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Research *in* Action

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Welcome to *Research in Action*. We changed the look and format to make it easy for you to share items of interest with others. Let us know how we can improve the format or content to meet your needs.

Technology for Pediatric Heat Stroke in Cars

CHOP Researchers Evaluate Child Safety Devices

Share Positive Messages During National Teen Driver Safety Week

Steering Teens to Safe Behaviors

CIRP Researchers Create Unique International Data Archive

Analyzing Acute Stress Symptoms in Children

Concussion Care for Kids

New Web Resource Helps Parents Recognize Symptoms

CHOP's Online Child Passenger Safety Info Now in Spanish

Translated Content, Videos Available

Helping to Reduce Violent Injury

CHOP Promotes Trauma-informed Care

Future Scientists At Work

REU Students at CHOP Share Findings

View Our Recent Publications and Presentations

Read About Us In the News

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Technology for Pediatric Heat Stroke in Cars



Pediatric heat stroke, also known as hyperthermia, in motor vehicles is a growing public health issue, claiming the lives of over 500 children in the past 14 years. While some of these children were left in vehicles while their parents or caregivers ran a "quick errand" or were playing in an unlocked car, the majority were unintentionally left due to a break in routine or by being distracted.

To help address this problem, last month The Children's Hospital of Philadelphia (CHOP) and the National Highway Traffic Safety Administration (NHTSA) released a report evaluating several devices designed to prevent accidentally leaving children in closed, parked vehicles, exposing them to the risk of heat stroke. Three devices commercially available that sense the presence of a child in a child restraint were tested. Of these, none were found to be a reliable, stand-alone solution to prevent a child from being left in a motor vehicle.

"While we commend the manufacturers of these products for attempting to address this important issue and know that product refinements are already underway, our evaluation showed that the devices required considerable effort from parents and caregivers to ensure smooth operation and often that operation was not consistent," says Kristy Arbogast, PhD, principal investigator on the study and director of Engineering for the [Center for Injury Research and Prevention at CHOP](#). "As a result, education aimed at parents and caregivers and the implementation of behavior routines to prevent this from happening is critically important."

There are simple steps that parents and caregivers can take to help prevent pediatric heat stroke. To access these tips, as well as information from NHTSA and Safe Kids USA, [click here](#).

To read more about CHOP and NHTSA's evaluation and to download the full report, [click here](#).



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Research *in* Action

Share Positive Messages During National Teen Driver Safety Week



'Share, Not Scare' is the theme of this year's National Teen Driver Safety Week (NTDSW) – October 14-20, 2012. Research shows that although graphic reenactments of car crashes and other tactics may get teens' attention, they may not be the best way to change behavior over the long haul. That is why we encourage communicating the benefits of safe driving to teens through positive messaging during NTDSW and throughout the year.

To help you discourage teens from exhibiting high-risk driving behaviors, such as texting while driving or speeding, we provide ways to reframe the message, as well as other tips and free downloadable tools and resources for your NTDSW campaign [here](#). We encourage you to share the messages with parents, educators, teens, and stakeholders or use them to create your own.

You may also want to learn about a safe teen driving initiative sponsored by State Farm called [Celebrate My Drive™](#) that will take place across the country on September 15, 2012. Celebrate My Drive™ shares this year's NTDSW theme of changing behaviors with gain-based messaging.

Now in its fifth year, NTDSW was designated by Congress [in 2007](#) as a time for communities, schools, and families to raise awareness and help find solutions for teen driver crashes. NTDSW events are held throughout the country. For ideas on what others are doing, visit [NTDSW In the News](#).



CIRP Researchers Create Unique International Data Archive



Nancy Kassam-Adams, PhD, lead author of the study

Injury researchers know that children and adolescents may be impacted by trauma differently than adults. That is why the American Psychiatric Association is currently assessing the criteria by which acute stress disorder (ASD) in children is diagnosed.

In a study recently published in the *Journal of the American Academy of Child & Adolescent Psychiatry*, researchers at the [Center for Injury Research and Prevention \(CIRP\)](#) at CHOP and colleagues analyzed the prevalence of ASD symptoms in children following acute trauma and the association of these symptoms with distress and impairment. The findings suggest that the proposed eight-symptom requirement is not ideal for children and adolescents, as 75 percent of children who reported impairment had fewer than eight symptoms and would not have received a diagnosis of ASD.

