Suspected Child Abuse and Neglect Review for Primary Care, 2018

Mercie DiGangi, DO
Child Abuse Prevention Program Regional Physician Lead

Disclosure

"I have nothing to hide!"

I have no financial relationships with commercial interests

Objectives

- Review important questions to ask while talking a history and identify warning signs
- Review high and low risk findings on physical exam
- Outline step by step what to do if abuse is suspected
- Demonstrate KP tools to identify and report child abuse

Child abuse is much more common than other pediatric conditions we address

	# KPNC Members ≤ 17 Affected	Prevalence
Estimate based on U.S. data for confirmed cases:		
Child Abuse	**95,730**	**12.5%**
Kaiser Permanente Registry data:		
Persistent Asthma	**31,961**	**4.2%**
Type 1 & 2 Diabetes	**1,473**	**0.2%**

KP Prevalence Data

In **2016**: 915,000 KP members under 18 years old
2332 Suspected Child Abuse Reports filed
Reporting prevalence of 0.002 (0.2%)
We are missing nearly every case!!

Most important questions to ask while taking a history….

- Was there a delay in seeking care?
- Has the history changed?
- Is the injury/problem consistent with the history?

SCAN BPA

Physical Exam Findings

- Bites
- Bruises
- Burns
- Fractures
- Abusive head trauma (Shaken-Baby Syndrome)
- Retinal hemmorages

- **Upsetting images coming up**

Bites

- Intercanine distance < 3 cm is likely from a child
- Intercanine Distance > 3 cm is likely an adult

Bruises in Infants and Toddlers

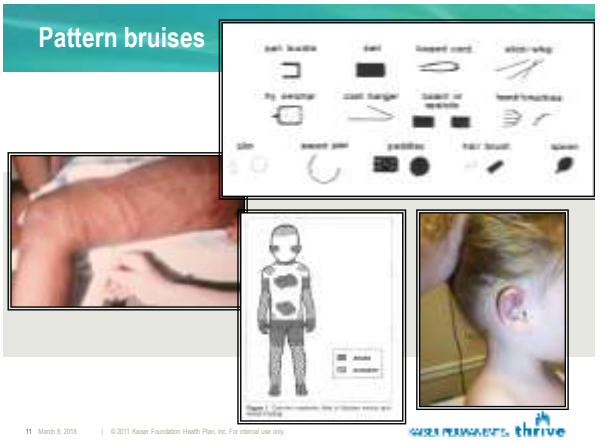
Those Who Don't Cruise Rarely Bruise

- Prospective study found bruises in 203 of 973 healthy infants and toddlers
  - Only 2 (0.6%) of 366 infants less than 6 months had any bruising
  - Found with equal frequency in boys and girls but much more common in whites than blacks
  - In toddlers, most common sites were shins, knees, upper legs and foreheads
- Bruises on face and trunk were rare, and none were found on hands or buttocks at any age

Sugar NF, et al. Archives of Pediatric and Adolescent Medicine 153:399, April 1999.

10

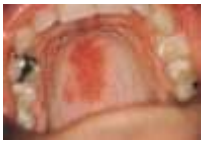
Pattern bruises



11 March 8, 2018 |

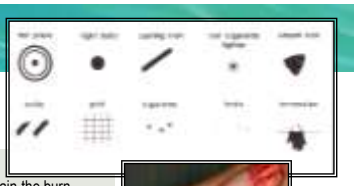
Frenulum and Mouth Injuries

- When objects are forcefully thrust into a child's mouth
- lacerations of the lingual and labial frenulum, abrasions of the hard palate, bruises and abrasions at the corners of the mouth
- Fractures of the maxilla and mandible also may occur from child abuse.
- Similar injuries may result from accidental trauma, and therefore, it is important to exclude such a history.



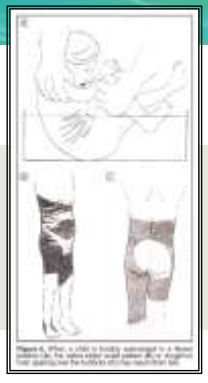
12 March 8, 2018 |

Burns



- History does not adequately explain the burn
- Burn reflects shape of an object
- Multiple burn sites
- Deep or extensive burn
- Extremities on both sides burned
- Clear, regular edge, uniform depth,
- no splash marks
- Glove- or sock-pattern burns of distal extremities

Immersion burns



Patterned burns

Car cigarette burn

Iron Burn

Metal Spatula

Skeletal Injuries

Degree of Specificity for Abuse

- High Specificity
- Moderate Specificity
- Low Specificity

Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998.

