IMRAN SYED, CLINICAL PROFESSOR, UNIVERSITY OF MICHIGAN LAW SCHOOL

The following slides were created by Imran Syed

VALENA BEETY & MELISSA GIGGENBACH
WEST VIRGINIA INNOCENCE PROJECT

Valena.Beety@mail.wvu.edu
wvamg@aol.com

OVERVIEW

• What is SBS/AHT?
• False Confessions and SBS
• Trial Strategies to challenge SBS/AHT
• [Extra Slides on Historical Development of SBS as a Theory]
QUESTIONING OF SBS/AHT HAS BECOME MAINSTREAM: JUDGES, JOURNALISTS, ACADEMICS

MAINSTREAM QUESTIONING

2014

- Greeley ("The controversy that has surrounded abusive head trauma for the past decade is, at its core, fabricated.")
- Jennifer Del Prete (federal habeas granted on grounds of actual innocence) "shaken baby syndrome is more an article of faith than a proposition of science"
MORE ACQUITTALS

– E.g., State v. Thomas Paul Lunardi, Jr., Iowa District Court for Scott County, Case No. FECR 219890, Opinion and Verdict (April 4, 2000) (bench trial), in which court concluded that conflicting opinions of experts left the court “not firmly convinced that any act of the Defendant resulted in injury to [the child]. It is equally likely that her condition was caused by a vitamin k deficiency disease process.”


THE LEGAL ACADEMY

• 2009 Deborah Tuerkheimer, The Next Innocence Project (“a sizeable portion of the universe of defendants convicted of SBS-based crimes is, in all likelihood, factually innocent”)

• 2009-12 Fifteen law review articles

• 2013-16 Nine articles

LEGAL AND POPULAR LITERATURE


• Molly Geno, Shaken Baby Syndrome: Medical Uncertainty Casts Doubt on Convictions, 2007 WIS. L. REV. 701

• Roger H. Kelly and Zachary M. Bravos, A Critical Look at the Shaken Baby Syndrome, 97 ILL. BAR J. 200 (April 2009)

• Neal Friedman, Shaken Baby Syndrome: Medical research provides new tools for the defense in "shaken baby syndrome" cases, DEFENSE 15 (Washington, Nov. 2009)


WHAT IS SBS/AHT?

“THE SYNDROME” FILM

SBS/AHT HISTORICALLY
• “Triad-based prosecutions”
  – Subdural hematoma
  – Retinal hemorrhage
  – Cerebral edema
• Medical opinion is used to prove each element of the crime
In its classic formulation, SBS comes as close as one could imagine to a medical diagnosis of murder: prosecutors use it to prove the mechanism of death, the intent to harm, and the identity of the killer.”

DEVELOPMENT OF A HYPOTHESIS
1971-74
- Guthkelch 1971
- Caffey 1972 & 1974
- Shaking causes SDH and RH
- In the presence of subdural and retinal bleeding, the absence of external signs of abuse is proof that shaking occurred

DR. GUTHKELCH RETURNS
- 2012 State of Arizona v. Witt
- Guthkelch claims that the expert evidence used to convict was a distortion of his work; urged caution in diagnosis of abuse
- Published Problems of Infant Retino-Dural Hemorrhage With Minimal External Injury, 12 HOU S. J. HEALTH L. & POLICY 201 (2012)
EVOLUTION

- The triad is not pathognomonic of abuse
  - Encephalopathy and edema are ubiquitous—the brain’s response to any insult is swelling
  - Subdural hematoma—not unique to SBS or AHT
  - Not even retinal hemorrhages, retinal folds, and retinoschisis in infants are alone pathognomonic of abuse (shaking)
- The list of “mimics” of abuse is extensive and growing
- Short falls can kill
- Lucid intervals can occur, making timing impossible
- A differential diagnosis (really a differential etiology) is essential in all cases

THE CHANGING SCIENCE

- The Evidence Based Medicine Critique
- The need for a full “differential diagnosis”

