Levels of certainty for physical abuse: What do our words mean?

CHAMP Faculty Presentation
Case Conference

Facilitated by:
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Objectives

- Review categories of likelihood scales for child physical abuse
- Analyze case scenarios of physical abuse and assess levels of certainty
- Discuss ways to communicate uncertainty

Background

- Once child abuse is suspected and reported, medical providers are often asked to interpret the results of the child's medical evaluation.
- Child Abuse Pediatricians may not be immediately available and health professionals need to be ready with a response, even if it is "More information is needed."

Reporting

A report of possible abuse is not an accusation --- but a request to determine if abuse has occurred, and if so, it can be the beginning of the helping process.

Policies and Protocols

- AAP The Evaluation of Suspected Physical Abuse (Christian & Committee): https://pediatrics.aappublications.org/content/pediatrics/early/2015/04/21/peds.2015-0356.full.pdf
- ChildAbuseMD.com
- CHAMPprogram.com: http://champprogram.com/pdf/Guidelines-Suspected-Child-Physical-Abuse-2017-b.pdf
- How to write an effective impact statement: https://www.champprogram.com/pdf/How-to-Write-an-Impact-Statement-Dec-17-2015.pdf
- Others online, such as CHOP: https://www.chop.edu/clinical-pathway/abuse-physical-clinical-pathway

Medical protocols assist with medical assessments for child physical abuse

Decision Trees – A Type of Protocol

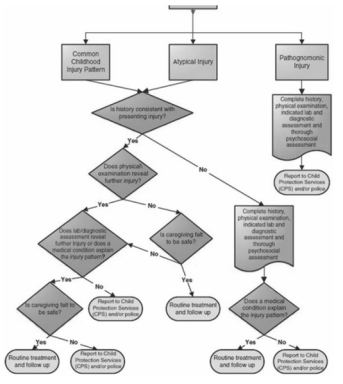

Fig. 1.12 Guidelines for health care providers (Tiapula and Giardino 2010)

Scales

- Scales of certainty for abuse have been proposed as a way to help study and/or communicate concerns.
- Documentation of concerns for abuse are anticipated to be most effective when conveyed objectively.
- Concerns can be conveyed verbally, in the medical record, and in a separate written document (letter, affidavit, other?).

Today's Plan

- We have several cases presented by experts in child abuse.
- Each case will be analyzed with respect to assessments and interpretation of physical abuse certainty.
- We will have an open discussion about current practice for communicating concerns about abuse.

Speakers

- **Alicia Pekarsky, MD,** Associate Professor of Pediatrics, Director, Child Abuse Pediatrics Fellowship, Co-Director, McMahonRyan Child Advocacy Center, SUNY Upstate Golisano Children's Hospital, Syracuse (*Reaching for Skittles*)
- **Lori Legano, MD, FAAP** Clinical Associate Professor, Dept. of Pediatrics, NYU Grossman School of Medicine, Director, Child Protection Services, Department of Pediatrics, Bellevue Hospital Center, New York *(Is this a "Classic?"*)
- **Ingrid Walker-Descartes, MD, MPH, MBA, FAAP** Associate Professor & Vice Chair for Education, Director, Pediatric Residency Program, Director, Center For Vulnerable Child Maimonides Medical Center, Brooklyn (*Deciding in a Pinch*)
- **Jamie L. Hoffman-Rosenfeld, MD,** Associate Professor, Albert Einstein College of Medicine, Department of Pediatrics, J.E. and Z.B. Butler Center for Children and Families, Children's Hospital at Montefiore *(Cracks in Everything…)*
- **Dana Kaplan, MD,** Assistant Professor, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, and Director of Child Abuse and Neglect, Director of the STAND Clinic, Medical Director of the Staten Island Child Advocacy Center, Associate Program Director Pediatrics Residency Training Program, SIUH Site Director, Child Abuse Pediatrics Fellowship Training Program at Maimonides Medical Center, Department of Pediatrics, Staten Island University Hospital (*Killer Rice Cooker*)

CASE FORMAT

- How did this patient present for medical care (report, referral, other)?
- What was confusing about the presentation?
- What was clear?
- Can this child's injury fit into one of the categories for communicating abuse?
- How did you manage this case?
- How did you communicate your concern (or lack thereof) to authorities?
  - Verbal, and/or Chart, Letter, Legal documentation?
- What would you do differently, if anything?
- What did you learn?

