

Physical Child Abuse

EVIDENCE REPOSITORIES

Evidence repositories are collections of best available resources and evidence (clinical guidelines, peer reviewed literature, systematic reviews, etc.), collated by our knowledge synthesis team and content advisors. This evidence repository is not intended to be an exhaustive list of resources for a topic, but rather a curated list of current, evidence-based resources, based on expert consensus of relevance and usability for a general emergency department setting. We search databases (Cochrane Library, PubMed, TRIP Database) and web search engines (Google, Google Scholar) to locate evidence. Additionally, hospital websites are browsed for guidance documents, such as clinical practice guidelines (CPG) for healthcare professionals.

Every effort is made to identify resources that are open access (i.e. publicly available, free of charge, not requiring a subscription).

More information about the creation of our evidence repositories can be found at

<https://pubmed.ncbi.nlm.nih.gov/28537762/>

CONTENT TEAM

Thank you to the following content experts and Knowledge Synthesis team who led the development of this evidence repository.

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TREKK developed resources for healthcare providers and parents & families can be found [here](#).

Clinical Guidelines

1. Christian CW. [The evaluation of suspected child physical abuse](#). Pediatrics. 2015;135(5):e1337-54.
2. Ward MG, Ornstein A, Niec A, Murray CL. [The medical assessment of bruising in suspected child maltreatment cases: A clinical perspective](#). Paediatr Child Health. 2013;18(8):433-42.
3. Anderst JD, Carpenter SL, Abshire TC. [Evaluation for bleeding disorders in suspected child abuse](#). Pediatrics. 2013;131(4):e1314-22.
4. American College of Radiology. [ACR appropriateness criteria: Suspected physical abuse - child](#). 2012.

Overviews

1. Maguire S, Mann M. [Systematic reviews of bruising in relation to child abuse-what have we learnt: An overview of review updates](#). Evid Based Child Health. 2013;8(2):255-63.
2. Maguire S, Cowley L, Mann M, Kemp A. [What does the recent literature add to the identification and investigation of fractures in child abuse: An overview of review updates 2005–2013](#). Evidence-Based Child Health: A Cochrane Review Journal. 2013;8(5):2044-57.

Systematic Reviews

1. Kemp AM, Maguire SA, Lumb RC, et al. [Contact, cigarette and flame burns in physical abuse: A systematic review](#). Child Abuse Review. 2014;23(1):35-47.
2. Maguire SA, Watts PO, Shaw AD, et al. [Retinal haemorrhages and related findings in abusive and non-abusive head trauma: A systematic review](#). Eye (Lond). 2013;27(1):28-36.
3. Maguire 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(7):430-45.
4. Piteau SJ, Ward MG, Barrowman NJ, Plint AC. [Clinical and radiographic characteristics associated with abusive and nonabusive head trauma: A systematic review](#). Pediatrics. 2012;130(2):315-23.
5. Pandya NK, Baldwin K, Kamath AF, et al. [Unexplained fractures: Child abuse or bone disease? A systematic review](#). Clin Orthop Relat Res. 2011;469(3):805-12.
6. Kemp AM, Jaspan T, Griffiths J, et al. Neuroimaging: [What neuroradiological features distinguish abusive from non-abusive head trauma? A systematic review](#). Arch Dis Child. 2011;96(12):1103-12.
7. Woodman J, Lecky F, Hodes D, et al. [Screening injured children for physical abuse or neglect in emergency departments: A systematic review](#). Child Care Health Dev. 2010;36(2):153-64.
8. Kemp AM, Joshi AH, Mann M, et al. [What are the clinical and radiological characteristics of spinal injuries from physical abuse: A systematic review](#). Arch Dis Child. 2010;95(5):355-60.
9. Maguire S, Pickerd N, Farewell D, et al. [Which clinical features distinguish inflicted from non-inflicted brain injury? A systematic review](#). Arch Dis Child. 2009;94(11):860-7.
10. Kemp AM, Rajaram S, Mann M, et al. [What neuroimaging should be performed in children in whom inflicted brain injury \(IBI\) is suspected? A systematic review](#). Clin Radiol. 2009;64(5):473-83.

