SBS News

Dedicated to improving child passenger safety since 1980

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Water Crash Survival

Crash deaths involving fire or water are a small percentage of the approximately 30,000 annual losses, but they catch the imagination, leading to many portrayals in dramas. Sadly, last summer, California news reports described two similar water-related crash events in which adult women survived, but their children did not. With a safety-seated child of her own, these tragedies led Julie Watts of NewsMom.com to investigate how to prepare if a vehicle containing kids starts submerging.

Data show that 1% or 400 U.S. car crash deaths annually involve water—but submerged vehicles account for 5%-11% of annual drownings. Meanwhile about half the adults surveyed on their approach to this would respond in ways that would hasten their deaths, assuming that being buckled up right would allow them to avoid major/fatal crash injury initially. Dutch data demonstrate this key fact: staying conscious, able to work to one's own benefit, is critical.

The three stages of such crashes are:

***Floating*:** 15-to-63 *seconds* before water reaches the windows. Electric windows will cease working; do not try to open the door.

***Sinking*:** doors can't be opened.

***Submersion*:** opening doors/windows or breaking glass: glass comes into the compartment with water.

Recommended as a public information campaign are four terms: safety belts; windows; children; OUT. Calling 911 takes too much time so carry a window-breaking tool, preferably attached to the car key. Learn how to release the child's harness without climbing in back; and go through the side windows, pushing the child in front of the adult.

Ideally, this scenario would be part of vehicle design decisions as anti-theft devices, laminated windows, and electronic elements can make escape more difficult. Roll-down windows are nearly gone, e.g. Meanwhile, in road design near water, protective engineering might make a large impact on protection.

Michigan Conference

Children's Hospital of Philadelphia (CHOP) organized a day of technically focused presentations on various aspects of child passenger safety (cps) for the Center for Child Injury Prevention Studies in November, 2016. Research reported ranged from technical assessments to improved testing components, such as biofidelity of test dummies, to comparison of rear-end collision rates for teens and adults. Two papers cover some of the issues raised in the tethering and booster use issues.

Kristi Arbogast of CHOP described the findings of an Australian study, also published in *Traffic Injury Prevention 2016,* in which 18 families were captured on various cameras during two weeks of car trips. The focus was discovering where were children's head positions during travel to assess how close that is to the way dummies are set during crash testing.

Children on the sides tended to lean into the center to talk to front seat riders, look out the front window, and watch roof-mounted DVD programs; center-located children moved less.

For Technicians and families, the take-home lesson is to strongly consider Step 5 (behavior) of the 5-Step Test before moving to booster mode and to give "booster training" about appropriate ways to ride.

(Continued on pg. 4)

What's Hot This Winter?

The updated Shelness Productions video, in English and Spanish, *Don't Risk Your Child's Life IX*. Special price for 2017 SBS USA members through our office: $40 each.

The 2017 Child Restraint Manufacturers' Instructions with Summaries: $20 each DVD; $25 each online annual subscription or join at the $135 level and above and choose. Orders of 100 or more receive a reduced rate.

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
EXECUTIVE DIRECTOR:
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Calendar:

Training/Safety Seat Checkups/ Webinars
Sponsors: CA Office of Traffic Safety/Pomona Police Dept.
Registration: 310/318-5111 (FAX)/i0680@hotmail.com

Jackie Robinson Community Center, Pasadena, CA
Supporter: Pasadena Police Dept.
3/1: Educator Workshop, 8 am-5 pm. 6 CEUs for nurses; 4 CEUs for Technicians/ Instructors
3/2: Safety Seat Checkup, 9 am-3 pm for checkers; 10 am-2 pm for families.

USC Verdugo Hills Hospital, Glendale, CA
4/4-6 & 8: National CPS Technician Certification Training, 8 am-5 pm daily.
4/8: Safety Seat Checkup Day, 9 am-3 pm checkers; 10 am-2 pm, families.

Technical Webinars for CA Technicians:
2/2, 4/13, 6/1,7/6: 10 am-11:30 am. 1 Continuing Education Unit.

National Lifesavers Conference, Charlotte, NC
3/26-28: Visit our exhibit; attend panel Recruiting and Retaining Nationally Certified Technicians, including Heidi Heflin, RN, MN, CPSTI, (3/26).
www.lifesaversconference.org

CA Assn. of Nurse Practitioners, **3/16-19/17:** Annual Educational Conference, San Francisco, CA
Lead: Heidi Heflin, RN, MN, CPSTI (3/18): Riding At Risk CPS Workshop

Thanks to 2017 Members!

$5000 Beach Cities Health District
$1000 Emily Alexander
$500 Mary Louise Blackstone, Esq.
$250 Samantha Merton/ Brett Humphreys
Vanessa H. Merton, Esq.
Karen Proctor

Plan Now

Special Enforcement Week: March 26-April 1: Sign up *your* local law enforcement agency to give special scrutiny to child passengers for a fatality-free
Safety Seat Checkup Week: April 2-8. Ask your city and county to proclaim Safety Seat Checkup Week!

Recalls:

Center adjuster rivet in both **Baby Trend Hybrid LX 3-in-1 Centennial**, (model FB58181, made 7/23/16) and **Kiwi** (model FB48417, made 7/14/16) may pull through or break in a crash if a child over 40 lbs. rides in harness mode, risking possible injury.