Reaching for Skittles

Alicia Pekarsky, MD
Associate Professor of Pediatrics
Director, Child Abuse Pediatrics Fellowship
Co-Director, McMahon Ryan Child Advocacy Center
SUNY Upstate Golisano Children's Hospital
Syracuse

How Did This Patient Present For Medical Care?

- 15-month-old female toddler was sitting on the floor eating Skittles while mom was cleaning dishes on the other side of the room.
- A bucket of hot water, bleach and another household cleaning product was on the floor near mom.
- Mom heard the patient "scream out and cry" and then noticed a large blister on her left hand with peeling on both hands.
- Mom washed both of her hands with cold water and then brought her to the Pediatric ED.

Medical Evaluation

- Burn Surgery team consulted on and then admitted the patient for medical management
  - Bilateral 3rd degree burn injuries to both hands in a glove like distribution

Medical Evaluation

- Child Abuse Pediatrics team consulted the following day
  - Obtained the following pieces of history
    - Mom ran the water for 5 minutes before filling the bucket only a "few inches."
    - The water felt "very, very hot" to mom.
    - Mom saw candy that she believes to be Skittles at the bottom of this bucket after she heard the patient crying.
    - Patient is able to walk independently.

What Was Challenging About the Presentation?

- Injuries were already dressed by the time we consulted on the patient.
  - Photos were taken, but not by Medical Photography.
- Burn team had already opined that the injuries were most consistent with child abuse because of the "glove" appearance and "the water was unlikely to be 150 degrees."

What Else Was Challenging About the Presentation?

- Scene investigation had not been initiated.
  - The CAP team requested this the following day after CPS and Law Enforcement became involved.
    - The water/cleaning solution in the bucket had been poured down the drain.
    - The landlord had already attempted to alter the water temperature in the 4 unit building .

What Was Clear?

- The child had injuries that required medical attention from the Burn Surgery team.
- The injuries were either accidental or non-accidental.
  - They did not appear to be related to a medical mimic.
- The window of opportunity to obtain a thorough scene investigation had passed.

Likelihood Scale for Abuse

- "Intermediately concerning for inflicted injury"
  - There was insufficient information initially to offer an opinion other than to state both accidental and non-accidental mechanisms were possible.

How Did We Communicate This Information?

- In our consult note
  - "This patient is a 15-month-old female toddler with a PMH significant for eczema who presented to the hospital with bilateral hand burns in a glove like distribution. This finding is certainly concerning for non-accidental trauma, but is also consistent with the mom's history of the child reaching into a partially filled container of hot water, bleach and another cleaning agent. Law enforcement reported to me that the water coming out of the faucet mom used is 160 degrees. I find this clinical scenario to be intermediately concerning for child maltreatment. This situation is complicated by her complex family/psychosocial history."
- In person meetings with CPS, Law Enforcement and mom
- Discussion with Burn Surgery team and Hospital SW

Further Scene Investigation

- Water coming out of tap was still > 140 degrees even after it had been reportedly adjusted "down."
- We were somewhat reassured (about the possibility of an accidental mechanism) by this piece of information.

What Did We Learn?

- Reminded of the need for healthcare teams to communicate the importance of
  - A complete scene investigation by trained investigators
  - Scene investigations being done as soon as possible
- Healthcare professionals who are evaluating NAT cases should
  - Consider the child's motor development
  - Ask further HPI questions in an attempt to differentiate accidental vs non-accidental trauma
  - Advise investigators, SW, etc. that their opinions are preliminary until they have all of the possible information (and that they may still be uncertain even after they have all of that information!)

Is This a "Classic"?

Lori Legano, MD
Clinical Associate Professor
NYU Grossman School of Medicine,
Director, Child Protection Services,
Department of Pediatrics, Bellevue Hospital Center, New York

How did this child present to medical care…

- 16 mo female who presented to the ED after falling from the bed 2 weeks prior. After the fall, she was touching her left wrist.
- Called the PCP after the fall; told to look for swelling or redness. Mom hesitant to go to the ED because of COVID.
- Came to the ED because she was in pain when her sister touched her left wrist.
- Left arm x-ray revealed a healing radial fracture and a corner fracture of the ulnar metaphysis (Classic Metaphyseal Lesion).
- Child Abuse consult called because of the multiple fractures and presence of a Classic Metaphyseal Lesion (CML).

