Forensic Aspects of Child & Infant Trauma / Death

a presentation for the 28th Annual David Miller Memorial Trauma Symposium

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Categories of Deaths

• Feticide
• Neonaticide
• Infanticide
• Accidental Death
• Battered Child - Child Abuse
• Child Neglect
Feticide

• The death of a fetus whose live birth was interrupted by injury feloniously inflicted upon the mother.
“This was not a simple miscarriage... I draw a conclusion that there should have been a baby at the end of the umbilical cord.”

DR. KELLY McGUIRE
Obstetrician who searched dumpsters
Neonaticide

- Infants less than 30 days old
- Majority of cases committed by the mother
- Mothers with profound denial and dissociative states – often associated with post partum period
- Mothers who deliberately hide their pregnancies
Lindsey Lowe

- Classification: Murder
- Characteristics: Infanticide
- Number of victims: 2
- Date of murders: September 12, 2011
- Date of arrest: 2 days after
- Victims profile: Her newborn twins
- Method of murder: Suffocation
- Location: Hendersonville, Sumner County, Tennessee, USA
- Status: Sentenced to a minimum of 51 years in prison on April 26, 2013
Elements of Neonaticide and Infanticide

• The infant was born alive
• Death results from violence or willful act of omission
• The act or failure to act was done with the intent to harm
Indicators of Live Birth

- Air in the Lungs
- Air in the Stomach
- Air in the Middle Ear
- Food in the Stomach
Presence of food in the stomach is absolute proof of live birth
Infanticide

• Infants between 30 days and 1 year of age
Stephanie Greene

- A six-week-old baby died after she received lethal doses of the painkiller morphine through her mother's breast milk.
- Alexis was found dead in her bed at the home of her mother Stephanie Greene, 37, in Campobello, South Carolina.
- The painkiller got into Greene’s breast milk after she took pills and used patches containing morphine after the child’s birth.
- Autopsy results showed a lethal level of morphine in the child's body.
Child Abuse Death

- Physical Abuse, 70%
- Nutritional Deprivation, 5%
- Sexual Abuse, 25%
Charged with Child Abuse

Chianna Hendrix

Latrecia Hendrix
INDEPENDENCE, Mo. -- One of two women charged Monday with the abuse or neglect of a 10-year-old child worked with other children as a temporary teaching assistant earlier in the school year, according to the Kansas City, Mo. School District.

Jackson County prosecutors charged LaTrecia Hendrix and Chianna Hendrix, 25, with abuse or neglect of a child resulting in serious emotional or physical injury.

A report of a runaway led police to the child, who was reportedly emaciated and underdeveloped.

Chianna Hendrix is the child's biological mother. According to a probable cause statement, officers fed the victim who immediately became sick. When the child was taken to Centerpoint Hospital, detectives saw marks that looked like fingernail scratches all over the child's body and saw bruising in the ribs. The child had little bladder or bowel control and was sent to Children's Mercy Hospital due to the extent of the neglect.

Court documents say police also went to the child's Independence home and found bottles of urine on the floor and feces on the bed in the bedroom. A five-year-old child in the home told a Children's Division investigator that the 10-year-old was often beaten for taking food and locked in the basement.

Interviewed by police, both suspects admitted they knew something was medically wrong with the child, but didn’t provide medical treatment. LaTrecia Hendrix told investigators it was an ongoing issue for the past two years due to the lack of medical insurance. She stated the child stealing food was a problem that led to punishment.
Sudden Unexplained Infant Death Syndrome

SUIDS or SIDS
SUID Syndrome

• There is no scene examination that specifically identifies SUIDS; this conclusion is only made after all other possibilities are eliminated
• Process for child abuse, child neglect, and accidental death
• Note conditions which may increase the possibilities of SUIDs
Risk Factors for SUIDS

- Boys are more likely to die of SUIDS.
- Infants are most vulnerable during the second and third months of life.
- For reasons that aren't well-understood, black, American Indian or Eskimo infants are more likely to develop SUIDS.
- Sleep Position
- Family history
- Secondhand smoke
- Being premature
Eliminate any other possible cause

- Environmental
- Poisoning
- Stray Electricity
- Choking Hazards
- Positional Asphyxia
- Anything else you can think of!
Factors often Associated with SUIDS

A diagnosis of exclusion

There must be a thorough scene examination!
Child Neglect Scene
Child Neglect Scene

Fully Document through photography and video

- General Living Conditions
- Cleanliness
- Foodstuffs
- Clothing
- Toys
- Animals/pets
- Insects and Vermin
- Locks and Access Devices
Failure to Thrive

• Systemic Cause
• Neglect Cause
• What Happened at the Hospital?
• Tends to occur to non-ambulatory children
Child Abuse - Battered Child
Child Physical Abuse

- Process as any other death scene
- Hold the scene until after the autopsy or mechanism of injury is discovered and initial statements are taken
- Fully document living area assigned to child
- Fully document, to exclude, all other possible causes
  - accidental poisoning
  - environmental
  - accidental injury
Medico-Legal Investigation

• Discrepancy between history and pathologic findings
  – Severity and extent of injuries are out of proportion to the explanation offered by the parents
  – Unexplained injuries
  – Injury patterns inconsistent with accidental trauma

• Variations and inconsistencies in the parental explanation of the incident

• Delay or failure to seek medical treatment

• Refusal to consent to diagnostic studies
Diagnostic Features (cont.)

