

Research in Action

A bimonthly e-newsletter from the Center for Injury Research and Prevention at The Children's Hospital of Philadelphia

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National Teen Driver Safety Week Expands Reach

Now in its fourth year, [National Teen Driver Safety Week \(NTDSW\)](#) has substantially increased its impact. A growing number of schools, communities, and thought leaders across the country utilized the Week to promote their teen driver safety priorities and programs, including the Centers for Disease Control and Prevention, the National Highway Traffic Safety Administration, the American Automobile Association (AAA), Oprah Winfrey, and State Farm Insurance Companies. Activities were sanctioned at the state level in 40 states, and the number of participating communities nearly tripled to over 600 since NTDSW began in 2007.

“National and community leaders recognize the value of NTDSW as an essential platform for their teen driver safety messages,” says Suzanne Hill, the Center’s director of outreach and advocacy. “We need to be talking with teens, their parents, and policymakers all year long, and NTDSW gives us an opportunity to extend that dialogue.”

Media coverage of NTDSW also expanded. Over the past four years since CHOP and State Farm worked with Congress to establish the Week, October media coverage related to teen driver safety tripled as compared to prior months. The year 2010 also featured more media coverage as compared to previous years, with high profile placements in *USA Today*, *Time*, *Family Circle*, *Consumer Reports*, and *Motor Trend*. Many articles focused on this year’s important message of not talking or texting while driving. At least 200 schools across the country organized NTDSW activities. Additionally, more than 61 schools in nine states reported via Facebook using [Ride Like A Friend. Drive Like You Care](#), a teen-to-teen school-based campaign to promote safe passenger behavior.

[Read USA Today article](#)
[Read Time article](#)
[Read Family Circle article](#)

Focus On: Meghan Marsac, PhD



Meghan Marsac, PhD relies on her pediatric psychology background to create tools and interventions to help injured children and their parents. As a Behavioral Researcher and Director of Training at the Center for Injury Research and Prevention (CIRP) at CHOP, Dr. Marsac focuses on understanding post-traumatic stress (PTS) after pediatric injury and developing the Center’s innovative multidisciplinary training program for undergraduate and graduate students.

Dr. Marsac, who became a Licensed Child Psychologist in November 2010, is involved in several CIRP projects focusing on PTS in children. She recently led the evaluation of [AfterTheInjury.org](#), an award-winning website developed by Center researchers to help families cope after a child’s injury. The site helps families to fully recover, physically and emotionally, after an injury.

“We completed several studies

Center Research Describes How Head/Spine Moves in Frontal Crashes

We are one step closer to more accurate child crash test dummies. Center bioengineers recently collaborated with Rowan University, Takata Corp., and University of Virginia researchers to measure how a child's head and spine move in a frontal crash-like impact. Since this could not be performed at real crash speeds for safety reasons, the team designed a crash sled to mimic the crash experienced by children and adults when they ride an amusement park's bumper car ride.

Published in the *Stapp Car Crash Journal*, "Comparison of Kinematic Responses of the Head and Spine for Children and Adults in Low-Speed Frontal Sled Tests" found that the children's head and spine moved further forward than the adults, after accounting for the differences in stature. They also reported that the youngest children experienced the most spine flexion, leading to increased head rotation.

Since the spine controls the trajectory or movement of the head during a crash, understanding the kinematics of the pediatric spine and ensuring that the spines of pediatric crash test dummies, also known as anthropomorphic test devices (ATDs), mimic real children are important areas of research. For their groundbreaking work, the authors received the John Paul Stapp Award for Best Paper at the 2009 Stapp Car Crash Conference, which was presented at the 2010 Conference in Scottsdale, Arizona on November 4. This award is given to the work from the conference that makes the most significant contributions to the field of impact biomechanics.

[Read the study abstract.](#)



Pictured left to right receiving the award are Matt Maltese of CHOP, Hiromasa Tanji of Takata Corp., Kazuo Higuchi of Takata Corp., Kristy Arbogast of CHOP, and Richard Kent of The University of Virginia.

to assess parents' perceptions of AfterTheInjury.org and what they learn from the site," she says. "We found out that it's a helpful resource for parents, enabling them to learn specific ways to help their children deal with traumatic reactions and injury recovery."