My Question

- What was confusing about the presentation? "Classic metaphyseal lesion" common in child abuse but might not be from child abuse given another fracture in the same arm.
- What was clear? The radial fracture was c/w a fall.
- Can this child's injury fit into one of the categories for communicating abuse? Lindbergh scale: intermediately concerning for child abuse.
- How did you manage this case? Skeletal survey was otherwise negative, head CT was negative; metabolic bone w/u was normal.

The Results of the Literature Search

- Thompson A, Bertocci G, Kaczor K, Smalley C, Pierce MC. Biomechanical investigation of the classic metaphyseal lesion using an immature porcine model. *AJR Am J Roentgenol*. 2015 May;204(5):W503-9. doi: 10.2214/AJR.14.13267. PMID: 25905956.
  - Pelvic limb specimens from 7-day-old and 3-day-old piglets were tested in lateral bending (varus and valgus).
  - Fractures resembling classic metaphyseal lesions were identified in 12 of the 24 specimens.
  - Conclusion: classic metaphyseal lesions are fractures that can result from a single loading event.

Discussion

- How did you communicate your concern (or lack thereof) to authorities? By phone and explained that my impression was that both fractures could have occurred from a fall.
- Verbal, and/or Chart, Letter, Legal documentation?
  - My impression after the child abuse injury workup was completed:

    The skeletal survey was completed and was negative except for the left radius and ulnar fractures. Given that the fractures are both on the left and other fractures seen on the skeletal survey, child abuse is less likely and the fractures are likely secondary to the fall that was described in the history.
- What would you do differently, if anything? Nothing
- What did you learn?

  I learned more about the mechanism by which CMLs occur.

Deciding in a Pinch

Ingrid Walker-Descartes, MD, MPH, MBA
Associate Professor & Vice Chair for Education
Director, Pediatric Residency Program
Director, Center For Vulnerable Child
Maimonides Medical Center, Brooklyn

How did this child present to medical care…

- Mother notes that infant was suffering from some discomfort in his genital area before they took him to daycare on the morning of ED presentation, but they still took him.
- They note that at about 3 pm, the daycare called and reported that the child needed to be picked up as he had "a bad rash on his penis."
- They picked up the child and saw "the rash on his penis" and they called the pediatrician who recommended that he be seen by the Urologist.
- They brought the child to the ED by ambulance. He was well appearing with no other skin findings. Blood was drawn to screen for any bleeding disorders and urine was taken to screen for a UTI. Both screens were negative.
- Child Abuse consult was called. There was no plausible history from parents or babysitter for the presenting findings.

Discussion Points

- **What was confusing about the presentation?**
  - No care providers provide a plausible history.
- **What was clear?**
  - This type of injury is not consistent with any activity in line with "routine child care."
- **Can this child's injury fit into one of the categories for communicating abuse?**
  - Intermediately concerning for child abuse (Lindberg scale)
  - Highly concerning (Anecdotal scale)
- **How did you manage this case?**
  - This case was called in to ACS and was accepted.
- **What would you do differently, if anything?**
  - Nothing at this time.
- **What did you learn?**
  - There are times when the presenting injury is clearly patterned – it does not make the case any easier to decipher.

How did you communicate your concern (or lack thereof) to authorities? Excerpts from the Evaluation Summary

- *I was able to get the parents to acknowledge that this "lesion" on her child's penis was a bruise – not because we want it to be, but because this is how the lesion behaved over time.*
- *Parents attributed this finding on the underside of the penis that looked like a bruise to the "lighting in the room" and noted that the child is "veiny" and that the child may have done this to himself.*
- *I explained to her that the dexterity and flexibility needed to get his thumb in that orientation would be impossible. I used her finger to demonstrate what this patterned injury suggested – it suggested that this child's penis was pinched and pulled on resulting in the patterned injury at the top of the penis and subsequent engorgement (redness) at the tip of the penis. I also made it clear that bruising is secondary to ruptured capillaries and children do not self-injure with self-stimulation.*
- *In summary, the lesion that also involves the top of the scrotum appears to be a pinch. Whether inflicted by fingers or an object is subject to question. Therefore with no plausible explanation, the case was deemed appropriate to be called in to ACS for further evaluation. The CALM Team remains open to a plausible explanation of the findings, however, we remain certain that this is a bruise to this infant's genitals.*

