

Identifying Child Abuse in the Field

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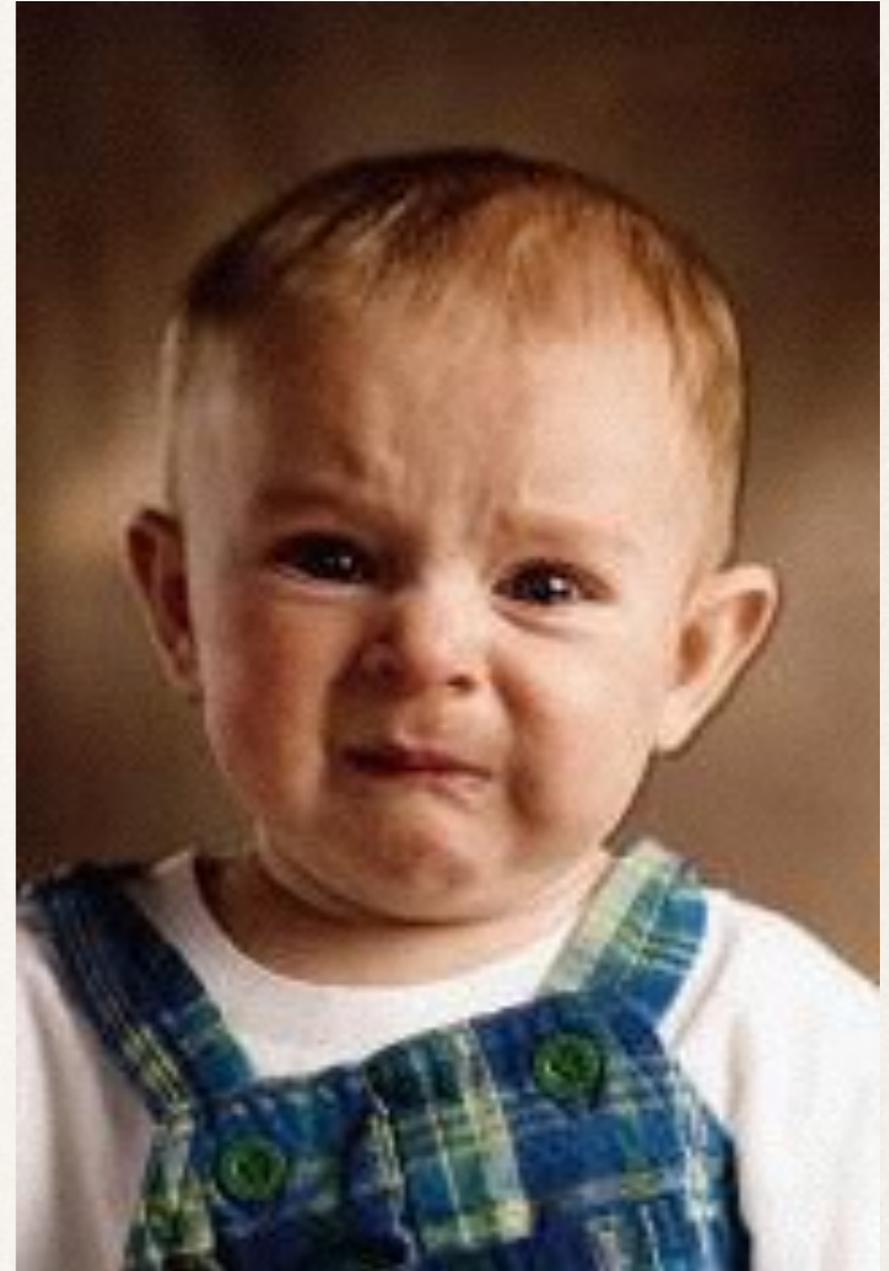
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Objectives

- ❖ Recognize the many possible presentations of child abuse
- ❖ Case studies of child abuse and neglect presentations
- ❖ Understand the basics and importance of documentation

Emergency Department Visits

- ❖ 1.3 – 15% of childhood injuries that result in emergency department visits are caused by abuse



(Pless IB, Sibald AD, Smith MA, Russell MD, Child Abuse Negl. 1987;11:193-200)

Child Abuse Often Missed

- ❖ Child abuse is underreported and often undetected for several reasons:
 - Variations in definitions of “abuse”
 - Inadequate knowledge and training among professionals
 - Unwillingness to report
 - Professional bias

