Children's Hospital of Philadelphia PolicyLab

Yield of Skeletal Surveys in National Network of Child Abuse Pediatricians: Age is Key

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Background: Skeletal surveys (SS) are recommended for the evaluation of suspected physical abuse in children <2 years old. No guidelines exist for SS completion in children between 2 and 5 years old.

Objective: To determine rates of SS completion by age and examine variables associated with occult fracture identification in older children.

Participants and setting: Observational cross-sectional multi-center study of 10 US pediatric centers 2/2021-9/2022 including children <6 years old evaluated for physical child abuse.

Methods: The principal outcome is occult fracture identified on SS. Non-parametric tests were conducted from comparison between age groups and those with and without occult fractures.

Results: The rate of SS completion declined with increasing age from a high of 91 % in infants <6 months old to 7 % in children 5-5.9 years old. The proportion of SS with occult fractures also decreased with age. Of 450 children 2-5 years old with a SS, 20 [4 % (95 % CI: 3-8 %)] had an occult fracture. The rate of occult fractures among children 2-5 years old who were diagnosed with abuse and not admitted to the hospital was 0.3 % (95 % CI 0-0.6 %)]. Over 30 % of children 2-5 years old were diagnosed with child abuse by a child abuse pediatrician without completion of a SS.

Conclusion: In children 2-5 years of age being evaluated for physical abuse, use of SS and the rate of occult fractures is low. The number of SS performed in children in this age group could potentially be decreased by up to 60 % by limiting SS to children admitted to the hospital.

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