Cracks in Everything

Jamie L. Hoffman-Rosenfeld, MD
Associate Professor, Albert Einstein College of Medicine, Department of Pediatrics, J.E. and Z.B. Butler Center for Children and Families, Children's Hospital at Montefiore

LIGHT IN THE DARK

"There is a crack in everything, that's how the light gets in": The story of Leonard Cohen's "Anthem"

HPI

- 3 week old infant brought to the ED because of swelling noted on the right side of the head.
- Though not witnessed, the mother thinks the 2 ½ year old brother hit the baby on the head with a "sippy cup."
- Mother had left the bed leaving the two boys alone while she made a bottle.

Additional Information

- Brother has autism.
- Brother has been seen touching the baby.
- Brother weighs 35 pounds.
- Sippy cup had milk in it and weighed about 13 ounces.
- Remainder of occult injury work up was negative (LFT's, skeletal survey, MRI brain and c-spine and dilated ophtho exam).

Goal – Decide Whether to Launch Or Forego an Abuse Evaluation

Back to PediBIRN Home AHT Probability Calculator FAQs

AHT Probability Calculator

Medical providers who care for acutely head-injured infants and young children face significant challenges when deciding to either launch—or forego—an abuse evaluation.

To inform or guide these decisions, Pediatric Brain Injury Research Network (PediBIRN) investigators have developed a sensitive screening tool for pediatric abusive head trauma (AHT). Applied as a *clinical decision tool*, the AHT screening tool directs physicians to evaluate all high risk patients thoroughly for abuse. Applied instead as a prediction tool, the AHT screening tool facilities calculation of an evidence-based, patient-specific, estimate of the probability of abuse. We call our prediction tool the "AHT" Probability Calculator".

CLICK HERE to calculate an evidence-based, patient-specific, estimate of abuse probability for YOUR acutely head-injured patient.

Frequently Asked Questions

AHT Definitional Criteria

Primary caregiver admission of abusive acts
Abusive acts by the primary caregiver that were witnessed by an unbiased, independent observer
Specific primary caregiver denial of any head trauma, even though the pre-ambulatory child in his or her care became acutely, clearly and persistently ill with clinical signs subsequently linked to traumatic cranial injuries visible on CT or MR imaging
Primary caregiver account of the child's head injury event that was clearly historically inconsistent with repetition over time
Primary caregiver account of the child's head injury event that was clearly developmentally inconsistent with child's known (or expected) gross motor skills
Two or more categories of extra-cranial injuries considered moderately or highly suspicious for abuse*

* Including classic metaphyseal lesion fracture(s) or epiphyseal separation(s); rib fracture(s); fracture(s) of the scapula or sternum; fracture(s) of digits; vertebral body fracture(s), dislocation(s) or fracture(s) of spinous process(es); skin bruising, abrasion(s) or laceration(s) in two or more distinct locations other than knees, shins or elbows; patterned skin bruising or dry contact burn(s); scalding burn(s) with uniform depth, clear lines of demarcation and paucity of splash marks; confirmed intra-abdominal injuries; retinoschisis confirmed by an ophthalmologist; retinal hemorrhages described by an ophthalmologist as dense, extensive, covering a large surface area and/or extending to the ora serrata.

Probability Calculator

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Did your patient manifest any clinically-significant respiratory compromise at the scene of injury, during transport, in the Emergency Department, or prior to hospital admission? No

Did your patient manifest any bruising of the ear(s), neck or torso? No

Did your patient's initial head imaging reveal a subdural hemorrhage or fluid collection that is bilateral or that involves the interhemispheric space? No

Did your patient's initial head imaging reveal any skull fracture(s) other than an isolated, unilateral, non-diastatic, linear, parietal, skull fracture? Yes

By continuing to use this calculator, you have indicated your acceptance of the "Disclaimer" provided below.

