Identification of Children at Risk - with a focus on children < 2 years

Maternal and Child Health Conference
Melbourne April 22nd 2016

Anne Smith
Medical Director, Victorian Forensic Paediatric Medical Service

10 key messages

Babies & toddlers are killed and are injured by abuse & neglect
Child abuse is easy to miss

MCHN are in a privileged position to DETECT child abuse
MCHN can PREVENT child abuse

Socioeconomic and family “red flags” exist
Health + Child Protection + Police partnerships = Good

A knowledge base exists to help differentiate abuse from accidents & medical mimics
Help is available: Referral pathways exist

Don’t guess
Act quickly & act wisely

Identification of children at risk

Forensic perspective

1. Psychosocial
- Interaction between adult(s) and child
- Caregiver capacity to parent

2. Injury – Accident or Assault?

3. Symptoms and signs that MIGHT indicate injury or harm

At risk of what?

A range of harms

Often co-exist / cumulative

- Physical injury
- Emotional abuse
- Neglect
- Other (fabricated / induced illness/ SA)
- Adverse outcomes – life course

False assumption: all health professional are able to recognise child abuse

The Royal Children's Hospital Melbourne

Some people <u>wrongly</u> believe that:

- All Doctors & Nurses know how to recognise child abuse when they see it
- It is easy to determine the cause of injury from the appearance of a wound
- No extra training is required to diagnose child abuse – all it takes is a good heart to know how to help abused children
- It doesn't matter if child abuse is over-diagnosed

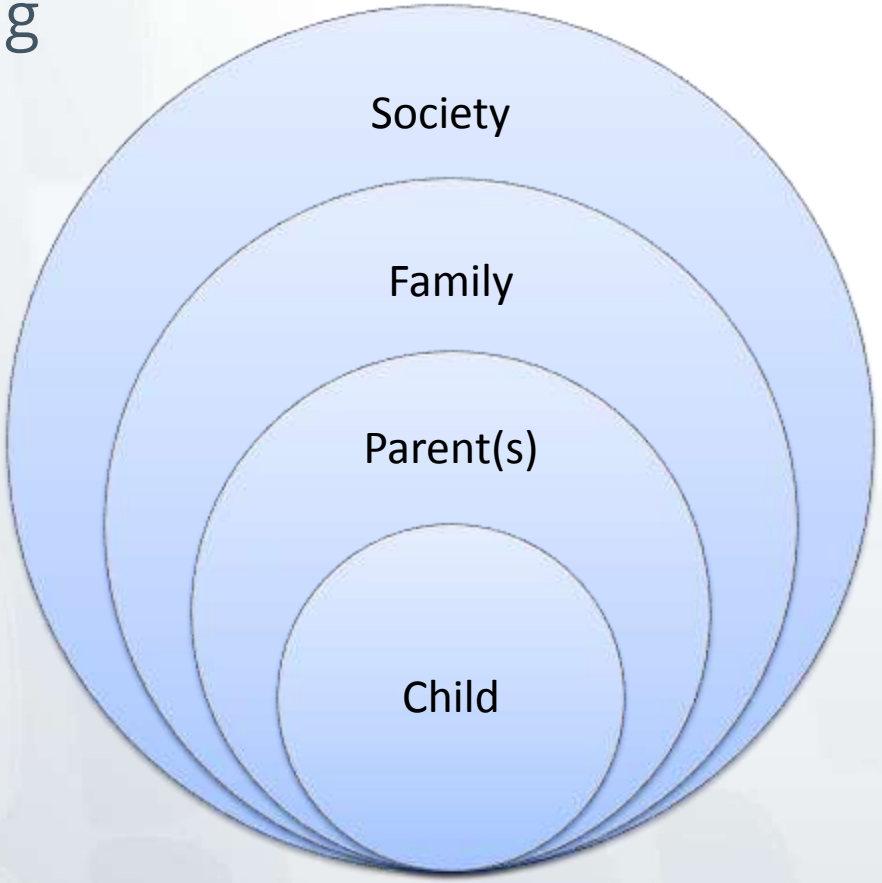
“Battered baby syndrome”

An obsolete term?

- Physical assault
- Aka “physical abuse”
- Inflicted injury
- Intentional injury
- Often co-exists with other forms of child abuse and neglect (a continuum of severity)

What babies are most at risk?