• Inadequately treated injuries
• Frequent visits to different doctors or different emergency rooms
• Misleading medical attendants
• Unusual behavior of the parents
  – Respond inappropriately to the seriousness of the child’s condition - Use Caution!
BRUIISING AND PATTERN INJURY
Damage to frenulum and supporting tissue structures
Multiple Bruises
Bitemark to Chin
Lacerated Frenulum
Bruising on Chest
Bruising/Marks to arm and leg
Injury to Scrotum and Penis
Bruises occur at atypical sites or fit recognizable patterns (Human hand marks, human bite marks, strap marks, electrical cords, or bizarre shapes)
Grab Marks
Pattern Injuries

- Pattern injuries occur when the bruising, burn, or tissue injury forms a recognizable pattern.
- This pattern may often be used to correlate a suspected weapon/implement with the injury.
- Patterns may be more pronounced over time. Photography of the injury, with scale should be accomplished every 24 hours for the first 96 hours.
Bruises on the Cheek or Earlobe Are Usually Secondary to Being Slapped or Cuffed
The imprint of a closed left fist on the left side of the child’s jaw.
Cupping

Carol Curran, M.D., Medical Director Columbia Greene and Dutchess County Child Advocacy Centers, Albany Medical College, Emergency Medicine, Albany, New York
“Falling Down a Stairway” Is Often Offered As a Last Minute Explanation for Unexplained Bruises
Child Physical Abuse and Death

BITE MARKS AND PATTERN INJURY
Bite Marks

• First reported as a dog bite.
• Note shape of dental arch.
• 1\textsuperscript{st} presentation, swab for DNA.
• Photography with UV/IR
• Cast if possible
Child Physical Abuse and Death

BURNS AND PATTERN INJURY
A Common Form of Burn Injury Is the “Contact” Burn. These Occur When an Object Is Placed Directly on the Skin.
A Contact Burn in Most Cases Will Leave a Distinct and Identifiable Burn Pattern
Accidental Burns Can Occur If the Child’s Skin Comes in Contact With Objects Which Could Have Been Heated by the Sun (i.e. Vinyl Surface Car Seats, Seat Belt Buckles)
Burns From Cigarettes Have the Appearance of Being Circular, Punched Out, and of Similar Size, and Vary From Blisters to Deep Sores Depending on the Length of Contact.

Cigarette Burns
Cigarette Burns Are Commonly Explained Away by Parents as an Accident: If It’s a Single Burn Then It’s Possible; If Multiple, Then It’s Doubtful
A case of five cigarette burns of the forearm. The story of drying baths and two overign, but they all appear to be of...
Multiple Burns
The Most Common Inflicted Burn Injury Is the Hot Water Burn or Scald, Often Times Referred to As “Immersion,” or “Forced Immersion”
This Form of Abuse Is Often Related to Stool and Toilet Training, With a Mean Age of 24.8 Months
Forced Immersions of the Hand or Foot Are Symmetrical and May Be Full Thickness in Depth. The Burns Will Be Without Splash Marks
Photography of Bruising & Pattern Injuries

- White Light
- Ultra Violet Light (UV, Woods Lamp)
- Alternate Light Source (ALS) at 415nm
- Infra Red Photography
Use of Reflective Ultraviolet Photography to Photo-Document Brusing to Children by Detective Patrick Cochran, Austin Texas Police Department
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Examination Quality Photograph
Forensic Examination of Injuries

- Clinical forensic examinations of injuries are usually done only after surgical emergency treatment and closure of the wounds by suturing or similar procedures.
- For this reason forensic assessment of the injuries is limited compared to first presentation.
- A complete reconstruction of the original injuries is usually only possible with a multidisciplinary approach of the forensic team and the physicians who first treated the patient.
- Photographic documentation of the clinical findings at first presentation done by the doctors prior to any treatment can be of critical importance.
Photo Documentation of Forensically Relevant Injuries: Clinical First Response

• Reasons why one might suspect violence/Indication for photo-documentation
  – History: Patient or other parties report violence or inconsistent history
  – Type of injury: gunshot wound, stab wound, evidence of injury from blunt object (for example, hematomas in the shape of the sole of a shoe after kicking, hematomas following beatings with a stick)
  – Position of injury: injuries on the extensor sides of joints or below the scalp line suggest accidental injury. Other positions might suggest injury by others.
  – Number of injuries: not explained by a singular accident
Questions?