In addition to her work with AfterTheInjury.org, Dr. Marsac is part of an international collaboration between CHOP and the University of Queensland in Australia, working to develop a tool called "Coping Coach" to teach children skills that promote positive recovery from trauma. This tool is designed to complement AfterTheInjury.org by providing a resource for parents to use directly with their children.

As Director of Training, Dr. Marsac helps match students with mentors in the Center who can work with students to achieve their academic goals. "Most of our students come from Philadelphia-area universities, but we've also drawn students from other schools such as Boston University, Hamilton College, and Johns Hopkins University," she says. "Our students have a truly unique opportunity to participate in all aspects of the research process and to see projects through from beginning to end whenever possible. We encourage students to contribute their ideas and to lead specific parts of projects, preparing them for their next stage of training and future careers."

Dr. Marsac earned her BS in Neuroscience Psychology from Baldwin-Wallace College in Berea, OH and her PhD in Psychology from the University of Toledo. In addition to her positions at CIRP, she also currently serves as an Adjunct Assistant Professor of Psychology at Drexel University. She joined the CIRP team in June 2008 as a postdoctoral fellow in Pediatric Psychology and says the Center is the right fit for her: "My favorite part of working in this Center is being able to collaborate with a multidisciplinary team of professionals who are so passionate about improving the lives of children."

Center Researchers Awarded Academic Honors

Two members of the CIRP team have been recognized for their academic achievements in

Promoting Community/Academic Partnerships in Research

Community Driven Research Day brought together over 125 academic researchers and community-based organizations and community groups to share ideas about reducing violence and improving the built environment in Philadelphia on October 28. Through an interactive poster session, 23 community-based organizations posed their research questions to program participants, including area nonprofits, public sector partners, and researchers from The Children's Hospital of Philadelphia (CHOP), The University of Pennsylvania, Temple University and Drexel University. Posters highlighted questions such as: Is there a direct connection between high school dropout rates and the presence of domestic violence?; What are the barriers Women Infant Children (WIC) families face in redeeming their food vouchers?; and What are the roles that a community garden space could play in helping older adult refugees/immigrants feel more connected to their communities?

Sponsored by the Philadelphia Collaborative Violence Prevention Center at CHOP, the Center for Public Health Initiatives at Penn, Drexel University School of Public Health, the Provost Office at Temple University, and The University of Pennsylvania, this thoughtful exchange of knowledge created the right environment to foster community/academic collaboration on research projects.

To support partnerships that resulted from Community Driven Research Day, the planning committee recently announced a competitive pilot grant program to support interdisciplinary, community-based participatory research in public health, specifically violence prevention and the built environment. To learn more about the Philadelphia Collaborative Violence Prevention Center Community Driven Research Day, and the Call for Proposals, visit www.phillyviolenceprevention.org.

Recent Center Publications

Arbogast KB, Locey CM, Zonfrillo MR, Maltese MR. [Protection of Children Restrained in Child Safety Seats in Side Impact Crashes](#). *Journal of Trauma*. 69(4):913-23, October 2010.

Erkoboni D, Ozanne-Smith J, Rouxiang C, Winston FK. [Cultural Translation: Acceptability and Efficacy of a US-based Injury Prevention Intervention in China](#). *Injury Prevention*. 16(5):296-301

Lipkind HS, Curry AE, Huynh M, Thorpe LE, Matter T. [Birth Outcomes Among Offspring of Women Exposed to the September 11, 2001 Terrorist Attacks](#). *Obstetrics & Gynecology*. 116(4):917-25, October 2010.

Lopez-Valdes FJ, Lau A, Lamp J, Riley P, Lessley DJ, Damon A, Kindig M, Kent R, Balasubramanian S, Seacrist T, Maltese MR,

engineering. Kristy Arbogast, PhD, director of engineering at CIRP, has been promoted to Research Associate Professor of Pediatrics at The University of Pennsylvania Medical School. At CIRP, Dr. Arbogast leads several projects to help reduce motor vehicle injuries in children. Her current research focuses on the development of new safety designs and more accurate child crash test dummies, also known as pediatric anthropomorphic test devices (ATDs).