Calculate Probability

Disclaimer: The User acknowledges and agrees that the Clinical Decision Rule (CDR) and all content available through this application is appropriate only as a decision aid, and in conjunction with the clinical management of a qualified healthcare provider. It is not intended to be a substitute for the exercise of professional medical judgment or the appropriate standard of care. The CDR and all associated content available through this application is provided without representations or warranties of any kind, expressed or implied, about the efficacy of the CDR. Penn State University, the Milton S. Hershey Medical Center, the Pediatric Brain Injury Research Network, and the clinician investigators who developed the CDR are not responsible or liable for loss or damage of any kind arising out of or in connection with the use of, reference to, or reliance on this application or CDR. By continuing to use the CDR and this application, you have indicated your acceptance of these terms.

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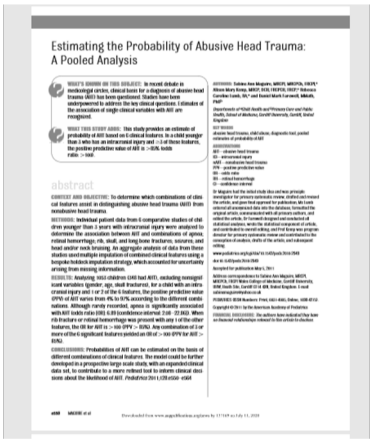
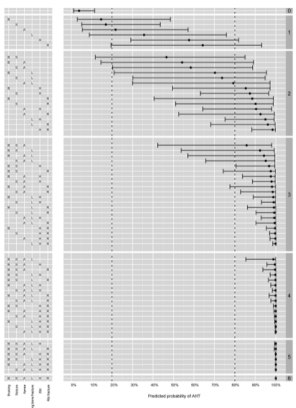
Our evidence-based, patient-specific, estimate of abuse probability for YOUR acutely head-injured patient is... 11%

Additional, relevant, evidence-based information	n	%
How many patients with complete data are currently included the PediBRIN registry?	500	100%
How many of these patients presented with the same combination of early findings?	65	13%
In patients who presented with the same combination of early findings...		
How many met our a priori definitional criteria for abuse? *1	7	11%
How many were diagnosed with definitive or probable abuse by their treating and/or consulting physicians?	11	17%
How many underwent a retinal examination by an ophthalmologist?	23	35%
How many of their retinal examinations revealed retinoschesis or retinal hemorrhages described as dense, extensive, covering a large surface area and/or extending to the periphery?	1	4%
How many underwent skeletal surveys?	32	49%
How many of their skeletal surveys revealed fracture(s) moderately or highly specific for abuse? *2	2	6%
How many underwent liver function testing?	45	69%
How many of their liver function tests revealed AST or ALT levels >80 IU/L ?	4	9%



Estimating the Probability of Abusive Head Trauma: A Pooled Analysis

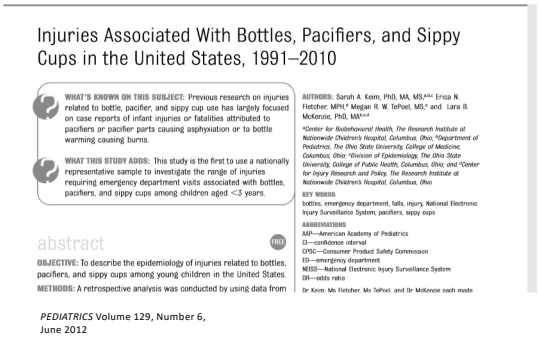
abstract



Predicted probability of AHT

What does law enforcement and CPS want to know?

- Is this abuse?
- Can this happen by accidental means?
- Can a 2 ½ year old child wielding a milk filled sippy cup cause this injury? Could this happen if the cup was thrown at the baby?
- Opinion of Pediatric Neurosurgeon "highly improbable"
- My opinion…….



Injuries Associated With Bottles, Pacifiers, and Sippy Cups in the United States, 1991–2010

WHAT'S KNOWN ON THIS SUBJECT: Previous research on injuries related to bottle, pacifier, and sippy cup use has largely focused on case reports of infant injuries or fatalities attributed to pacifiers or pacifier parts causing asphyxiation or to bottle warming causing burns.