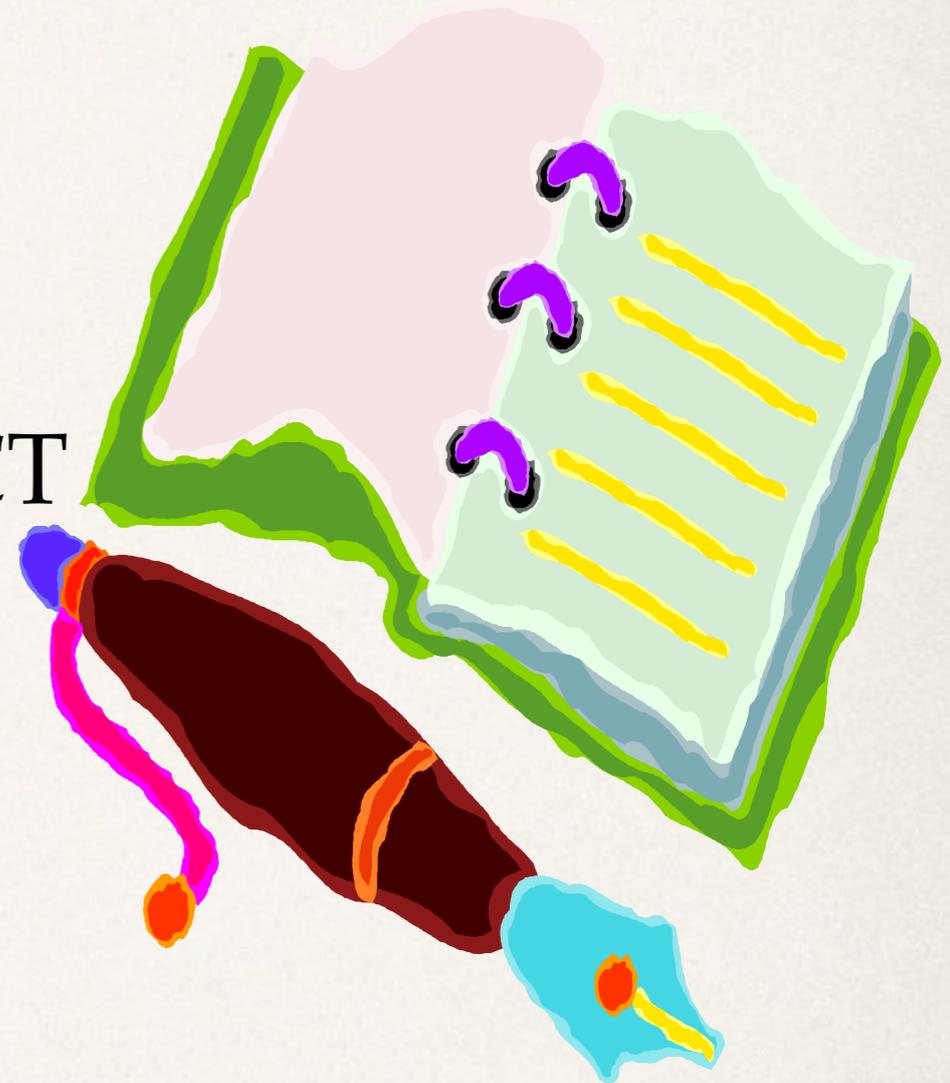
Multidisciplinary Exercise

❖ Identify the Players

- First Responders
- Law Enforcement
- Social Services
- Medical Personnel
- Prosecution, GAL's
- Pathologist/ME
- (Education system)
- (Community partners)

Document, Document, Document!!!

- ❖ Date and Time all entries
- ❖ Make objective statements of FACT
- ❖ Write legibly
- ❖ Use only approved abbreviations
- ❖ Be mindful of spelling, punctuation, & grammar

