

Recognition of Child Abuse

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Recognition of Child Abuse

- No conflicts of interest
- No financial arrangements to disclose

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Recognition of Child Abuse: Overview

- Review Current Child Abuse Statistics
- Review Abuse Reporting Laws
- Accidental Versus Inflicted Bruising Patterns
- Differences in Inflicted Versus Accidental Burns
- Commonly Seen Fractures in Abuse
- Manifestations of Abusive Head Trauma



Recognition of Child Abuse: Learning Objective

- Understand how frequently abuse occurs
- Know child abuse reporting laws
- Be able to identify bruising patterns associated with child abuse
- Recognize burn patterns associated with abuse
- Identify fractures that are commonly associated with abuse
- Recognize presentation and manifestations of abusive head trauma



Recognition of Child Abuse: Texas Definitions

- Sec. 261.001. DEFINITIONS. In this chapter:
- (1) "Abuse" includes the following acts or omissions by a person:
- (C) physical injury that results in **substantial harm** to the child, or the genuine threat of substantial harm from physical injury to the child, **including an injury that is at variance with the history or explanation** given and excluding an accident or reasonable discipline by a parent, guardian, or managing or possessory conservator that does not expose the child to a substantial risk of harm;
- (D) **failure to make a reasonable effort to prevent** an action by another person that results in **physical injury** that results in substantial harm to the child;



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Recognition of Child Abuse: Texas Definitions

- Sec. 261.001 (4) "Neglect": (A) includes:
 - (i) the **leaving of a child** in a situation where the child would be **exposed to a substantial risk** of physical or mental harm, without arranging for necessary care for the child, and the demonstration of an intent not to return by a parent, guardian, or managing or possessory conservator of the child;
 - (ii) the following acts or omissions by a person:
 - (a) **placing** a child in or **failing to remove** a child **from a situation that a reasonable person would realize requires judgment or actions beyond the child's level of maturity**, physical condition, or mental abilities and that results in bodily injury or a substantial risk of immediate harm to the child;



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Recognition of Child Abuse: Texas Definitions

- Sec. 261.001 (4) "Neglect": (A) includes:
 - (b) failing to seek, obtain, or follow through with medical care for a child, with the failure resulting in or presenting a substantial risk of death, disfigurement, or bodily injury or with the failure resulting in an observable and material impairment to the growth, development, or functioning of the child;
 - (c) the failure to provide a child with food, clothing, or shelter necessary to sustain the life or health of the child, excluding failure caused primarily by financial inability unless relief services had been offered and refused;



Recognition of Child Abuse: New Mexico Definitions

- 32A-4-2. Definitions.
 - E. "neglected child" means a child:
 - (1) who has been abandoned by the child's parent, guardian or custodian;
 - (2) who is without proper parental care and control or subsistence, education, medical or other care or control necessary for the child's well-being because of the faults or habits of the child's parent, guardian or custodian or the failure or refusal of the parent, guardian or custodian, when able to do so, to provide them;
 - (3) who has been physically or sexually abused, when the child's parent, guardian or custodian knew or should have known of the abuse and failed to take reasonable steps to protect the child from further harm;



Recognition of Child Abuse: New Mexico Definitions

- **32A-4-2. Definitions.**

F. "physical abuse" includes but is not limited to any case in which the child exhibits evidence of skin bruising, bleeding, malnutrition, failure to thrive, burns, fracture of any bone, subdural hematoma, soft tissue swelling or death and:

(1) there is not a justifiable explanation for the condition or death;

(2) the explanation given for the condition is at variance with the degree or nature of the condition;



Recognition of Child Abuse: The Numbers

Confirmed Annual Victims of Abuse

National

659,243 to 683,221 Children
Rate: 8.9-9.2 per 1,000

Texas

57,374 to 64,093 Children
Rate: 7.8-8.8 per 1,000

New Mexico

7,526-8,577 Children
Rate: 15.2-17.6 per 1,000

Lubbock County

~14 Victims per 1,000



Recognition of Child Abuse: Statistics

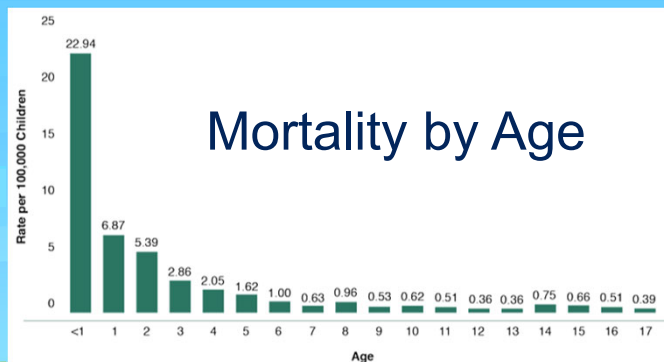


Increased Risk Factors:
 Disability
 Males > Females
 <4 years (75-80%)
 Reunification: 1 year
 Parental drugs & alcohol