WHAT THIS STUDY ADDS: This study is the first to use a nationally representative sample to investigate the range of injuries requiring emergency department visits associated with bottles, pacifiers, and sippy cups among children aged <3 years.

abstract

OBJECTIVE: To describe the epidemiology of injuries related to bottles, pacifiers, and sippy cups among young children in the United States.

METHODS: A retrospective analysis was conducted by using data from

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KEY WORDS
bottles, emergency department, falls, injury, National Electronic Injury Surveillance System, pacifiers, sippy cups

ABBREVIATIONS
AAP—American Academy of Pediatrics
CI—confidence interval
CPSC—Consumer Product Safety Commission
ED—emergency department
NEISS—National Electronic Injury Surveillance System
OR—odds ratio

Dr Keim, Ms Fletcher, Ms TePoel, and Dr McKenzie each made

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Killer Rice Cooker

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History Provided

- 3 yo male transferred to SIUH Burn Unit from OSH.
- Case called in to CPS at the OSH due to concern for "immersion burn."
- Stated the patient's foot was "stuck into a rice cooker."
- Of note, mother speaks Cantonese.
  - It was noted that mother was spoken to with a Mandarin interpreter.
  - Patient himself is speech delayed.

My History

- Cantonese interpreter
- Mother did not witness the injury.
- Mother was visiting a family member who was cooking Congee (thick porridge) in a rice cooker on the floor of a bedroom (no counter space).
  - Mother was in the living room.
- Patient was running and playing.
- Mother and family member heard the patient scream and ran to see what happened.
  - Immediately picked patient up and took patient to the sink to wash off foot
  - Was wearing socks which mother removed
  - Immediately took patient to ED

Finding

- Dorsum (top) of right foot with full thickness (3rd degree) burns with irregular edges extending to level of the ankle
- Sole of foot spared
- Plantar aspect (sole) of toes with partial thickness (2nd degree) burns

What can I say so far?

- Immersion burns occur when part of the body is submerged into a hot substance (typically water).
- The "classic" forced immersion occurs when an individual forcibly holds a body part under the surface of a hot substance.
- The burn pattern results in a "stocking" or "glove" appearance, with sharp lines of demarcation.
- There may be areas of sparing when the skin is pressed against a surface that is relatively cooler than the liquid the child is immersed in.
  - Typically the buttocks, sole of the foot and palm of the hand
  - See this with bathtubs given that the porcelain is cooler
- The injury pattern in this patient is not consistent with an immersion burn given the clinical history.
  - Injury involves the dorsum of the foot, spares the sole.
  - The metal at the bottom of the rice cooker is NOT substantially cooler than the surrounding liquid, so this would not explain the relative sparing of the sole.
  - There is a line of demarcation, but patient was wearing a sock per mother.
- Note: Rice cookers are approximately 5 inches deep, which would not line up in this patient's demarcation.

Jenny 2011

Scene Investigation

- Confirmed aunt was cooking Congee (thick porridge).
- Scene investigation confirms the presence of the rice cooker with metal insert, approximately 5 inches deep.
  - Can achieve temperatures of >200 degrees F when cooking
  - Can maintain temperatures of ~150 degrees F once water is evaporated

Time Required to Cause Superficial Partial-Thickness Burn in Adults

Temperature	Time
120 F	10 minutes
122 F	5 minutes
127 F	1 minute
130 F	30 seconds
140 F	5 seconds
150 F	2 seconds
158 F	1 seconds

- Children comfortably bathe at a temperature of **101° F**
- Hot tubs typically have temperatures fluctuating between **102° F to 104° F**
- Adults sense water as painfully hot between temperatures of **112° F to 114° F**

From Thackery, prep 2009

Discussion with CPS

- CPS caseworker says:

  "How do we know mom didn't throw the porridge onto the child?"

What can I say?

- I cannot ever entirely exclude child physical abuse as a mechanism.
- However, given the full clinical history provided paired with the injury pattern, a diagnosis of child physical abuse cannot be made at this time.