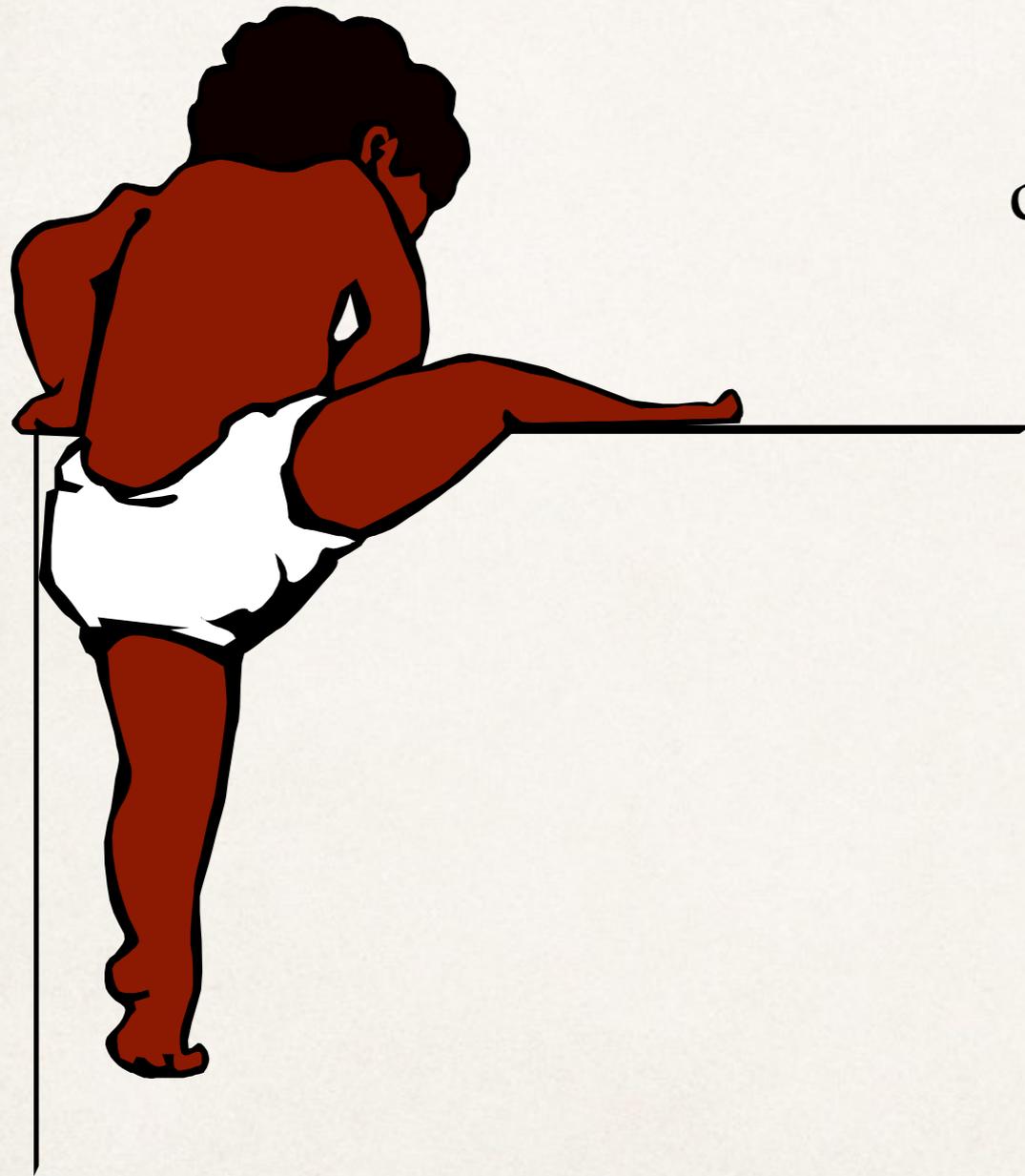


History of Presenting Illness

- ❖ What events preceded the injury?
- ❖ Who had access to the child?
- ❖ When did the child last feed and behave normally?
- ❖ Is there a triggering event?
- ❖ What was the caretaker's response to the injury?
- ❖ What is the affect of the caregiver?
- ❖ If the child is verbal, what do they say happened?
- ❖ Are there any adult or child witnesses?



Injury to a child?

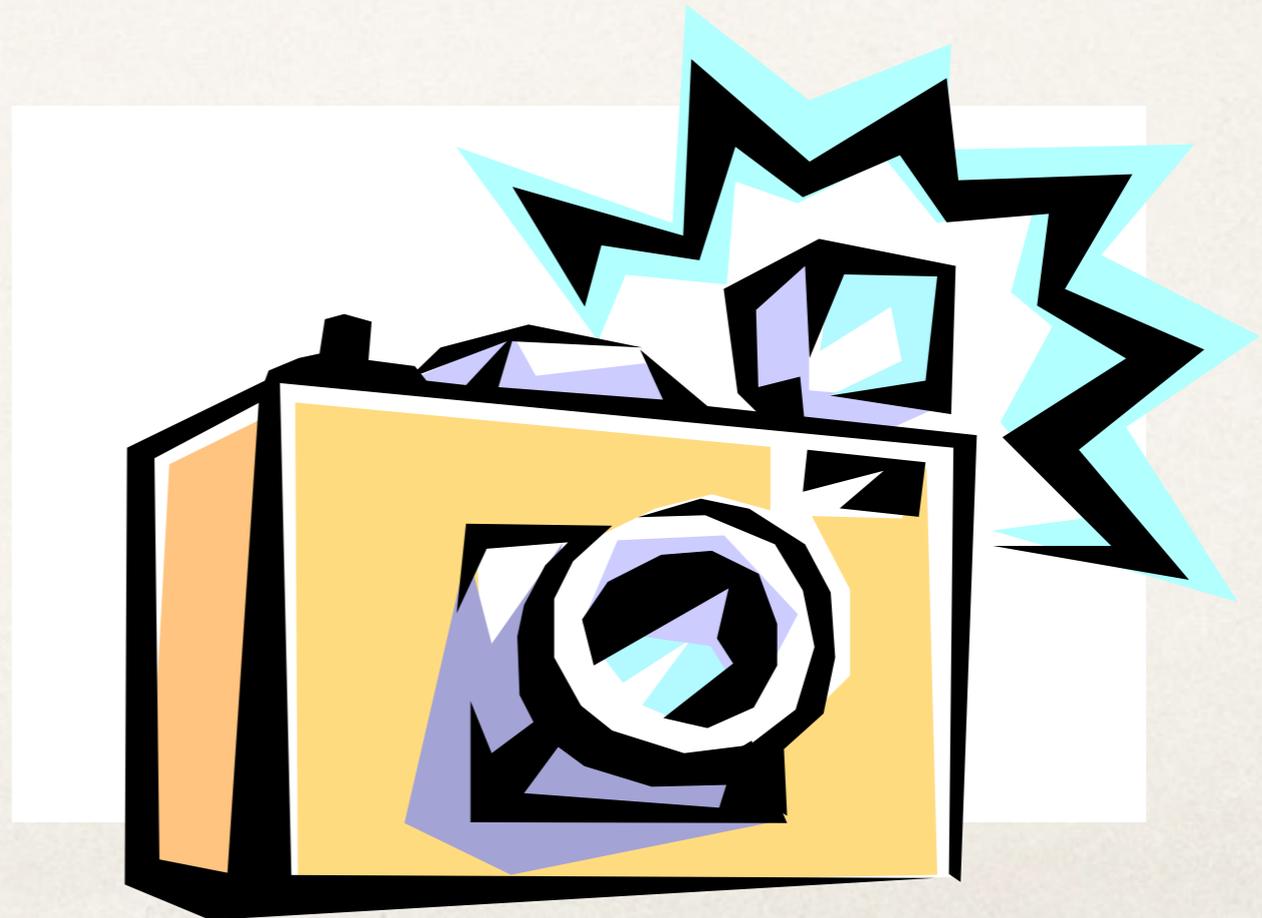


“Do the facts as given in the history, correlate with the following:

- ❖ severity of the injury?
- ❖ age of the injury?
- ❖ location of the injury?
- ❖ pattern of the injury?
- ❖ developmental age of the child?