Recognition of Child Abuse: Statistics

Child Abuse Fatalities Annually: 1,603-1,809 Children



Neglect: 61.0%
 Physical Abuse: 10.3%
 Sexually Abuse: 7.2%
 Multiple Types of Abuse: 21.5%
 Neglect + Physical Abuse:
 Most common combined form of abuse



Recognition of Child Abuse: Perpetrators of Abuse

NCANDS: National Child Abuse Neglect Data System

Maltreatment:

Mother acting alone: 39.0%

Father acting alone: 22.6%

Both parents: 21.0%

Not the Parent: 14.2%

Relatives: 5.3%

Unmarried partner: 3.0%



Recognition of Child Abuse: Texas Reporting Laws

- Mandatory reporters, Texas Law 261.101.

(b) If a professional **has cause to believe that a child has been abused or neglected** or may be abused or neglected, or that a child is a victim of an offensethe professional shall make a report not later than the **48th hour** after the hour the professional first suspects that the child has been or may be abused or neglected or is a victim of an offense

A professional **may not delegate to or rely on another person to make the report.**

"professional": includes teachers, nurses, doctors, day-care employees, employees of a clinic or health care facility that provides reproductive services, juvenile probation officers, and juvenile detention or correctional officers.



Recognition of Child Abuse: Texas Reporting Laws

- Mandatory reporters, Texas Law 261.103

In this subsection, “professional” means an individual who is licensed or certified by the state or who is an employee of a facility licensed, certified, or operated by the state, and who, in the normal course of official duties for which a license or certification is required, has direct contact with children. The term includes teachers, nurses, doctors, and day-care employees.

(Ed. Note: A recent legal opinion includes EMS in this list.)

<https://www.dshs.texas.gov/emstraumasystems/MA09REPO.pdf>



Recognition of Child Abuse: Texas Reporting Laws

Myth: If one of the responding crew reports the suspicion of abuse, neglect or exploitation, that report covers everyone.

Fact: False. State law requires a report from anyone who has encountered the victim of abuse, neglect or exploitation. (Yes, this does mean that multiple reports will be made.)

<https://www.dshs.texas.gov/emstraumasystems/MA09REPO.pdf>



Recognition of Child Abuse: Texas Reporting Laws

Myth: I can report the abuse to the doctor.

Fact: While you may well want to report the suspicions to the doctor as part of your patient report, such a report does not meet the statutory requirements for a report to TDFPS or law enforcement.

<https://www.dshs.texas.gov/emstraumasystems/MA09REPO.pdf>



Recognition of Child Abuse: New Mexico Laws

- Mandatory reporters, Section 32A-4-3 A.

Every person, including **a licensed physician; a resident** or an intern examining, attending or treating a child; a law enforcement officer; a judge presiding during a proceeding; **a registered nurse**; a visiting nurse; a schoolteacher; a school official; **a social worker acting in an official capacity**; or a member of the clergy who has information that is not privileged as a matter of law, who knows or has a reasonable suspicion that a child is an abused or a neglected child shall report the matter immediately to:

- (1) a local law enforcement agency;
- (2) the department; or
- (3) a tribal law enforcement or social services agency for any Indian child residing in Indian country.