Summary

Ann S. Botash, MD
SUNY Distinguished Teaching Professor

General Principles

- Is the history consistent with the mechanism of trauma?
- Is the child developmentally able to self-inflict the injury?
- Is there another medical explanation for the finding?
- Is corroborative information available?

Categories for Physical Abuse

- Lindberg D M, Lindsell C J and Shapiro R A. Variability in expert assessments of child physical abuse likelihood. *Pediatrics* 2008; 121;e945. DOI: 10.1542/peds.2007-2485
- **This scale is offered as a guide for communication of level of concern and should not be used to classify findings. It is offered as a framework for language that may be used when communicating findings**.

TABLE:
HTTPS://PEDIATRICS.AAPPUBLICATIONS.ORG/CONTENT/121/4/E945/TAB-FIGURES-DATA

Likelihood of Physical Abuse

Level—What we think	Description—what we may say	Examples
For 1 and 2: Although no evaluation can completely exclude abuse, the evaluation has not raised a reasonable suspicion of abuse. The described injuries or findings could reasonably be explained by accidental or benign events. The discussion can be renewed if circumstances change.		
Definitely not child abuse	Significant, independently verifiable mechanism; Information from a disinterested witness; Conditions may mimic an inflicted injury	Motor vehicle crash or pedestrian struck by a vehicle; hyperpigmentation of sacral skin in newborns, hemangiomas
No concern for child abuse	The mechanism explains all injuries and there is a consistent history	Accidental types of injuries

Level—what we think	Description-DOCUMENTATION	Example
Mildly concerning for child abuse	Somewhat concerning injuries with no offered history ; An injury that would otherwise be of low concern, but with a past suspicious injury and the same caregiver.	Multiple, non-patterned bruises in a cruising child without bleeding diathesis or an unexplained humerus fracture in a 10 month old
Intermediately concerning for child abuse	Insufficient information to offer opinion. The sequence of events is clear, but there is uncertainty whether the injuries are the result of abuse. Necessary laboratory tests/consultation are pending. Finding a concerning injury in the setting of other medical conditions requires more investigation. History c/w with findings, and (yet) abuse is still under consideration.	Patient may have underlying bone disease, bleeding diathesis, but unknown at the time.
Very concerning for child abuse	The given history is unlikely to produce the documented injuries. An injury with no history of trauma	4 month old with unexplained femur fracture

Level—What we think	Description-- Documentation	Examples
For statements 6 and 7: To a reasonable degree of medical certainty, the described injuries or findings cannot plausibly be explained by accidental injury, preexisting medical illness, reasonable discipline or benign events.		
Substantial evidence of child abuse	Severe injury with no offered history in a child incapable of inflicting the injury on theirself. History inconsistent with identified injuries. Serious injury with changing history or history inconsistent between caregivers. Inappropriate delay in seeking care. Multiple severe injuries of different ages or pattern bruises/burns without plausible explanation.	
Definite child abuse and/or maltreatment-Legal words: To a reasonable degree of medical certainty Charting…	Unexplained posterior rib fractures, metaphyseal fractures, characteristic retinal hemorrhages. Highly suspicious injury; followed by subsequent abusive injuries. Reliable eyewitness of abuse. Suspicious injury and concurrently abused sibling. Obvious injury with significant, unexplained delay in seeking care.	Liver laceration, burn, pinna bruising, unexplained fracture; serious burn, unresponsive child, apparent prolonged seizure

Other Scales

- Consistent with…
- Highly concerning…
- Concerning…
- Mildly concerning/some concern…
- Cannot make a diagnosis of abuse at this time*

*May be added on to any of the categories except consistent

Another Resource

- Inter-rater reliability of physical abuse determinations in young children with fractures. Buesser KE, Leventhal JM, Gaither JR, Tate V, Cooperman DR, Moles RL, Silva CT, Ehrlich LJ, Sharkey MS. *Child Abuse Negl*. 2017 Oct;72:140-146. doi: 10.1016/j.chiabu.2017.08.001. Epub 2017 Aug 10.PMID: 28802910

Most Common Abusive Fractures

The most common fractures in abused children involve the skull, long bones and ribs. The numbers vary (relatively) depending on the series studied (detail of radiologic imaging), age of the children and whether the studied populations included fatalities.

