Preventing Infant Abusive Head Injuries Through Hospital-Based Parent Education: The Pennsylvania SBS Prevention & Awareness Program

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Points to Discuss…

1. Medical Aspects of Infant Abusive Head Trauma
2. The Pennsylvania Shaken Baby Syndrome Prevention and Awareness Program and legislation
3. Phase I: Hospital-based parent education
4. Phase II: Outpatient “booster” education

What is Infant Abusive Head Trauma?

Infant Abusive Head Trauma is a violent form of child abuse that accounts for the majority (> 95%) of severe head injuries in children less than 1 year of age.
What is Infant Abusive Head Trauma?

The most common cause of mortality and long term disability due to child abuse.

What is Infant Abusive Head Trauma?

VIOLENT & CRIMINAL BEHAVIOR but NOT premeditated

Identified in the 1970’s by two independent physicians
Dr. Caffey & Dr. Guthkeltch

Nomenclature...

- Abusive Head Trauma (AHT)
- Shaken Baby Syndrome (SBS)
- Shaken Impact Syndrome
- Infant Shaken Impact Syndrome
- Whiplash Shake-Injury Syndrome
- Non-Accidental Trauma (NAT)
- Battered Child Syndrome
- Abusive, Intentional, Inflicted Head Injury
Incidence of Infant Abusive Head Trauma...

On any given day in the United States, four children under the age of five will die or be permanently disabled when they are shaken by a caregiver!

1,440 babies are injured &
300 children die in the USA every year from abusive head injuries.

Profile of a Victim...

The average victim is:
3-6 months old
More boys than girls

What is the Cause?

• Baby keeps crying & crying
• Caregiver is exhausted or stressed
• Caregiver gets frustrated or angry
• Caregiver loses control
What are the Risk Factors?

- Exhaustion
- Stress
- Baby who won't stop crying
- Baby with special needs
- Twins/triplets
- Babies who have been in NICU
- People with anger problems
- People with history of abusing adults
- Substance abuse (drug or alcohol): increases risk of infant abuse by 50%

What Doesn't Cause SBS?

AHT is NOT the result of:

- Bouncing a baby on your knee
- Rocking a baby
- Jostling in a car seat
- Accidental household falls or trauma
- Gentle or playful tossing in the air
How Much Shaking Does It Take to Injure a Baby?

It takes SECONDS of VIOLENT shaking to sustain the severe injuries seen in Infant Abusive Head Trauma.

No amount of shaking is ever OK!!!
Unique Injuries of Infant AHT...

“Classic Triad”
- Swelling of the brain (brain edema)
- Bleeding in the brain (subdural hematoma)
- Bleeding in the eyes (retinal hemorrhages)

“Shaken Baby Syndrome PLUS”
- Broken ribs (rib fractures)
- Cracked skull (skull fractures)
- Other broken bones (long bone fractures)

What Diagnostic Tools are Used?
- Exam and interview
- CT scans
- Skull radiographs
- Ophthalmology exam including pupil dilation
- Photos and written descriptions
- Skeletal survey radiographs
- Examination of the home and re-creation of the injury events by the adult involved

AHT – Early and Late CT Scans
Retinal Hemorrhages

[Images of retinal hemorrhages]

[Diagram of brain with annotations: Brain, Skull, Dura, Subdural Space, Central Vein]

[Diagram of brain veins with Bridging Veins]

[Images of brain and skull]
**1. Child Protective Services Law**

2. Reporting of suspected child abuse is mandated for people who come in contact with children as part of their work (e.g., Physicians, Social Workers, Nurses, Teachers, Medical Examiners, Daycare Providers, Law Enforcement)

3. Confirmed cases are documented by Childline and relayed to PA SBS Program.

**2009 Statistics ...**

103 babies have been victims of AHT

- 63 boys (61%) & 40 girls (39%)
- Age range: 21 days - 2 years/10 months
- Injuries included: SDH, RH, Brain Damage, & Skull fractures
- 11 babies died from their injuries (11%)
- Perpetrators: 94 were parents or paramour (91%)
  - 5 babysitters (5%) 1 sibling (1%)
  - 1 grandpa (1%)
  - 1 uncle
  - 1 unknown (1%)

