An Injury Prevention Toolkit for Primary Care Pediatricians and their staff

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Disclosure

• I have no relevant financial relationships with the manufacturers(s) of any commercial products(s) and/or provider of commercial services discussed in this CME activity.

• I do not intend to discuss an unapproved or investigative use of a commercial product/device in my presentation.
Injury Prevention Toolkit

• Community-based Public Health Approach to Injury Prevention
• Injury Prevention in Top 5 Unintentional Childhood Injuries
• Advocacy at the Local and State Level
• Hands-on Practice/ Stations
  - Car Safety Seat Installation
  - Safe Sleep
  - Water Safety and Drowning Prevention
• Panel Discussion
• Resources
What will our tool kit provide?

• Obtain basic knowledge of common childhood injuries and their prevention

• Empower you to undertake Injury Prevention activities at the office, community or state level

• Provide resources and networking opportunities in Injury Prevention
Injury is the leading cause of death for children ages 1 – 19.
# 10 Leading Causes of Death by Age Group, United States – 2013

<table>
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<tr>
<th>Age Groups</th>
<th>Rank</th>
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## 10 Leading Causes of Injury Deaths by Age Group Highlighting Unintentional Injury Deaths, United States – 2013

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<th>Rank</th>
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*Not elsewhere classifiable*

Unintentional Pediatric Injury Fatalities
Texas 2013

• Age < 1 year
  - Suffocation: 71%; MVC: 15%

• Age 1-4 years
  - Drowning: 37%; MVC: 25%; Pedestrian: 9%; Suffocation: 7%

• Age 5-18 years
  - MVC: 64%; Drowning: 9%; Poisoning: 9%; Burns/Fire: 3.5%
Levels of Involvement

- **Patient level**
  - Anticipatory Guidance (Healthy Futures, TIPP)

- **Local Community**
  - Knowledge of Risk Factors and community education/media
  - Partner with Safety Organizations (Safe Kids, Hospitals, Red Cross, etc.)

- **City and County**
  - Partner with City and County Health Department, Child Fatality Review Team

- **State**
  - Advocacy, Legislative actions
Three Domains

(1) Development and age of child

(2) Environment where safety concern or injury occurs

(3) Circumstances surrounding the event

Effective delivery of safety, injury prevention, and health promotion messages in a culturally sensitive manner
Public Health Approach

1. Describe the problem

2. Identify risk and protective factors

3. Develop and test prevention interventions

4. Widespread adoption of effective interventions
   - Implement, Evaluate and Share
The Houston Experience
DESCRIBE THE PROBLEM
Childhood Submersion

- Leading cause of unintentional injury death in children aged 1–4 years
- Blacks have more limited swimming ability and more likely to drown than Whites
  - School-aged 5 times more likely
Childhood Submersions

• Drowning deaths decreasing since 1985
• 60% of nonfatal victims hospitalized
• Most nonfatal submersion victims do well
• Severe long-term neurologic deficits are seen
  - Extended submersion time
  - Prolonged resuscitation
  - Lack of early bystander-initiated CPR
Houston, We have a problem!

- 70% Swimming Pool submersion
- Risk of submersion
  - 2.7 for child at apartment property vs. single-family home
  - 28 in multifamily pool than single family pool
- Spatially clustered among apartment pools
- Age 1-4 years
- Supervision lapses

Figure 1: Single-family Child Submersion: 2003-07
Location of Submersion


Pediatrics
Figure 2: **Multi-family Child Submersions: 2003-07**  
Location of Hot Spots with 5 or More Submersions
Figure 3: Multi-family Pool Concentrations in Harris County: 2005

Location of Swimming Pools and Pool Concentrations in Multi-family Buildings
Figure 3: Multi-family Pool Concentrations in Harris County: 2005

Location of Swimming Pools and Pool Concentrations in Multi-family Buildings
Pediatric Submersions

