Prevention.

"But it was meant to be constructive," he says. "We know anecdotally some of the companies have already begun the revision process to make the next versions of these.

"We aren't saying don't use them," Zonfrillo says. "We are saying use them for now, knowing they are not necessarily 100 percent reliable in their first versions. As they stand now, they are unreliable as the sole course of preventing kids from being left in vehicles and then sustaining heatstroke."

Parents who do use the products should also incorporate other strategies, he says. One that's often suggested: Leave your child's stuffed animal on the front seat as a reminder that you're not alone in the car.

### **Heatstroke, Kids and Cars: Sobering Facts**

The temperature inside a parked car can reach 110 degrees even when the outside temperature is in the 60s, according to NHTSA. In 10 minutes, the inside temperature can increase almost 20 degrees. As the body's temperature control system fails, heatstroke can damage the brain, heart, kidneys and muscles.

Many states have laws in place that forbid leaving children unattended in vehicles. For example, Texas forbids residents to leave a child under the age of 7 years alone in a car for more than five minutes. In California, parents and caregivers cannot leave a child age 6 or younger alone inside a vehicle if there are risks to the child's health or safety.

Parents have been charged and convicted of involuntary manslaughter after their children died when left alone in hot vehicles. In two cases, the parents had left children under a year old in a hot car for nearly four hours.

To find out the law in your state, go to the Web site of the Department of Motor Vehicles or its equivalent or find the vehicle code.

### **Best Advice for Now**

Even if the reminder systems improve greatly, Zonfrillo and other safety experts still encourage additional approaches to remembering child passengers. Among them:

- Place something you will need, such as your cell phone, in the backseat.
- As you exit your vehicle, make it a habit to open the back door — just to be sure you are not leaving a child.
- When you change routine, be extra vigilant. This is prime time for forgetting children.
- Remember that infants are at even higher risk of being left, as they often fall asleep in a moving car and can't speak up when they're left behind.
- Set up a double-check routine to use daily, such as telling the day care center you will call if your child isn't attending and to call you if the child is absent and you have not called.
- Keep your vehicle locked when it is parked, with keys out of reach of kids.
- If you see a child alone in a vehicle, do something. Call 911, remove the child, or both.

## **What's Next in Heatstroke Prevention for Children**

Rusakov says he will continue to work to improve his systems. He estimates he has poured about \$250,000 into developing the heatstroke technology, as well as an anti-drowning product.

Sally Davisson, president of Sisters of Invention, has been working to develop a heatstroke reminder product since 2005. She was inspired to do something after news reports of a baby dying in a car after being forgotten by a babysitter.

While Rusakov believes one obstacle to sales is parental denial — "I would never forget my child"— Davisson says her company's survey found otherwise.

"We surveyed about 400 parents or expectant parents," she says. The company asked them: If such a product were available, would they buy it? Well over 90 percent said yes, she says.

"Over 50 percent said, 'We all lead busy lives and I could be distracted,'" Davisson says. Those who said they would never forget said they could see how their partner, parent or babysitter might.

Davisson hopes to join forces with a larger company that could help with product development. Another possibility, she says, is to team up with a national baby store, so that parents could register for the products as gifts.

As products improve, they will need to be tested again, Zonfrillo says.

NHTSA will follow the progress of the products, says Karen Aldana, a NHTSA spokesperson.

"The National Highway Traffic Safety Administration will continue to monitor developments in this area and may consider studying new products in the future, but does not have any immediate plans to do so," she says.

For now, the bottom line is this, she says: "Based on the study, existing technologies would need to be improved significantly to ensure reliable performance and ease of use for parents and caregivers before the agency could consider additional research."

<http://www.edmunds.com/car-safety/combating-childrens-heatstroke-deaths-in-cars.html>