Recognition of Child Abuse: EMS Providers

- Unique position to provide valuable information
- First to arrive on the scene
- Focus

Determining the nature & extent of the emergency

Providing necessary care

Transport patient



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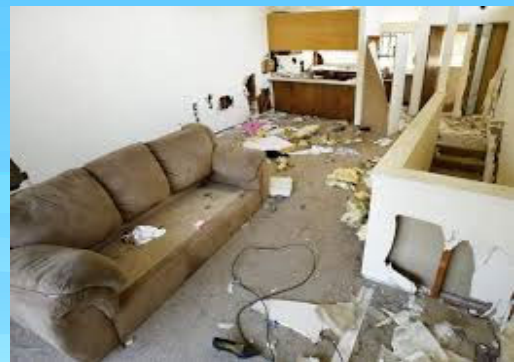
Recognition of Child Abuse: EMS Providers

- Often responding to the crime scene; observes an untouched scene
- General appearance of the home:

Condition, cleanliness, safety concerns,
drug paraphernalia

- Details of the event:

Height of the couch, carpeted floor, bedding,
full of water



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Recognition of Child Abuse: Family Interactions

- Watch the interaction between the caretakers and victim
Child fearful, distant, annoyed, or disinterested
- Interaction between caretaker and providers
Hostile, vague, intoxicated, under the influence of drugs
Not forth coming with history
- Interaction between caretaker and other family members
Not allowing them to talk
Are they trying to get your attention?



Recognition of Child Abuse: Obtaining History

- Be non-confrontational, non-judgmental
- Get the facts
- Identify the historian
- Focused history of events
- Record the hx. in their words
“using quotes”
- Perpetrator may be the historian,
or historian may be a non-offending
parent or guardian



Recognition of Child Abuse: Warning Signs

- Cardiopulmonary arrest
- Life threatening injury of a child under the age of four
- Bruising or injury in a non mobile child; Sentinel injury
- Unwitnessed injury at home in a young child
- Injury without adequate or any explanation
- Extensive or multiple injuries in a child
- Injuries of varying ages
- Extensive or patterned bruising
- Changing histories



Recognition of Child Abuse: Sentinel Injury

- Sentinel Injury: minor or subtle injuries in non-mobile infant
Precedes more severe or fatal injuries



- Bruising
- Frenulum tears
- Fractures
- Subconjunctival hemorrhage
- Burn
- Explanation for the injury
- Child abuse work up



Validation of a Clinical Decision Rule to Predict Abuse in Young Children Based on Bruising Characteristics

Mary Clyde Pierce, MD; Kim Kaczor, MS; Douglas J. Lorenz, PhD; Gina Bertocci, PhD; Amanda K. Fingarson, DO; Kathi Makoroff, MD, MEd; Rachel P. Berger, MD, MPH; Berkeley Bennett, MD, MS; Julia Magana, MD; Shannon Staley, MD; Veena Ramaiah, MD; Kristine Fortin, MD; Melissa Currie, MD; Bruce E. Herman, MD; Sandra Herr, MD; Kent P. Hymel, MD; Carole Jenny, MD, MBA; Karen Sheehan, MD, MPH; Noel Zuckerbraun, MD, MPH; Sheila Hickey, MSW, MJ; Gabriel Meyers, MSW; John M. Leventhal, MD

Clinical Decision Rule FACESp + TEN-4 less than 4 years

21,123 children screened for bruising
2,161 patients enrolled
410 (19%) as abuse
1713 (79%) as non abuse

C Diagnostic accuracy

Characteristic	Data based
Sensitivity	95.6 (93.0-97.3)
Specificity	87.1 (85.4-88.6)
NPV	98.8 (98.1-99.3)
PPV	63.9 (60.0-67.7)
LR positive	7.37 (6.56-8.19)
LR negative	0.05 (0.04-0.06)



Recognition of Child Abuse: FACESp

- Frenulum
- Angle of jaw
- Cheeks (fleshy)
- Eyelids
- Subconjunctivae
- Patterned



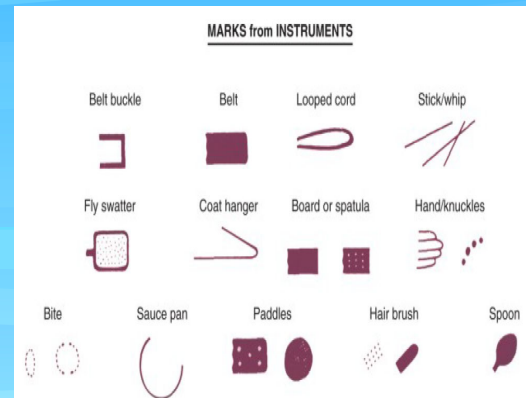
(bite, loop, hand slap, squeeze, grab, and multilinear).



