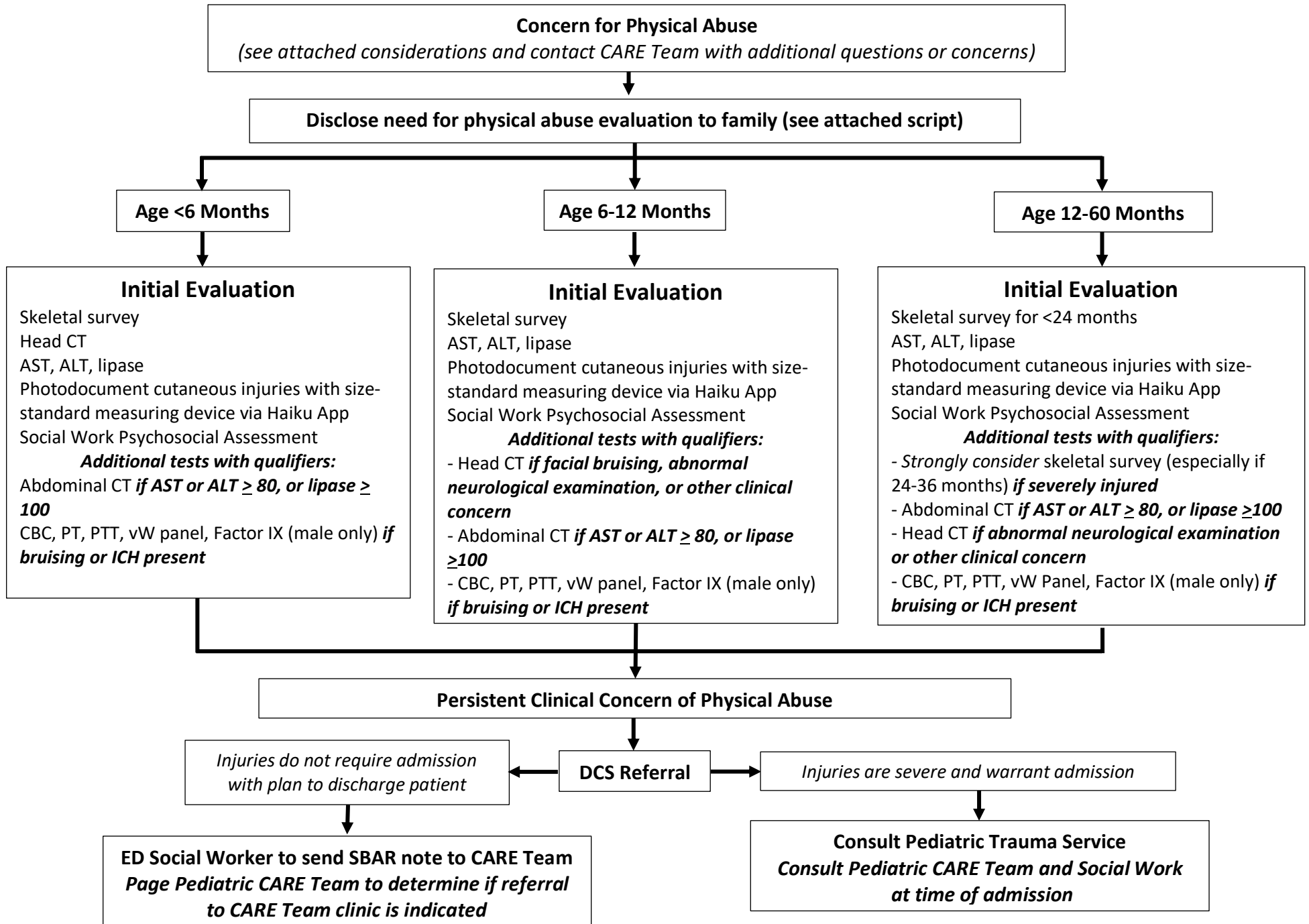


Vanderbilt Children's Hospital
Physical Abuse Clinical Practice Guideline



When to consider physical abuse:

