Child Abuse & Neglect

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**Disclaimer**

The following presentation includes graphic depictions of nudity, blood and idiotic acts!!
Epidemiology – Abuse & Neglect

- 77 cases reported every hour
- 679,000 victims ever year
- >4 children die every day (1520/yr)
- Incarcerated Individuals were abused
  - 14% men
  - 36% women
- Abused 9X more likely to be involved in criminal activity
We See This All To Often
Child Abuse
You're doing it wrong
Different Forms of Abuse
History

- **Mary Ellen Wilson (1874)**
  - Severely abused at 9y/o
    - Heavy labor
    - Beat constantly
    - Locked in closets
    - Slept on floor
    - No winter clothes
    - Forbidden to go out-doors
  - Used “cruelty to animals” laws to remove child from home
  - New York Society for the Prevention of Cruelty to Children
My father and mother are both dead. I don’t know how old I am. I have no recollection of a time when I did not live with the Connollys. Mamma has been in the habit of whipping and beating me almost every day. She used to whip me with a twisted whip—a rawhide. The whip always left a black and blue mark on my body. I have now the black and blue marks on my head which were made by mamma, and also a cut on the left side of my forehead which was made by a pair of scissors. She struck me with the scissors and cut me; I have no recollection of ever having been kissed by any one—have never been kissed by mamma. I have never been taken on my mamma's lap and caressed or petted. I never dared to speak to anybody, because if I did I would get whipped. I do not know for what I was whipped—mamma never said anything to me when she whipped me. I do not want to go back to live with mamma, because she beats me so. I have no recollection ever being on the street in my life.

How One Girl's Plight Started the Child-Protection Movement".
Still Child Abuse....

CHILD MULLETS
considered child abuse in 48 states
Child Abuse

- High index of suspicion
- RF: poverty, single parent, substance abuse, <2 yr, disability, low birth wt
- Cutaneuos injuries most common
- Death 2° head & abd trauma
- Interview child & parent separately
Child Abuse: Clues

**History**
- Story ≠ injuries
- History changing
- Injury ≠ development
- Delay seeking help
- Inappropriate level of concern

**Physical Exam**
- Multiple old and new bruises (staging)
- Posterior rib fx, sternum fx, spiral fx < 3
- Immersion burns, cigarette (10-20%)
“The Deck Did It”

- 4 yo child reportedly fell down stairs of a deck
- Later that day, head swelling/bruising noted
- Child brought to medical care by mother
- Skull x-ray negative, child sent home
- Reported to CPS
“The Deck Did It”

- CPS worker went to home
  - Interviewed mother
- Decided the fall down the stairs was the cause of the child’s findings
- Closed case
Child brought back to medical care 2 days later due to sleepiness

ER doctors concerned regarding possible abuse
“The Deck Did It”

- ER documents bruising on forehead
- Neck petechiae
- Bruised chest
- Re-reported to CPS
- CPS states they already investigated and closed the case
“The Deck Did It”

Child Abuse Physician consultant finds more bruising not noted in the ER
Case Progression

- CPS refuses to present the case to the Juvenile Officer
  - Claims they already investigated and closed
- Medical team takes custody (legal in MO)
  - Independently contacts the JO
Case Progression

- After 5 days, the JO petitions the court and the court takes custody.
- While being transported to foster care, the child discloses:
  - She was hit by mom’s boyfriend on head, choked, and spanked.
  - She doesn’t want to go home again.
  - Is afraid of her mother.
Data

Patterned Abusive Bruises of the Buttocks and the Pinnae
KENNETH W. FELDMAN
Pediatrics 1992;90;633

- Case series of vertical gluteal cleft bruising
- Pattern not caused by object, but by the anatomy of the impacted tissue
- Caused by violent spanking, with the “sides” of the cleft pressing against each other as the child is hit
• Bruising on the neck, ears, in clusters is highly concerning for abuse Maguire 2005

• Nearly 12% of household contacts of abused children < 5 years old have fractures on skeletal survey Lindberg 2012

