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Non-Accidental Trauma in the Trauma Network

Dr. Sarah M. Zate, MD

Assistant Professor

Texas Tech University Health Sciences Center El Paso



Disclosures

Dr. Zate has nothing to disclose.



Objectives

- Establish conceptual framework for non-accidental trauma in the Trauma Network.
- Identify potential pitfalls in emergency care of child abuse patients.



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FRAMEWORK

Non-accidental Trauma in the Trauma Network



Abusive Trauma or Trauma, Abusive?

Trauma first, always!



PITFALL #1: IDENTIFYING PATIENTS

When You Don't Have a History You Can Trust



Diagnosing Trauma

1. History
2. History
3. History
4. Physical findings in absence of history



Diagnosing Abusive Trauma

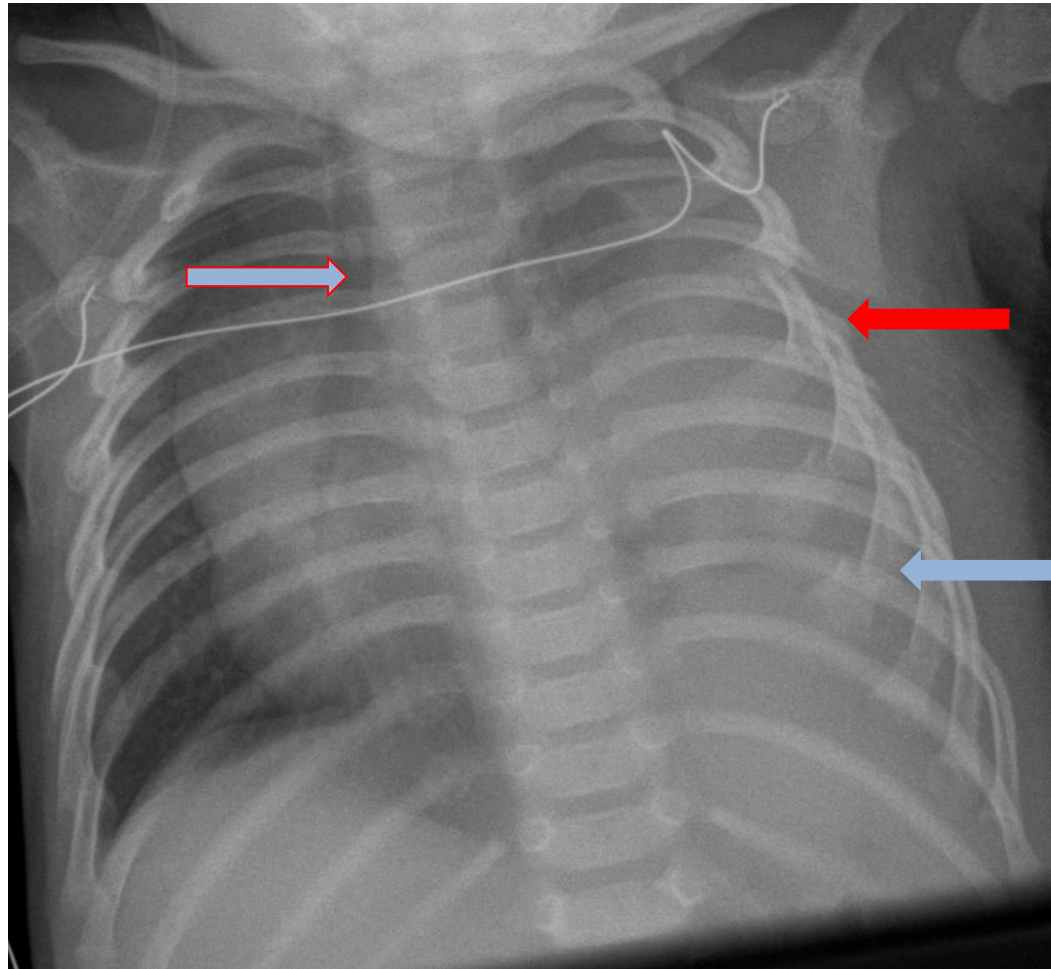
1. Untruthful history of trauma
2. Physical findings in absence of history
3. Incidental discovery of an injury



Late Entry into the System

J.C.