Recognition of Child Abuse: Patterned Bruising



From Kliegman: Nelson Textbook of Pediatrics 18th Edition



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Recognition of Child Abuse: Bruising



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Recognition of Child Abuse: “TEN-4” Rule

- Used to help differentiate between bruises caused by accidental and inflicted injuries
- The **TEN-4** regions:
- **T**orso, **E**ars, and **N**eck in children < 4 years
- Bruising to these areas and **ANY bruising** to a child less than **4 months** are high probability for abuse



Recognition of Child Abuse: Torso Bruising



Accidental injuries usually result in few bruises

Abuse frequently results in numerous bruises over many surfaces, often clustered in areas



Recognition of Child Abuse: Ear Bruising



Recognition of Child Abuse: Bruising



Recognition of Child Abuse: Jawline Bruise

Bruising in a non-ambulatory child



Most common
manifestation of physical
abuse

Over 50% of abused
children will have bruising

71% of fatalities will have
evidence of bruising



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Recognition of Child Abuse: Bruising

Location of Bruises:

- Accidental bruises on bony prominences & areas of exploration:

Forehead, forearms, elbows, knees, shins,
hips, spinous process

- Non-accidental bruising on areas of soft tissue & less or non-exposed

Cheeks, ears, top of head, chest, abdomen,
back, buttocks, genitalia, thighs & upper arms



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Recognition of Child Abuse: Burns

- 10 to 20% of burns are the result of abuse or neglect
- Scalding water is the most common agent
- Highest risk are children under the age of 2
- Abusive

Higher morbidity & mortality than accidental burn injuries

Larger surface area burns

Deeper burns, deep partial & full thickness

Uniform degree of depth



Recognition of Child Abuse: Stocking Glove Burns

- Hand or foot is held in scalding water
- Clear line of demarcation between burned and unburned skin
- Full thickness burn or deep partial thickness



- Even depth of burn throughout
- No splash marks elsewhere



Recognition of Child Abuse: Immersion Burns

- Cradled in the perpetrator's arms & immersed into scalding water
- Perineum, buttocks, upper thighs are burned with sparing of the popliteal fossa



- Circumferential burns of the feet, ankles and lower legs
- No splash marks with clear marks of demarcation



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Recognition of Child Abuse: Fractures

- 11% to 55% of fractures are the result of abuse
- 55% to 70% of all abusive fractures occur in children under the age of 1 year
- Any fractures can be the result of abuse
- The majority are not accompanied by bruising at the site of injury
- History is the answer; the mechanism is key.



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Recognition of Child Abuse: Femur Fractures

- 60% to 70% femur fx. in non mobile children are from abuse
- Usually involve the shaft
- Spiral, oblique and transverse fx. patterns
- 35% will have associated abusive injuries



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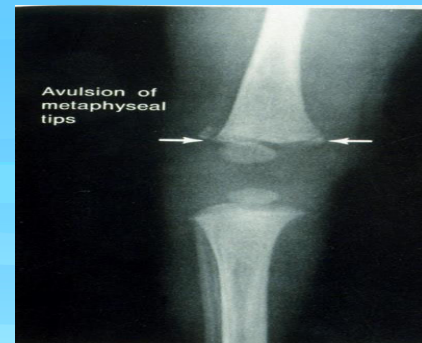
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Recognition of Child Abuse: Metaphyseal Fractures

- Most common fracture in fatal child abuse
- Proximal Humerus
- Distal Femur
- Proximal & Distal Tibia
- Caused by shaking or grabbing



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Recognition of Child Abuse: Skull Fractures

- 13% of abusive fractures
- 40% of abusive fractures in fatal cases
- Fracture Types:
 - Simple linear parietal
 - Complex
 - More than one fracture
 - Crosses suture line



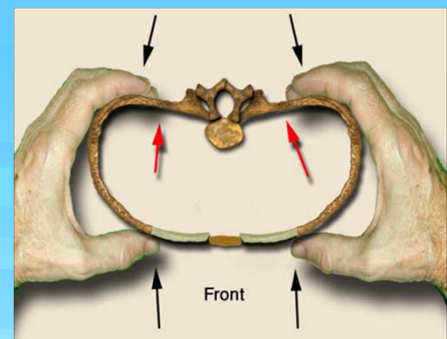
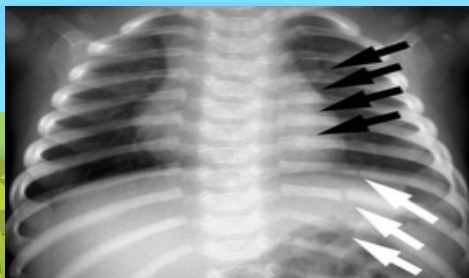
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Recognition of Child Abuse: Posterior Rib Fractures