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11. Maguire S, Moynihan S, Mann M, et al. [A systematic review of the features that indicate intentional scalds in children](#). Burns. 2008;34(8):1072-81.
12. Maguire 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(12):1113-7.
13. Maguire S, Mann MK, Sibert J, Kemp A. [Can you age bruises accurately in children? A systematic review](#). Arch Dis Child. 2005;90(2):187-9.
14. Maguire S, Mann MK, Sibert J, Kemp A. [Are there patterns of bruising in childhood which are diagnostic or suggestive of abuse? A systematic review](#). Arch Dis Child. 2005;90(2):182-6.

Key Studies

1. Pierce MC, Magana JN, Kaczor K, et al. [The prevalence of bruising among infants in pediatric emergency departments](#). Ann Emerg Med. 2016;67(1):1-8.
2. Letson MM, Cooper JN, Deans KJ, et al. [Prior opportunities to identify abuse in children with abusive head trauma](#). Child Abuse Negl. 2016;60:36-45.
3. Bloemen EM, Rosen T, Cline Schiroo JA, et al. [Photographing injuries in the acute care setting: Development and evaluation of a standardized protocol for research, forensics, and clinical practice](#). Acad Emerg Med. 2016;23(5):653-9.
4. Kemp AM, Dunstan F, Nuttall D, et al. [Patterns of bruising in preschool children--a longitudinal study](#). Arch Dis Child. 2015;100(5):426-31.
5. Thorpe EL, Zuckerbraun NS, Wolford JE, Berger RP. [Missed opportunities to diagnose child physical abuse](#). Pediatr Emerg Care. 2014;30(11):771-6.
6. Petska HW, Sheets LK. [Sentinel injuries: Subtle findings of physical abuse](#). Pediatr Clin North Am. 2014;61(5):923-35.
7. Maguire S OC, Kemp AM. [Burns as a consequence of child maltreatment](#). Paediatrics and Child Health. 2014;24(12):557-61.
8. Louwers EC, Korfage IJ, Affourtit MJ, et al. [Accuracy of a screening instrument to identify potential child abuse in emergency departments](#). Child Abuse Negl. 2014;38(7):1275-81.
9. Kemp AM, Maguire SA, Nuttall D, et al. [Bruising in children who are assessed for suspected physical abuse](#). Arch Dis Child. 2014;99(2):108-13.
10. Harper NS, Feldman KW, Sugar NF, et al. [Additional injuries in young infants with concern for abuse and apparently isolated bruises](#). J Pediatr. 2014;165(2):383-8.e1.
11. Sheets LK, Leach ME, Koszewski IJ, et al. [Sentinel injuries in infants evaluated for child physical abuse](#). Pediatrics. 2013;131(4):701-7.
12. Ornstein AE. [An approach to child maltreatment documentation and participation in the court system](#). Paediatr Child Health. 2013;18(8):e44-7.
13. Leetch AN, Woolridge D. [Emergency department evaluation of child abuse](#). Emerg Med Clin North Am. 2013;31(3):853-73.
14. Carpenter SL, Abshire TC, Anderst JD. [Evaluating for suspected child abuse: Conditions that predispose to bleeding](#). Pediatrics. 2013;131(4):e1357-73.

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15. Kemp AM. [Abusive head trauma: Recognition and the essential investigation](#). Arch Dis Child Educ Pract Ed. 2011;96(6):202-8.
16. Baldwin K, Pandya NK, Wolfgruber H, et al. [Femur fractures in the pediatric population: Abuse or accidental trauma?](#) Clin Orthop Relat Res. 2011;469(3):798-804.
17. Pierce MC, Kaczor K, Aldridge S, et al. [Bruising characteristics discriminating physical child abuse from accidental trauma](#). Pediatrics. 2010;125(1):67-74.
18. Pandya NK, Baldwin K, Wolfgruber H, et al. [Child abuse and orthopaedic injury patterns: Analysis at a level I pediatric trauma center](#). J Pediatr Orthop. 2009;29(6):618-25.
19. Kemp A. [Fractures in physical child abuse](#). Paediatrics and Child Health. 2008;18(12).
20. Sugar NF, Taylor JA, Feldman KW. [Bruises in infants and toddlers: Those who don't cruise rarely bruise. Puget sound pediatric research network](#). Arch Pediatr Adolesc Med. 1999;153(4):399-403.
21. Jenny C, Hymel KP, Ritzen A, et al. [Analysis of missed cases of abusive head trauma](#). JAMA. 1999;281(7):621-6.