• 25% of CPS workers think that physicians should not make recommendations regarding medical evaluations of contact children Berger 2010
Take Home Points

- Communication and follow-up are key!
- Hospital systems need to be designed to provide a “safety net” to catch misdiagnosed children
Take Home Points

- Children benefit when MDT members stay within their roles
- Siblings/contacts of abused children deserve a medical-forensic evaluation
- A “risk assessment” is not a method to determine if a child’s injuries are abusive in nature
1. Medical providers need to examine the child’s entire body

2. “Nice” people lie

3. Understand and define your respective roles

4. Respect professional boundaries
   • Goes both ways

5. We should be on the same team
Data

- Femur fracture (spiral or otherwise) often occur accidentally in young mobile children
- Immature bone in femurs in young children is susceptible to fracture
  - Especially with “torque” or twisting

Blakemore 1996, Pierce 2005
Femur Fractures

- 80% of femur fx in children younger than walking age and 30% of femur fx in children <4 yo found to be abusive
- Spiral fractures in children less than 6 yo no more likely to be abusive, but more likely to be investigated for abuse
- Specifically in falls, transverse 33%, spiral 37%, oblique 14%
- Confirmed child abuse: transverse 36%, spiral 36%, oblique 7%

Gross 1983, Scherl 2000
Femur Fractures

- Non-ambulatory children: 42% of femur fractures due to abuse
- Ambulatory children: 2.6% of femur fractures due to abuse
- Conclusion: developmental status and history of event most important

Schwend 2000
Subjects were first evaluated by a “non-CAP” physician, then by a “CAP” physician.

Diagnoses regarding physical abuse compared.
Changes in 40% of cases.
80% of changes from abuse to non-abuse
Most valuable information from scene investigation by CPS

### Table 2
Comparison of diagnoses provided to CPS by non-CAP physicians and CAP physicians working in concert with CPS (overall).

<table>
<thead>
<tr>
<th>CAP diagnosis</th>
<th>Non-CAP physician diagnosis</th>
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<tbody>
<tr>
<td></td>
<td>Abuse (%)</td>
</tr>
<tr>
<td>Abuse</td>
<td>50</td>
</tr>
<tr>
<td>Nonabuse</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>90 (78.3)</td>
</tr>
</tbody>
</table>
Cases from rural areas 3x as likely to have a changed diagnosis

Conclusions:
1) CPS often isn’t provided with a medical diagnosis regarding abuse
2) Consultations with child abuse experts often results in a change in diagnosis
3) Child abuse experts often change a diagnosis from abuse to non-abuse
TABLE 1  Suspicion of Child Abuse in Ambulatory Children on the Basis of Characteristics of Bruises

<table>
<thead>
<tr>
<th>Less Suspicious for Child Abuse</th>
<th>More Suspicious for Child Abuse</th>
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<tbody>
<tr>
<td>Forehead</td>
<td>Location</td>
</tr>
<tr>
<td>Under chin</td>
<td>Face</td>
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<tr>
<td>Elbows</td>
<td>Ears</td>
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<tr>
<td>Lower arms</td>
<td>Neck</td>
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<tr>
<td>Hips</td>
<td>Upper arms</td>
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<tr>
<td>Shins</td>
<td>Trunk</td>
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<tr>
<td>Ankles</td>
<td>Hands</td>
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<td></td>
<td>Genitalia</td>
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<tr>
<td></td>
<td>Buttocks</td>
</tr>
<tr>
<td></td>
<td>Anterior, medial thighs</td>
</tr>
<tr>
<td>Pattern</td>
<td>Slap or hand marks</td>
</tr>
<tr>
<td></td>
<td>Object marks</td>
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<tr>
<td></td>
<td>Bite marks</td>
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<tr>
<td></td>
<td>Bruises in clusters</td>
</tr>
<tr>
<td></td>
<td>Multiple bruises of uniform shape</td>
</tr>
<tr>
<td></td>
<td>Large cumulative size of bruising</td>
</tr>
</tbody>
</table>

