In The Eyes of the Beholder: Reporting of Child Abuse by Military Pediatric Healthcare Providers

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Disclosure Information

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this CME activity.

I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.
1F. No fracture, on its own,

... can distinguish an abuse from non-abuse

Individual fractures, the site, fracture type, and developmental stage of the child can help to determine the likelihood of abuse.
2F. Sleep hygiene; safe sleep
3F. Divorce

- Address parent & child concerns (indicate sources)
- Document physical findings
- Report “reasonable suspicions”
- Parent should report their concerns to CPS, FAP and their family attorney; formal requests for records
- Recurrent clinic and ED visits
4F. Supporting kids in the moment
5F. Bruises in infants and toddlers

- < 1% non-independently mobile babies
- 17% - infants who are starting to mobilize (cruise)
- 53% - ambulatory infants and toddlers

- Bruises in non-mobile infants, over soft tissue areas, that carry the imprint of an implement and multiple bruises of uniform shape are suggestive of abuse. They are often associated with other injury types that may be older.
6F. Abdominal trauma

- Recognition of abdominal trauma is difficult
- Screen potentially abused children with liver function tests, amylase, lipase
- AST or ALT >80IU/L should undergo abdominal imaging
- Always consider multisystem trauma in infants and smaller, younger aged child
- Abdominal injury second only to head injury as leading cause child abuse fatality.
7F. “Mean-world”? 

- By the time they reach age 18, American children will have seen 16,000 simulated murders and 200,000 acts of violence (American Psychiatric Association, 1998).
- Fear of being the victim of violence is a strong motivation for some young people to carry a weapon, to be more aggressive, and to “get them before they get me.”
- Exposure to media violence can lead to anxiety, depression, PTSD, sleep disturbances and nightmares, and/or social isolation.
- Research into “catharsis hypothesis” revealed that after experiencing media violence, children and young adults behave more aggressively, not less.
- Research has demonstrated that media education and thoughtful media use can reduce violent behavior in children.
8F. Thoracic trauma: less frequent; more lethal

• Isolated thoracic trauma - 5% mortality.
  – w/head trauma OR abdominal trauma - 25% mortality
  – w/head AND abdominal trauma - 40% mortality

• Cardiac contusions s/p blunt trauma 5-50% incidence:
  – Spectrum of symptoms ranging from no symptoms to decrease in cardiac function to cardiogenic shock (rare).
  – High index of suspicion
9F. Racial disparity

- Minority children are more likely to be evaluated and reported for suspected abuse, even after controlling for the likelihood of abusive injury.
- Racial differences do exist in the evaluation and reporting of pediatric fractures for child abuse, particularly in toddlers with accidental injuries.
10F. Fractures are reported as the second most common findings in child abuse...

...after skin lesions such as bruises and contusions.

- Rib fractures in infants and young children are highly associated with abuse.
- Fractures near the costovertebral junction carry a high specificity for abuse because they result from excessive anteroposterior chest compression.
10F. The classic metaphyseal lesion (CML) is a high-specificity indicator of infant abuse

- CML
- Chip fracture
- Bucket handle fracture
- Corner fracture
11F. Biparietal skull fractures w/o ICH

...are reported in common household falls.

Skull, clavicle most common fractures in household falls (1-3% result in fracture)

In one study, 500 abused children compared to 985 nonabused children:
• < 18 months of age, the odds of certain fractures were found to be significantly higher in the child abuse group.
  – rib 23.7 times
  – tibia/fibula 12.8 times
  – humerus 2.3 times
  – femur fractures 1.8 times

• > 18 months age, the odds of certain fractures were higher in the accidental group.
  – humerus 3.4 times
  – femur fractures 3.3 times
12F. 10-30% of pediatric burns are inflicted
13F. TNTC?
14F. Missed Abusive Head Trauma

– 20 of 54 cases of MAHT had face or head bruising

• **Erroneous diagnoses included:**
  – viral gastroenteritis
  – accidental head injury
  – rule out sepsis
  – reflux
  – idiopathic increasing head size
  – URI/otitis media
  – meningitis
  – seizure disorder
  – ALTE (> 50% AHT missed)
  – bruising of unknown origin
15F. Multiple fractures?

- Careful history and thorough physical examination
- Complete skeletal survey, head imaging, dilated eye examination
- CBC, Ca++, PO4, Alk Phos
- Hepatic and renal panels, amylase, lipase
- Urinalysis
- Serum 25 hydroxy-Vit D and PTH if rickets suspected
- Serum copper, ceruloplasmin if Cu deficiency suspected
- Genetics, Endocrine consults
- Consider multisystem trauma (Trauma consult)
- Vit D deficient v. Vit D insufficient v. Vit D sufficient
- Vit D insufficient ≠ fracture

Vitamin D status in abused and nonabused children younger than 2 years old with fractures.
Schilling S, Wood JN, Levine MA, Langdon D, Christian CW

Vitamin D insufficiency was not associated with multiple fractures or diagnosis of child abuse.
Nonaccidental trauma remains the most common cause of multiple fractures in young children.
16F. CSA Mimics

- Conditions mistaken for sexual abuse: lichen sclerosus, vulvovaginitis, impetigo, contact dermatitis, hemangiomas, hymenal tags and other structural variants, failed midline fusion, urethral prolapse, diastatsis ani


Common conditions that mimic findings of sexual abuse.
Hornor G.
Nationwide Children's Hospital, Columbus, OH 43205, USA.
17F. HPV

- Increased HPV detection among sexually abused patients (p < .0001):
  - No evidence of CSA 1.3%
  - Possible CSA 8.4%
  - Probably CSA 15.6%
  - Definite CSA 14.5%

  (Urine and swabs of external genitalia were tested for HPV using L1 consensus polymerase chain reaction)

- < 2-3 years non-sexual transmission more likely
- > 2-3 y/o with HPV: medical evaluation w/screen for STI; appropriate interview; investigation for suspected abuse
18F. Responsible photodocumentation
19F. ACE and PCMH

- Placement disruptions exacerbate behavioral and other health problems

- 513,000 children in foster care in US in 2005
  - 1/3 with unmet healthcare needs
  - 80% with serious emotional problems

- Compared to general population, children and adolescents in foster care:
  - 6x PTSD (twice the rate of returning war veterans)
  - 4x Substance abuse
  - 3x anxiety d/o
  - 2x depression

NB: Adverse childhood experiences (ACE) independently predicted higher depression and post-traumatic stress symptoms, beyond the expected contribution of combat exposure, in US soldiers returning from Iraq
20F. 29,757,000 persons

...were treated for nonfatal injuries in U.S. hospital emergency departments in 2007.

- More than 182,479 deaths from injury — 1 person every 3 minutes

- Unintentional and violence-related injuries accounted for 51% of all deaths.

*CDC Injury Center, US, 2007 Statistics*
21/22F. Paramour and power mowers

- Children residing in households with unrelated adults were nearly 50 times as likely to die of inflicted injuries than children residing with 2 biological parents.
- Children in households with a single parent and no other adults in residence had no increased risk of inflicted-injury death.
23F. Maximizing potential v. minimizing risk

905,000 cases child abuse (2006)
- 64% neglect
- 2.2% medical neglect
- 16% physical abuse
- 8.8% sexual abuse
- 6.6% psychological abuse
- 12% of reports made by medical personnel

An ounce of prevention

- Prevention
  - Social history- opportunity to learn what is happening within the family
  - Anticipatory guidance: safety needs
  - Expanding the system: case managers
Thank you for your participation and your advocacy for children and families.