RESEARCH OBJECTIVES & CHALLENGES

- Randomized controlled trials are impossible
- Research generally includes retrospective case studies of suspected abuse.
  - Depends on accurately sorting cases into abuse and non-abuse categories
  - May include confessions or other statements by alleged perpetrators, statements in judicial proceedings
- The circularity challenge
  - Inclusion criteria: SDH, RH, encephalopathy—the very clinical findings being studied
DEBUNKING THE MYTH OF PATHOGNOMONY

- Most doctors now recognize that the classic “triad” is NOT exclusively diagnostic of SBS, and that no one of the signs or symptoms is pathognomonic.

Q: Is there any finding, two, or even three findings that would cause you or, in your opinion, any responsible physician to diagnose shaken impact syndrome? Any one, two or three findings?
A: Not exclusively, no.

A: That’s well recognized, the concept that no single finding is in itself pathognomonic, and it’s unclear to me why the defense would spend so much time elaborating on that point when I consider it to be a given. No responsible, knowledgeable physician would arrive at that diagnosis on the basis of a single or two findings, but rather the collection of those.”

- Testimony of Dr. William Perloff, State’s pediatric expert, State of Wisconsin v. Audrey Edmunds, Dane County, WI, Case No. 1996CF555, at 32

DEBUNKING THE MYTH OF PATHOGNOMONY

- Retinal hemorrhages, perimacular retinal folds, and retinoschisis are universally no longer deemed pathognomonic of SBS

- State’s ophthalmologist Dr. Levin in State v. Edmunds acknowledged that new research has shown that “there may be no pathognomonic eye signs in Shaken Baby Syndrome.”

DEBUNKING THE MYTH OF PATHOGNOMONY

Q: And you understand that in this case Dr. Mills testified … that that kind of eye injury is not known to occur in infants except in shaking type injury?
A: I do understand that, yes.
Q: And that’s no longer true?
A: Well, it’s correct, it’s no longer true.

Dr. William Perloff, State’s expert in State v. Audrey Edmunds
MIMICS OF CHILD SBS/ABUSIVE HEAD TRAUMA

- Accidental trauma (e.g., short falls), congenital malformations, metabolic disorders, hematological diseases, infectious diseases, autoimmune conditions, birth effects, rebleeds, hypoxia, childhood stroke, genetic conditions, etc. Patrick D. Barnes & Michael Krasnokutsky, *Imagin of the Central Nervous System in Suspected or Alleged Nonaccidental Injury, Including the Mirmics, 18 Top.* MAGN. RESON. IMAGING 53, 69-70 (2007); John Plunkett, Fatal Pediatric Head Injuries Caused by Short-Distance Falls, 22 AM. J. FORENSIC MED. & PATHOLOGY 1 (2001); Andrew P. Sirotnak, Medical Disorders that Mimic Abusive Head Trauma, *in ABUSIVE HEAD TRAUMA IN INFANTS AND CHILDREN: A MEDICAL, LEGAL, AND FORENSIC REFERENCE* 191 (Lori Frasier et al., eds. 2006); K. Hymel et al., Intracranial Hemorrhage and Rebleeding in Suspected Victims of Abusive Head Trauma: Addressing the Forensic Controversies, 7 CHILD MALTREATMENT 329 (2002).

THE BIOMECHANICS OF SHAKING

- “[S]evere head injuries commonly diagnosed as shaking injuries require impact to occur and … shaking alone in an otherwise normal baby is unlikely to cause the shaken baby syndrome.” Forces from shaking fall well below established injury thresholds and are 1/50th the force of impact, including impact on soft surfaces. A. C. Duhaime et al., *The Shaken Baby Syndrome: A Clinical, Pathological and Biomechanical Study,* 66 J. NEUROSURG. 409 (1987)
- The peak rotational accelerations for a shake are less than those in a 1 foot fall onto carpet. Prange et al., Anthropomorphic Simulations of Falls, Shakes, and Inflicted Impacts in Infants, 99 J. NEUROSURG. 143 (2003)

