SBS News

Dedicated to improving child passenger safety since 1980

Volume 39, #1 A publication of *SafetyBeltSafe* U.S.A. January, 2018

What is Cchips and What is its Mission?

Schuyler St. Lawrence of Toyota Motor North America and past Cchips IAB Chair, brought an overview of the Center for Child Injury Prevention Studies (Cchips), founded in 2005, to Kidz in Motion last September, revealing both the range of companies supporting the effort and the breadth of subjects the teams have covered. Funding from the National Science Foundation for Industry/University research is key.

Children's Hospital of Philadelphia (CHOP) and Ohio State University (OSU) have research programs that focus on this area with support from Britax, Evenflo, Graco, Mifold, GM, Toyota, Honda, Fiat Chrysler, Takata, and Lear. Involved as well are Consumer Reports, State Farm, National Highway Traffic Safety Administration (NHTSA), FAA, Transportation Research Center, Humanics, Calspan, MHC, and SAFE KIDS Worldwide.

From those diverse perspectives, a wide range of investigations on sources of and prevention of injury of those through age 24 can ensue. The research runs the gamut from biomechanics to surveys of human behavior, considering design features, human responses to interventions, and educational campaigns to engage use of best practice.

Current research projects include a study of safety seat usage, based on an online survey with more than 1,000 participants from every U.S. state and overseas. The respondents may have been more child passenger safety (cps)-savvy than the general population, but their concerns gave ideas for future research needs. For instance, 47% reporting attended a safety seat checkup. About half the kids were using seats rear facing, 35%, forward-facing seats with harnesses, and only 14%, boosters or belts only. Installation reports showed 36% lower connectors only, 22% belts only, 15% and 12% using top tether anchoring with lower connectors or belts respectively. Commonly identified as an error, use of belt *and* lower connectors with or without the top tether, or all three, was reported by only 4% total. When asked if installation was hard, more than 60% had "no difficulty." A concern for SBS USA, since 1982, is non-use of safety seats on aircraft, encouraged by the FAA allowing lap travel to age 2, citing risks of car travel vs. flying as the reason. Yet data from 3 time periods when all planes were grounded showed no increase in child deaths in cars. This survey showed only 25.4% using child restraints aboard.

Another study, conducted by A. Belwadi of CHOP using the Calspan FMVSS 213 bench, looked at the effects of using lower anchors at three width intervals with both rear-facing and tethered forward-facing safety seats. The outcomes for the seats met FMVSS 213 requirements in all tests; 19" was somewhat better for side impacts but allowed more rebound for rear-facing seats than at other intervals.

Dr. Yun Kang of OSU and Lear team members devised test benches with variations in depth and stiffness on which three types of safety seats were tested. The main takeaway for practitioners is that 20% overhang or less of the seat base in relation to the vehicle seat seems an appropriate rule. However, it is critical to refer to instructions for individual safety seats as some state no overhang is permitted.

Kristy Arbogast and Hans Hauschild looked at the effect on safety seat displacement and child dummy head contact in frontal oblique crash tests for forward-facing safety seats with and without tethering. The critical takeaway is the importance of tether use in reducing seat movement and head strikes. All systems met federal regulatory standards of performance.

These studies help industry as well as practitioners make judgments when options are available for design improvements or product choices. Many areas of investigation lie ahead.

News Flash:

VoyageLA asked Stephanie Tombrello to share a brief history, including challenges, services, and goals met, for *SafetyBeltSafe* U.S.A. along with a few photos.

For the New Year, the story, with photos of events and classic buckle-up images, was released at http://voyagela.com/interview/meet-stephanie-tombrello-safetybeltsafe-u-s-office-south-bay/ and a link posted at www.carseat.org.

Please share to increase use of our resources—and support for them!

SafetyBeltSafe U.S.A.
Office:
514 N. Prospect Ave., L-6,
Redondo Beach, CA 90277
(310) 318-5111 (also FAX)
(800)745-SAFE
(800)747-SANO
URL: www.carseat.org
Mail:
Box 553
Altadena, CA 91003

Thank You:

$25,000 Toyota Motor No. America

$5,000 Emily Alexander
Volkswagon Group of America

$1,250 Karen Proctor, PCNP

$1,000 William Tully, MD**,**
in memory of Susan Tully, MD

$500
Mary Louise Blackstone, Esq.