Ecological model for considering the phenomenon



A frame work for thinking

- The trigger
- The interaction (NB attachment)
- The child
- The parent
- The family
- The neighbourhood
- The society / (socio-political landscape)

Maternal factors

Depression / Other mental illness
Personality disorder (risks attachment disorder)
History of poor parenting / abuse or neglect
Isolation (real or perceived)
Personal style-withdrawal/punitive/authoritarian
Addiction / drug or alcohol use
Illness / fatigue
Stress / difficult life circumstances
Unrealistic / unreasonable expectations
VIOLENCE in the home

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VIOLENCE in the home

Baby factors

Illness / irritability
Demanding / fusses at low threshold
Inconsolable / not soothed
Developmental delay
Increased needs / difficult to care for
Antisocial / withdrawn / not engaging
Unattractive / unappealing (no joy)
Challenging. Difficult temperament

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What actually happens?

- Head injuries
  - Shake
  - Impact
  - Shake + Impact
- Bruises and abrasions / burns & scalds
- Fractures
- Internal injuries

- NEGLECT is potentially FATAL

Terminology: Head Trauma

- Shaken Baby Syndrome (outdated term)
- Inflicted brain injury/trauma

- Abusive Head Trauma

- Accidental head injury/trauma
- Acquired brain injury (ABI)

Inflicted / Abusive Head Trauma

More than 40% of deaths from child abuse occur among children younger than 12 months of age

The majority (>70%) of children with abusive head injury have additional skeletal injuries

Direct blow and/or contact injury = more likely to find external trauma

Impact and/or shaking may have no external injury to skin

NY Office of Children and Family Services, 2008

Head injuries

Animated video of effects of shaking

Abusive Head Trauma in Infants and Children:
A medical, legal and forensic reference

Lori D Frasier, Randall Alexander, Robert N Parish J.C. Upshaw Downs

https://www.youtube.com/watch?v=l_toKPs9Jj4

Early identification of AHT can save lives

Among 173 children, ages 0-3 years, during 1990-1995 in Denver:

54 (31.2%) missed

Four of 5 deaths in the group with unrecognized AHT might have been prevented by earlier recognition of abuse.

JENNY C ET AL. *ANALYSIS OF MISSED CASES OF ABUSIVE HEAD TRAUMA. JAMA. 1999 FEB 17;281(7):621-6*

Perpetrator admissions

20-year, 81 cases, ‘shaking’ = 68%

Impact was not described in 54%

90% (52/57) with shaking had immediate symptoms

In cases with only impact, 60% had skull or scalp injury cf 12% in the shake only group

Starling et al. *Arch Pediatr Adolesc Med* 2004;158:454-458

Perpetrator convictions

112 cases in 7 years, Paris

29 confessions (83 nil)

Shaking = extremely violent (100%)

Repeated shaking = 55% (X2 to X30)

- "Goes to sleep after shaking" 62.5%

Impact 24% (uncommon)

No correlation b/n number of shakes and SDH densities

Abusive Head Trauma: Judicial Admissions Highlight Violent and Repetitive Shaking
Catherine Adamsbaum, Sophie Grabar, Nathalie Mejean, Caroline Rey-Salmon
Pediatrics Sep 2010, 126 (3) 405-407; DOI: 10.1542/peds.2010-1463

IS CRYING A TRIGGER FOR SHAKING?

Similar to, but lagging after the normal crying curve.

CONCLUSIONS: convergent indirect evidence that crying, especially in the first 4 months of age, is an important stimulus for SBS.

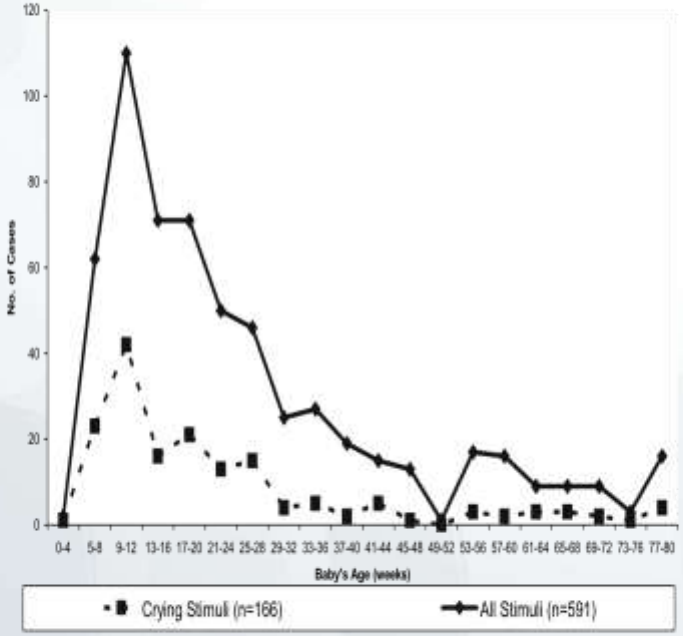


FIGURE 3. Age-specific number of reported cases of shaken baby syndrome in infants from 0 to 18 months of age from the National Center on Sh
Baby Syndrome Victim Database entered between January 1, 2003 and August 31, 2004. Diamonds and solid line: all cases irrespective of stimul
= 591); squares and broken line: subgroup of cases with crying reported as the stimulus (n = 166).

