Children Deserve a Sherlock Holmes: 
Clues to Recognizing Non-Accidental Trauma and Child Abuse

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• Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or

• An act or failure to act which presents an imminent risk of serious harm.

Federal Child Abuse Prevention and Treatment Act (CAPTA), (42 U.S.C.A. §5106g), 2
Child Abuse and Neglect

- 3.3 million reports representing 6 million children

- **Largest majority of victims:**
  - < 3 years
  - 80% of fatalities
  - ½ under one year of age
In 81% of abuse and neglect, the parent/caretaker is the abuser.
The injury may not be life threatening - **but the situation is.**
“The Case of the Perfect Mother”

- NICU/PICU Lead RT
- Wife

- Second child - chronic sickness
  - FTT
  - Persistent Vomiting and Diarrhea
After a very stable week, he is ready for discharge.
After the order is written, he begins to vomit; requiring IV and medications.
Mom calls to the PICU –
  “I am about to be arrested for poisoning Sammy”
Munchausen Syndrome By Proxy

- a psychological disorder characterized by a pattern of behavior in which someone, usually a mother, induces physical ailments upon another person, usually her child
- *Factitious Disorder Imposed on Another*
Munchausen Syndrome By Proxy

- Goal is not to kill the victim
- Goal is not concrete rewards

- Goal is sympathy and attention
Clues:

• Almost always mom
• Child most often younger than six
• Abnormal interest in the illness
• S/S cease when apart from mom
• Vague illness –
  - Seizures
  - Apnea
  - Vomiting/Diarrhea
  - Sepsis
“The Case of the Raccoon Eyes”

- Report -
  - 7 month old infant learning to walk
- “Fell down against the coffee table”
- Both eyes bruised
- Awake - alert
“The Case of the Raccoon Eyes”

- Eye injuries not unusual in children
- Not normally both eyes
- May have increased swelling
- Battle's Sign
Basilar Skull Fracture

- No OG/NG
- No Nasal Intubation
“The Case of the Snatch and Grab”

• Four month old infant brought to ER
• Mother noticed child was not moving the left leg
• Child cried when leg manipulated
• No significant history
• VSS, no temp
• Obvious oblique fracture, proximal shaft of L femur
• Is this non-accidental trauma?
Fractures

• **Spiral Fractures**
  - One end of extremity is fixed and the rest moves
  - Suspicious in the non-ambulatory infant
  - Part of jerking or twisting
Clues:

- **Age**
  - 80% of all abuse fractures < 18m
  - 85% of non-abuse fractures > 5 years
- **Cannot be explained by a simple accident**
- **Rib Fractures in toddler**
- **Long bone fracture in an immobile infant**
  - *Unlikely due to body mass or motor skills*
"The Case of the Seizing Baby"

- 4 month old infant with history of “breath holding spells”
- Born at 33 weeks
- Now in ER with “shaking of arms and legs” times one minute
- Followed by period of lethargy
- 18 year old parents waited four hours for grandmother to come home, then called EMS
"The Case of the Seizing Baby"

- On arrival, EMS finds -
  - Lethargic
  - HR 120, RR 30 - mild retractions
  - BP 70/40
  - Full tense fontanel
Shaken Baby Syndrome
- Abusive Head Trauma
- Age
  - Three weeks - 22 months
  - Median age of five months
- Number one case of trauma death in children under one year
- 50 - 90% of survivors are left with a degree of disability
Clues:
Clues:

- Lethargy
- Seizures
- Decreased muscle tone
- Reduced appetite
- Breathing problems
- Vomiting
- Irritability
“The Case of the Clumsy Kids”

- Bruising -
  - Is this a normal bruising pattern?
  - Clumsy? Tough?
  - When should we be concerned?
Clues:

- “Normal” vs “Suspicious” places
- ? Size and pattern
Clues:

- What is the story?
- Does the story match the injury?
- Does the story match the age or developmental level?
Clues:

- Characteristic Abuse Bruising (AAP 2009)
  - Torso, Ear or Neck
    » < 4 years of age
  - Any Region
    » < 4 months of age
The Color and Age of Bruising

- Red: 0 to 2 days
- Blue, purple: 2 to 5 days
- Green: 5 to 7 days
- Yellow: 7 to 10 days
The Color and Age of Bruising

- **1996 - Langlois and Gresham**
  - No significant color other than YELLOW (18 hrs)

- **2003 - Bariciak and Flint (published AAP)**
  - Physician accuracy within 24 hrs no better than chance alone
  - Accuracy improves somewhat with age
Be wary of . . . .

- Bruises in nonmobile children
- Away from bony prominences
- Multiple bruises in size and shape
- Patterned
- Multiplanar (right and left or front and back)
- Grouping in a cluster
“The Case of the Bathtub Burn”

16 month old brought in by parents
States she “fell into the bathtub"
Water was hotter than intended
They called 9-1-1
Clues:

- 25% of all abuse involves a burn
- Third leading cause of abuse death
- Majority are under the age of two
Clues:

- Two types of burns:
  - Contact Burns
Two types of burns:
- Splash or Immersion Burn
Clues:

- Suspicious Burns
  - Burns to face, feet or genitals
  - Sharply demarcated edges
  - Contact burns with a pattern
  - Stocking or glove burns
  - Circumferential burns
  - Burns with a suspect history
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“The Case of the Sneaky Imposter - 1”

- Child returns from non-custodial parent
- Recently recovered from “a cold”
- Now presents “covered in bruises”
Idiopathic Thrombocytopenia Purpura (ITP)

Clues:

- Unexplained episode of bleeding
- Hx of viral illness
- Lab
  - Platelets <150,000, WBC normal
"The Case of the Sneaky Imposter - 2"

- Six month old Hispanic patient
- Establishing at local physician’s office
- On physical exam, notices - -
Congenital Dermal Melanocytosis (Mongolian Spots)

Clues:
- Hispanic origin
- Blue/Grey spots on back, buttocks
- Irregular shape
- Normal skin texture
- Appears shortly after birth - gone by 4 yrs
Two year old with a fractured left tibia

On x-ray - shows multiple fractures in multiple stages of healing

No clear MOI for injuries
Osteogenesis Imperfecta

- Most common genetic bone disease
- Results from an abnormality in the collagen synthesis, causing brittle bones
What’s Our Job?

• Address the medical emergency!
  • Identify and report
  • Preserve evidence
  • Testify in court
It shouldn't hurt to be a child.

