

# Child Trauma & Fatality Cases

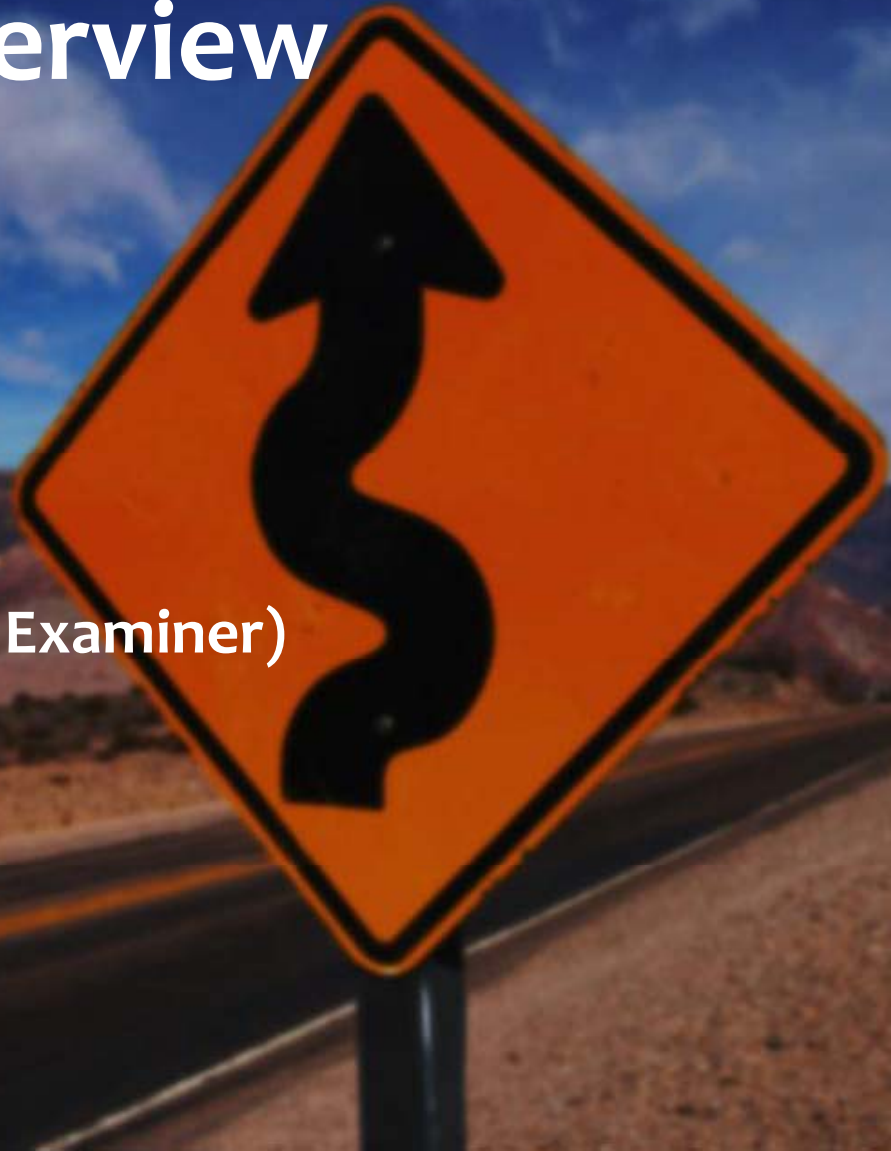
## What Role Do Medical Professionals Play?

Dr. Kenneth McCann, DO  
Medical Director, Regional Child Protection Center  
Blank Children's Hospital

# Medical Providers

# Overview

- \* Identification
- \* Mandatory Reporting
- \* Consultation( Medical Examiner)
- \* Treatment
- \* Prevention

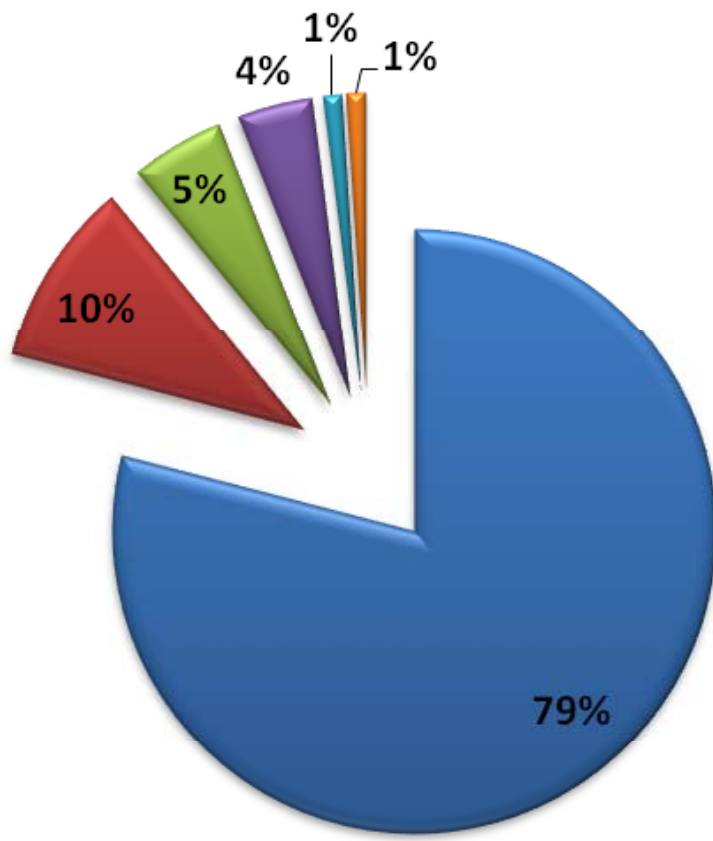


# Identification

- \* Child abuse is a disease
- \* Diagnosed just like other diseases:
  - \* History
  - \* Physical Examination

# Common Things Are Common

## 2011 Confirmed Abuse in Iowa



- Denial of Critical Care (Neglect)
- Physical Abuse
- Presence of Illegal Drugs in a Child's (PID)
- Sexual Abuse
- Allows Access by Registered Sex Offender
- Manufacturing, or Possession with Intent to Manufacture, a Dangerous Substance

# Neglecting Neglect

- \* Most common cause of death from child maltreatment
- \* Worse Outcomes than CPA/CSA
  - \* Psychosocial
  - \* Cognitive Development
  - \* Emotional Development
  - \* Attachment Disorders
  - \* Juvenile Delinquency
  - \* Adult Criminal Behavior
  - \* Difficulties parenting in future

# History

- \* Risk Factors\*
  - \* No history
  - \* Incompatible history
  - \* Significantly changing history
  - \* Child not developmentally capable of a stated action
    - \* 5-month-old “climbed out of the crib and fell”
  - \* Delay in seeking care
  
- \* All the above in the context of the families culture and socioeconomic circumstances.

# History

- \* Important questions?
  - \* What was the child wearing?
  - \* What happened after the injury?
  - \* Who else was there?
- \* If an accidental injury, consider possible supervisory neglect.
  - \* (Most common cause of death from child maltreatment)



# Physical Examination

- \* Plot height and weight
    - \* Most malnourished kids don't look malnourished
  - \* Neurologic exam\*
  - \* Check every inch of skin
    - \* Absence of bruises ~~≠~~ Absence of injury
  - \* Look in the mouth
  - \* Palpate/move extremities\*
  - \* Squish on the belly (bruising)\*
- \* \* Babies can, and will, fool you!!

# Skin Findings

- \* Bruises:
  - \* Active kids bruise
  - \* “Those that don’t cruise, rarely bruise.”
  
- \* Burns:
  - \* Patterned burns/Cigarette burns
  - \* Well demarcated/symmetric burns
  - \* “Glove and stocking” burns









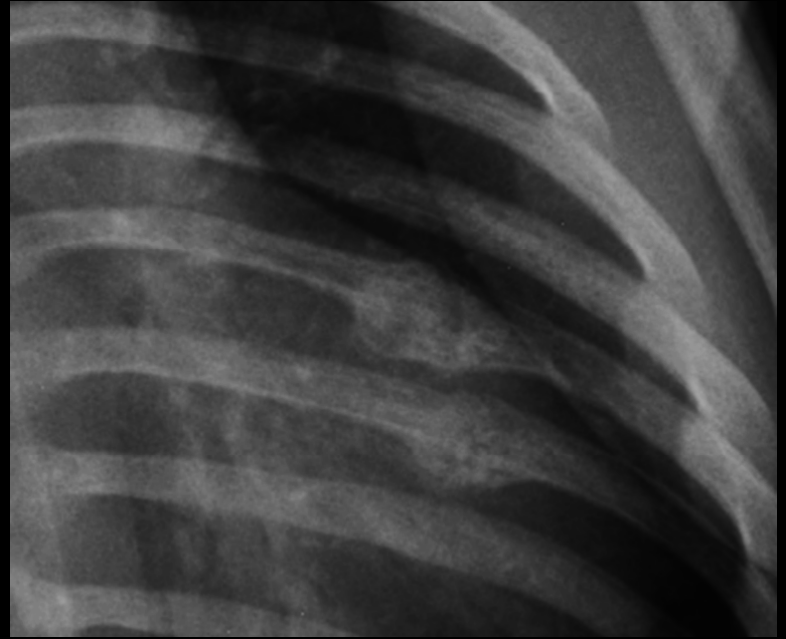


# Highly Concerning Fractures

- \* Metaphyseal fractures (Corner/Bucket handle)
- \* Spinous process fractures (Vertebral)
- \* Scapular fractures (Shoulder blade)
- \* Sternal fractures (Chest bone)
- \* Posterior rib fractures
- \* Also, any type of fracture in a non-ambulatory child should be of concern (i.e. <12 months)







# Abusive Head Trauma (Shaken Baby Syndrome)

- \* VERY general overview
- \* Trauma to Brain/Spine/Eyes from an inflicted event
  - \* Shaking and/or Impact
  - \* Violent
  - \* May have associated fractures

# Abusive Head Trauma (Shaken Baby Syndrome)

- \* Challenging diagnosis
  - \* Variable degree of symptoms
  - \* Undependable caretaker history
- \* Many cases or missed or misdiagnosed
  - \* High index of suspicion
- \* Shaken baby syndrome is NOT a controversy

# Mandatory Reporting

# Reporting of Abuse/Neglect

**“Mandatory reports” include helping professionals in the following general categories, as defined in Iowa Code**

- \* Health
- \* Mental health
- \* Education
- \* Child care
- \* Law enforcement
- \* Social work

**To report a suspected case of child abuse:**

- \* Call 1-800-362-2178.
- \* Then, follow up by making a written report within 24 hours.



# Mandatory Reporting

- \* Must report a suspicion of abuse.
- \* Reporters don't have to validate abuse or have proof.
- \* Reporting a suspicion of abuse is not an accusation.

# Assessment Process

## **As a medical professional how may I be asked to assist in a child abuse/neglect assessment?**

- \* As a collateral contact for the DHS assessment worker to obtain information about the child's medical history.
- \* As a professional consultant
  - \* Child Protection Centers/Child Advocacy Centers
- \* As a participant in any judicial proceeding resulting from the report or relating to the subject matter of the report.



# What about HIPAA?!?

## Waiver of Confidentiality

- \* Rules around confidentiality and privileged communication **are waived during the child abuse assessment process** (once a report of child abuse becomes a case).
- \* Iowa Code section 232.71B indicates that the Department may request information from any person believed to have knowledge of a child abuse case. County attorneys, law enforcement officers, social services agencies, and **all mandatory reporters (whether or not they made the report of suspected abuse) are obligated to cooperate and assist with the child abuse assessment** upon the request of the Department.

# Medical Examiners

# What is a Forensic Pathologist?

- \* A medical doctor who has completed training in anatomical pathology and sub-specialized in forensic pathology.
- \* Performs autopsies/postmortem examinations to determine the “cause of death”. The autopsy report contains an opinion about:
  - \* The pathologic process, injury, or disease that directly results in or initiates a series of events that lead to a person's death, also known as “mechanism of death” (i.e. exsanguination caused by a stab wound).
  - \* The “manner of death”, the circumstances surrounding the cause of death (i.e. homicide).



## **Forensic Pathologists can also assist by:**

- \* Collecting trace evidence.
- \* Determining the identity of the deceased
- \* Examining and documenting wounds and injuries.
- \* Collecting and examining tissue specimens under the microscope.
- \* Collecting and interpreting toxicological analyses on body tissues and fluids.
- \* Working closely with the medico-legal authority concerned with the investigation of sudden and unexpected deaths.
- \* Serving as an expert witness in civil or criminal law cases.