Photodocumentation

- ❖ A picture is worth a thousand words
- ❖ Permanent image of injuries for expert analysis
- ❖ High quality 35-mm or digital photographs
- ❖ Use measurement control
- ❖ Law enforcement
- ❖ No cell phones



Presentations of Child Abuse

- ❖ Neglect
- ❖ Bruises, abrasions, patterned injuries
- ❖ Burns
- ❖ Thoracic/abdominal trauma
- ❖ Head/CNS injury
- ❖ FTT/starvation
- ❖ Poisoning
- ❖ Asphyxiation/ALTE
- ❖ MSBP/Factitious Disorder/Medical Child Abuse

Fatal Neglect

- ❖ Drowning
- ❖ Burns / fire in the home
- ❖ Motor vehicular crashes
- ❖ Failure to follow medical instructions
- ❖ Firearms
- ❖ Ingestions
- ❖ Strangulation
- ❖ Starvation

SIDS/SUIDS

- ❖ The sudden death of an infant under 1 year of age which remains unexplained after:
 - a thorough case investigation
 - a complete autopsy
 - a review of clinical history
 - a death scene examination
- ❖ “Unexplained infant death” may be a more accurate assessment for pre-hospital personnel and hospital personnel

Five Child Abuse Medical Emergencies



1. Any infant or child < 2 years old with a history or suspicion of shaking or other inflicted head trauma
2. Any infant with bruises (anywhere, but especially head, face, neck, or abdomen) fractures or burns

Five Child Abuse Medical Emergencies



3. Any child with suspected inflicted or suspicious trauma to the abdomen
4. Any child with genital, stocking / glove, branding, or extensive burns
5. Any child with a disclosure of sexual assault within the past 48-72 hours

Previous Abuse

- ❖ In one study of abuse victims younger than 24 months, 75% had evidence of previous trauma or history of a previous injury

(Ricci L, Giantris A, Merriam P, Hodge S, Doyle T, Child Abuse Negl. 2003;27:271-283)

- ❖ Child abuse may recur 35% of the time without appropriate detection or intervention

(Skellern CY, Wood DO, Murphy A. Crawford M, J Pediatr Child Health. 2000;36:590-592)

Sentinel Injuries

- ❖ Minor Injury
 - Bruise
 - Intraoral injury
 - Not clinically important
- ❖ Precruising infant
- ❖ Visible or detectable to caregiver
- ❖ Poorly explained and unexpected

Sentinel Injuries

- ❖ History of sentinel injury in 28% of infants <12 months old with injuries diagnostic of physical abuse
- ❖ All sentinel injuries were described by the parent in medical history
 - 44% of cases suspected to be abuse - BUT...false assumption that abuse is “ruled out” by negative workup
 - 56% of cases with no evidence that medical provider suspected abuse
 - ★ Injury noted without comment
 - ★ Explained as “unintentional” or “self-inflicted”
- ❖ No history of sentinel injuries in patients with accidental trauma

Those Who Don't Cruise Rarely Bruise

- ❖ Prospective study of 973 children
- ❖ Children 0-36 months at well-child visits
- ❖ Demographics, developmental stage, presence and location of bruises
- ❖ No history of bleeding disorder or abuse

[Sugar NF, Taylor JA, Feldman, KW. Bruises in Infants and Toddlers: Those Who Don't Cruise Rarely Bruise. Archives of Pediatric and Adolescent Medicine 1999 Apr; 153(4).]