Flaura Koplin Winston, MD, PhD, founder and co-director of CIRP, has been elected to the 2011 Class of the American Institute for Medical and Biological Engineering's (AIMBE) College of Fellows. She joins 1,000 leading bioengineers in academia, industry, and government that have distinguished themselves through contributions in research, industrial practice and/or education. Fellows are nominated each year by their peers and represent the top 2 percent of the medical and biological engineering community.



Putting Research in Action to Inform Social Policies

The Society for Research in Child Development (SRCD) has released a report describing the latest examples of developmental science that have informed public policy. The list includes two publications based on data from Partners for Child Passenger Safety (PCPS), a collaboration between CHOP, The University of Pennsylvania, and State Farm Insurance Companies that resulted in a dramatic improvement in motor vehicle-related child safety. Other research cited in the report has led to improvements in juvenile justice, child labor, and early childhood education.

Arbogast KB, Higuchi K, Tanji H. [Analysis of Spinal Motion and Loads During Frontal Impacts: Comparison Between PMHS and ATD](#). *Annals of Advances in Automotive Medicine*. 54:61-78, 2010.

Maltese MR, Arbogast KB, Nadkarni V, Berg R, Balasubramanian S, Seacrist T, Kent RW, Parent DP, Craig M, Ridella SA. [Incorporation of CPR Data into ATD Chest Impact Response Requirements](#). *Annals of Advances in Automotive Medicine*. 54:79-88, 2010.

Nance ML, Kallan MJ, Arbogast KB, Park MS, Durbin DR, and Winston FK. [Factors Associated With Clinically Significant Head Injury in Children Involved in Motor Vehicle Crashes](#). *Journal of Crash Prevention and Injury Control*. Volume 11, Issue 6, 2010.

Seacrist T, Balasubramanian S, García-España JF, Maltese MR, Arbogast KB, Lopez-Valdes FJ, Kent RW, Tanji H, Higuchi K. [Kinematic Comparison of Pediatric Human Volunteers and the Hybrid III 6-Year-Old Anthropomorphic Test Device](#). *Annals of Advances in Automotive Medicine*. 97-108, 2010.

Recent Center Presentations

Arbogast KB, Seacrist T, Balasubramanian S, García-España JF, Maltese MR, Kent RW, Lopez-Valdes F, Tanji H, Higuchi K. [Kinematic and Kinetic Response of the Hybrid III 6-Year-Old ATD Compared to Size-matched Pediatric Volunteers in Low-speed Frontal Sled Tests](#). 8th Annual Protection of Children in Cars Conference. Munich, Germany. December 3, 2010.

Bach, LJ. [Improving Teen Seatbelt Use Through Health Communication: Effects of a Research-driven In-school Peer-led Initiative](#). 138th American Public Health Association Meeting. Denver, CO. November 8, 2010.

Cole, V. [Enhancing Education to Keep Teens Safe on the Road](#). Driving School Association of the America's Annual Conference. Austin, TX. November 5, 2010.

Cole, V. [Exploring Experience](#). Students Against Destructive Decisions (SADD), Pennsylvania Chapter East Meeting. Lancaster, PA. November 2, 2010.

Donlon K, Marsac ML, Winston FK, Kassam-Adams N. [Relationships Among Child Coping, Coping Assistance, and Child Traumatic Stress Symptoms Following MVA-related Pediatric Injury](#). International Society for Traumatic Stress Studies Annual Meeting (poster presentation). Montréal, Québec, Canada. November 2010.

Durbin D, Hill S. [Understanding Teen Perspectives: First Steps to Increasing Safe Driving Behaviors](#). Annual Safety Forum.

Noting the impact of PCPS on social policy the report states, "Since 2001, two federal laws and 42 state laws have been enacted that utilized data from Partners for Child Passenger Safety to improve federal motor vehicle safety regulations and state child occupant restraint laws."

SRCD is a not-for-profit, professional association with a membership of approximately 5,500 researchers, practitioners, and human development professionals from over 50 countries. SRCD promotes multidisciplinary research in the field of human development to foster the exchange of information and to encourage applications of research findings.

[Read the SRCD Report](#)

Follow Key Child Injury Prevention Research on Twitter



Stay up-to-date on important child and teenager injury prevention research and news via Twitter with regular postings from our very own "[safetymd](#)",

[Flaura Winston, MD, PhD](#),

co-scientific director at the Center for Injury Research and Prevention at CHOP and a professor at The University of Pennsylvania Medical School. Think of this as your interactive "Headline News" for injury prevention, compiled, reviewed and summarized by one of the leading experts in the field.