BIOMECHANICAL MODELS

Cross-examination of Dr. William Perloff, State’s pediatric expert in State v. Audrey Edmunds:

Q: I think I heard you say that if the model doesn’t comport with reality, then there’s something wrong with the model. Is that fair?
A: Yes.
Q: Isn't it also possible that what that shows is that there’s something wrong with what we have perceived to be reality? There’s something wrong with our perception of reality. Isn’t that also possible?
A: Yes, I think it is possible.
DEBUNKING “SHORT FALLS CAN’T KILL”
• John Plunkett, Fatal Pediatric Head Injuries Caused by Short Distance Falls, 22 AM. J. FORENS. MED. PATHOL. 1 (2001)
  – 18 documented cases of child deaths from short falls, most presenting subdural hematoma, edema, and retinal hemorrhage (4 of 6 whose eyes were examined)
  – Case study #5: 23 month old child from small plastic play structure and hit head on carpeted floor. The fall was captured on videotape. Child suffered subdural hematoma with midline shift and bilateral retinal hemorrhage.

DEBUNKING “SHORT FALLS CAN’T KILL”
• J.R. Hall et al., The Mortality of Childhood Falls, 29 J. TRAUMA 1273 (1989)
  – Describes 18 children who died from falls of 3 feet or less (2 in medical facilities)

SHORT FALLS CAN KILL
Cross-Examination of Dr. William Perloff, State’s pediatrician in State v. Edmunds:
Q: Okay. Have you ever testified that short distance falls do not cause the constellation of injuries that you see in a case like this?
A: Probably.
Q: And that would have been your belief in 1996?
A: Yes.
Q: Would that be your belief today?
A: I would refine that belief I think. I think I would want to qualify that statement today.
Q: Based on research that’s emerged in the last 10 years … and [c]ase reports showing that indeed short distance falls can cause these kinds of injuries, correct?
A: Under specific circumstances, yes.
SHORT FALLS CAN KILL

Cross-Examination of Dr. Jeffrey Jentzen, State’s Pathologist in State v. Edmunds:

Q: Now, there is really no scientific basis, however, for saying that [falling from a third or fourth story building or being hit by a car at 20-30 mph] is the amount of force it takes, is there?
A: No. Other than the fact we see that type of injury and those kinds of injuries.
Q: So sort of anecdotal, observational, cumulative kind of experience kind of thing?
A: Yes.

THE CHANGING SCIENCE:
LUCID INTERVALS

- Lucid Intervals are real; cannot time these brain injuries. Lucid Intervals documented of several hours to 72 hours or more; child may have flu-like symptoms in meantime.
- Dr. Robert Huntington, State’s pathologist testifying that research caused him to change his understanding in this way, in State v. Audrey Edmunds.
- “This case more and more convinces me that us pathologists can know what. When gives us problems. Who we almost never can say.”
- See also Kristy B. Arbogast et al., In Reply to Letter to Editor: Initial Neurologic Presentation in Young Children Sustaining Inflicted and Unintentional Fatal Head Injuries, 116 PEDiatrics 1608 (2005); Robert Huntington, Letter, Symptoms Following Head Injury, 23 Am. J. Forensic Med. & Pathology 105 (2002).

THE CHANGING SCIENCE:
THE BOTTOM LINE

Scientific advances have undermined these theories:
- nothing can cause the triad except shaking (mechanism of death)
- shaking alone can cause serious brain injury and death (mechanism and cause of death)
- the last person with the child must have been the abuser—the injuries cannot be timed (identity)
- the injuries had to have been caused by force equal to a multi-story fall or car crash; can be caused accidentally by short falls (state of mind)
- Scientific advances have established many natural causes for medical findings previously attributed to shaking or abuse
SIGNS OF CHANGE

• Changing Terminology: The Committee on Child Abuse and Neglect of the American Academy of Pediatrics recently recommended that “[p]ediatricians should use the term ‘abusive head trauma’ rather than a term that implies a single injury mechanism, such as shaken baby syndrome.” Cindy Christian et al., Abusive Head Trauma in Infants and Children, 123 PEDIATRICS 1409, 1411 (2009).