# Iowa Office of the State Medical Examiner

## **State Medical Examiner: Julia Goodin, M.D.**

- \* Deputy State Medical Examiner: Dennis Klein, M.D.
- \* Associate State Medical Examiners: Jonathan Thompson, M.D., Michele Catellier, M.D.
- \* State Medical Examiner Investigators

## **County Medical Examiners: 99 Counties**

- \* County Medical Examiner Investigators



# Iowa Law and Policy

## **Iowa Code § 331.802 states:**

“A person's death which affects the public interest as specified in subsection 3 shall be reported to the county medical examiner or the state medical examiner by the physician in attendance, any law enforcement officer having knowledge of the death, the embalmer, or any other person present. The appropriate medical examiner shall notify the city or state law enforcement agency or sheriff and take charge of the body.”



## What constitutes a death of “public interest”:

- \* Violent death, including homicidal, suicidal, or accidental death.
- \* Death related to disease thought to be virulent or contagious which may constitute a public hazard.
- \* Death that has occurred unexpectedly or from an unexplained cause.
- \* Death of a person in state care (correctional facilities, mental health institutes, juvenile home, state training school, etc.)
- \* Death of a person if the identity of the deceased is unknown.
- \* **Death of a child under the age of two years if death results from an unknown cause or if the circumstances surrounding the death indicate that sudden infant death syndrome may be the cause of death.**

The county medical examiner shall conduct the investigation in the manner required by the state medical examiner and shall determine whether the public interest requires an autopsy or other special investigation.



In the case of a death of a child under two years (as described in previous section), Iowa law requires that the county medical examiner order an autopsy.



# Child Death Investigations

- \* Thorough scene investigation **with doll reenactment**
- \* Thorough history with interview of all caregivers/witnesses
  - \* Recent and remote family and social history
  - \* Detailed account of activities and encounters of previous hours and days
- \* Complete access to entire medical history of child/infant including birth and prenatal records



Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa



## **After death, the body should not be altered prior to autopsy**

- \* Leave emergency medical devices in place
- \* Do not clean the body
- \* Do not change clothing, diaper, etc.
- \* If clothing is removed during resuscitation, send it with the body
- \* Consider bagging the hands in paper bags (i.e., if physical altercation).

# Limitations of Autopsy

## What can't we do?

- \* Hematologic studies
  - \* Coagulation
  - \* Electrolytes
  - \* Arterial blood gas (ABG)
- \* Temperature assessment
- \* Bruises CANNOT be aged
- \* Time of death CANNOT be scientifically determined
- \* External injury (or lack thereof) does NOT accurately predict internal injury
- \* Asphyxia– Particularly difficult



Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa

# Manners of Asphyxia



## Strangulation

- \* Ligature
- \* Manual
- \* Hanging

## Drowning

## Environmental

- \* i.e. refrigerator

## Smothering: obstruction of airway

- \* Plastic bags
- \* Poke-balls



## Choking

- \* Hot dog, hard candy, latex balloon



Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa

## Traumatic

- \* Overturned furniture

## Traumatic/positional

- \* Defective crib

## Combination traumatic asphyxia and smothering

- \* Overlay
- \* Burking

## Suffocating gases: displacement of oxygen



Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa

# Sudden Unexplained Infant Death

Since the mid-late 1990s medical examiners and coroners have moved away from classifying many infant deaths as SIDS and are calling more deaths accidental suffocation, asphyxia, or unknown cause.

91 deaths of infants (<12 months) in Iowa, occurring from 2008-2009, were reviewed by the Child Death Review Team as “sleep-related deaths” to determine presence of risk factors for SIDS/SUID.

# Sleep Related Deaths in Iowa

- \* The most common sleep surfaces involved were adult beds and couches.
  - \* **Soft bedding** was a significant factor in 65 of the 91 total deaths.
- \* In 34 deaths, the infant was placed to sleep in the prone position and in 48 of the total cases, the infant was found deceased in the **prone position**.
- \* In 40 of the 91 infant deaths, **co-sleeping** with one or more adults or older children was a contributing factor in the deaths.
- \* 53 infants were **exposed to tobacco products** and 45 infants were **exposed to alcohol or illicit drugs** either in utero, environmentally or their caretakers at the time of death were under the influence of these substances.