High Specificity for Abuse

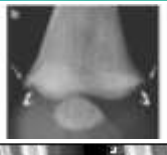
Fractures RARELY seen in other circumstances

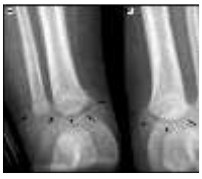
- Classic Metaphyseal Lesion
- Posterior Rib Fractures
- Scapular Fractures
- Spinous Process Fractures
- Sternal Fractures

Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Classic Metaphyseal Lesion

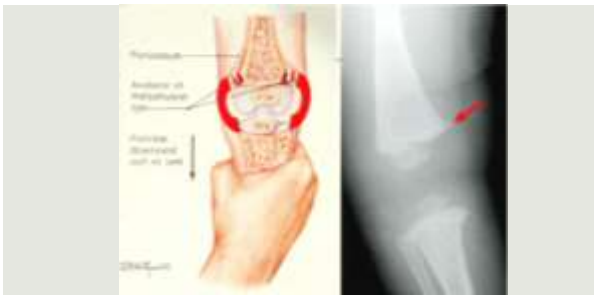
- CML is virtually pathognomonic of abuse
- AKA "corner fracture, chip fracture, buckle handle fracture"
- Shearing force
- Occurs in long bones
- Minimal clinical sxs or bruising
- Concern for associated head trauma



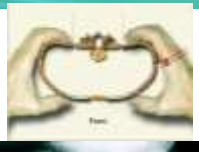


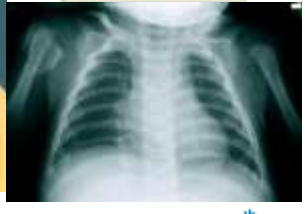
Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Mechanism of injury in CMLs



Posterior Rib Fractures





Can CPR cause rib fractures?

NO

- Feldman, Brewer 1984
  - 113 children, no fractures in CPR cohort
  - Fracture noted only in abused children, MVA
- Spevak et al 1994
  - 91 infants with CPR, no fractures
- Betz, Liebart 1994
  - 94 infants with CPR, 2 rib fractures mid clavicular line

Sternal and Scapular Fractures

High specificity for abuse

- Sternal fractures are rare, result from direct blow
- May be unrecognized
- Middle third of acromion most common
- Bone scans may reveal them

Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Moderate Specificity for Abuse

Suspicious for abuse but not diagnostic

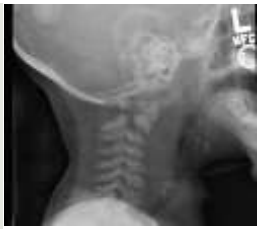
- Multiple fractures, especially bilaterally
- Fractures of different ages
- Epiphyseal separation
- Vertebral body fractures
- Digital fractures
- Complex skull fractures

Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Cervical Vertebral Fractures

Moderate specificity

- Hangman Fracture
  - Fracture through the through both pedicles of C2
  - Hyperextension is the mechanism for this fracture, may be seen in cases of violent shaking.
- Always obtain cranial imaging and skeletal survey when this injury is present in a young child.

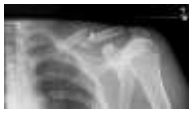


Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Low Specificity Fractures

Common in both accidental and abusive injuries
GET A GOOD HISTORY

- Clavicle fractures
- Long bone fractures (+/- spiral)
- Simple linear skull fractures



Kleiman, Paul. Diagnostic Imaging of Child Abuse. Williams and Wilkins, 1998

Femoral Fracture

- Most commonly due to falls in children <4yrs of age (Capra, 2012)
  - Stumble/fall from standing, from height, while running
  - Most <2 feet
- Highest risk in children < 2 yrs
- Failure to reach walking age = strongest predictor of abuse

SKELETAL SURVEY

Many fractures may not be clinically detectable, so a negative exam should NOT preclude the need for skeletal radiologic survey when inflicted trauma is suspected, particularly in children <2yrs

- MANDATORY in all cases of suspected physical abuse in children <2yo
- Skeletal survey has little value in children >5yo
- For 2-5yo up to the clinician to decide whether skeletal series is needed

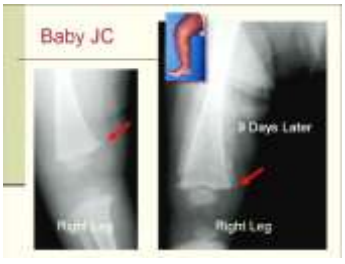
Skeletal Survey

- Appendicular skeleton
- Arms (AP)
- Forearms (AP)
- Hands (PA)
- Thighs (AP)
- Legs (AP)
- Feet (PA or AP)
- Axial skeleton
- Thorax (AP and lateral), to include thoracic spine and ribs
- AP abdomen, lumbosacral spine, and bony pelvis
- Lumbar spine (lateral)
- Cervical spine (AP and lateral)
- Skull (frontal and lateral)

