Emergency Department Guideline
Injuries in the infant 6 months or younger

Background:
Physical abuse is rarely an isolated event in an infant or child, but occurs more commonly as a recurrent event within a family environment. A “sentinel injury” in the infant, may be minor such as an isolated bruise or a small injury in the mouth. Bruising in infants is rare and seen in less than 2% of infants presenting to Emergency Departments for care. However, bruising is seen in child abuse fatalities and may be initially missed as an abusive injury in infants later presenting as child abuse fatalities.

Pierce et al 2016 examined infants in gowns in three metropolitan EDs and found bruises on 1.3% of infants 0-5 months of age. Considering our ED census, approximately two infants with bruising may be identified at UMMCH monthly.

A bruise, or a history of a bruise, is seen in 1 in 4 infants referred to child abuse providers and with abusive head trauma. When an infant with a sentinel injury such as a bruise receives additional diagnostic evaluation for injury, 50% will have additional injury identified – 1 in 4 will have injuries on skeletal survey and 1 in 4 will have occult injuries on neuroimaging.

Inclusion criteria:
• Patient 6 months of age or younger presents with
  • Bruising on any area of the body
  • Oral injury (tear of upper or lower frenulum, other intraoral injuries)
  • Fracture
  • Serious head injury (e.g., skull fracture, intracranial hemorrhage)
  • Exceptions: birth trauma, MVC, well-witnessed falls/injuries in public places
• For all infants meeting inclusion criteria please consider the work up outlined below.

Triage considerations:
• All infants 6 months and younger need to be naked for a full skin exam
• At the time of rooming please advise the parents (infants ≤ 6 months) to take off the infant’s clothes (diaper can stay on) and place them in a gown.
Laboratory studies:
- CBC
- CMP and Lipase
- Urine drug screen
- UA and CPK (evaluation of rhabdomyolysis if there is extensive cutaneous trauma)
- INR&PTT (bruises or concern for head injuries)

Imaging:
- Once ABCs stabilized, head CT without contrast
- Complete bone survey x-rays (if not available patient can be admitted)
- Abdominal CT with contrast if AST/ALT >80, elevation lipase

ECG:
- Consider getting an ECG in patients with significant chest trauma

Consultations:
- Center for Safe and Healthy Children:
  - Social work: Amcom Smart Web or (612) 365-1000 for SW on call
  - Psychosocial Assessment and/or Safety Education in consultation with on call child abuse physician
  - Referrals to Child Protective Services and Law Enforcement as indicated
  - Facilitate 72-hour Child Health and Welfare Holds
  - Child abuse pediatrician (612) 273-SAFE (7233) or (612) 365-1000 to provide guidance on evaluation, need for consultation, safety planning
- Trauma service (if the patient requires admission)
- Ophthalmology (if positive head imaging or altered mental status)
- Neurosurgery (if intracranial hemorrhage or skull fracture)

Reassessments:
- Continuous cardiorespiratory monitoring with pulse ox if there are signs of head trauma, altered mental status or other significant trauma

Differential diagnosis:
- Bruising:
  - Bleeding disorder
  - Accidental trauma
  - Medical/genetic disorders
- Fractures:
  - Abnormality of bone metabolism with or without injury
  - Accidental trauma
  - Medical/genetic disorders
- Head Injury:
  - Bleeding disorder
  - Accidental trauma
  - Medical/genetic disorders
  - Intoxication and other causes of altered mental status

Discharge or Admission criteria:
- Admission (to trauma service)
• Presence of injuries requiring admission
• Concern for possible child abuse, further work up pending (e.g., skeletal survey pending)
• Concern for patient safety or discharge planning
• Admit to PICU (with trauma consulting) if necessary
• Discharge home
  • All workup done is reassuring
  • Safe discharge is available
    • Only after discussion with the child abuse pediatrician and social work

Quality measures:
• Full skin and oral exam for all infants <6 months
• Full work up for all infants <6 months with bruising

References: