

## **Definitions of Terms Commonly Used in Child Abuse Cases**

### **Arizona's Mandated Reporting Law**

Arizona Revised Statutes §13-3620 provides the legal definition:

Any person who reasonably believes that a minor is or has been the victim of physical injury, abuse, child abuse, a reportable offense or neglect that appears to have been inflicted on the minor by other than accidental means or that is not explained by the available medical history as being accidental in nature or who reasonably believes there has been a denial or deprivation of necessary medical treatment or surgical care or nourishment with the intent to cause or allow the death of an infant shall immediately report or cause reports to be made of this information to a peace officer or to child protective services in the department of economic security. **Healthcare providers are mandatory reporters.**

### **Information sharing**

**Did you know that there is statute language that allows for the sharing of information between CPS and Arizona's community Pediatricians/Primary Care Providers/other healthcare providers??**

Healthcare providers have an ability to obtain case record information pursuant to 8-804.01(B) as follows:

In addition to the purposes prescribed in section 8-807, reports and related records maintained pursuant to subsection A of this section shall be used by the department only for the following purposes:

- To assess the safety and risk to a child when conducting an investigation or identification of abuse or neglect.
- To determine placement for a child that is the least restrictive setting.
- To determine the type and level of services and treatment provided to the child and the child's family.
- To assist in a criminal investigation or prosecution of child abuse or neglect.
- To meet state and federal reporting requirements.
- Sharing of Information for Children in CPS Custody

A.R.S. § 8-514.05 directs a health care provider, health plan or institution to provide medical or behavioral health records and information relating to the child's condition and treatment, to include prescription and nonprescription drugs, durable medical equipment, devices and related information to the child's foster parent, group home staff, relative or other person or agency in whose care the child is currently placed, including department employees who are involved in the child's case management.

## **What is Neglect?**

**The legal definition – Arizona Revised Statutes §8-802(22)**

Neglect is defined as a determination by a health professional that a newborn was exposed prenatally to a drug or substance listed in section 13-3401 and that this exposure was not the result of a medical treatment administered to the mother or the newborn infant by a health profession.

The determination by the health professional is to be based on clinical indicators in the prenatal period including maternal and newborn presentation' history of substance use or abuse; medical history; and the results of a toxicology or other laboratory test on the mother or the newborn infant.

## **Neglect**

A good clinical definition of Neglect is from *Pediatrics*. Dec 2007;120(6): 1385-1389

- A child is harmed or is at risk of harm because of lack of health care;
- The recommended health care offers significant net benefit to the child;
- The anticipated benefit of the treatment is significantly greater than its morbidity, so that reasonable caregivers would choose treatment over non-treatment;
- It can be demonstrated that access to health care is available and not used; and
- The caregiver understands the medical advice given.

## **The Substance-Exposed Newborn**

How does the **Substance-Exposed Newborn** fit into the Neglect definition?

Arizona Revised Statutes §13-3620

Requires a health care professional, **who reasonably believes that a newborn infant may be affected by the presence of alcohol or a drug**, to immediately report this information, or cause a report to be made, to Child Protective Services. For reporting purposes, "newborn infant" means a newborn infant who is under thirty days of age. **Healthcare providers are mandatory reporters.**

The federal Child Abuse and Prevention Treatment Act (CAPTA) at section 106(b)(2)(B)(ii) requires health care providers to notify CPS of all infants born and identified as affected by illegal substance abuse.

Arizona Revised Statutes §8-802(22)

- Neglect is defined as a determination by a health professional that a newborn was exposed prenatally to a drug or substance listed in section 13-3401 and that this exposure was not the

result of a medical treatment administered to the mother or the newborn infant by a health profession.

- The determination by the health professional is to be based on clinical indicators in the prenatal period including maternal and newborn presentation' history of substance use or abuse; medical history; and the results of a toxicology or other laboratory test on the mother or the newborn infant.

The following **two elements** must be present to prove neglect involving SEN:

1. A determination by a health professional that a newborn infant was exposed prenatally to a drug or substance listed in A.R.S. § 13-3401. This determination must be based on **one or more** of the following:
  - a) Clinical indicators in the prenatal period including maternal and newborn presentation;
  - b) The mother's history of substance use or abuse;
  - c) The medical history pertaining to the pregnancy; and/or
  - d) The results of toxicology or other laboratory tests on the mother or newborn infant.
2. That the prenatal drug exposure was **not the result of a medical treatment** administered to the mother or newborn infant by a health professional.

### **Fetal Alcohol Exposure**

Fetal Alcohol Syndrome (FAS) - a congenital medical condition, in which body deformation occurs, and/or facial development or mental ability is impaired because the mother drinks alcohol during pregnancy.

Fetal Alcohol Spectrum Disorder (FASD) - a pattern of birth defects, learning, and behavioral problems affecting individuals whose mothers consumed alcohol during pregnancy. Other terms under spectrum disorder include:

- Alcohol-related neurodevelopmental disorder (ARND)
- Alcohol-related birth defects (ARBD)

### **What is a helpful clinical definition of Physical Abuse?**

Child abuse is a symptom of family dysfunction which results in injury to a child.

**Caregiver-Fabricated Illness** (formally known as Munchausen by Proxy) refers to a form of child abuse in which an adult falsifies developmental, physical, and/or psychological signs and/or symptoms in a victim causing that victim to be regarded as more ill or impaired than objective evaluation reveals them to be.

Other common terminology used for this condition includes:

- Fabricated Illness in a Child<sup>1</sup>,
- Factitious Disorder Imposed on Another <sup>2</sup>,
- Pediatric condition falsification,
- Factitious disorder (illness) by proxy,
- Child abuse in the medical setting, and
- Medical child abuse.

Caregiver-Fabricated Illness consists of two components:

- The first component is the identification of the child abuse, the victimization of the child, called Caregiver-fabricated Illness (which can include exaggeration, fabrication, simulation and/or induction of symptoms). The child is receiving unnecessary and harmful or potentially harmful medical care at the instigation of a caretaker.<sup>3</sup>
- The second component is the identification of the psychopathology of the suspected perpetrator, called Factitious Disorder Imposed on Another.

### **Abusive Head Trauma**

*Did you know that Shaken Baby Syndrome is now termed **Abusive Head Trauma (AHT)**?*

In 2009, the American Academy of Pediatrics changed the terminology to account for an increased understanding of the mechanisms of this type of trauma, which include<sup>4</sup>:

- Shaking,
- Blunt impact, or a
- Combination of forces.

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<sup>1</sup> Emalee G. Flaherty, MD, FAAP, and Harriet L. MacMillan, MD, and COMMITTEE ON CHILD ABUSE AND NEGLECT. *Pediatrics* 2013;132:590–597

<sup>2</sup> DSM V, Somatic Symptom and Related Disorders, Factitious Disorder

<sup>3</sup> Roesler TA, Jenny C. Medical Child Abuse: Beyond Munchausen Syndrome by Proxy. Elk Grove Village, IL: American Academy of Pediatrics; 2009

<sup>4</sup> Christian CW, Block R, and the Committee on Child Abuse and Neglect. Abusive Head Trauma in Infants and Children. *Pediatrics* 2009;123:1409-1411

Infants and young children have relatively large heads with poor neck support and are most prone to head injuries by direct impact or shaking. **Head injuries are the most common cause of death from abuse**, with infants under 1 year being at the highest risk. **Most (80%) deaths from head trauma in children under the age of 2 are a result of abuse.**

**All of the following injuries are consistent with Abusive Head Trauma:**

- Retinal hemorrhages ( seen in 75% - 90% of cases),
- Posterior & medial rib fractures,
- Subdural hematomas, and/or
- Brain stem injury .

The above clinical findings frequently show **little or no evidence of external trauma**. There is often delay in seeking medical care and a common history is that the infant “went to sleep, but didn’t wake-up”.

Confessions from the perpetrators are uncommon; however, one study found that 62.5% of confessions stated they shook the infant in an “extremely violent” manner, and repeatedly (2 to 30 times) because it “stopped the infant’s crying”.<sup>5</sup>

Shaking, with or without the sudden deceleration or impact of the head and brain can cause the following:

- **Subdural hematoma** - a collection of blood between the surface of the brain and the dura (the outer membrane covering the brain.) This occurs when the veins that bridge from the brain to the dura are stretched beyond their elasticity, causing tears and bleeding.
- **Subarachnoid hemorrhage** is bleeding between the arachnoid (web-like membrane surrounding the brain which is filled with spinal fluid) and the brain.
- **Direct trauma to the brain** itself when the brain tissue strikes the inner surface of the skull.
- **Shearing off or breakage of nerve cell branches** (axons) in the superficial or deeper structures of the brain caused by violent motion to the brain.
- **Irreversible damage to the brain tissue** from the lack of oxygen if the child stops breathing during or after shaking.

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<sup>5</sup> Adamsbaum C, Grabar S, Mejean N, Rey-Salmon C. Abusive Head Trauma: Judicial Admissions Highlight Violent and Repetitive Shaking. Pediatrics 2010;126:546-555

<sup>3</sup> The Radiology Assistant, Non Accidental Trauma by Simon Robben, Radiology Department of the Maastricht University Hospital in the Netherlands

- **Further damage** to the oxygen-deprived brain cells **when the injured nerve cells release chemicals from cell death.**
- **Acute on chronic hemorrhages** - The doctors are saying that there were old (chronic) subdural bleeds from previous injury and then a new (acute) bleed from new injury. This would likely make an infant symptomatic (lethargy, pale, then later seizures) prompting the parents to seek medical care. Seizures may occur from abusive head trauma and the traumatic brain injury that occurred with this event(s).

### **Eye Injuries – Retinal Hemorrhages**

There is a correlation between the severity of brain injury and injury to the retina. Hemorrhages can be bilateral (both eyes), **pre-retinal** (on the surface of the retina), extensive, multilayered, extending out to the edges of the retina (**ora serrata**), under the retina (**subretinal**), or within the retinal tissue. A particularly important form of hemorrhage is caused by the splitting of the retinal layers, with blood accumulating in this space (**retinoschisis**).

### **Bone & Joint Injuries**

**Abused children** with fractures tend to be young <5 years of age and have more than one fracture. **Children have flexible bones that are more likely to bend than break** – hence we see bones with buckled cortex, or changes in the periosteum (covering of the bone).

The metaphysis or wide part of the long bone next to the growth plate is susceptible to non-accidental injury in young children and babies. Fractures of this area are called **metaphyseal corner or bucket handle fractures** and are highly associated with child abuse. Fractures of the metaphysis are thought to happen when the baby has been pulled or swung violently from an arm or leg and the relatively weaker growing point of the bone breaks. There may be no outer sign of a fracture.

In general, **classic metaphyseal lesions (CML) or fractures** are quite concerning and have the highest specificity in infants & toddlers and are not consistent with fractures from play or even brittle bone disease. Digital fractures (fingers/toes) are of moderate specificity for child abuse.

**Rib fractures have a strong association with non-accidental trauma (NAT) and severe trauma.**<sup>6</sup> Several studies have made very strong statements about the association of **posterior rib fractures** and abuse. Even in the setting of cardiopulmonary resuscitation (CPR), posterior rib fractures are highly suggestive of abuse, as the ribs tend to bend before they break.

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<sup>6</sup> Barsness KA, et al. The positive predictive value of rib fractures as an indicator of nonaccidental trauma in children. *J Trauma*. 2003 Jun;54(6):1107-10.