NO BABYGRAMS

Repeating Skeletal Survey

A follow-up skeletal survey ~2 weeks after the initial study increases the diagnostic yield



Abusive Head Trauma

- Leading cause of child abuse fatalities
  - 3 of 10 victims of AHT who were "missed" or "misdiagnosed" at the time of the initial evaluation will suffer abusive re-injury during the period of diagnostic delay
- Direct impact, asphyxia, or shaking are referred to as AHT.
- Compared to victims of severe accidents, children with AHT are more likely to have
  - subdural and subarachnoid hematomas, multiple subdural hematomas of differing ages, more extensive retinal hemorrhages, associated cutaneous, skeletal and visceral injures
  - A fall from a height of 4 feet or less by children younger than 2 years **rarely** results in a skull fracture.

Sexual Abuse

- 90-95% of exams done on pre-pubertal children referred for sexual abuse are NORMAL
  - Children often do not disclose immediately so there may be a long frame of time between the event and the exam
  - The blood supply in the anogenital region is abundant so the area heals rapidly
  - Mucosal tissue heals rapidly without scar formation
  - Anogential area is very elastic and the tissue stretches significantly without stretching
- 2-3% of pre-pubertal children who were sexually abused will contact a sexually transmitted infection and most will be symptomatic

Acute Evidentiary Exam

- When sexual abuse is suspected and a formal exam is necessary, law enforcement will take the patient to CATS (Center for Assault Treatment Services) or SART center (Sexual Assualt Response Team).
  - An acute evidentiary exam includes a history, comprehensive medical exam including a magnified view of the anogenital area, photo documentation and evidence collection.
- Any pre-pubertal child should be referred if either of the following:
  - Sexual acts that pass secretions, including semen and saliva AND the sexual act occurred within the last 72 hours
  - Any child with a recent history of sexual abuse AND anogenital pain and bleeding

REPORTING GUIDELINES

- Call DCFS and make a report. If sexual abuse, you also need to call police
  - If you're unsure, you can still call DCFS for a consult/advice
- Let LCSW know (either in person or forward the chart)
- Fill out the one-page report online – https://mandreptla.org/index.asp
  - You need a referral number to do this, call and make the verbal report first
- Put the referral number in your health connect note
- Print a copy of the report and give it to the MSW
- CODE in health connect – type in "mandatory report" or use our SmartSet
- Suspicious cases, under age 2, should be admitted for a full work up including Skeletal Survey, Head CT, Ophtho evaluation, MSW consult

Child Abuse Smart Set/Order Set

5 suspected Mandatory report codes

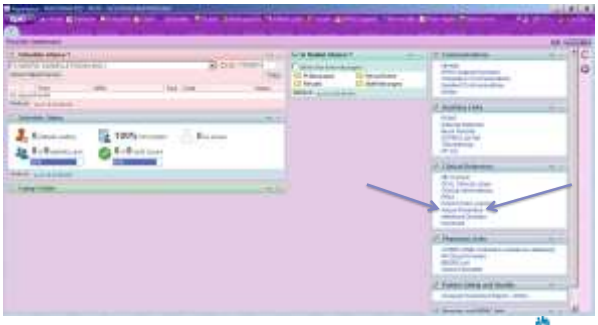
Use one of the five recommended codes:

- Suspected Physical Child Abuse Mandated Report
- Suspected Sexual Child Abuse Mandated Report
- Suspected Neglect Child Abuse Mandated Report
- Suspected Emotional Child Abuse Mandated Report
- Suspected Child Abuse Mandatory Report Exists outside of KP

Facts about the mandated report codes

- All 5 codes are non-billable.
- All 5 codes will not appear on the AVS or KP.org
- Physicians are encouraged to put the code on the problem list.
- If the code is not on the problem list, a different provider may not know this is a high risk patient.

Provider Dashboard



kpnet.kp.org/scal/violenceprevention/child.html

Take home message….

- We are all mandated reporters.
- Please visit our website and become familiar with all of our resources and educational materials.
- Use the SmartSet to make your life easier
- Code Code Code
- Always call our Social Medicine department if you are concerned. They are available 24 hours a day 7 days a week.

Questions?

You can reach me at:
562-461-4189
Mercie.J.DiGangi@kp.org

Thank you for your time.