
Pediatric Injuries

Do you know what signs to look for in child abuse?

By Erin E. Endom, MD

Have you ever been on a call with pediatric injuries where something just didn't seem right? Did you suspect child abuse but were unsure of the signs? Chapter 261 of the Health and Safety Code requires that health care workers report suspected child abuse to a local law enforcement agency or the Texas Department of Family and Protective Services (1-800-252-5400).

Suspicious factors in the history of an injury

- History that is inconsistent with the severity of the child's condition; that is, a story that doesn't make sense in light of the child's injuries. For example, a caretaker may say that a child fell off a couch, resulting in a broken leg and a skull fracture. Falling off a couch doesn't produce enough force to cause these kinds of injuries.
- History that changes over time and with repetition: The EMT may hear one story, the emergency center nurse a different one, the physician yet another. Alternately, different family members may give different accounts of what happened: the mother says the child was burned while being bathed in the bathtub, while the aunt says it happened in the sink. The parents may seem reluctant to explain what happened, or may not give any history at all: "I don't know what happened. She was just suddenly hurt."
- History inconsistent with child's developmental age: A 4-month-old climbs out of his crib and falls, or turns on the hot water tap by himself – in other words, the child is just not developmentally mature enough to

perform these actions.

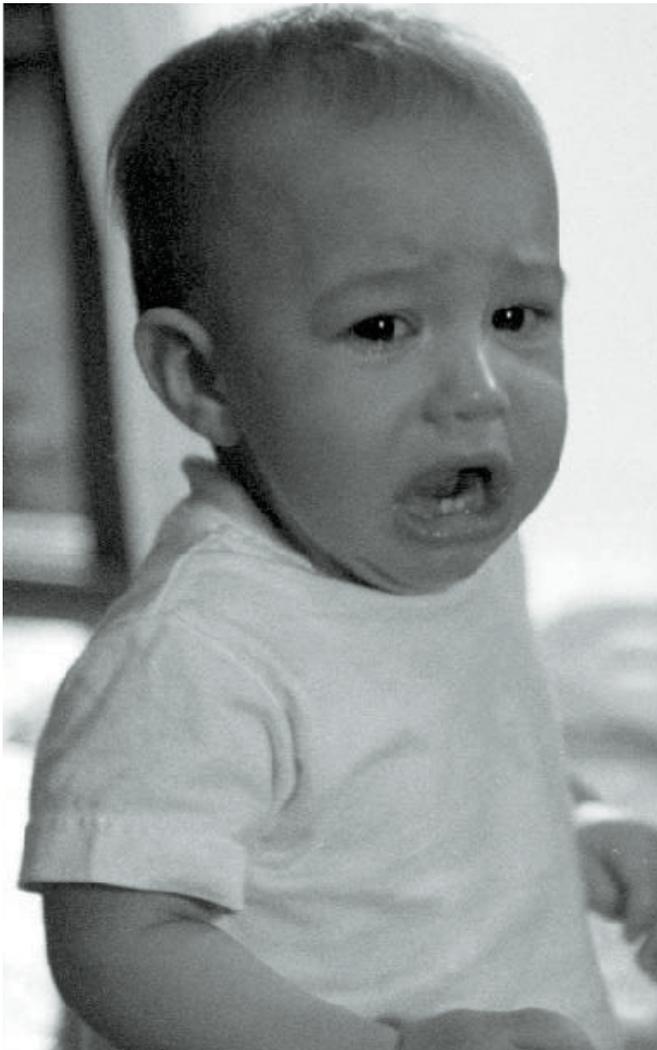
- Delay in seeking medical care is particularly suspicious. In an estimated 30 percent of abuse cases, care is delayed 24 hours, and 30 percent more are delayed one to four days.
- History of prior abuse or repeated injuries in the past: abuse of other children in the family, or "hospital shopping" (going to different doctors or emergency rooms with different injuries to avoid the staff of one ER getting to know them and becoming suspicious).
- Injury attributed to actions of siblings: "His brother hit him with a toy." This may be a cover story, or it may be true and related to sibling rivalry, inadequate supervision, or violence in the home. In any such case, the situation may warrant investigation.
- The parent may make a partial confession ("I hit him, but not that hard.") or may admit frankly that injury was inflicted.

Injuries considered to be consistent with or that may raise suspicion of child abuse:

- Multiple injuries – or more than one type of injury, such as bruises, burns and/or fractures – present at the same time, especially in different stages of healing, imply more than one episode of trauma.
- Injuries to lips or teeth of infants. This area is frequently injured in toddlers due to falls, but in an infant too young to toddle, injury here may be associated with a blow to the mouth, or with forced feeding or "bottle-jamming."
- Any trauma to the genitals without

a clear and convincing history: “Straddle injuries” due to falling on open cupboard doors, the crossbar of a bicycle, etc., are fairly frequent in preadolescent girls, who can say what happened. Injury to the genitals with a vague or unclear history like “She sat down on a toy,” especially in a child too young to talk, should raise suspicion of sexual abuse.