- Under the age of 2: most common fracture of abuse
- Can be associated with finger tip bruising
- 5 to 51% of all abuse fractures
- 1% accidental injuries: MVC
- In accidents; usually few in number



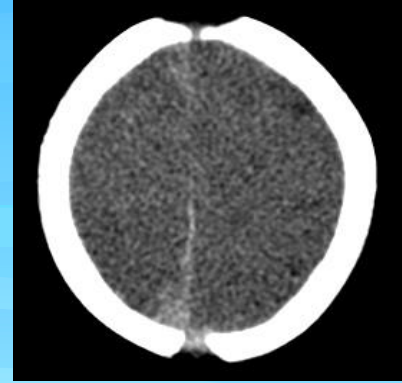
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Recognition of Child Abuse: Abusive Head Trauma

- 14 to 30 per 100,000 children
- 30 to 45% have evidence of prior AHT
- 37% have evidence of AHT when evaluated for other abusive injuries
- 31% of the victims have been seen prior for symptoms of AHT
- 20% mortality
- 80 to 85% morbidity



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Recognition of Child Abuse: Abusive Head Trauma

- Under the age of 2 years
- Peak between 3 and 6 months
- Males infants more than female infants
- Crying is reported as the most frequent trigger
- Shaking: Child is grabbed around the chest, the head snaps back and forth hitting the back and chest



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Recognition of Child Abuse: Abusive Head Trauma

DISTRACTING HISTORY:

- Found in crib unresponsive
- Choking episode then became apneic
- Shook to resuscitate
- Short fall off a couch or bed
- Clumsy
- Febrile illness
- Fights with sibling
- Plays with dogs



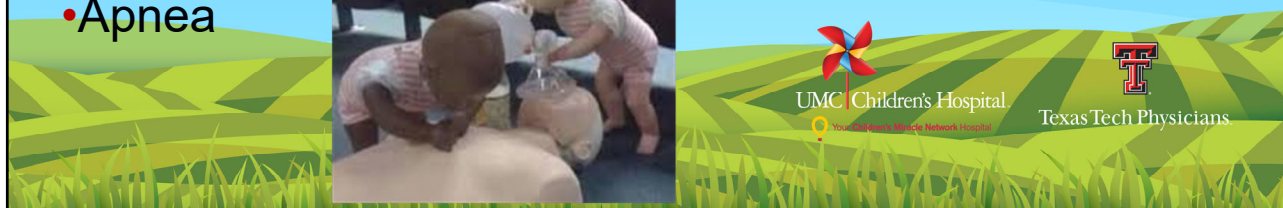
Recognition of Child Abuse: Abusive Head Trauma

Presentation:

- Cardiopulmonary arrest
- Seizure activity
- Lethargy/Limpness
- Irritability
- Vomiting
- Apnea

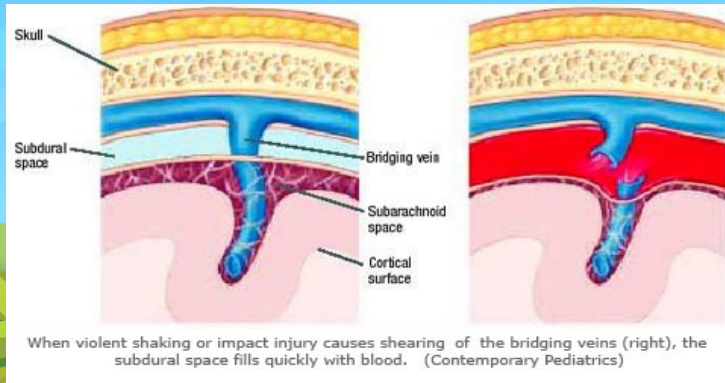
Examination:

- No external injuries or:
- Bulging fontanel
- Bruising on face or back
- Retinal hemorrhages



Recognition of Child Abuse: Abusive Head Trauma

- Skull fractures
- Subdural Hemorrhages
- Diffuse cerebral edema
- Hypoxic ischemic injury