Pre-ambulatory ¹	Ambulatory ¹⁰	Exceptions for evaluation IF without other clinical concern
<p>ANY injury, including:</p> <ul style="list-style-type: none"> • Bruise² • Burn or laceration³ • Mouth injury (e.g. frenulum tear, lip laceration)⁴ • Eye injury (e.g. subconjunctival hemorrhage)⁵ • Intracranial injury⁶ • Abdominal injury⁷ • Genital injury⁸ • Broken bones⁹ 	<ul style="list-style-type: none"> • Bruise to non-bony or concerning locations (e.g. torso, ears, neck, face, buttock, thigh, upper arm, genitals)^{11,12} • Patterned injuries (including adult appearing bite marks)¹³ • Multiple injuries in different stages of healing^{9,14} • Injury that is not explained by a trauma history or a medical condition¹⁵ • Trauma history that is not consistent with child's developmental capabilities¹⁵ • Important details of the trauma history significantly change or differ between caregivers¹⁵ • Unexplained delay in obtaining medical care¹⁶ • Any broken bones <12 months of age (unless a toddler fracture, see exceptions)^{9,14} • Classic metaphyseal lesions (CML), rib, scapular, spinous process, sternal, or vertebral body fractures¹⁷ 	<p>Physical abuse need not be evaluated if:</p> <ul style="list-style-type: none"> • Injury was observed by an impartial witness in a public location • Subconjunctival hemorrhage <2 weeks of age • Confirmed birth-related injury, to include clavicle fracture (acute broken bones in infants <22 days old or healing broken bone in <30 days old) • Confirmed motor vehicle accident injury, animal bite, hair tourniquet, corneal abrasion, or surgical wound • Toddler fracture in cruising child ≥ 9 months with history of a fall OR any toddler fracture in an independently walking toddler (≥ 12 months) with no additional concerns on exam or history • Linear, unilateral skull fracture in child 6-36 months with history of significant fall (>3 feet or caregiver falling on child) provided by a reliable caregiver

If you have ANY concerns for physical abuse, please use this protocol:

DISCUSSING THE PHYSICAL ABUSE WORK-UP WITH THE FAMILY – EXAMPLE SCRIPT

“Any time a child of this age comes to the hospital with [this injury/these injuries], we evaluate for other injuries. Sometimes a child can have internal injuries, such as broken bones, head injury, or abdominal injury that we cannot see on the outside. Just like you, we want to make sure that your child is okay, so it is important that we do this testing. These tests include _____. As a part of this evaluation, we will also have our Social Worker come talk with you. By law, we are obligated to report any concern for abuse to Department of Children Services. This is a standard part of our evaluation. We are happy to answer any questions or concerns along the way.”

This protocol is intended as a guide for physical abuse work-up in order to prevent further injuries and possibly death. Please contact Dr. Kavita Vankineni (kavita.vankineni@vumc.org), Dr. Heather Williams (heather.n.williams@vumc.org), Dr. Emily Fain (Emily.Fain@vumc.org), or Amber Greeno (Amber.Greeno@vumc.org) for any questions or concerns about the protocol. For specific cases or questions, please contact the VCH CARE Team.