As a vital part of their work, Dr. Winston and her colleagues at CIRP scan the literature and the Web for credible, scientific and other noteworthy contributions. Realizing that much of this information is not widely known, Dr. Winston posts summaries, with links to the original abstract or article when available, several times per week to Twitter. "I hope these posts will stimulate thought and discussion and that the scientific foundation for injury prevention will reach those who can affect change," says Dr. Winston. "I also look forward to learning from those who read my posts and share their knowledge and experience with me."

[Click here to follow safetymd](#). Join the injury

Piscataway, NJ. October 20, 2010.

Durbin, D. National Estimates of Formal Driver Education Participation Among Adolescent Drivers. 138th American Public Health Association Meeting. Denver, CO. November 9, 2010.

Holm, K. Enhancing Education to Keep Teens Safe on the Road Texas Association for Health, Physical Education, Recreation and Dance Annual Meeting. Galveston, TX. December 2, 2010.

Kassam-Adams N, Kenardy J, Delahunty D, Palmieri P, Le Brocque R, Nixon R, Meiser-Stedman R, Kohser K, Rork K, Marsac ML. The Child PTSD Prediction Project: An International Collaboration to Create Predictive Tools for Child PTSD Risk After Acute Trauma. International Society for Traumatic Stress Studies Annual Meeting (poster presentation). Montréal, Québec, Canada. November 4, 2010.

Kassam-Adams N. What Does the Evidence Tell Us So Far About Screening and Secondary Prevention of PTS in Children Exposed to Acute Trauma? International Society for Traumatic Stress Studies Annual Meeting. Montréal, Québec, Canada. November 4, 2010.

Kassam-Adams N, Gold JI, Kohser K, Montañó Z, Muñoz C, Cuadra A, Armstrong FD. Understanding Acute Stress in Children: Validation of the ASC-Kids in English and Spanish. International Society for Traumatic Stress Studies Annual Meeting (poster presentation). Montréal, Québec, Canada. November 4, 2010.

Maltese MR, Locey CM, Toh A, Arbogast KB, García-España JF, Tozzi J, Tylko S. Fidelity Evaluation of the Child Restraint System Sled Test. 8th Annual Protection of Children in Cars Conference. Munich, Germany. December 3, 2010.

Marsac ML, Hafetz J, Kohser K, Kassam-Adams N. Understanding Child Coping and Parent Coping Assistance Following a Potentially Traumatic Injury. International Society for Traumatic Stress Studies Annual Meeting. Montréal, Québec, Canada. November 6, 2010.

Marsac ML, Kassam-Adams N, Kohser K, Donlon K, Winston FK. The Impact a Web-Based PTSS Prevention Tool for Parents of Injured Children on Parental Knowledge and Child PTSS. International Society for Traumatic Stress Studies Annual Meeting (poster presentation). Montréal, Québec, Canada. November 6, 2010.

prevention conversation and stay connected to stakeholders around the world who care about protecting children and teenagers. If you don't have a Twitter account, [set one up now](#).

Support Our Center

The dedicated doctors, researchers, and outreach professionals at the Center for Injury Research and Prevention at CHOP are fighting to save the lives of children of all ages. But we need your help. To make a secure, on-line donation, please visit [The Children's Hospital of Philadelphia Foundation Donation Page](#) and select "Center for Injury Research and Prevention" in the drop-down menu. You also may telephone the CHOP Foundation at 267-426-6500. For more information on our research and programs, please visit www.chop.edu/injury.

The Center's Websites

The Center for Injury Research and Prevention (www.chop.edu/injury)

Keeping Kids Safe in Crashes-English language – English language (www.chop.edu/carseat)

Cómo Mantener a los Niños Fuera de Peligro Durante los Choques – Spanish language (www.chop.edu/asientos_infantiles)

Philadelphia Collaborative Violence Prevention Center (PCVPC) (www.phillyviolenceprevention.org)

After The Injury: Helping Parents Help Their Kids Recover (www.AfterTheInjury.org)

Ride Like A Friend (www.ridelikeafriend.org)

teendriversource.org (www.teendriversource.org)