- Median Age: 4 years
- Race/Ethnicity: Trimodal
- Location:
  - Single residential pools (48%); Multi-residential pools (35%)
- Brief (< 5 minutes in 77%)
- Parent was supervising (60%)
- Bystanders rescued 83% of cases
- Resuscitation: CPR or Rescue Breaths (76%)
Outcome of Submersion Victims

Factors associated with poor outcome in pediatric swimming pool submersion

- Weekday submersion
  \[ OR = 3.7; 95\% \text{ CI}: 1.1-12.8 \]

- Submersion times > 5min
  \[ OR = 52; 95\% \text{ CI}: 14.5-185 \]

- Bystander resuscitation not significantly associated with outcome

- EMS resuscitation 7 times more likely for poor outcome vs. Bystander resuscitation
  \[ OR = 7.0; 95\% \text{ CI}: 1.1 - 43.5 \]
IDENTIFY RISK FACTORS AND PROTECTIVE FACTORS
### Identify Risk and Protective factors

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Protective Factors</th>
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<tr>
<td>1. Age: 1-4 years</td>
<td>1. Bystander rescuers</td>
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<tr>
<td>2. Multi-unit residential</td>
<td>2. EMS response time</td>
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<tr>
<td>3. Supervision lapses</td>
<td>3. Medical Care</td>
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Identify Risk and Protective Factors

Other factors

1. Pool fencing
   - Check code violations with City

2. Supervision
   - Surveys and Focus Groups

3. Swimming ability
   - Survey of at risk populations
   - Focus Groups
<table>
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<tr>
<th></th>
<th>PERSONAL</th>
<th>EQUIPMENT</th>
<th>ENVIRONMENT</th>
<th>SOCIAL</th>
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<td><strong>PRE-EVENT</strong></td>
<td>-Pre-existing Health</td>
<td>-Door locks</td>
<td>-Climate</td>
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<td>-Swimming ability</td>
<td>-Gates</td>
<td>-Lifeguard</td>
<td>-Political support for lifeguards</td>
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<td>-Risk taking</td>
<td>-Fences</td>
<td>-Water watcher</td>
<td>-Neighborhood restrictions</td>
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<td>-Sobriety</td>
<td>-Drains</td>
<td>-Supervision</td>
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<td>-Water survival skills</td>
<td>-Personal flotation devices</td>
<td>-Water features</td>
<td>-EMS communication</td>
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<td>-Use of jet skies</td>
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<td><strong>POST-EVENT</strong></td>
<td>-General Health Status</td>
<td>-AED and rescue equipment</td>
<td>-Bystander and EMS response</td>
<td>-Medical Care</td>
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<td>-Dangerous locale</td>
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DEVELOP AND TEST PREVENTIVE INTERVENTIONS
Develop and Test Preventive Interventions

• Coalition Building
  - Hospitals (TCH, Memorial Hermann Children’s, others)
  - Greater Houston Safe Kids
  - Houston Fire Department and EMS
  - SE Texas Trauma Regional Advisory Council (SETRAC)
  - City of Houston
  - Harris County Child Fatality Review Team
Develop and Test Interventions

• April Pools Day
• TxDPA education initiative with local pediatricians
• Education
  - Focused education at “hot spots”
  - Swimming Pool Contractors and Apartment Managers
• Code Enforcement
  - Neighborhood Protection
  - City of Houston Water Safety Department
• Misc. Greater Houston Apartment Pool Survey
WIDESPREAD ADOPTION OF EFFECTIVE INTERVENTIONS
Drowning Prevention Interventions

• Community Coalition of agencies and organizations to promote water safety
• Neighborhood advisory group
  - Parents and caregivers, community officials
• Community-based education
  - Newspaper articles, newsletter, submersion web-site
  - Tip sheet, brochures and bilingual water safety flyers
  - Telephone hotline for information
  - Resource kits for health care providers and day care centers
  - Television public service announcements, News reports
• Classes
  - Swimming lessons, CPR classes, Pool safety for apt managers
Outcome Measures

