

# When It Doesn't *Necessarily* Leave A Mark



## Be In The Know

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### Abusive Head Trauma

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#### Injuries Seen:

- **Subdural Hematoma**
- **Brain Injury**  
(contusions, tears, edema)
- **Muscular Strain in Cervical Spine**
- **Retinal Hemorrhages**
- **Rib Fractures**
- **Corner Fractures**

#### Mechanism of Injury:

- **Primary Brain Injury**
  - **Inertial Forces**
  - **Contact Forces**
- **Secondary Brain Injury**
  - **Hypoxic-Ischemic Injury**

#### Force Of The Shake:

- **"More force than a reasonable adult would use when handling a child"**
- **Any bystander would see this as violent**
- **NOT a trivial force**

#### How These Injuries Can Occur From Shaking:

- **Infant's neck relatively unstable**
- **Infant's head proportionally larger**
- **Tearing of bridging veins during repetitive shaking motion**
- **Vitreo-retinal traction**
- **Corner fractures at weak points (metaphyses) as arms and legs flail**
- **Compression of chest beyond ability of ribs to bend**