Call 800/328-7363 for replacement or full refund.

The **4moms Self Installing Rear-facing Infant Car Seat** itself, (model# 1032, made 7/1-10/31/16), may not attach properly to the base due to a tight rivet affecting the connection of a coupling hook to the coupling pin, making detachment in a crash a child injury risk.

Call 888/614-6667 for a new infant carrier. The base is NOT affected.

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

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New Seats:

- The **Britax** Advocate ClickTight now comes with the anti-rebound bar.
- **Dorel** has introduced the Maxi-Cosi Vello 70, which covers 9-40 lbs. rear facing and 22-70 lbs. and at least two years old, forward facing. The seat features a no-rethread harness, a 10-year expiration, and three each recline positions and crotch strap slots.
  For untethered seats holding a 65-lb. child, it has a set of larger harness pads. Discontinue lower anchor use at 40 lbs.
- **Goodbaby** has introduced the Evenflo Spectrum, a booster for kids 40-110 lbs. featuring a 9-level adjustable headrest and removable backrest.
- The **Graco** SnugRide SnugLock 35, a rear-facing-only seat for kids 4-35 lbs., is named for the new style lock-off. Other features are two sets of harness loops, four sets of slots, four recline positions with dual angle indicators, and a seven-year expiration.
- **Orbit Baby** has sold its intellectual property and tooling to Safian Company, Ltd. of South Korea, long a distributor of Orbit items. Orbit offers support and parts for Orbit safety seats but no longer produces them.

Update: Mifold Grab-and-Go

An interesting story in *Status Report*, IIHS**, 11/17/16, defines the Mifold, a tiny product that meets FMVSS 213, as a belt-positioning device, so did not include it in the newest round of booster ratings.

The average highback booster raises the user 5 inches; backless, 3.5 inches, which adjusts the lap belt angle. To allow children to bend their knees, the booster base "shortens" the seat cushion depth. The Mifold raises kids only .75 inches and doesn't shorten the seat cushion depth. Without real-world crash data, IIHS can't report if it works and thus, won't rate it.

Current IIHS data on booster fit cover 118 BEST BETs, including 53 new models; nine GOOD BETs; 27 Check Fit (three new); and five Not Recommmended, including the new Dorel Cosco brand Easy Elite and Highback 2-in-1 DX. View the list at www.iihs.org/boosters.

** *Insurance Institute for Highway Safety*

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

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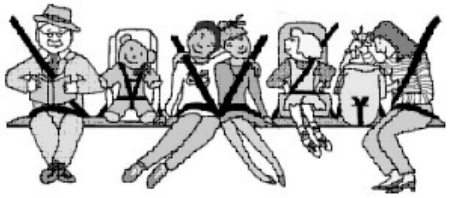

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Non-tethered Safety Seat vs. Booster Seat: Comment on Choice

Our September issue covered a Kidz in Motion workshop presented by S Haverstick and E Dahle of Goodbaby (Evenflo) comparing dummy head excursion distances captured in National Highway Traffic Safety Administration (NHTSA) frontal-crash testing of untethered forward-facing seats with harnesses compared with figures for boosters.

These data indicated one might recommend the latter *if* there were no immediate way to tether the former. Gary Whitman of ARCCA offered additional data which might question that finding. In summary, Gary pointed out that positioning of dummies in booster testing was ideal, unlike the way many youngsters actually ride in boosters, including the snugness of belts vs. internal harness systems, and that frontal crashes are only one risk, while side impacts and rollovers might be more safely absorbed in a seat with a full harness, even if not tethered.

Whitman states shoulder belt guides on boosters are not strong enough to ensure correct positioning in a crash, although if used right on most current seats, they help keep the shoulder belt in the right spot on impact.

Whitman noted two research papers by K. Arbogast et al during a period in which many vehicles, even new ones, did not supply tether anchors, thus, despite no definite accounting for tether use/non-use, it would be most likely that the forward-facing seats were untethered.

Comparing injury data for 12-47 month olds, 1998-2002, in forward-facing seats with using belts only, the seats were 79% more effective in preventing serious injury or hospitalization.
A similar study comparing booster use vs. belts only for 4-8 year olds, 1998-2007, showed boosters 45% more effective than belts only. In addition, a 2010 reported study by Robert Sivinski for NHTSA showed increased injury for 3 and 4 year olds in boosters (up to 27% for non-disabling to fatal injury) compared with seats with harness systems, based on reviewing national data from 1998-2008 as well as 17 years of data from WA, NE, and KS.

Faced with deciding how to address a situation in which a child might depart a checkup in either an untethered seat with a harness or a booster, Technicians need to share the importance of retrofitting the tether anchor as well as the data for the two alternatives so *parents* can make the decision.

Michigan Conference *(continued from pg. 1)*

The tether issue was a major component of the research by H W Hauschild et al observing the performance of seat and dummy in oblique side impact tests. Given that side impacts are now a major source of child passenger risk, the need for head and neck protection showed up in 14 side-impact study cases. Center-seated children received injury from hitting the front seat or door; head, spine, and arm of far-side children were hurt. As in other research, head wings were ineffective in containing the head in such crashes and tests.

(More reports in 3/17)