REFERENCES

- ¹Lindberg DM, Beaty B, Juarez-Colunga E, et al. Testing for abuse in children with sentinel injuries. *Pediatrics*. 2015;136:831-8.
- ²Harper NS, Feldman KW, Sugar NF, et al. Additional injuries in young infants with concern for abuse and apparently isolated bruises. *J Pediatr*. 2014;165:383-8.
- ³Degraw M, Hicks RA, Lindberg D, et al. Incidence of fractures among children with burns with concern regarding abuse. *Pediatrics*. 2010;125:e295-9.
- ⁴Maguire S, Hunter B, Hunter L, et al. Diagnosing abuse: a systematic review of torn frenum and other intra-oral injuries. *Arch Dis Child*. 2007;92:1113-7.
- ⁵DeRidder CA, Berkowitz CD, Hicks RA, et al. Subconjunctival hemorrhages in infants and children: a sign of nonaccidental trauma. *Pediatr Emerg Care*. 2013;29:222-6.
- ⁶John SM, Kelly P, Vincent A. Patterns of structural head injury in children younger than 3 years: a ten-year review of 519 patients. *J Trauma Acute Care Surg*. 2013;74:276-81.
- ⁷Wood J, Rubin DM, Nance ML, Christian CW. Distinguishing inflicted versus accidental abdominal injuries in young children. *J Trauma*. 2005;59:1203-8.
- ⁸Carpenter RF. The prevalence and distribution of bruising in babies. *Arch Dis Child*. 1999;80:363-6.
- ⁹Leventhal JM, et al. Incidence of fractures attributable to abuse in young hospitalized children: results from analysis of a United States database. *Pediatrics*. 2008;122:599-604.
- ¹⁰Christian CW. The evaluation of suspected child physical abuse. *Pediatrics*. 2015;135:e1337-54.
- ¹¹Pierce MC, Kaczor K, Aldridge S, et al. Bruising characteristics discriminating physical child abuse from accidental trauma. *Pediatrics*. 2010;125:67-74.
- ¹²Maguire SA, Upadhyaya M, Evans A, et al. A systematic review of abusive visceral injuries in childhood—their range and recognition. *Child Abuse Negl*. 2013;37:430-45.
- ¹³Tsokos M. Diagnostic criteria for cutaneous injuries in child abuse: classification, findings, and interpretation. *Forensic Sci Med Pathol*. 2015;11:235-42.
- ¹⁴Kemp AM, Dunstan F, Harrison S, et al. Patterns of skeletal fractures in child abuse: systematic review. *BMJ*. 2008;337:a1518.
- ¹⁵Hettler J, Greenes DS. Can the initial history predict whether a child with a head injury has been abused? *Pediatrics*. 2003;111:602-7.
- ¹⁶Vadivelu S, et al. Delay in arrival to care in perpetrator-identified nonaccidental head trauma: observations and outcomes. *World Neurosurg*. 2015;84:1340-6.
- ¹⁷Flaherty EG, Perez-Rossello JM, Levine MA, et al. Evaluating children with fractures for child physical abuse. *Pediatrics*. 2014;133:e477-89.
- ¹⁸Duffy SO, Squires J, Fromkin JB, et al. Use of skeletal surveys to evaluate for physical abuse: analysis of 703 consecutive skeletal surveys. *Pediatrics*. 2011;127:e47-52.
- ¹⁹Deye KP, Berger RP, Lindberg DM, et al. Occult abusive injuries in infants with apparently isolated skull fractures. *J Trauma Acute Care Surg*. 2013;74:1553-8.
- ²⁰Laskey AL, Stump TE, Hicks RA, et al. Yield of skeletal surveys in children ≤ 18 months of age presenting with isolated skull fractures. *J Pediatr*. 2013;162:86-9.
- ²¹Lindberg DM, Berger RP, Reynolds MS, et al. Yield of skeletal survey by age in children referred to abuse specialists. *J Pediatr*. 2014;164:1268-73.
- ²²Hansen KK, Campbell KA. How useful are skeletal surveys in the second year of life? *Child Abuse Negl*. 2009;33:278-81.
- ²³Laskey AL, Holsti M, Runyan DK, et al. Occult head trauma in young suspected victims of physical abuse. *J Pediatr*. 2004;144:719-22.
- ²⁴Rubin DM, Christian CW, Bilaniuk LT, et al. Occult head injury in high-risk abused children. *Pediatrics*. 2003;111:1382-6.
- ²⁵Lane WG, Dubowitz H, Langenberg P. Screening for occult abdominal trauma in children with suspected physical abuse. *Pediatrics*. 2009;124:1595-602.
- ²⁶Lindberg DM, Shapiro RA, Blood EA, et al. Utility of hepatic transaminases in children with concern for abuse. *Pediatrics*. 2013;131:268-75.
- ²⁷Hilmes MA, Hernanz-Schulman M, Greeley CS, et al. CT identification of abdominal injuries in abused pre-school-age children. *Pediatr Radiol*. 2011;41:643-51.
- ²⁸Anderst JD, Carpenter SL, Abshire TC, et al. Evaluation of bleeding disorders in suspected child abuse. *Pediatrics*. 2013;131:e1314-22.
- ²⁹Carpenter SL, Abshire TC, Anderst JD, et al. Evaluating for suspected child abuse: conditions that predispose to bleeding. 2013;131:e1357-73.