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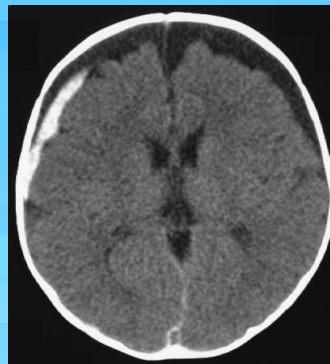
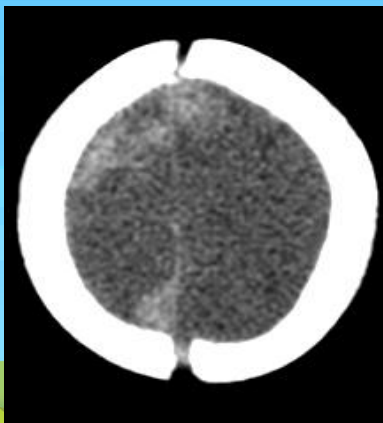
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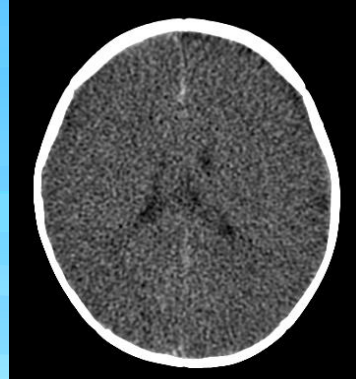
Recognition of Child Abuse: Abusive Head Trauma

Acute Subdural



Acute Subdural & Chronic Subdural

Cerebral Edema



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Recognition of Child Abuse: Laboratory Studies

- CBCd
- PT/PTT
- CMP (Liver Enzymes and Alkaline phosphatase)
- Amylase/Lipase
- Phosphorus
- Urine Analysis



Recognition of Child Abuse: Laboratory Studies

Other Laboratory as indicated:

- Urine Toxicology Screen
- Etoh level
- Fibrinogen, Factors 8,9,11,13, Von Willebrands
- Parathyroid hormone
- 25-hydroxy Vitamin D
- Ceruloplasmin



Recognition of Child Abuse: Imaging

- Focused Radiographs
- Skeletal survey

Any child < 24 months with concern for abuse

Consider for:

< 24 months and sibling in the same home with abuse

24-60 months with concern for abuse

Impaired communication

Impaired mobility



Recognition of Child Abuse: Imaging

- Head CT

Children < 0-12 months with concern for abuse

Children < 2 years and high risk, e.g. multiple fractures, facial injury

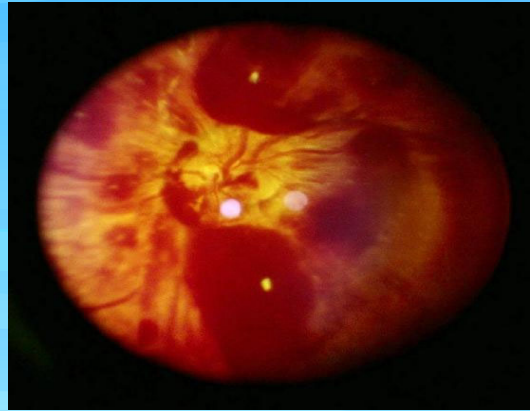
Any age with symptomatic closed head injury (PECARN)

- Radiographs followed by MRI of the Neck
- CT Abdomen w/contrast or CT of the Chest w/contrast
If symptomatic or indicated by exam



Recognition of Child Abuse: Retinal Hemorrhages

- Direct exam
- Indirect exam: visualize entire retina
- ~85% of AHT
- ~100% in fatal cases of AHT
- Extensive; too numerous to count
- Extend to the periphery of the retina
- Throughout the layers
- Often bilateral



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Recognition of Child Abuse: Consults

Child Abuse Specialist

Trauma Surgery

Neurosurgery

Orthopedic Surgery

Ophthalmology

Social Work



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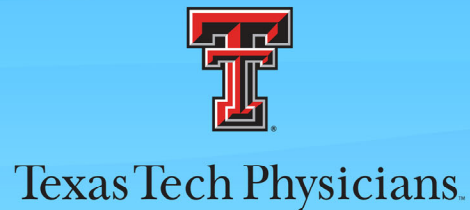
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The voiceless need a voice. You may be the only voice they have



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