• Numerous different terms are now used: shaken impact syndrome (SIS); inflicted childhood neurotrauma; abusive head trauma (AHT); inflicted traumatic brain injury (inflicted TBI); and non-accidental head injury (NAHI). Robert Reece, What Are We Trying to Measure: The Problems of Case Ascertainment, 94 AM. J. PREVENTATIVE MED. S116 (2008).

SIGNS OF CHANGE

• In 2006, the National Association of Medical Examiners (NAME) withdrew its position paper on shaking.

• The NAME annual conference in 2006 included presentations with titles such as, “‘Where’s the Shaking’?: Dragons, Elves, the Shaking Baby Syndrome, and Other Mythical Entities,” and “Use of the Triad of Scant Subdural Hemorrhage, Brain Swelling, and Retinal Hemorrhages to Diagnose Non-Accidental Injury is Not Scientifically Valid.”

JUDICIAL RECOGNITION OF THE CHANGING SCIENCE

• State v. Edmunds, 746 N.W.2d 590, para. 15 (Wis. App. 2008). “Edmunds presented evidence that was not discovered until after her conviction, in the form of expert medical testimony, that a significant and legitimate debate in the medical community has developed in the past ten years over whether infants can be fatally injured through shaking alone, whether an infant may suffer head trauma and yet experience a significant lucid interval prior to death, and whether other causes may mimic the symptoms traditionally viewed as indicating shaken baby or shaken impact syndrome.”

• Id. para. 23. “[T]here has been a shift in mainstream medical opinion since the time of Edmunds’s trial as to the cause of the types of injuries Natalie suffered…. However, it is the emergency of a legitimate and significant dispute within the medical community as to the cause of those injuries that constitutes newly discovered evidence.”
JUDICIAL RECOGNITION
OF THE CHANGING SCIENCE

• State v. Kathy Hyatt, Circuit Court of Shelby County, MO, Case No. 06M7-CR00016-02 (Order dated Nov. 2007). “There is substantial, persistent and continuing criticism of this [SBS] diagnosis among many in the medical and scientific research communities. The critics contend that subdural hematoma and retinal bleeding can have many other causes and that the diagnosis of shaken baby syndrome is merely a ‘default’ diagnosis, one which pediatricians use when they have no other explanation for the cause of the child’s injuries.” Accordingly, SBS theory based solely on SDH, retinal bleeding, and absence of cranial trauma is not “generally accepted” and is inadmissible.

• State v. Schoonmaker, 176 P.3d 1105 (N.M. 2008) “[D]isagreement exists in the medical community as to the amount of time between when injuries occur and when the child becomes symptomatic, and whether injuries like Child’s can be caused by short-distance falls.” Court granted new trial because of trial court’s refusal to provide funding for experts to address these issues.

JUDICIAL RECOGNITION
OF THE CHANGING SCIENCE

• Ex parte Cathy Lynn Henderson, 246 S.W.3d 690 (Tex. Ct. Crim. App. 2007) – Court granted stay of execution and remanded habeas petition for further proceedings because of changes in the medical science. State’s medical examiner at trial testified this was SBS. After trial, however, he submitted affidavit swearing that, because of changes in the research, he could no longer say “whether [the child’s] injuries resulted from an intentional act or an accidental fall.”

INTERNATIONAL RECOGNITION
OF THE CHANGING SCIENCE

• Great Britain: In R. v. Harris, [2005] EWCA Crim. 1980 (Eng.) – Four consolidated cases; court held that, given the changing science, the convictions based solely on medical evidence were unsafe, but those with other evidence of abuse were affirmed.