$335
Safe Ride News Publications

$250 Ari Krantz, Esq.
Vanessa Merton, Esq.

Calendar:

Educator Workshop and Safety Seat Checkup: FREE!
Venice Family Clinic-Simms/Mann Health and Wellness Center
Santa Monica, CA. Register and details: 310/318-5111.
***3/2: Educator Workshop**,
8:15 am- 5 pm. 4 CEUs for CPSTs; nursing CE's available.
***3/3: Safety Seat Checkup**.
10 am-2 pm for families;
9 am-3 pm for checkers.
Sponsors: American Honda Motor Co., California OTS, and Pomona Police Department with supporter Venice Family Clinic.

CONFERENCES
***3/19-21:** CPS Conference, NHTSA Region 2, Long Branch, NJ. Register at www.cjfhc.org. SBS USA will exhibit, and Stephanie Tombrello will speak.

***4/22-24:** Lifesavers Conference, San Antonio, TX.
To register or get information: https://lifesaversconference.org

Get Ready -
to Order Instructions & Summaries

The 2018 collection of Child Restraint Manufacturers' Instructions with Summaries is nearly ready.

Members at the $135 level or above will receive access to the online version *or* a copy of the DVD, both including al1 400 + instructions for the past 10 years with summaries for each one.

If that's not you, there are still options. You can join now or place a separate order--$25 (online) or $20 (DVD).

For larger orders, e-mail stombrello@carseat.org for details.

Diono Makes Changes

On September 6, 2017, Diono changed several general rules for their seats and, for two models, reduced the top certified weights for their use as forward-facing seats with harnesses.

The seats involved were the Radian RXT 120, Radian R100, and Rainier. For all three, the expiration dates are ten years from date of *purchase,* not manufacture, and the child's shoulders are *not* permitted above the top harness level forward facing.

The RXT 120 and Rainier will now cover kids harnessed forward facing from 20 to 65 lbs., instead of to 80 lbs. or 90 lbs. respectively. The Radian R100 will cover kids in booster mode to 110 lbs., instead of 100 lbs.

You can help *SafetyBeltSafe U.S.A.* save children's lives with your membership or donation.

GROUP SUBSCRIPTION: $500 Major Corp. $200 Hospital $100 Small Bus./Prof Grp $50 Community Org.

INDIVIDUAL MEMBERSHIP: $100 Contributing $50 Supporting $35 Basic

SPECIAL GIFT: $5,000 Benefactor $2,500 Patron $1,000 Sustaining Other $_____

Name_____ Org/Occup _____

Address_____ City/State_____ Zip_____

E-mail*_____ Phone: Cell ( )_____ Work ( ) _____

I can help with_____

* E-mail address is required to receive passwords for access to Recall List and CPS Tech Update.

All memberships/subscriptions include *SafetyBeltSafe News*, which qualifies for 1 Continuing Education Unit per year for re-certifying Technicians and Instructors with subscriber code. $200 or more includes *Safe Ride News.*

__ Check here if you are a Certified Technician or Instructor and want information about CEUs for subscribers.

Check below if you want to receive the following special subscriptions:

$50 minimum: ___ Recall Update Service by e-mail ___ Recall Update Service by regular mail (if necessary)

$100 minimum: ___ CPS Tech Update (online access to new instructions since December, 2016)

For $100 members: Add $35 and receive Safe Ride News thru 2018 & DVD or online access to 10 years of instructions!

Payment: Check/Money Order (enclosed) _____

Credit Card (Visa / MC / Discover / Amex) #_____ Security Code (on front or back) _____

Name on Card _____ Signature _____ Exp_____/_____

SafetyBeltSafe U.S.A. *is a 501(c)(3) corporation*

Please mail this form to: *SafetyBeltSafe* U.S.A., Box 553, Altadena, CA 91003 *Federal Tax ID #95-3676040*

Rear Facing until Age 2: An Update

In recent months, news of an "Expression of concern" appeared in the journal, *Injury Prevention*, concerning the 2007 paper by Henary et al. which recommended strongly keeping children rear facing until at least age 2. The research compared data in the National Automotive Sampling System - Crashworthiness Data System database on injury rates for children 11 months or less with those 12-23 months, indicating that it was five times safer for children to ride facing the rear.