Those Who Don't Cruise Rarely Bruise

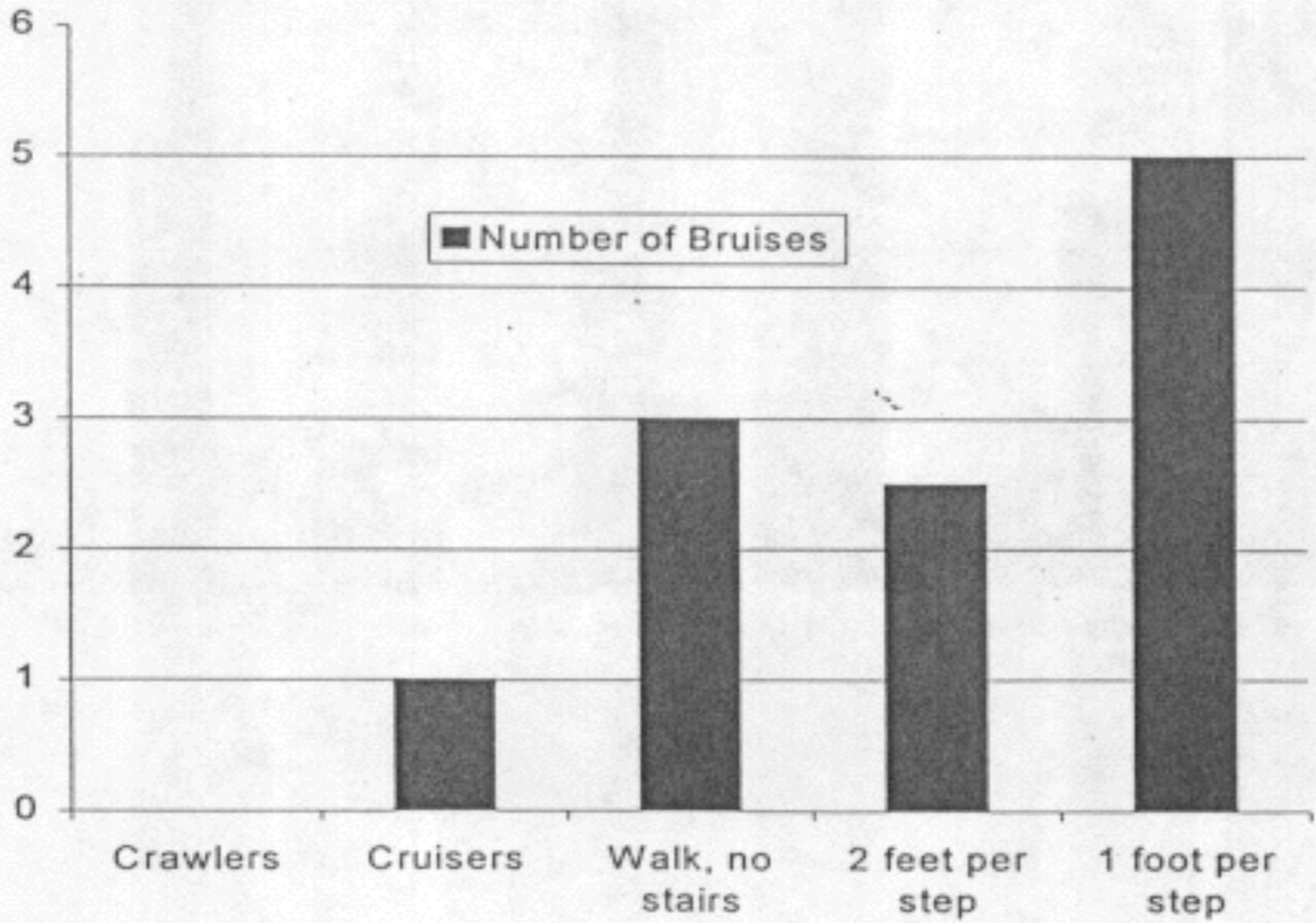
❖ Children with Bruises by Age

- 0.6% of 0-6 month olds
- 1.7% of 6-9 month olds

❖ Children with Bruises by Developmental Stage

- 2.2% of non-cruisers
- 17.8% of cruisers
- 52% of children walking

[Sugar NF, Taylor JA, Feldman, KW. Bruises in Infants and Toddlers: Those Who Don't Cruise Rarely Bruise. Archives of Pediatric and Adolescent Medicine 1999 Apr; 153(4).]