• Great Britain: Attorney General pledged to undertake systematic review of infant death cases. February 2006 found that, of 88 cases reviewed, 3 warranted revisiting (added to 9 that had previously been identified).
INTERNATIONAL RECOGNITION OF THE CHANGING SCIENCE

• Australia: In 2001, the supreme court of the Australian Capital Territory (trial level court) reviewed the science and concluded: “The evidence revealed a paucity of empirical research on potentially critical issues.” Evidence of SBS theory excluded because “such opinions would not be based wholly or even substantially on the expert’s specialized body of knowledge as a pediatrician but [] on a combination of speculation, inference, and a process of reasoning beyond the relevant field of expertise.” The Queen v. Stewart Lee, SCC 69 of 2000 (Sup. Ct. Australian Capital Territory, Canberra), 2002 WL 14350, para. 52.

• Canada: Goudge Inquiry. Ontario Attorney General Chris Bentley said in November 2008 that the Province of Ontario would examine 220 old baby deaths to determine if any resulted in miscarriages of justice. “We want to make sure that nobody was convicted or nobody was subject to other legal proceedings … based on science that would no longer be acceptable today because of the evolution of that science.” Theresa Boyle, Baby death review daunting.” Parentcentral.ca, available at www.parentcentral.ca/parent/articlePrint/512962.

FALSE CONFESSIONS AND SBS

• “In its classic formulation, SBS comes as close as one could imagine to a medical diagnosis of murder: prosecutors use it to prove the mechanism of death, the intent to harm, and the identity of the killer.”

CHRISTOPHER BRANDON

I told him you the autopsy report right that I've shown you before.

CB: Yes, sir.

J: Okay. And what did I tell you this baby, according to the medical examiner, has died from?

CB: Shaken Baby Syndrome.

J: Okay. And you understand that a Shaken Baby Syndrome is vigorously shaking a baby.

CB: Yes. sir.

J: To the point that it causes death.


J: And the only way that that baby can be shaken to that degree is someone has to do that.

CB: Yes, sir.

J: And you agree with me today that the care for that child, that particular day, during that period of time, was yours?

CB: Yes.

J: No one else was in the room?

CB: No, sir.
CB: Yes, sir. And just... like I said, as far as the shaking part, I never shook him that hard. I had him right up on my body doing him like this right here...

JJ: But, you did shake him to some degree.

CB: Yes, sir. I didn't shake him like... that or whatever. You know. He's right here on my body on my chest... I shook him like this.

JJ: Have you ever shaken a baby to the point that it died?

CB: No, sir. I... I... an, sir.

JJ: How do you know how hard it takes to shake one?

CB: I really don't. It had to be... really hard to... for a baby to die... to shake a baby like that.

JJ: But, that's your opinion?

CB: Just... yeah, that's what I'm thinking.

JJ: ... there was only 1 person in that room taking care of that baby. And that was who?

CB: It's me.

JJ: Okay. So, you will take full responsibility...

CB: Yes, sir.

JJ: ... for whatever happened while you had this baby?

CB: Yes, sir.
FALSE CONFESSIONS

- Know the false confessions literature. Why SBS suspects might confess falsely:
  - Suspects succumb to police pressures
  - Suspects motivated by feelings of guilt
  - Shaking is a normal response to an unresponsive child
  - Guilt minimization — confession to shaking masks more egregious behavior
    - In retrospective review of 81 purported shaking confession cases, 12% of cases showed skull or scalp injury from impact. Suzanne P. Starling, et al., *Analysis of Perpetrator Admissions to Inflicted Traumatic Brain Injury in children*, 158 ARCH. PEDIATR. ADOLESC. MED. 454 (2004)
WHAT TO DO AT TRIAL

DIFFICULT CASES

• A baby has died or suffered injury; someone must be held responsible
• There may be no one else to blame—there may have been no crime at all
• Conclusive resolution may not be possible in many cases