**Demographics Research Published ...**

"**Demographics of abusive head trauma in the Commonwealth of Pennsylvania**"


Most comprehensive population-based study of AHT injuries conducted to date

- The results suggest that families of infants with AHT have a significantly different demographic profile when compared to the general population
- The study results can be utilized by healthcare providers treating these infants as well as researchers implementing prevention programs
Who are the Perpetrators?

ANYONE!

In Pennsylvania we have found that the perpetrators are often but not always:
- age (teen/early adult)
- sex (male)
- marital status (single)
- socioeconomic status (poor)
- race (African American or Hispanic)
- educational level (less educated)

Something Needed to be Done...

“The only difference between those who shake their infants and those of us who don’t...is that we don’t! The frustrations, anger, and even the rage, are the same!”

Mark Dias, MD, FAAP
Pediatric Neurosurgeon/Professor
Penn State University College of Medicine
Milton S. Hershey Medical Center

Who Should We Educate?

Educational efforts need to target parents, especially fathers/father figures.

Educated parents can be advocates for their children by sharing this information with everyone who cares for their baby!
AHT: A Preventable Problem!

Upstate New York SBS Prevention Program
Women and Children’s Hospital of Buffalo

Has reduced incidence of Infant
Abusive Head Trauma by nearly 50%!

Research Results Published…

“Preventing Abusive Head Trauma Among Infants and Young Children: A Hospital-Based, Parent Education Program”

Dias et al. PEDIATRICS, 115: e470-e477(2005)

AHT Prevention in Pennsylvania…

May 2002:
Dr. Dias began hospital-based education program in Central Pennsylvania as a pilot study at Penn State Milton S. Hershey Medical Center.
Pennsylvania Regions…

Funding…

Pennsylvania Department of Health
(PA DOH)

Centers for Disease Control and Prevention
(CDC)

The SBS Law…

Pennsylvania Bill 2002-176:
The Shaken Baby Syndrome
Education Act

(Passed December 2002 with implementation September 2003)
Pennsylvania Bill 2002-176…

- SBS education for parents of all infants born in Pennsylvania
- SBS information MUST be presented at the time of the baby’s birth and be given separate from other education
- Materials should be easy to understand and be available in multiple languages
- Education must be provided free of charge to the patient
- Commitment statement is to be discussed prior to hospital discharge

A National Model for AHT Prevention…

In May 2006, Pennsylvania became the first state in the nation to have 100% of children’s and birthing hospitals providing consistent shaken baby syndrome education to ALL parents at the time of their babies’ birth as per the Dias Model!

AHT Prevention Around the World…

Programs Adopting the Model
- Ontario, Quebec, and Alberta, Canada
- Scotland
- New Zealand
- Japan
- Great Britain
In 2008, 92% of all births had commitment statements returned & 99.7% of the returned statements were signed by one or both parent.

<table>
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<tr>
<th>SBS Project Year</th>
<th># of Reported Births</th>
<th># of Commitment Statements Returned</th>
<th># of Commitment Statements Signed by Either Mom or Dad</th>
<th>% of Commitment Statements Signed by Either Mom or Dad</th>
<th>Notes</th>
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<tbody>
<tr>
<td>2002</td>
<td>13,351</td>
<td>7,687</td>
<td>7,687</td>
<td>100%</td>
<td>Central PA Only</td>
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<td>2003</td>
<td>26,199</td>
<td>24,777</td>
<td>24,777</td>
<td>100%</td>
<td>Central PA Only</td>
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<tr>
<td>2004</td>
<td>31,685</td>
<td>45,073</td>
<td>45,066</td>
<td>100%</td>
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<tr>
<td>2005</td>
<td>114,980</td>
<td>98,762</td>
<td>98,664</td>
<td>99%</td>
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<tr>
<td>2006</td>
<td>144,552</td>
<td>129,099</td>
<td>128,304</td>
<td>99%</td>
<td>Statewide</td>
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<tr>
<td>2007</td>
<td>143,255</td>
<td>131,412</td>
<td>130,825</td>
<td>100%</td>
<td>Statewide</td>
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<tr>
<td>2008</td>
<td>142,944</td>
<td>131,406</td>
<td>130,925</td>
<td>100%</td>
<td>Statewide</td>
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<tr>
<td>Total</td>
<td>643,756</td>
<td>569,216</td>
<td>566,497</td>
<td>99.70%</td>
<td>Statewide</td>
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Something Needs to Be Done...

