Sentinel Injuries

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We pediatricians love prevention. What if we could prevent Abusive Head Trauma (aka Shaken Baby)? We think we can.

Sentinel injuries are seemingly minor, poorly explained, visible injuries, in a pre-cruising infant that **raise concern for physical abuse.** Sentinel injuries include bruises, intra oral injuries, subconjunctival hemorrhages, and scalp hematomas. Recognition, evaluation, and intervention of these injuries can help prevent devastating physical abuse in the future.

Retrospectively, 30% of abusive head trauma cases (AHT, aka "Shaken Baby") had a previous sentinel injury that was not recognized as abuse and not reported. Most sentinel injuries (46%) are known to parents and/or medical professionals but not recognized as abuse.

No cruising, no bruising. Infants who cannot cruise, should not bruise.

Sentinel injuries can be subtle. A history of bleeding from the mouth and a torn frenulum is noted. A single bruise on the cheek. A bruise on the back of an ear. A small subconjunctival hemorrhage outside of the birth period (2-3 weeks of age).

Myths: Sentinel injuries are often mistakenly attributed to self-infliction, Valsalva, or siblings.

- Self-inflicted: Young infants do not have the strength to cause injuries such as bruises or subconjunctival hemorrhages, even with toys and rattles.
    - Rolling over on sleeping/lying on toys does not cause bruising
    - Gumming – gnawing on fingers, pacifiers and toys does not cause frenular injury
- Valsalva: Infants under 12 months do not have sufficient strength to Valsalva and cause subconjunctival hemorrhages. So it is not from coughing, spitting up, straining, or crying. Outside of 2-3 weeks of age, a subconjunctival hemorrhage is likely from abuse.
- Siblings: other than scratches - bruises, scalp hematomas, oral injuries, and subconjunctival hemorrhages are not caused by siblings, especially not young siblings. Accidental injuries from an older sibling should always be considered!
- Infants do not easily bruise – it is difficult to bruise infants, they have extra padding and healthy, youthful skin!

Work up: **Any** sentinel injury needs further evaluation for both bleeding disorders and physical abuse. The purpose is to find occult injuries (ones we do not know about). Work up includes a head CT, skeletal survey with repeat skeletal survey, occult abdominal injury surveillance, and substance exposure surveillance.

A negative work up does not rule out physical abuse. A negative work up just means there were no **additional** injuries. Your original injury remains just as concerning.

Any bruises, oral injuries, subconjunctival hemorrhages, scalp hematoma in a pre-cruising infant needs a physical abuse evaluation. Please refer them to your local child abuse team or Child Advocacy Center. A list of Child Abuse Pediatricians follows:

Alameda County – CCP at BCHO – Dr. Crawford-Jakubiak

Contra Costa County – Casey Brown, MD

Sacramento County - Angela Vickers, MD

San Francisco County – Chris Stewart, MD and Melissa Egge, MD

San Mateo and Monterey County – Melissa Egge, MD

References:

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