Data for the study came from the Posttraumatic Stress Disorder (PTSD) after Acute Child Trauma (PACT) Data Archive, an international archive developed by a CHOP-led network of researchers that currently contains datasets from more than 20 studies and six countries. The CIRP-led study analyzed data from 15 studies conducted in four countries (United States, United Kingdom, Australia, and Switzerland), representing 1,645 children and adolescents from 5 to 17 years of age.

"The PACT Data Archive provides researchers around the world with a rich source of international data on children's traumatic stress reactions. It's because of this archive that we were able to address this important research question about the diagnosis criteria in a timely fashion," says Nancy Kassam-Adams, PhD, lead author of the study and associate director of Behavioral Research at CIRP. "Our hope is that the archive will grow and continue to be an important resource for future studies."

To access the study's abstract, [click here](#).



Concussion Care for Kids

The screenshot shows the top portion of a website. At the top left is the CHOP logo and tagline 'Hope lives here.' followed by navigation links: 'Home', 'About CHOP', 'Research', 'For Healthcare Professionals', 'Press Room', and 'Contact'. Below this is a secondary navigation bar with links: 'Health Information', 'For Patients and Visitors', 'Specialties and Services', 'Locations', 'Find a Doctor', and 'About Us'. The main heading is 'Concussion Care for Kids: Minds Matter' with a small photo of a child. The page content includes a sidebar with a table of contents, a main text area with a sub-heading 'Concussion Care for Kids: Minds Matter' and several paragraphs of text, and a right-hand sidebar with sections titled 'If you suspect a concussion', 'If you have more questions', and 'Related Specialties and Services'. At the bottom, there are social media icons for Twitter, YouTube, Facebook, and YouTube.

As part of a cross-hospital team of concussion experts, Center for Injury Research and Prevention (CIRP) at CHOP staff have helped develop a new resource to help parents, schools and coaches recognize the symptoms of concussion. CHOP experts stress beginning treatment with cognitive and physical rest -- literally right after the injury event -- will provide children, adolescents, and teens with the best chance to resolve concussion symptoms and restore full brain function.

The [Concussion Care for Kids: Minds Matter website](#) provides [Return-to-Learn](#) and [Return-to-Play](#) treatment plans so that communities can best support injured children during their recovery. For more information on the CHOP approach to care, click [here](#).



CHOP's Online Child Passenger Safety Info Now in Spanish



[Car Seat Safety for Kids](#), The Children's Hospital of Philadelphia's website that offers the most up-to-date child passenger safety information and resources, has been updated with most content now available in Spanish. The popular "Car Seat Safety By Age" videos, designed to help parents keep their children safely restrained as they grow, have also been translated on the website and on [CHOP's Child Passenger Safety YouTube channel](#). Spanish content can be accessed by clicking the "en Español" button at the top of each page where the translation is available.

Also available in Spanish on the site are some of CHOP's updated free evidence-based educational resources for parents, educators, and CPS technicians. These resources can be accessed [here](#).

A dual-language DVD that includes all of CHOP's educational child passenger safety videos will also be available in September 2012. Please check www.chop.edu/carseat for updates on how to order yours.



Helping to Reduce Violent Injury



The [Philadelphia Collaborative Violence Prevention Center \(PCVPC\)](#), along with the Center for Nonviolence and Social Justice (CNSJ) at Drexel and the Firearm and Injury Center at the University of Pennsylvania (FICAP), now serves as the headquarters for the [National Network of Hospital-based Violence Intervention Programs \(NNHVIP\)](#), a national partnership of hospital-based violence intervention programs dedicated to engaging patients during the window of opportunity when they are recovering in the hospital after a violent injury.

The headquarters is leading efforts to train partner programs on “trauma-informed care.” A trauma-informed approach considers how someone’s past experiences affect how that person succeeds in his or her clinical treatment. Using this information, a multi-disciplinary medical care team, including physicians, nurses, and social workers, can provide not only a danger assessment, but also determine if there is a need for support after young patients leave the hospital to prevent future violence from occurring. The NNHVIP is working to develop evidence-based resources that can be implemented in emergency departments (EDs) and trauma units across the country.