2mo boy presenting
with respiratory
distress





PITFALL #2:

DETERMINING SEVERITY OF INJURY

Assigning a Trauma Level and Minimizing Risk of Misclassification



“Assailant suffers injuries from fall”

Orville Smith, a store manager for Best Buy in Augusta, Ga., told police he observed a male customer, later identified as Tyrone Jackson of Augusta, on surveillance cameras putting a laptop computer under his jacket. When confronted the man became irate, knocked down an employee, drew a knife and ran for the door.

Outside on the sidewalk were four Marines collecting toys for the Toys for Tots program. Smith said the Marines stopped the man, but he stabbed one of the Marines, Cpl. Phillip Duggan, in the back; the injury did not appear to be

severe.

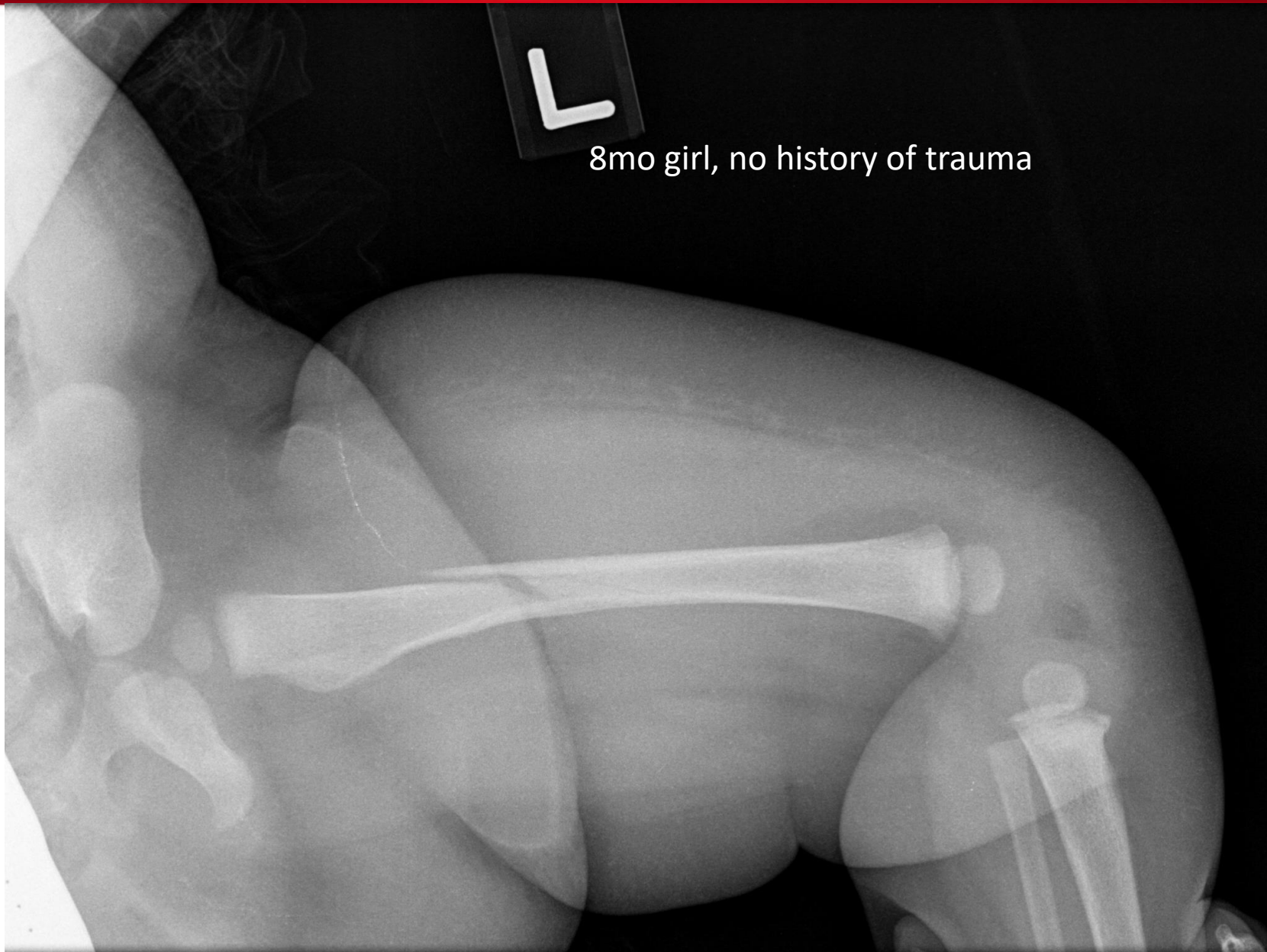
After Police and an ambulance arrived at the scene Cpl. Duggan was transported for treatment.

