

## Case #1 – multiple injuries including abusive head trauma

A 15 month old boy was taken to ED with concerns of seizures. He was noted to have a fever of 101.4 and physical exam did not identify any other concerns. An EEG was done and interpreted as no abnormalities found. No other imaging studies were done of either the head or bones. Impression was a febrile seizure. Mother was given an anticonvulsant medication with instructions to give if needed for a seizure lasting longer than 3 minutes.

About 3 weeks later the child was brought by ambulance to ED with a history of having a seizure at home. ED records said that mother stated seizure lasted 5 – 10 minutes and then was “postictal” (sleeping, not responding/acting normally, but was not actively seizing).

Recorded in the ED history - “parents state child had forearm swelling and was seen at an outside facility no xrays were done, they were told to ace bandage the arm. child has not been able to crawl since, but has been minimally using the arm. It was noted that the child had a black eye, they stated he hit his face a few days ago with a toy. bruising was noted over the legs -it was stated by the parents that the child was "playing rough" with his 10 year old brother. parents also states the 10 year old hurt the child's arm, but were not sure how.”

This history was provided by the parents before any radiographs were done. History obtained later by a child abuse pediatrician noted that the mother had provided misleading information about the forearm by saying the child had been taken to an outside facility when it was actually mother’s friend who is not a medical provider.

An orthopedic consult was obtained after imaging identified a left ulnar fracture (smaller of the two bones in the left forearm). History provided to the orthopedist was “...he had some pain in his left forearm they noted on Monday. They massaged it and wrapped it in an Ace wrap.”

Physical Examination during the 2nd ED visit recorded many skin findings recorded under “Head” and “Ears, Nose, Throat” including “days old laceration obliquely on R parietal area [right side of head], abrasion to R occiput [right back of head], small ecchymosis [bruise] noted over L temple. R eye with ecchymosis [bruise] under the eye, multiple multistage ecchymosis [resolving bruises] to anterior tib/fib [shins] and knees bilaterally [both sides]”. Please note that the ED physicians observed and recorded numerous bruises on face, head and legs despite recording under the “Skin” that no acute lesions were seen. This is likely an oversight when using EHR (electronic health records) as all of the skin findings were included in the other areas of the physical exam.

A head CT done at 2nd ED visit identified a left sided subdural hematoma and the decision was made to transport to another hospital to be admitted to the Pediatric Intensive Care Unit and Neurosurgical evaluation. ED notes recorded that further indicated imaging studies would be done after admission to transferred hospital.

In summary, there is a high likelihood that this young boy has been physically abused and is at serious risk of more injuries and even death in his parents care at this time.

- multiple significant injuries to different organ systems (brain, bone, skin, mucous membranes) including:

- Left sided subdural hematoma (bleeding under the covering of the brain on the left side)

- Left ulna fracture (smaller of the two bones in the left forearm)

- Bruising on head, face and back of thigh and knee

- Laceration (cut) on the lip

- Frenulum tear (web of skin connecting the inner part of the upper lip to the gum line above the front teeth)

- Likely healing posterior rib fractures (identified on skeletal survey)

- History given and child's developmental level (starting to walk, does not climb up high) does not account for the type and severity of injuries

- History from the family has changed and been misleading/inaccurate

- Delay in seeking treatment as injuries are in different stages of healing.