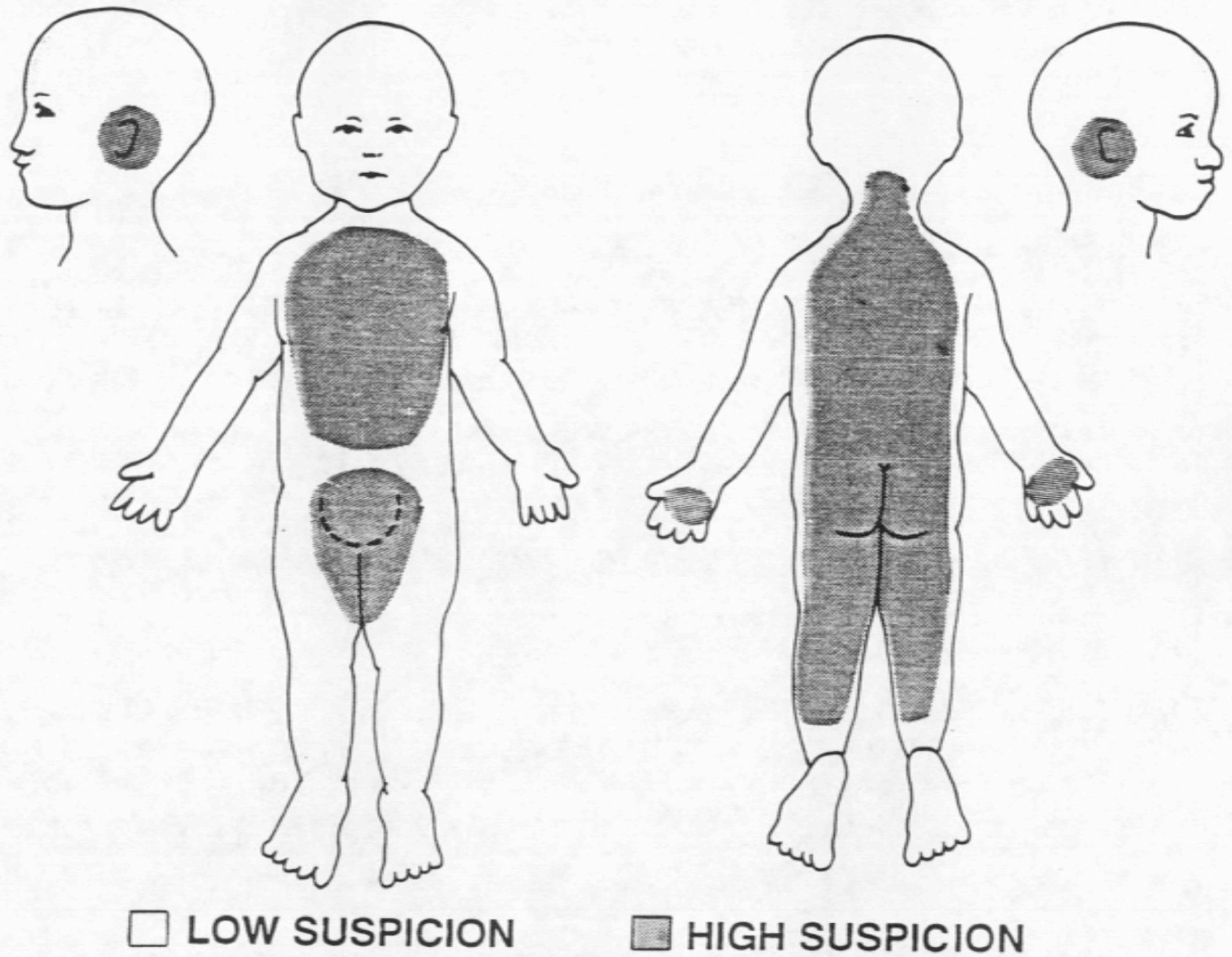
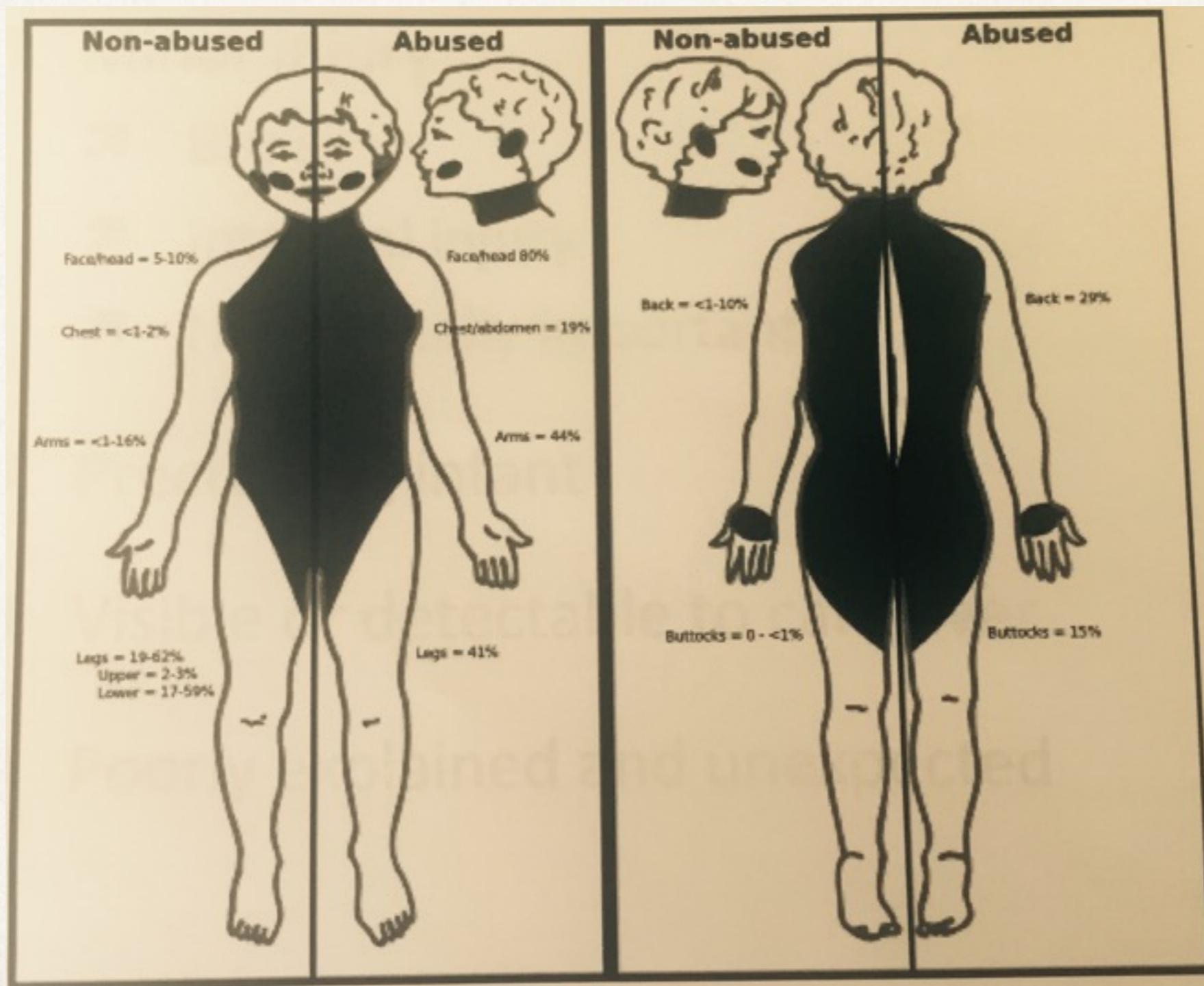


Figure 12.3. Bruises and Abuse: Bruise Location in Accidental and Nonaccidental Injury

TEN-4 Clinical Decision Rule



(Pierce, MC et al. Bruising Characteristics Discriminating Physical Child Abuse from Accidental Trauma. Pediatrics 2010;125:67-74)

Injuries to Skin

Bruises

- ❖ Dating bruises is inexact
- ❖ Depth and location of bruise
- ❖ Amount of bleeding into skin
- ❖ Blood supply to area
- ❖ Gravity in dependent areas of body
- ❖ Re-injury

Injuries to Skin

Bruises

- ❖ Complete literature review up until 2004
 - 2 studies described color assessment in vivo and one in photographs
 - Concluded that “a bruise cannot accurately be aged from clinical assessment in vivo or in a photograph” and that at this time, “the practice of estimating the age of a bruise from its colour has no scientific basis and should be avoided in child protection proceedings.”

(S Maguire, MK Mann, S Sibert, A Kemp; Arch Dis Child 2005;90:187-189)

What Does One Bruise Mean?

- ❖ <6 month old infants evaluated for abuse with only bruising
- ❖ 23% had a new injury found on skeletal survey
- ❖ 27% had a new injury found by neuroimaging
- ❖ Overall, 50% had at least one additional serious injury!