Source: Iowa's Child Death Review Team, Annual Report for 2008 and 2009



# Death Investigations **MUST** be Interdisciplinary

The autopsy involves a complete **HISTORY** and **PHYSICAL** examination.



**A cause of death is not necessarily THE cause of death!**

Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa

# Every Death Investigation Has a Scene

**How would the investigation at the time of death differ if the end results were known initially?**

**Team members must anticipate surprises!**

**It may be days or weeks before it is known that...**



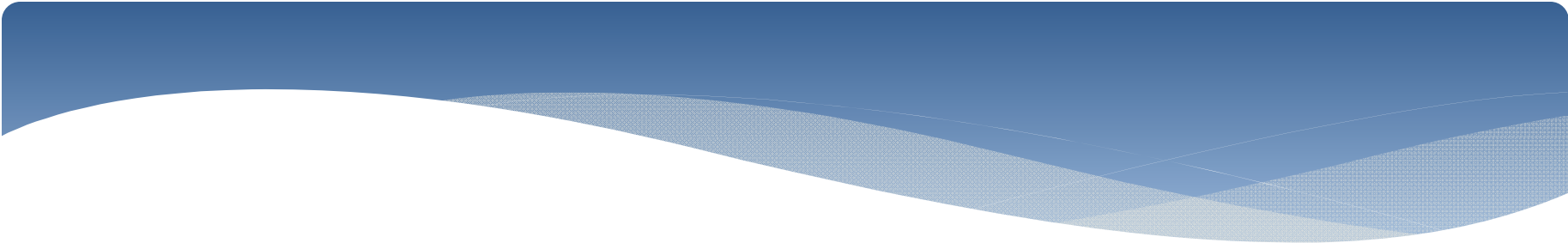
**Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa**

# Potential Surprises...

- \* The child's toxicology is positive
- \* The cultures and histology fail to demonstrate inflammation/infection
- \* The chemistry shows evidence of an allergic reaction
- \* The battery of tests fails to demonstrate a cause of death
- \* The intracranial hemorrhage and eye findings are found to be consistent with inflicted injury

Source: Michele J. Catellier, M.D., Associate State Medical Examiner, State of Iowa

# Prevention



CDRT sub-committee concluded that a majority of infant sleep-related deaths in Iowa included identifiable risk factors in the baby's sleep environment that research suggests increases an infant's risk of SIDS/SUID.

Therefore, many of these deaths may have been completely **PREVENTABLE!**

Source: Iowa's Child Death Review Team, Annual Report for 2008 and 2009

# Preventing Suffocation

## **Recommend safe sleeping practices, such as:**

- \* Place infants on their backs to sleep
- \* Use a firm mattress that meets currently mandated safety standards
- \* Remove quilts, loose bedding, stuffed toys, and other soft objects from crib
- \* Keep infant's head uncovered
- \* Do not allow infant to share a bed with adults or other children
- \* Do not allow infant to sleep with adults on a sofa or recliner

# What does a safe sleep environment look like?

Reduce the Risk of Sudden Infant Death Syndrome (SIDS) and Other Sleep-Related Causes of Infant Death



Use a firm sleep surface, such as a mattress in a safety-approved\* crib, covered by a fitted sheet.

Do not use pillows, blankets, sheepskins, or crib bumpers anywhere in your baby's sleep area.

Keep soft objects, toys, and loose bedding out of your baby's sleep area.

Do not smoke or let anyone smoke around your baby.



Make sure nothing covers the baby's head.

Always place your baby on his or her back to sleep, for naps and at night.

Dress your baby in light sleep clothing, such as a one-piece sleeper, and do not use a blanket.

Baby should not sleep in an adult bed, on a couch, or on a chair alone, with you, or with anyone else.

