Blank Children's Hospital
UnityPoint Health

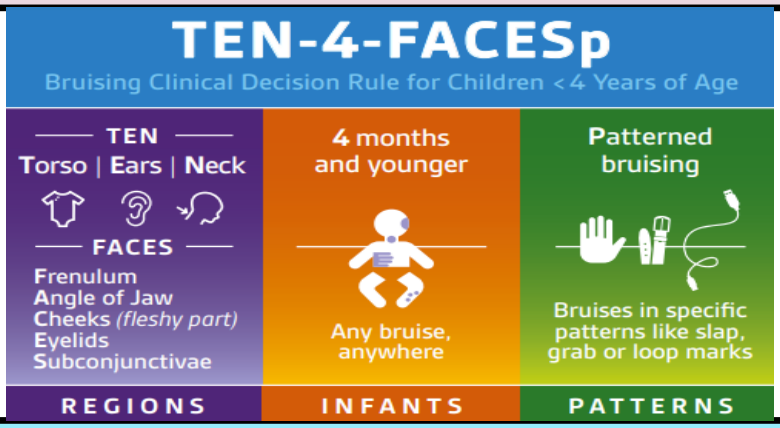
Non-Accidental Trauma Clinical Pathway

HISTORICAL INDICATORS OF ABUSE:

- No/vague explanation for a significant injury
- Important historical details change
- Explanation is inconsistent with the child's physical/ developmental capabilities
- Different witnesses provide different explanations
- Injury occurred as a result of inadequate supervision
- Delay in seeking medical care without reasonable explanation
- Infant with traumatic brain injury without fall from 2-3x height and/or high energy mechanism

PHYSICAL EXAM FINDINGS SUGGESTIVE OF ABUSE:

- Bruises in infants <4 months
- Bruising in unusual locations in any age child (ex: ear pinna, under chin, torso, buttocks)
- Patterned bruises (ex: loop marks, hand print)
- Bite marks
- Burns (ex: cigarette burn, stocking/glove pattern, symmetric burn on buttocks, immersion burn, multiple burn sites)
- Facial injury (ex: unexplained torn frenulum in non-ambulatory child, ear injury, unexplained facial bruising)
- Retinal hemorrhage



ED MANAGEMENT

- Social work consultation; DHS referral; Law enforcement involvement as indicated
- Document pictures of injuries in Epic; Des Moines Police Department photos for significant injury
- Skeletal Survey per guidelines (see back page)
- Occult Injury Screening per guidelines (see back page)
- Obtain retinoscope images if possible
- Consult trauma services if presence of injury
- Consult orthopedics or neurosurgery as indicated
- Consider admission for significant injury, presence of occult injuries, or safety plan not established

INPATIENT MANAGEMENT

- Continued involvement with Social work, DHS, and Law Enforcement
- Consult STAR Center at 515-224-3300
- Ophthalmologic consult for significant intracranial pathology and/or clinical neurological impairment; Retinoscopic pictures if available.
- Consult Palliative Care for significant injuries/impairment with long-term consequences
- Continued consultation with trauma, neurosurgery, and orthopedics as indicated
- Screen for organic causes of injury:
  - **For Fractures:** Parathyroid hormone, 25 Hydroxyvitamin D, Serum Copper, Magnesium, Phosphorus
  - **For Bruising and/or Intracranial hemorrhage:** CBC, PT, PTT (if not done prior), PFA-100, vWF antigen, vWF activity, Factor VIII level, Factor IX level . Consider hematology consult.
  - **For Solid Organ Injury:** PT, PTT (if not done prior)
- For significant intracranial pathology obtain Brain, Cervical, Thoracic, and Lumbar MRI without and with contrast if clinically stable

SKELETAL SURVEY RECOMMENDATIONS

CHILDREN 0-23 MONTHS IF ANY CONCERN FOR CHILD ABUSE OR ANY OF THE FOLLOWING FEATURES ARE PRESENT:

- Confessed abuse
- Injury occurring during domestic violence
- Impact from toy/object/young sibling causing fracture
- Delaying in seeking care >24 hours in child with signs of distress
- Additional injuries unrelated to fracture (i.e. bruising, burns)
- No history of trauma to explain fracture
- Fractures concerning for abuse (ex: rib fractures, metaphyseal fractures, complex skull fractures, femur fracture)

ALL CHILDREN 0-11 MONTHS WITH ANY TYPE OF FRACTURE EXCEPT THE FOLLOWING:

- Linear, unilateral skull fracture in a child >6 months with a history of significant fall
- Clavicle fracture likely attributed to birth

If distal radius/ulna buckle fracture or spiral fracture of tibia/fibula (Toddler fracture) present in a cruising or walking child with a history of a fall skeletal survey DOES NOT need to be routinely performed unless there are other clinical concerns for abuse.

EMERGENCY DEPARTMENT OCCULT INJURY SCREENING

IMAGING:

	0-11 months	12-23 months	2-18 years
Head CT	Yes	No	No
Skeletal Survey	Yes	Yes	No
Abd/Pelvic CT	Obtain if symptomatic or suggested by physical exam.		

LABS:

Lab	Comments
CBC, CMP, Lipase, UA	All patients <7 years; >7 years if clinically indicated
PT/PTT	Bruising or intracranial hemorrhage
Urine Drug Screen	As clinically indicated

Resources:

1. Anderst, J., Carpenter, S. et al, Evaluation for Bleeding Disorders in Suspected Child Abuse. Pediatrics October 2022; 150 (4): e2022059276.
2. Bilo et al. Forensic Aspects of Pediatric Fractures. Springer. 2010.
3. Christian, C. "The Evaluation of Suspected Child Physical Abuse." AAP Committee on Child Abuse and Neglect. May 2015.
4. Infographic permission: https://www.luriechildrens.org/globalassets/media/pages/research/tricam/ten-4/lch-2698-ten-4-facesp-card_3x2_lr.pdf
5. Pierce MC, Kaczor K, Lorenz DJ, et al. Validation of a Clinical Decision Rule to Predict Abuse in Young Children Based on Bruising Characteristics. *JAMA Netw Open.* 2021;4(4):e215832.