Lee C, Barr RG, Catherine N, Wicks A. J Dev Behav Pediatr. 2007 Aug;28(4):288-93.

What is “the triad”?

Classical triad

- Sub*dural haemorrhage*
- *Retinal haemorrhages*
- *Encephalopathy/diffuse brain injury*

+/- *Associated features*

- *Bruises to torso*
- *Rib fractures; classically posterior*
- *Metaphyseal fractures of long bones*

RETINAL HAEMORRHAGES

Retinal haemorrhages occur in 60-85%

- Typically numerous, extensive (beyond posterior pole), and multi-layered
- Resolve after days to months

Repetitive rapid acceleration-deceleration

Other mechanisms proposed

AHT Patterns

Hyperacute (6%) – immediate onset of respiratory failure from cervico-medullary junction injury

Acute encephalopathic (53%) – Typical triad

Subacute non-encephalopathic (21%) – Bruises, fractures and subclinical SDH + retinopathy

Chronic presentation (20%) – Chronic subdural collections, resolved retinopathy, presenting with increased ICP symptoms

Shaking and Other Non-accidental Head Injuries in Children
Eds Robert A Minns & J Keith Brown

Symptoms and signs

poor feeding
not vocalising or following movement

unexplained vomiting lethargy, irritability, impaired conscious state/unresponsive

breathing abnormalities, and/or apnea, turning blue

seizures/convulsions

OUTLOOK

Outcomes are poor

As a direct result of shaking:

- 19% died
- 55% had ongoing neurological deficit (seizure disorders, paralysis)
- 65% had visual impairment, including blindness

The increased prevalence of learning and behavioural disorders may not be apparent for many years.

The Canadian Shaken Baby Study Group, King et al CMAJ, 2003

- Only 65 (22%) of those who survived were considered to show no signs of health or developmental impairment at the time of discharge.

Interpretation: Shaken baby syndrome results in an extremely high degree of mortality and morbidity.

- Ongoing care of these children places a substantial burden on the medical system, caregivers and society.

Long-Term Consequences:

- Learning disabilities
- Physical disabilities
- Visual disabilities or blindness
- Hearing impairment
- Speech disabilities
- Cerebral Palsy
- Seizures
- Behaviour disorders
- Cognitive impairment
- Death

PREVENTION

New York
Postnatal information regarding the dangers of shaking
Asking parents to sign “commitment to not shake”

- covered 69% of births in the region
  64,205 commitment statements were recorded out of 94,409 live births during the study period

- documented a 50% reduction in reports of NAHI cf. historical controls

Dias et al. Preventing Abusive Head Trauma Among Infants and Young Children: A Hospital-Based, Parent Education Program, Pediatrics *2005*

The Period of PURPLE Crying®

WHAT IS THE PERIOD OF PURPLE CRYING? SLEEPING SOOTHING CRYING PROTECTING INFORMATION FOR DADS

Search

The Period of PURPLE Crying®

A New Way To Understand Your Baby's Crying

What is the Period of **PURPLE** Crying?

Sleeping

Soothing

http://www.purplecrying.info/

Melbourne Children's
Excellence in clinical care, research and education

The Royal Children's Hospital Melbourne

Murdoch Childrens Research Institute

The University of Melbourne

What do I do when I see an injury?