• Correct parental knowledge of benefits of swimming pool supervision and safety

• Statistically significant reduction in submersion incidents in children

• Statistically significant reduction in morbidity and mortality from all accidental submersion incidents
Overall

• Community-based and participatory

• Presumption that changes promoting health are largely voluntary

• Needs the participation of
  - Those needing to change
  
  +
  
  - Others who might influence them or be influenced by them
April Pools Day
Texas Drowning Prevention Alliance

http://www.txdpa.com/pediatric_partners.html
City of Houston Code Enforcement

Chapter 43

SWIMMING POOLS*

Art. I.
In General, §§ 43.1—43.15

Art. II.
Pools for Swimming and Bathing, §§ 43.16—43.28

Art. III.
Reserved

The Houston Department of Health and Human Services (HDHHS) Bureau of Consumer Health Services’ role is to effectively utilize available resources to protect the community by administering the public health ordinances of the City of Houston and the State of Texas for the prevention of disability and death resulting from swimming-pool drowning through enforcement and education.

The Commercial Pools Section regulates public and semi-public pools and spas for compliance with City Ordinance Chapter 43 through annual inspections.

The Residential Pools Section regulates private swimming pools through violations reported by citizens usually pertaining to vacant or abandoned homes.
Summary

• **Multifaceted, systematic injury prevention** that changes community and home environments
  
  - Physically (safe areas and elimination of community and home hazards) **AND**
  
  - Socially (education and supervised activities with mentors)

• **Four step process** that

  1) Describes the injury burden
  2) Identifies risk and protective factors
  3) Develops and test prevention interventions
  4) Widespread adoption of effective interventions
ADVOCATING FOR INJURY PREVENTION: WHAT AND HOW
Presentation Overview

• What is legislative advocacy?

• Overview of the process and the politics

• How do you become an effective advocate?

• Lessons learned from the 84th Texas Legislative Session
What is legislative advocacy?

• **Advocate**: A person who argues for or supports a cause or policy

• **Legislative advocacy**: Engaging with a legislator or their staff to argue for/against (or actively support/oppose) a cause or policy

**Advocacy vs. lobbying**: Lobbying is any attempt to influence specific legislation
The Process: The State Legislature

Meets every 2 years for 140 days, main goal is to write/pass the State’s budget for the next biennium

85th Texas Legislative Session will begin January 10, 2017

**House**

150 Members, 40 Committees

Bill Introduced, referred to a Committee

Committee hearing, vote on bill

Bill sent to House/Senate Floor where it will get a vote

If passed, moves to the other Chamber for consideration

**Senate**

31 Members, 16 Committees

Once a bill is approved by both the House and Senate, it’s sent to the Governor for his signature and becomes law
The Politics

- The 84th Legislature - most conservative legislature in state history

- Governor’s top priorities: Transportation, Higher education, Early education, Immigration and border security, Ethics reform

- Legislature’s priorities: open-carry, tax cuts, reorganization of HHSC
How to become an effective advocate?

• Establish a social media presence

• Do your homework before meeting or interacting with legislators and staff

• Keep meetings short and messages succinct

• Follow-up via hand written note to legislators and email to staff

• Stay in touch via email and engaged via social media
Get Involved!!
Presenter

Kristen Beckworth, MPH, CHES, CPSTI
Manager, Center for Childhood Injury Prevention
Texas Children’s Hospital
Disclosure Statement

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Objectives

1. Acquire hands-on practical skills involving child passenger safety

2. Obtain practical information involving the prevention of common unintentional childhood injuries

3. Learn a community based public health approach to childhood injury prevention
Top 3 Causes of concern: Suffocation, Drowning, & Motor Vehicle Crashes

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1. Unintentional Suffocation (679)
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Center for Disease Control and Prevention

Texas Children's Hospital

Baylor College of Medicine
Child Injury Rates Have Declined Due to Injury Prevention & Advocacy Efforts

Source: Child Trends Data Bank
Child Passenger Safety Basics

• Many children are riding completely unrestrained and often ride in the front seat

• Children are not riding in rear-facing car seats as long as possible

• The use of booster seats only through age 8 is sometimes not enough and vehicle lap/shoulder belts are not adequate for many small children

• Four out of five safety seats are improperly installed
Common Injuries in MVCs

Many parts of the body are affected during a crash. The most serious are injuries to the head, neck, chest, abdomen and spine.