Kleinman PK. Diagnostic imaging in infant abuse. AJR *Am J Roentgenol*. 1990 Oct;155(4):703-12. Review.

Pitfalls in Assessments Lead to Pitfalls in "Certainty"

- Neglecting record review
- Interpreting one finding at a time (eye might be normal)
- Forgetting to document the LACK of history to account for findings
- Over-interpreting findings (e.g. rib fractures are not from birth)

Keys to Documentation

- Accurate
- Complete
- Legible
- Components:
  - History
  - Physical
  - Lab
  - Imaging
  - Summary

Documentation Tips

- Avoid jargon and avoid legal vs medical terms.
- Consider carefully when to use the word "inflicted."
- Consider challenges are often in wording of concern regarding "intermediate cases" (see table).
- Create a written chronology of information.
- Describe injury by stating facts and estimate degree of force.
- Avoid assignment of "intent."
- Differentiate natural disease states.
- Differentiate accidental and non-accidental.
- Admit uncertainty.
- Consider pointing out limitations of the report.

David TJ. Avoidable pitfalls when writing medical reports for court proceedings in cases of suspected child abuse. Arch Dis Child. 2004 Sep;89(9):799-804.

Commonly Used Phrases for Documentation

- "Assessment and plan are subject to change if additional pertinent information becomes available."
- "It should be noted that, what the parent is describing does not fall in the realm of typical caregiving."
- "Based on the information that I have at this time"
- "Given the clinical context and injury pattern…"
- Other standard wording at end of assessment

Confusing Terms

Word or Phrase	Meaning	Misinterpretation	Use Instead
Rule out	To eliminate or exclude a possibility	Misread as meaning the diagnosis was eliminated	Document the diagnosis (i.e., abuse)
Reportedly	According to rumor or report	Implies doubt	Describe disclosure, "patient reports"
Suspicious	Distrust or questioning of something	Enough to make a legal report but not proven—just an allegation	Describe why there are suspicions
Consistent with	Scientific word meaning opposite of inconsistent	Legally may represent a higher degree of certainty	"Typical of," "representative" or "indicative of" are less ambiguous but "consistent with" may be more persuasive
Neither confirms nor denies	Medical information does not help in determining whether the history or suspicions are true	No evidence	State evidence if the behaviors or disclosure are consistent with abuse and the normal exam is consistent with this

Spafford MM, Schryer CF, Lingard L, Mian, M. Accessibility and order: Crossing borders in child abuse forensic reports. *Technical Communication Quarterly*. 2010; 19(2):118-143.

Living with Uncertainty

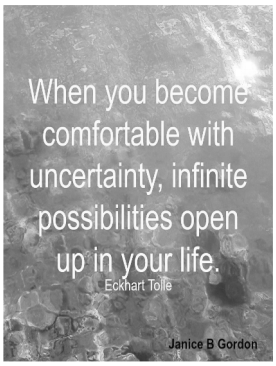
- Responses to uncertainty affect burnout, the children themselves, and health systems. Some responses to uncertainty:
  - Ordering more tests (genetics consults, for example)
  - Premature closure (making a diagnosis too soon)
  - Lower resilience (associated with lower tolerance of uncertainty)
  - Stress/anxiety reactions
  - Acknowledging ambiguity, adjusting to "certainty for now," creating an impression of certainty

Alam R, Cheraghi-Sohi S, Panagioti M, Esmail A, Campbell S, Panagopoulou E. Managing diagnostic uncertainty in primary care: a systematic critical review. *BMC Fam Pract.* 2017 Aug 7;18(1):79. doi: 10.1186/s12875-017-0650-0.

Strategies for Uncertainty in Child Abuse Cases

- Advocacy (focusing on "now") with clear statements based on objective facts.
- Determine what you know to be true and the likelihood of abuse.
- Communicate a clear message (even if uncertain about the abuse); determine the *message.*
- *Accept uncertainty*

Griffiths F, Green E, Tsouroufli M. The nature of medical evidence and its inherent uncertainty for the clinical consultation: qualitative study. *BMJ*. 2005 Mar 5;330(7490):511. Epub 2005 Jan 31.



https://theproblem-solver.com/how-to-create-certainty-in-a-world-of-uncertainty/