14, 15, 17
Take Home Points

- Siblings often hold the key to diagnoses and identifying perpetrators
- All children with findings concerning for abuse should be seen by a medical provider with pediatric forensic expertise
EMOTIONAL BREAK
Non-accidental Burn Patterns

- Burns with sharply defined edges or symmetrical patterns
- Immersion “glove” or “stocking” patterns
- Pattern burns suggest stove burners or heating grates
- Round symmetrical burns
  - Cigarettes
  - Car lighter
Abusive Burns

- Scalding via hot water immersion, most commonly reported mechanism
- Abusive burns more severe and complicated
- Typically < 6 yrs, on average 2 to 4 yrs
- Youngest child in family at greatest risk
- Abusive burn victims more likely to have signs abuse/neglect and/or CPS reports
- 14 – 19% children with suspicious burns have + skeletal survey
Patterns of Abusive Burns

- **Scald**
  - Uniformity of burn depth – restrained
  - Bilateral symmetry without splash marks - immersion

- **Dry contact**
  - Silhouette of object

- **Cigarette or cigar**
  - Circular pattern
Abusive Immersion Burns

- Spare flexor creases – restrained or withdraw reflex
- Spare soles of feet or point of contact with cooler surface
- Linear or clear demarcation between burned and unburned (glove and stocking)
- Uniformity of burn depth
- Absence of splash
- Hands, feet, genitalia, buttocks
Immersion Burns
Accidental Scald Burn

- Splash marks
- Hot water splash >140F results in burn
- Burn less intense as liquid runs down and dissipates heat
- Flexor creases spared due to withdraw reflex
- Distribution and margins are asymmetric
- Pattern influenced by clothing and type liquid
Thermal Contact Burns

Cigarette burns are usually inflicted on palms, soles, and buttocks.

Fresh burn blister resembles bullous impetigo.

Excavated fresh burn.

Old pigmented burn scars.

Burns in various stages of healing indicate repeated abuse.

Abuse must be suspected if burn is in configuration of common household utensil or appliance, especially if burn is located where injury could not be accidental.
Accidental Contact Burns

Indistinct margins

Do not occur in multiples

Usually on parts of body not clothed
(hands, feet, face)
Immersion burns
Why admit the child?

- Over 25% of abused children have a previous, “minor” abusive injury
  - 80% of “minor” injuries are bruises
  - 66% occur prior to 3 months of age (Sheets 2013)

- An abused child returned to an unsafe home is at 50% risk for additional injury and 10% risk of death (Green and Haggerty 1983)

- Bruises in an immobile infant are nearly always due to abuse (Sugar 1999)

- Incidence of Abusive Head Trauma peaks around 9-12 weeks of age
“Those who don’t cruise rarely bruise”
Potential Screening Questions

Screening questions:
1. Is there concern for neglect (physical/medical/educational/nutritional) or emotional maltreatment?
2. Is there a disclosure of sexual abuse or medical findings concerning for sexual abuse?
3. Is there a fracture in a child < 1 year of age or a fracture otherwise concerning for abuse?
4. Is there an internal abdominal or thoracic organ injury in a child < 4 years of age?
5. Is there intracranial bleeding or a skull fracture in a child < 1 year of age?
6. Is there any bruising on a child < 6 months of age, buttock or ear bruising, or other suspicious bruising.
7. Are there burns in a child < 2 years of age or any other burns that are concerning for abuse?
8. Are there other findings concerning for patient maltreatment?

- Neglect terms are accompanied by definitions
- Ages for injuries are based on epidemiology of abuse
- A pre-written policy reduces the influence of your emotions/relationships
- All cases meeting the above criteria require SW/CAP notification
Child Abuse: Management

- Document
- Full P/E (rectal, genital)
- Photograph
- Labs: CBC, PT/PTT, LFTs, lipase, U/A
- Skeletal survey
- CT head, abd prn
- Child Protection
Sometimes We Think Our Jobs Are Bad
Thank You!
REFERENCES


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