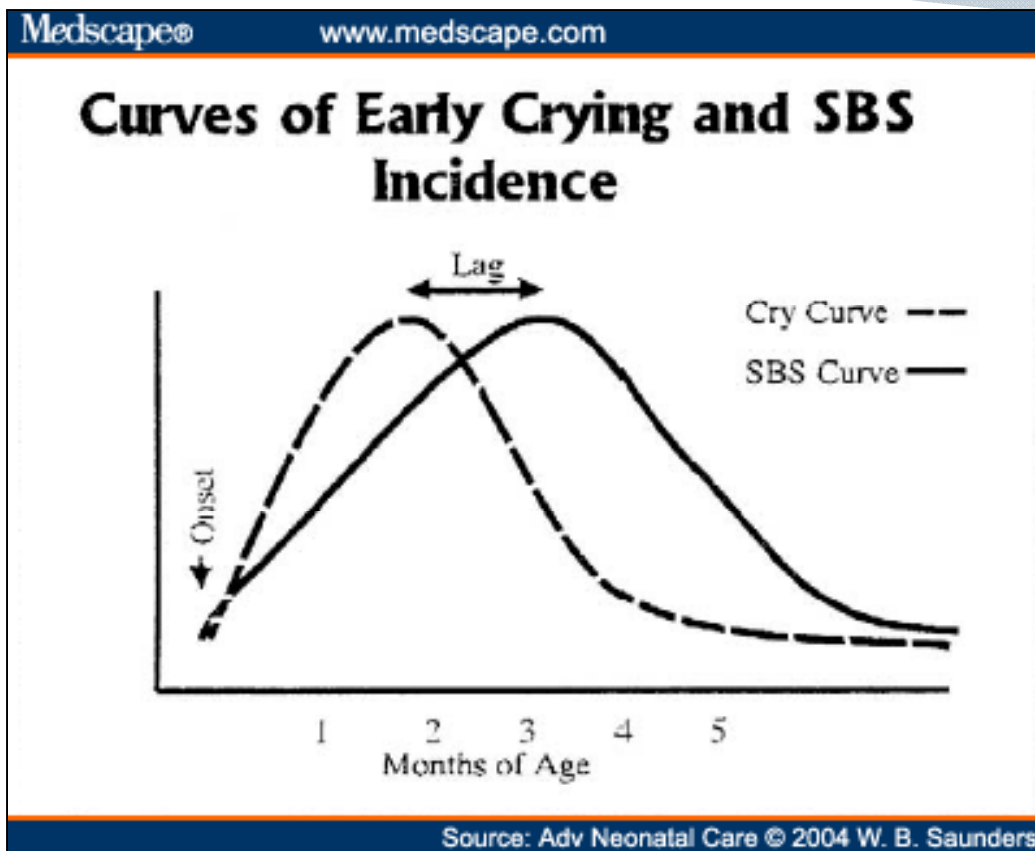
\*For more information on crib safety guidelines, contact the Consumer Product Safety Commission at 1-800-638-2772 or <http://www.cpsc.gov>.



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
NATIONAL INSTITUTES OF HEALTH  
Eunice Kennedy Shriver National Institute of Child Health and Human Development



# Prevention





# Crying Anticipatory Guidance

- \* Provide information on normal crying
- \* Increased crying begins ~ 2 weeks of age
- \* Crying peaks during the second month
- \* Crying decreases between third and fifth months

# Period of Purple Crying

- \* P-Peak of Crying
  - \* U-Unexpected
  - \* R-Resists Soothing
  - \* P-Pain Like Face
  - \* L-Long Lasting
  - \* E-Evening
- 
- \* Parents receive DVD at birth hospital
  - \* Follow up with primary care



Period of **PURPLE** Crying®  
*A New Way To Understand Your Baby's Crying*

# When to Talk Prevention?

## **Anytime is a good time!!!**

- \* Healthcare providers should take every opportunity to discuss prevention with caregivers:
  - \* Prenatal appointments
  - \* At hospital (labor/delivery)
  - \* Family/Pediatric care clinics
    - \* Well child exams
  - \* Urgent care clinics
  - \* Emergency departments
- \* Also consider new technologies to reach parents and caregivers, i.e. blogs, apps, social media, etc.



# Ongoing Treatment Needs

**Healthcare professionals may also play a role in treatment for children who has been victims of child abuse and/or neglect by:**

- \* Providing follow-up care
  - \* Failure to thrive
- \* Making additional referrals
  - \* Mental health, substance abuse, etc.
- \* Trauma informed care
- \* Serving the unique needs of children in the foster care system

# Conclusion

## Dr. Roesler's Rules for Child Abuse:

1. Identify it
2. Stop it
3. Provide for children's ongoing safety
4. Repair whatever damage is possible
5. Do above with least intrusiveness to the family



\* THANK YOU!!