“The subject was also transported to the local hospital with two broken arms, a broken ankle, a broken leg, several missing teeth, possible broken ribs, multiple contusions, assorted lacerations, a broken nose and a broken jaw...injuries he sustained when he slipped and fell off of the curb after stabbing the Marine,” according to a police report.



Determination of Trauma Level with No History

- Based on injury alone
- Accident correlation



8mo girl, no history of trauma



Option 1: Based on injury alone

Trauma level = 3

Assumes isolated traumatic event

May underestimate severity



Option 2: Accident Correlation

What kind of accidental trauma could cause an injury like this?

Motorcycle Crash?

MV vs. Pedestrian

High fall?

Trauma level = 2

Based on mechanism/correlation



PITFALL #3

EVALUATION FOR OCCULT INJURY

And Other Shiny Objects



Shiny Objects

- Police/CPS
- Sexual assault kits
- Assessing for non life-threatening injury

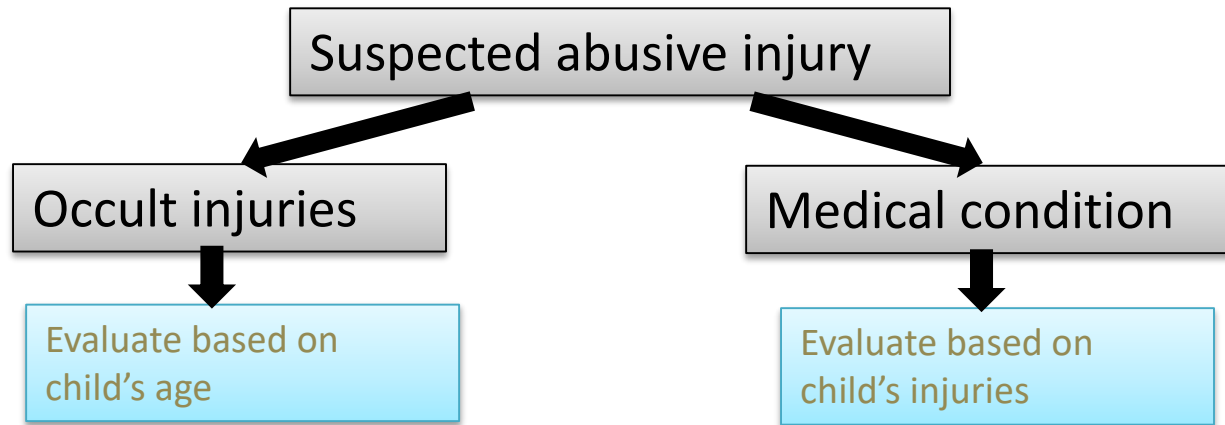


Assessing for Occult Injury

- Consistent evaluation of a given injury in a child of a given age
- Lowest possible risk:benefit



The Workup



Two-pronged approach



Screening for Occult Injury

- Head Imaging
 - Under 1 year
- Ophthalmologic Examination
 - If head imaging is positive
- Skeletal Survey
 - Under 2 years
- Labs
 - Under 6 years
 - Chemistry, LFTs, Amylase/Lipase, UA
- Screening tests for medical causes



Timing is Everything

- Head Imaging
 - Within 3 days if patient clinically stable
- Ophthalmologic Examination
 - Within 3 days if patient clinically stable
- Skeletal Survey
 - Within 1 week if patient clinically stable
- Labs
 - Immediately!
- Screening tests for medical causes
 - Whenever



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- Hoehn, E. F., et al. (2018). "Identification and Evaluation of Physical Abuse in Children." *Pediatr Ann* 47(3): e97-e101.
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