My Advice

- Be cautious
- Seek advice EARLY
- Be curious and courteous
- Be impartial and objective
- Be honest
- Be thorough
- Avoid bias (especially confirmatory bias)
- Never, ever guess!!!!
  - Keep an open mind / consider LOTS of possibilities

Injury Documentation

- Site
- Size
- Shape
- Swelling
- Colour
- Contour
- Contents
- Edge
- Base
- Healing

- Complications / sequelae
- Treatment

Bruises

The head is by far the commonest site of bruising caused by assault

Other sites that are commonly bruised ~ abuse include the ear, face, neck, trunk, buttocks and arms

TEN 4 = ? NAI

- Any bruises in child < 4 months
- In child < 4 years – bruising on Torso, Ears, Neck

Bruises

Non-abused children – bony prominences

Child abuse - soft parts of the body

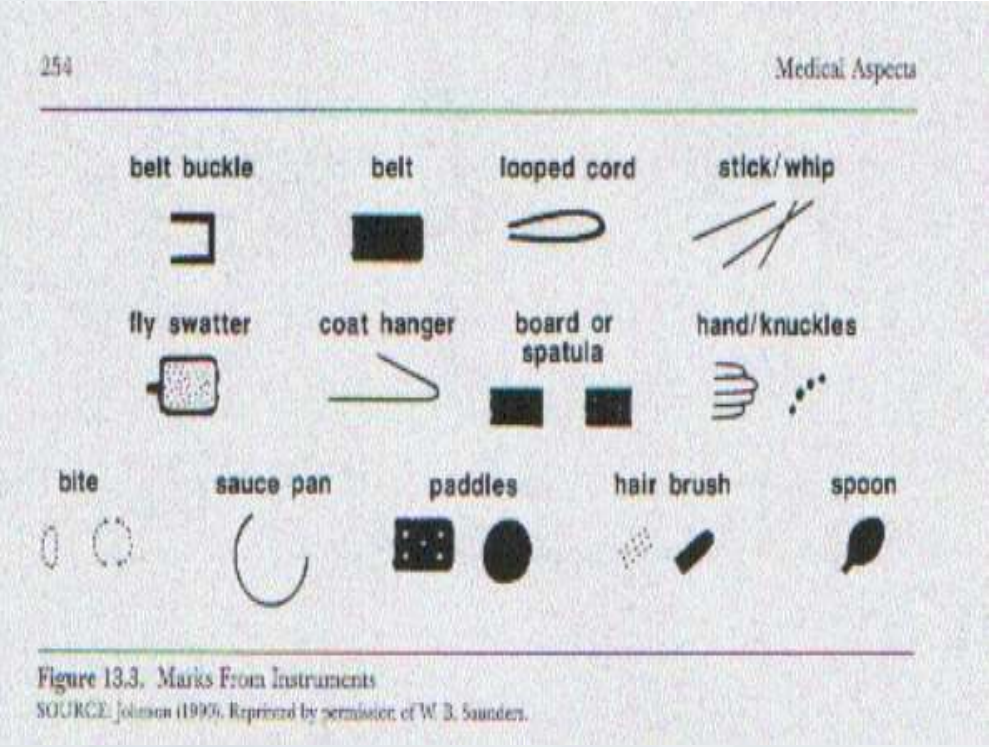
Specific patterns of abusive bruising are described and include;

- Vertical gluteal cleft bruising
- Bruising to the pinna of the ear where the shape of the bruise assumes the line of anatomical stress rather than the shape of the injuring object.

Bruising

Patterns of bruising that are suggestive of physical child abuse:

- Bruising in children who are not independently mobile
- Bruising in babies
- Bruises that are seen away from bony prominences
- Bruises to the face, back, abdomen, arms, buttocks, ears and hands
- Multiple bruises in clusters
- Multiple bruises of uniform shape
- Bruises that carry the imprint of implement used or a ligature



http://www.core-info.cf.ac.uk/bruising/index.html

Self-inflicted bruises & abrasions

- Older children
- Can co-exist with inflicted injury (eg sexual assault)
- Tantrums = VERY COMMON
  - Head banging
  - Episodes of rage

Bone injuries ? NAI

BEWARE

- Shaft > metaphysis
- Classic Metaphyseal lesions
- Rib fractures, esp posterior