EXCLUDE PROVEN FALSE CLAIMS

• Certain symptoms are pathognomonic of abuse (cannot be caused by anything else)
• Short falls can’t kill/aren’t dangerous
• The force required to cause the signs commonly associated with abuse or shaking are massive, equivalent to a multistory fall or a car accident
• The last person responsible for the child before the child collapsed abused that child
• The likelihood that a particular case is abuse, given the signs present, is X% or certain
CLINICAL JUDGMENT

• Barred by Daubert: “in circumstances when experience alone does not resolve the main doubts about reliability, it would be irrational, and therefore an abuse of discretion to rely upon it.” (Risinger, Defining the “Task at Hand”: Non-Science Forensic Science after Kumho Tire Co. v. Carmichael, 57 Wash. & Lee L. Rev. 767, 773 (2000).)

THE ARSON ANALOGY

• Conviction based largely on “science”
• The science has changed, undermining the basis for the conviction
• But absolute proof of innocence may be difficult or impossible

NARRATIVES

• The child was not abused—can be used where there is affirmative evidence of some other cause of death or injury (natural or accidental)
• The child was abused, but not by my client
• My client hurt the child, but not intentionally or recklessly; it was an accident
• invalid or debatable science
  – there might not have been a crime at all
  – the science does not point to my client
  – even if my client did something, it was not intentional or reckless, but accidental
THE CHANGING SCIENCE

• The Evidence Based Medicine Critique
• The need for a full “differential diagnosis”

BUILDING YOUR CASE

• Evaluate the record—medical reports, police reports
• Assess whether the case is built largely on medical opinion
  – Need medical records**
  – Talk to state expert witnesses

• Consult the relevant experts
  – Pathologists
  – Radiologists
  – Biomechanical Engineers
  – Ophthalmologists
  – Pediatricians
  – Merely consulting one kind of medical expert may not be enough. E.g., People v. Julie Christine Lael Baumer, Macomb Co., Mich. Cir. Court Case No. 2004-2096-FH, Opinion & Order dated Nov. 20, 2009 (trial counsel ineffective for consulting only a pathologist, when consult with radiologist was necessary to develop evidence of innocence)
• Know the legal and medical literature
• Know the facts, witnesses, & medical record
EXTRA SLIDES ON HISTORICAL DEVELOPMENT OF SBS/AHT THEORY

DEVELOPMENT OF A HYPOTHESIS
1971-74
• Guthkelch 1971
• Caffey 1972 & 1974
• Shaking causes SDH and RH
• In the presence of subdural and retinal bleeding, the absence of external signs of abuse is proof that shaking occurred

1971-74
• Acknowledged the hypothesis
• Believed that the shaking could be playful, everyday activities
• Both urged that shaking could be harmful even without significant violence
PATHOGNOMONY HYPOTHESIS 1979

• Eisenbrey 1979 -- Citing Caffey and Ommaya, RH became exclusively diagnostic of abuse
• Had to ignore research that dated back to 1950s where RH was simply known to correlate with bleeding around the brain

ACKNOWLEDGING LACK OF EVIDENCE BASE 1980S

• Nobuhiko Aoki 1984 (Japanese study reporting short falls and associated SDH and RH)
• Dykes 1986 (The syndrome of whiplash shaking injury of infants has been well described by Guthkelch and Caffey, yet few subsequent reports are found in the literature)

SBS PATHOGNOMONY BECOMES ACCEPTED NONETHELESS

• 1981 Judicial Manual
• 1980s accepted medical testimony in criminal cases
DUHAIME STUDY FINDINGS
1987

• All babies had impact trauma
• Could not generate adequate forces by shaking
• Could generate adequate forces when head impacted an object (50 times the force of shaking)
• Impact, not shaking, the likely cause of SDH and RH

DUHAIME STUDY IGNORED
1988-1990S

• Duhaime herself -- Despite evidence, theorized that shaking involved before throwing onto a soft surface (without testing)
• Change the name and ignore the underlying findings of the study