(Harper, N et al. J Pediatr 2014;165(2):383-88)

Skin Findings

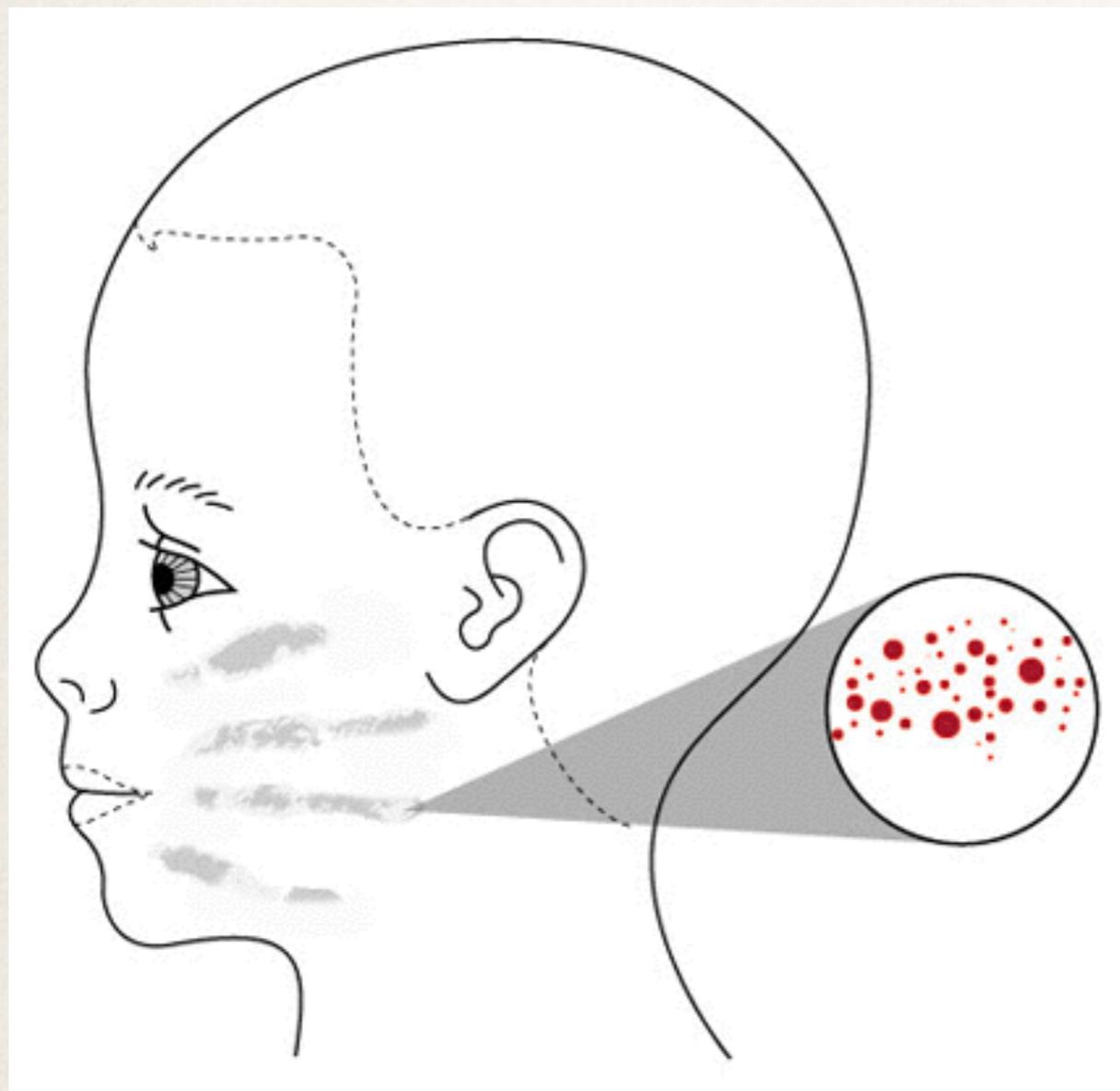
- ❖ Skin findings in suspected Non-Accidental Trauma cases sometimes:
 - Are clearly what they appear to be with a discernible pattern
 - Are an evolution of earlier skin injury or the sequela of another underlying injury
 - May mimic the skin findings of another disease or condition
 - Represent abuse and a co-morbid condition
 - May never conclusively be figured out!

Injuries to Skin

- ❖ Location, size, shape and color of all injuries should be clearly documented
- ❖ Photos and / or diagrams
- ❖ Inflicted injuries tend to occur away from bony prominences (i.e. head, neck, buttocks, trunk, hands and upper arms)
- ❖ In one patient series, approximately 60% of abused children had injuries to the head, face or neck

(Cairns AM, Mok JY, Welbury RR. Int J Paediatr Dent. 2005;5:310-318)

Hands as “Weapons”



- ❖ Very common pattern injury to face and other soft tissue
- ❖ Slap marks and knuckle marks
- ❖ Grab marks to extremities
 - Isolated finding
 - Seen with fractures or other body trauma