Some babies that are shaken do grow up and need a lifetime of care.

Phase II Office-based “Booster” Education...

- 16 central Pennsylvania counties were randomly selected to provide office education in addition to hospital-based program (~400 offices~1,000 providers)
- 15 remaining counties, along with eastern & western PA, provide only the hospital-based program
**Key Elements of Office Education…**

- Discuss infant crying at the 2, 4 and 6 month well baby checkup
- Discuss how to cope with crying
- Provide a “Crying Card”
- Request that parents sign a postcard confirming that they received the information at each visit
- Forward signed postcards to SBS Program

**AHT is a perfect crime!**

1. Children are easy victims
   - They can not call 911
   - They can legally be with their attackers
   - They can not defend themselves
2. The crime is easy to conceal
3. Mandated reporters often avoid, deny or fail to recognize the crime

**Who Does AHT Affect?**

### Cost to society as a whole includes:

- Short and long term medical care
  (approx. $50,000 initial hosp/ 3-14 million dollars in lifetime)
- Counseling
- County agency investigations
- Foster care
- Legal fees
- A lifetime of support services
Together We Can Make a Difference...

Education... is the key to prevention

PA Prevention Partners...

Pennsylvania Department of Health: Bureau of Family Health
The American Academy of Pediatrics: Pennsylvania Chapter
Pennsylvania Child Death Review Team
Pennsylvania Injury Community Prevention Group (ICPG)
Suspected Child Abuse and Neglect Program (SCAN)

Child Abuse Prevention Resources...

www.preventchildabusepa.org
www.oneykindword.org
www.familyresourcesofpa.org

Speak up for all Kids!

If you suspect a child is being abused or neglected, make it your responsibility to report it. Reporting or admitting abuse does not destroy a family. It gets family members the help they need and helps protect children from further harm. You could be saving a life.

(Prevent Child Abuse America)
Help Card …

I’m a really good parent
but sometimes...

PENNSYLVANIA RESOURCES

PA Chapter of American Academy of Pediatrics
Parent Help Cards:
AAP Crying Cards
Contact: Teresa Olsen 866-823-7226
tolsen@paaap.org

Pennsylvania Department of Health
SBS Brochures
Contact: Marlana Sattazahn 717-772-2762
msattazahn@state.pa.us

PA Shaken Baby Syndrome Prevention & Awareness Program
www.pasbs.com

Success of the Education Depends on the Hospital’s...

1. empowering the nurses to be effective educators
2. consistent implementation of ALL program components
3. commitment to AHT education & child abuse prevention
4. providing the parents with the skills needed to cope with a crying baby
Success of the Education Depends on the Parents…

1. understanding the horror of shaken baby syndrome injuries
2. passing this information on to everyone who cares for their children
3. making good choices about who watches their baby
4. remembering to put the baby down when they are angry
5. telling others to call the parent if they are feeling stressed when caring for the baby

AHT Prevention: A Chance to Save a Life

REMEMBER:
- Over 90 infants suffer abusive head injuries in Pennsylvania each year.
- This doesn’t have to happen!
- We can work together to change this tragedy.
- It only takes a few minutes of time per family.
- It’s simple, it’s inexpensive and it’s effective.

PA SBS Prevention & Awareness Program: “Saving Babies Lives One Family at a Time”