• Duhaime, *Response to Letter to the Editor re The Shaken Baby Syndrome*, 68 J. NEUROSURG. 661 (1988) ("While shaking may or may not be a part of this syndrome, we would think that evidence supporting an inflicted impact to the head would lead Drs. Brenner and Fischer to agree even more strongly that children with the findings described should be considered abused until proven otherwise").
• Bruce, et al., *Shaken Impact Syndrome*, 18 Pediatric Annals 482, 492-94 (1989) (“In light of [the Duhaime] study (the only one to examine the forces that can be produced by shaking), we can conclude that severe acute brain trauma cannot be produced in the infant by shaking alone, and that the mechanism of injury should more appropriately be referred to as shaking *impact* injury.”

ADVOCACY GROUPS AND PEDIATRICIANS RESPOND EARLY 1990S TO EARLY 2000S
• 1992 National Center for Shaken Baby Syndrome formed
• 1993 AAP Statement -- “Data regarding the nature and frequency of head trauma consistently support a *medical presumption of child abuse* when a child younger than 1 year of age has intracranial injury.”

ACCEPTANCE WITHOUT A GOLD-STANDARD DIAGNOSIS
• No signs of external trauma (or bruising or fractures)
• RH of certain types or variations or none
• Brain injury may be from contusions, or DAI, or swelling
• Mechanism could be shaking or impact
PEDIATRICIANS BECOME LAW ENFORCEMENT
• 1993 AAP statement included definition to satisfy criminal mens rea requirement
• AAP urged investigations conducted with CAPs who interrogated caregivers
• Made CAPs the experts who could “provide interpretation of the likely [abuse] scenario, timing, and nature of the injuries involved”

PROSECUTION EXPLOSION
• 1990s to early 2000s – thousands of prosecutions
• Duhaime’s hypothesis became favored theory for the prosecution – throwing against a soft surface can cause findings, whereas falls cannot

1997 THE WOODWARD CASE
EXPERT RESPONSE

• 1997 Ommaya
• 1998 -- forensic pathologist, John Plunkett, published *Shaken Baby Syndrome and the Death of Matthew Eappen: A Forensic Pathologist's Response*
  – Need for shaking
  – RH exclusively diagnostic
  – Forces required
  – Lucid intervals

MEDICAL JOURNALS

• Duhaime I
• 1998 -- Duhaime II
  • The Lancet
  • 2001 Plunkett short falls
  • 2001 Vincent and DiMaio
  • 2001 Geddes
  • 2002 Barnes
  • 2002 Ommaya

• 2003 Donohoe (inadequate scientific evidence on most aspects of causation and diagnosis of SBS)
• 2004 Goldsmith
• 2004 Lantz in BMJ

• 2004 letter to the BMJ from 106 pediatricians
  • Leestma (54 cases based on confessions)
PROFESSIONAL ORGANIZATIONS AND ADVOCACY GROUPS

• 2000 NCSBS Executive Summary
• 2001 AAP Statement
• 2001 NAME Position Paper

• 2002 NIH (*What we need is science—research and evidence that just isn’t there right now.*)

• 2008 NAME refuses to renew the 2001 position paper

2008 THE LEGAL SYSTEM’S RESPONSE

• Canada – Goudge Commission (called for review of SBS convictions based on “[t]he significant evolution in pediatric forensic pathology relating to shaken baby syndrome” and the “concern that, in light of the change in knowledge, there may have been convictions that should now be seen as miscarriages of justice”)

• Edmunds case – Wisconsin Court of Appeals grants new trial based on NDE

2009

• AAP issues new statement – *Abusive Head Trauma in Infants and Children* (*“[l]egal challenges to the term ‘shaken baby syndrome’ can distract from the more important questions of accountability of the perpetrator and/or safety of the victim”*)
THE META-ANALYSES

• Pickard 2009
• Maguire 2009 & 2011
• Kempe 2011
• Piteau 2012