Recent evidence was reported that the conclusions could not be replicated; this led Dorel to rescind its labeling that children in their seats must remain facing rear to age 2. The current paper, "Rear-facing vs. forward-facing restraints: an updated assessment," researched by a team led by Timothy McMurry, including co-authors of the original research Christopher Sherwood, Kristy Arbogast, Federico Vaca, Marilyn Bull, Jeff Crandall, and Richard Kent, was submitted for peer review. In the 11/17 *Injury Prevention*, the new paper covered its findings, based both on the original data set (1988-2003) and an expanded review, 1988-2015.

In short, the team found that, although forward-facing 1 year olds had more injuries than rear-facing children, both under and over age 1, the small size of the pool did not yield statistically significant results. As has been stated before, child safety seats are highly effective in reducing injury. Moreover, vehicles steadily have been improved in protective features. In addition, biomechanical data from crash testing and the findings in Sweden, a country which has kept children rear facing for 4-5 years, beginning in the 1970's with the Klippan seat, offer key input for continuing to recommend rear facing for as long as the child fits well (by weight and by having at least an inch of plastic shell above the child's head).

Biomechanical research shows the vulnerability of young children being thrust forward at crash speeds with the weight of their proportionately heavier heads impinging on less sturdy spines vs. having the support of the rear-facing safety seat shell to cradle their bodies during the initial impact. Moreover, Swedish data have reflected quite low levels of deaths and injuries of children who are riding rear facing in safety seats.

Both American Academy of Pediatrics and NHTSA will continue to stick by the recommendation.

SafetyBeltSafe U.S.A.
P.O. Box 553
Altadena, California 91003

Return Service Requested

Non-Profit Org.
U.S. Postage Paid
Van Nuys, CA
Permit No. 20

The year is new, but the battle rages on! Renew your membership today to help protect children on the road.

More on Rear-Facing Research

Presented at Kidz in Motion, 2017, by lead Julie Bing, MS, the study was designed to answer a common parent question: the risk for rear-facing kids in rear-end crashes. Bing, MS, Y S Kang, PhD, and John Bolte IV, PhD focused on infant tolerances, biomechanical fidelity in reproducing real-world results, and the protective technology to isolate effects on outcomes by using crash testing.

Authors reviewed a Swedish Volvo database of 3,670 children, 454 of whom experienced rear-end crashes. The outcome showed that children did well in both rear-end and side impacts. A German study showed similar results; in the 2007 Henary study, so few rear-end collisions were part of the database that findings would not have been strong enough to use.

The Bing et al. study used a single vehicle seat, Honda 2016, and four different safety seats, two rear-facing-only and two convertibles. The team also tested seats with the handle in different locations, either lower connectors or safety belt, and with or without the base, and with or without Swedish-style tethering. Safety seat samples and the vehicle seat were replaced for each test. Nationally, the recorded crash environment is 53.5% frontal, 20.1% side impact, .5% rollover, and 25.4% rear-end. Of the last, only 1.3% occur at more than 26 mph. Thus, the team chose 18.4 mph, similar to EU testing, as the crash-test speed. The 12-month CRABI and 3-year-old Hybrid III dummies were the subjects.

Although the CRABI dummy showed less effect than the 3-year old, both were below injury levels. Stowed handle was best of all good performances; non-tethered convertible tests were better *but* all were below injury level. Even when the dummy's head contacted the vehicle seat, the measurements were very low. The major focus for limiting that is the effect on the neck. Real-world neck injury is unusual. Even in Sweden, where tethering is the typical mode, such injuries rarely manifested. Researchers called attention to the importance of tight installation, the slowing effect of the safety seat base, and the potential risk of the so-far-unexplored effect of varied types of vehicle head restraints present in the many models on the road.

For practitioners, Bing suggests telling parents that the performance of a seat and effect on the child in a rear-end crash are different from those in a frontal crash. Because the seat and child rotate together in rear-end crashes for rear-facing children, the torso and head move together whereas in the frontal crash for forward-facing children, the torso is restrained, but the head continues to move forward, putting more force on the neck.

New Seat

Chicco has a new combination seat, MyFit. The harness mode covers at least 2-year-old kids 25 to 65 lbs. Booster mode, for kids at least 4, weighing 40 to 100 lbs., has a non-removable back. The seat features a no-rethread harness, a 4-position recline, and 9-position headrest with a lock-off for harness mode.

Discontinue lower anchor use at 40 lbs.