As part of this initiative, PCVPC recently began conducting [The CHOP Violence Intervention Program \(VIP\)](#), a pilot study that promotes this trauma-informed approach to helping patients who have been admitted to CHOP’s ED or Trauma Unit after being intentionally injured. After a CHOP social worker assesses the immediate needs of an assault injured youth, a community-based case management approach helps prevent future violent injury after the patient leaves the hospital. This includes emotional support for [posttraumatic stress](#), as well as connections with after-school, mentoring, employment, parenting education programs, and legal or rehabilitation services if necessary.

The NNHVIP National Conference will be held on August 29-30 in Philadelphia. To learn more about the conference and to register, click [here](#).

For more information on the CHOP VIP, click [here](#).



Future Scientists At Work



Future scientists at work at the Center for Injury Research and Prevention at CHOP

Eight students from colleges across the country spent 10 weeks over the summer working side-by-side with the Center for Injury Research and Prevention (CIRP) at CHOP team. Now in its second year, the Center's unique [Research Experiences for Undergraduates \(REU\) program](#) sponsored by the National Science Foundation (NSF) offers a diverse group of student scholars hands-on research experience in the fields of Engineering, Behavioral Science, Education, Population Science, and Statistics. Each student is also paired with a CIRP mentor to work on specific projects and receives formal training in research ethics, conducting studies, and presenting research findings.

"The National Science Foundation spends over \$160 million annually to support numerous REU sites across the country. Last year, we received one of these REU site grants that covers stipends and assistance with housing and travel, removing any barriers to participation for our summer scholars. As a former beneficiary of an undergraduate research program, I know how important an experience like this was in shaping my research career," says Flaura K. Winston, MD, PhD, founder and scientific co-director of CIRP and director of the Injury Science REU site at the Center. "We at CIRP feel fortunate for the opportunity to mentor and work with these exceptional students. I hope that we will inspire them to pursue careers in injury science."

Over 320 applications were received for the Center's 2012 REU program. After a rigorous selection process, this year's class included recruits from the following schools: the University of South Florida; the University of Delaware; Cornell University; Wellesley College; Cheyney University; Tufts University; University of Maryland College Park; and the University of Pennsylvania. The CIRP REU site is coordinated by Carol Murray and co-directed by Dr. Winston and Meghan Marsac, PhD.

Danielle Grams, an REU student who will be beginning her senior year at the University of South Florida this fall pursuing a B.S. in Biology with a concentration in Cellular and Molecular Biology, worked under the direction of Jessica H. Mirman, PhD, lead behavioral scientist on the [Young Driver Research team](#) at CIRP, on a project that involved studying the barriers to proper car seat use. "Through this study, we are seeking to understand how to improve the installation of car seats," says Grams. "During my time at CIRP, I gained experience with a variety of components of the research project including survey design, recruitment, data management, and data collection. I have enjoyed the opportunity to work at such a highly collaborative and interdisciplinary center."

At CIRP Student Research Day, held on August 9th in Philadelphia, Grams won first place in the presentation competition, which includes a \$1,000 stipend to be used to present her work at a conference of her choice. She plans to become an academic physician and to work with underserved populations within and outside the U.S.

For more information on the CIRP REU program and other undergraduate and graduate student research opportunities at the Center, click [here](#).

Recent Center Presentations

Arbogast KB. Differences in Thoracic Injury Causation Patterns Between Seat Belt Restrained Children and Adults. Japanese Society of Automotive Engineers Biomechanics Workshop. Tokyo, Japan. May 2012.

Belwadi A, Sony J, Yang KH. Finite Element Modeling of the Interaction of Implantable Cardiac Rhythm Devices During Frontal Motor Vehicle Deceleration Injury. American Society of Biomechanics. Gainesville, FL. August 16, 2012.

Curry A. Driver Decals for Youth: The Good and the Bad. Lifesavers Annual Conference. Orlando, FL. June 15, 2012.

Seacrist T. Kinematic Comparison of the Pediatric ATDs and Pediatric Volunteers in Low-speed Frontal Crashes. Japanese Society of Automotive Engineers Biomechanics Workshop. Tokyo, Japan. May 2012.

Zonfrillo MR, Kallan MJ, Arbogast KB, Durbin DR. Effectiveness of Forward-facing Child Restraint Systems (Poster presentation). Pediatric Academic Societies (PAS) Annual Meeting. Washington, DC. April 28, 2012.

[View CIRP's extensive library of published papers here](#)