- Rare
  - Scapular
  - Spinous processes
  - Sternal

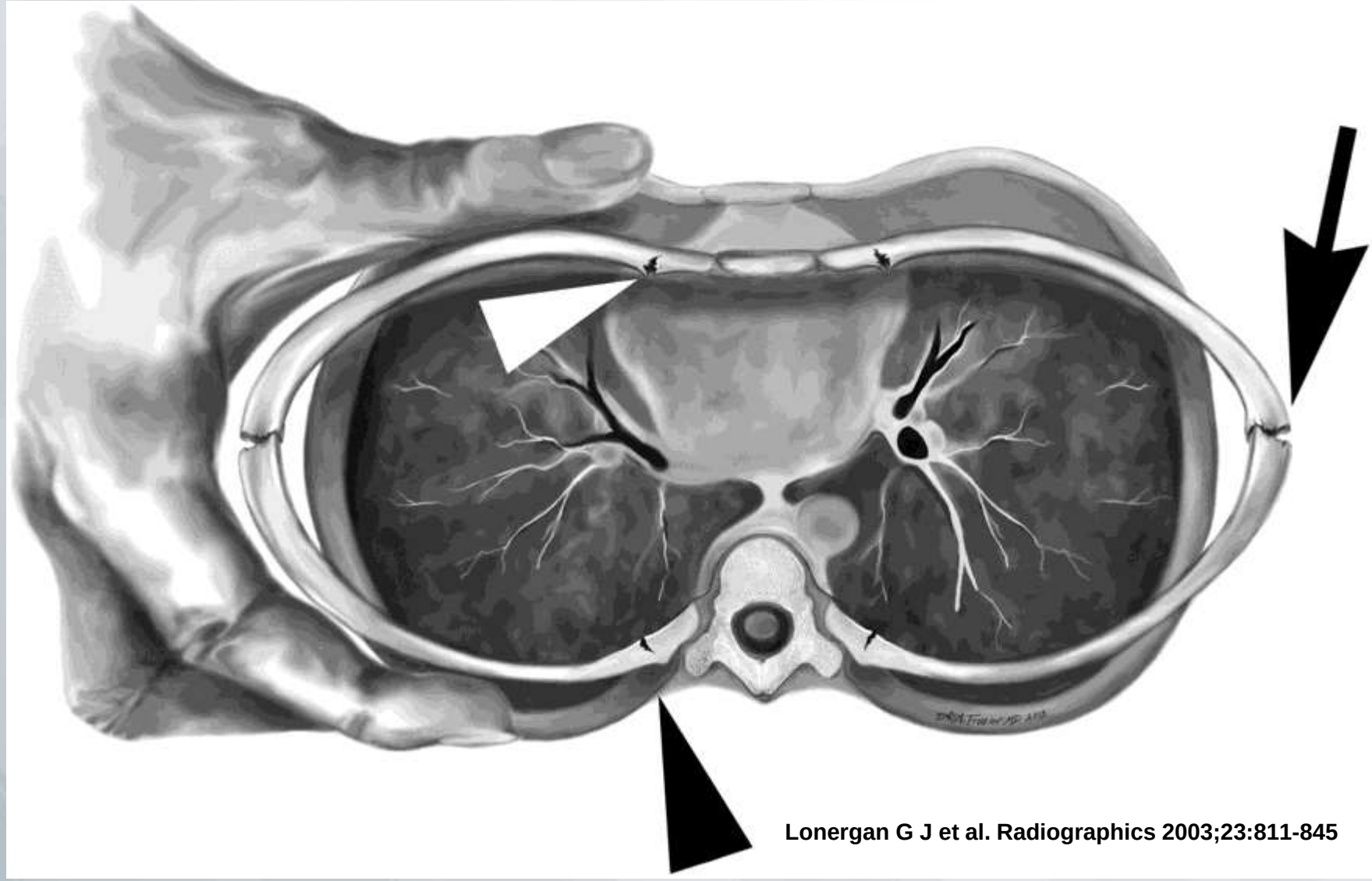
BE ALERT

- Multiple fractures (esp bilateral)
- Fractures of different ages

Uncommon

- Epiphyseal separations
- Vertebral body #/subluxations
- Digital #
- Complex skull #

Rib fractures



Lonergan G J et al. Radiographics 2003;23:811-845

Internal injuries

EG: Abdominal trauma : think about

- Splenic injury and haemorrhage
- Liver laceration
- Rupture of hollow viscus (eg tear first part of duodenum)
- Rupture to mesentery / blood vessels
- Pancreatic injury (pancreatic pseudocyst)
- Renal injury
- Bladder / bowel injury

NEGLECT

- Insidious
- Can be FATAL
- Babies and toddlers VERY vulnerable
- Often overly optimistic approach with minimal (inadequate) intervention
- Far reaching sequelae (development, health over the life course, relationships)
- EFFECTIVE ACTION required ASAP

Squalor

More than mere clutter
Wet squalor or dry squalor?
Health and Safety concerns
“indicator” high risk /environmental neglect

Guidelines exist to “rate” severity
Poses significant risk of harm

Report to Child Protection (imho)

What should I do when I worry?

Call a friend!

- Gather information (ASK)
- Listen
- Document (Report)
- Act
  - Medical concerns and seeking advice = VFPMS or local health service providers
  - Child FIRST (wellbeing referral)
  - Child Protection (protective report / notification)