Child abuse should be considered in cases of pediatric rib fractures, particularly **fracture of the first rib**. One study out of Ann Arbor, Michigan demonstrated that first rib fractures (in the absence of bone disease) were most likely to be the result of child abuse. Proposed mechanisms for first-rib fracture include impact force, compressive force, and shaking or acute axial load (force generated up the spine) from slamming the infant down.<sup>7</sup>

#### **Specificity of X-Ray Findings in Infants & Toddlers for Child Abuse<sup>8</sup>**

<b>High Specificity for child abuse, especially in infants</b>	
	Classic metaphyseal lesions or fractures (CML)
	Rib fractures, especially in the back & side of the ribs
	Fractures of the scapula bone on the back
	Fractures of the spinous process on the back bone
	Fractures of the chest bone (sternum)
<b>Moderate specificity for child abuse</b>	
	Multiple fractures, especially bilateral (on both sides of body)
	Fractures of different ages
	Epiphyseal (growth plate) separations
	Vertebral body fractures & subluxations (back bone fractures)
	Fractures of finger bones
	Complex skull fractures (more than one fracture in more than one skull bone)
<b>Common fractures, but low specificity for abuse</b>	
	New bone formation under the bone covering (subperiosteum)
	Fractures of the clavicle (collar bone)
	Fractures of the long bones (arm & leg bones)
	Linear skull fractures (straight, simple skull fractures)

**Subluxation** is a partial dislocation of a joint

**Synovitis** is inflammation of the joint lining

**Neck ligamentous strain** - due to abnormality of the left posterior intraoccipital synchondrosis. (Translation = cartilaginous union between the squamous and lateral parts of the occipital bone in the newborn). May be seen in aggressive acceleration/deceleration injuries.

**Osteogenesis Imperfecta (OI)** is a congenital bone disorder which means that it is present at birth. It is characterized by brittle bones that are prone to fracture. People with OI are born with defective connective tissue caused by genes that don't work properly. There is a deficiency of Type-I collagen which is an important building material for healthy bones.

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<sup>7</sup> Strouse PJ, Owings CL. Fractures of the first rib in child abuse. *Radiology*. 1995 Dec;197(3):763-5.

<sup>8</sup> Pediatrics Volume 133, Number 2, Feb 2014

The diagnosis of OI is based on the clinical features and may be confirmed by collagen or DNA testing. OI can range from mild to severe and symptoms vary from person to person. To date, eight types of OI have been recognized.

In most cases, we are unable to establish exact timelines for fractures and other non-accidental injuries. Depending on the X-Ray findings, we can sometimes state that the fractures are of different stages of healing, therefore happened during different times. The follow up skeletal survey will also show us if there were relatively new fractures at the time of the hospital admission that could not be visualized on the original X-rays. As the bone heals, it makes a callous formation to mend the 2 pieces of the bone together. At that time, the healing fracture because of the callous formation may be more visible on the X-Ray.

### **Malnutrition and Failure to Thrive**

**Cachexia** means that the patient has severe wasting affecting weight and body mass. This puts a patient at significant risk of death as the body does not have the fuel it needs to sustain life or fight infection.

**Failure to Thrive (FTT)** – is abnormal weight age or weight gain in a child younger than 2 years of age. The growth chart shows that the weight has crossed over 2 major percentiles from where the child had been growing. Also defined as:

- Weight < 3rd% or < 5th%
- Weight < 80th% of ideal weight for age

FTT describes a sign, not a diagnosis. It is a failure to gain weight that is disproportionate (involves weight more than height). There is no obvious cause. It is a diagnosis of infants & young children < 2 years of age who are unable to get food and fend for themselves. It is a condition caused by inadequate caloric intake or inadequate caloric absorption or excessive metabolic demand.

When starvation becomes severe, not only weight will be compromised, but also height AND head growth. Head growth is a reflection of brain growth and is usually spared in FTT unless it is severe and prolonged. The first growth parameter to fall off is weight, followed by height, and finally by brain size.

FTT can be secondary to abuse or neglect and is most often seen in families with significant dysfunction, stress, and/or substance abuse.

Severe malnutrition may cause immune dysfunction and the baby will not be able to fight off infection or tolerate any minor stress to her body (e.g., environmental heat or cold stress). Severe FTT/malnutrition will ultimately lead to death.