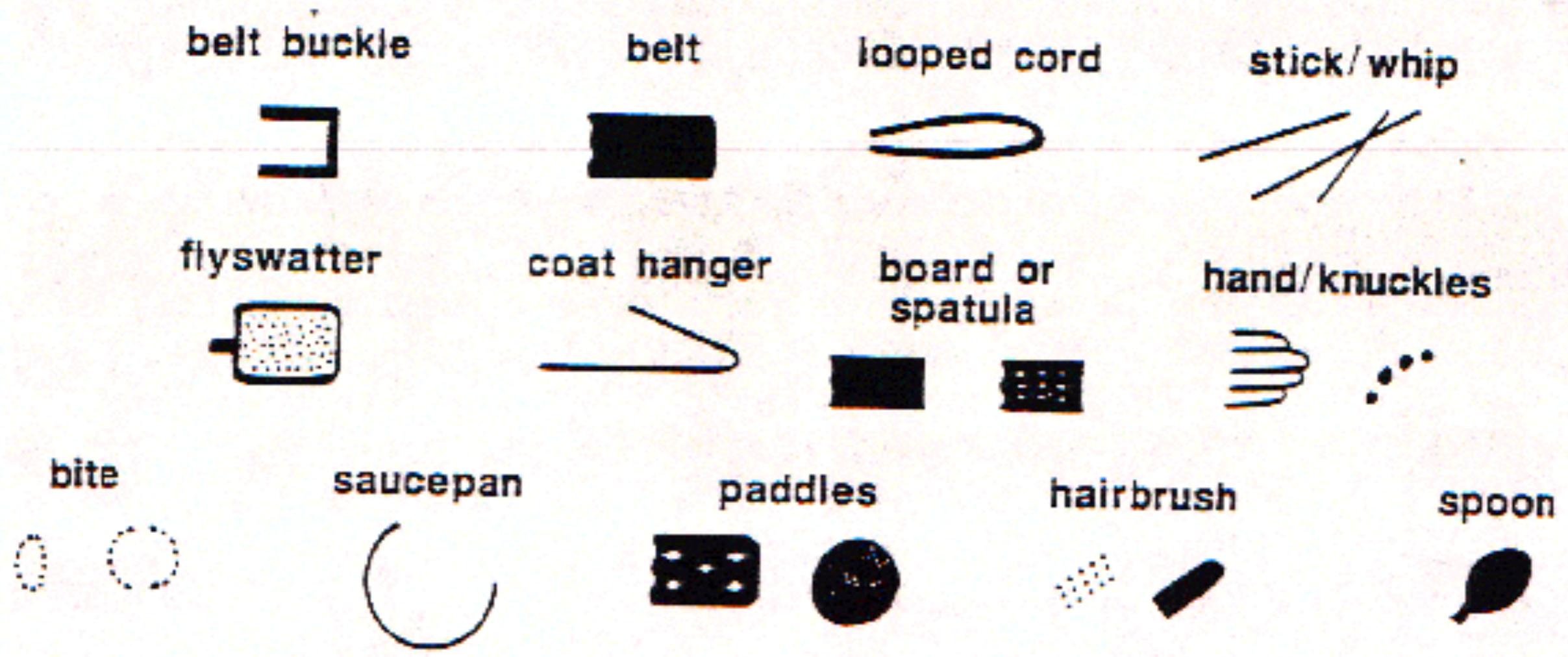


Figure 12.4. Marks From Instruments

SOURCE: Johnson (1990). Reprinted by permission of W. B. Saunders.

Differential Diagnosis of Bruising

- ❖ Coagulopathy
- ❖ Infection
- ❖ Vasculitis
- ❖ Accidental trauma
- ❖ Nonaccidental trauma
- ❖ Leukemia
- ❖ Birth mark- Mongolian spot
- ❖ Cultural practices (coining, cupping)

Injuries to Skin - Burns

- ❖ Awareness of patterns: accidental versus intentional
- ❖ History, history, history!
- ❖ IMMEDIATE & ACCURATE SCENE INVESTIGATIONS ARE CRITICAL!
- ❖ Degree of burn a factor of: skin thickness, temperature of the solid / liquid / gas; length of contact with solid / liquid / gas
- ❖ Perineum and extremities are most common areas for burn injuries
- ❖ Estimated 2%-30% of burns are abusive

Injuries to Skin - Burns

- ❖ May be chemical, thermal (hot liquids or scalding objects), or electrical
- ❖ Child's clothing worn during the burn should be collected
- ❖ Inflicted scalds or forced-immersion burns may be well demarcated in pattern with few or no splash marks

Differential Diagnosis - Burns

- ❖ Infection: impetigo, diaper dermatitis
- ❖ Chemical burn from analgesic balms and senna-containing laxatives
- ❖ Folk medicine
- ❖ Phytophotodermatitis
- ❖ Drug eruptions
- ❖ Accidental burns from car seats, restraints, hot liquids



hot plate



lightbulb



curling iron



car cigarette
lighter



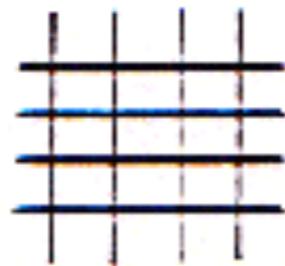
steam iron



knife



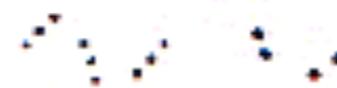
grid



cigarette



forks



immersion



Figure 12.6. Marks From Burns

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Abusive Abdominal Trauma

- ❖ Second most common cause of death in fatal child abuse
- ❖ Mortality in accidental injury - 21%
- ❖ Mortality in NAT injury - 53%
 - delay in care
 - false history
 - non-communicative child
- ❖ Blunt trauma; deceleration trauma
- ❖ Often, NO external sign of injury
- ❖ Requires high index of suspicion to diagnose



Thoracic Trauma

- ❖ Unusual injury in child abuse, despite frequency of rib fractures
- ❖ Blunt trauma; deceleration trauma
- ❖ Requires high index of suspicion to diagnose
- ❖ Diagnosis often made at autopsy

Treatment of Child Abuse

- ❖ Medical assessment and stabilization
- ❖ Referral made to investigative agencies
- ❖ Ensure that the child receives the necessary follow-up services
 - ❖ Appropriate medical care
 - ❖ Address psychological needs
- ❖ Notify primary care physician
- ❖ Medical passports for foster parents