- Suspicious bruising patterns. Accidental bruising tends to occur on the forehead and extremities, especially knees and elbows. Central bruising – to the buttocks, torso, genitals, inner thighs, cheeks, ears or neck – is suggestive of



*photo from Department of Family and Protective Services
Child Abuse Prevention Kit*

abuse. Sometimes actual hand prints or oval finger marks are visible, caused by the child being slapped, pinched, grabbed or shaken.

- Bite marks look like circular or oval-shaped bruises: They may be clear in the center or may show small broken blood vessels. Adult bite marks measure at least 3 centimeters between the canine tooth, which differentiates them from bites by other children. A forensic dentist can match bite marks with the teeth of the abuser, and fresh bites can be swabbed for the assailant’s saliva for identification with blood type and even DNA matching.
- Loop marks are seen after a blow with a doubled-up wire or electric cord; an electric cord leaves characteristic double-track marks.
- Belt marks leave a long, broad band of bruising, often ending in a horseshoe-shaped mark caused by the buckle. The tongue of the buckle may cause puncture wounds.
- Rope burns are usually seen on the neck, around the wrists or on the ankles; gag marks cause bruising at the corners of the mouth.
- Multiple bruises at different stages of healing imply more than one episode of trauma. Fresh bruises progress through several recognizable stages of healing: swollen and red or reddish-blue the first day, then changing from dark purple-blue to greenish, then yellowish-brown, and disappearing. Although the rate at which bruises heal is variable, this progression allows relative dating of injuries and provides evidence of repeated episodes of injury.

Suspicious Burns

- Cigarette burns are circular, about one centimeter in diameter, with a thick, heaped-up edge. A skin infection called impetigo can look very similar to

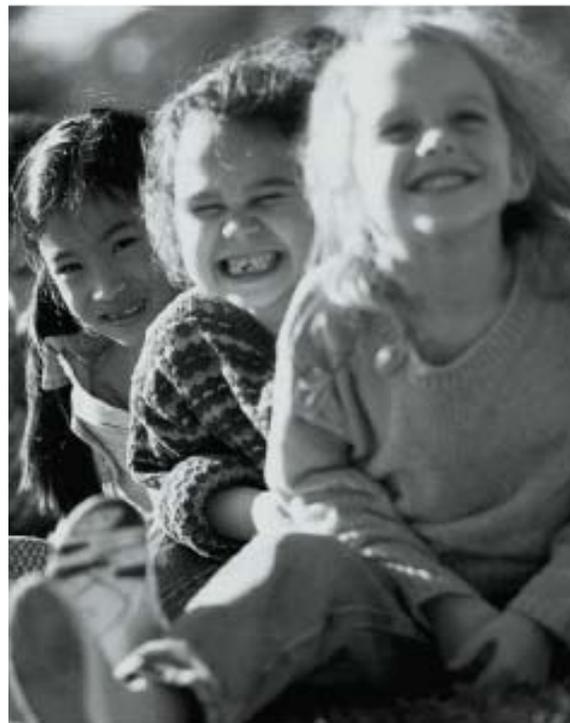
cigarette burns, but impetigo involves only superficial skin layers, while inflicted cigarette burns are usually deeper (third-degree).

- Brands occur when a hot object such as a radiator grill, a clothes or curling iron, or a cigarette lighter is pressed against the skin. The burn is of the same depth throughout, and the outlines of the hot object are clearly visible in the skin.
- Immersion burns occur when a child is forcibly dunked in water or another hot liquid; this is usually found on the buttocks or legs, or in a stocking or glove distribution on the feet or hands. Again, these burns are of uniform depth, with a sharp boundary between burned and normal skin. Drip and splash marks, seen when hot liquid is spilled, are absent in immersion burns. Palms and soles may not appear burned even though they were under the water, because the skin is thicker there and burns more slowly. Other areas that may escape burning even though under the water include the protected skin folds where knees and hips are flexed, and also any skin in contact with the bottom of the tub, which is cooler than the surrounding water.

Conclusion

Be suspicious of an injury that is inconsistent with the history given by the caretaker. This point cannot be stressed too highly. Does the story make sense in light of the child's injuries? Do the child's injuries make sense in light of the story you're hearing?

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It's Up To You

**Report
Child
Abuse**

1-800-252-5400

**Child Abuse and
Neglect Hotline**

www.txabusehotline.org

*From Department of Family
and Protective Services Child
Abuse Prevention Kit*