- Growth and development differences between a child and an adult result in different injury patterns.
- Undetected internal injuries
- Long-term effects—headaches, confusion, difficulty sleeping
- Spinal Cord Injury
- Seat Belt Syndrome
- Trauma Brain Injury
Stages of Car Seats

- **REAR FACING**
  - Infant car seat
  - Convertible car seat

- **FORWARD FACING**
  - Booster seat
  - Convertible car seat with adult seat belt

- **BOOSTER**
  - Booster seat

- **SEAT BELT**
  - Adult seat belt with proper harness
Child Safety Seats are Effective!

Reduce infant deaths by 71%.
Reduce toddler death by 54%
Reduces the need for hospitalization by 69%
Prescription for Car Seat Safety

- All passengers properly restrained
- Children should always ride in the back seat
- Rear-facing until at least age 2 or until the height and weight maximums of the car seat
- Children should stay in a car seat stage as long as possible
- Refer families to a local child passenger safety technician
Child Passenger Safety Resources

Partner with local Safe Kids Coalitions (9 in Texas)
[www.safekids.org](http://www.safekids.org)

A list of certified technicians can be found at
[http://cert.safekids.org/](http://cert.safekids.org/)

Safe Riders Programs- State program that offers child safety seat resources and opens up mini-grant opportunities to community partners
[https://www.dshs.state.tx.us/saferiders/](https://www.dshs.state.tx.us/saferiders/)

Texas Department of Transportation- Federal funding for child passenger safety
Safe Sleep Basics

- Many infants do not live to see their first birthday due to suffocation
- Parents allow their infants to sleep with them and siblings, rather than an appropriate crib system or bassinet
- Parents co-sleep for 2 reasons:
  1) Lack of a safe sleeping environment
  2) Bonding opportunities
- Suffocation hazards are put in the crib (blankets, stuffed animals, pillows, bumpers, etc.)
Safe Sleep Messaging

ABCs of safe sleep: Alone, On their Back, and In a Crib

• Firm sleep surface
• Encourage breastfeeding
• Give babies pacifiers when put to bed
• Avoid overheating
• Encourage room sharing over bed sharing
• No smoking
Safe Sleep Resources

Cribs for Kids Partners (6 in Texas)
Free educational materials & reduced cost Pack and Plays
http://www.cribsforkids.org

HALO
Free bi-lingual educational materials, safe sleep starter kit, and has a hospital based program
http://www.halosleep.com

National Institutes of Health
Public Education Campaign- free bi-lingual safe sleep educational materials
http://www.nichd.nih.gov/sts/Pages/default.aspx

Department of Child Protective Services
Room to Breathe Campaign- free safe sleep training for your staff
http://www.dfps.state.tx.us/Room_to_Breathe/default.aspx
Bike & Wheeled Sports Safety

Bike riding is a fun and healthy activity for children.

- Encourage safe cycling practices and size appropriate bicycles.
- Stress helmet use on EVERY ride.
- Ensure helmets are specific to the activity (skateboarding vs cycling).

Helmets reduce brain injury by 88%, yet only about 45% of children under 14 wear them. - Safe Kids Worldwide
Bike Safety Resources

Safe Kids Coalitions (9 in Texas)
Educational resources, helmets, or bicycle rodeos
www.safekids.org

Research Local Bicycle Coalitions (e.g. Bike Houston)

Texas Bicycle Coalition
Free educational materials, community events, and advocacy efforts
www.biketexas.org

Hard Hats for Little Heads
Reduced cost helmets, MATCH funding for TPS, educational members, & community contacts
http://www.texmed.org/Template.aspx?id=25988