

Box 1 Search Criteria

1 child.mp.	16 (dat: adj3 bruise:).mp.
2 child abuse.mp.	17 (bruise: adj3 child:).mp.
3 child protection.mp.	18 (pattern: adj3 bruise:).mp.
4 1 or 2 or 3	19 (ag: adj3 bruise:).mp.
5 bruise: mp.	20 (hemorrhid: adj3 bruise:).mp.
6 contusion.mp.	21 (petechiae adj3 child abuse).mp.
7 physical abuse.mp.	22 (ecchymoses adj3 child abuse:).mp.
8 serial abuse.mp.	23 ((petechiae or ecchymoses) and child abuse:).mp.
9 non-accidental injury.mp.	24 ((petechiae or ecchymoses) and child protection:).mp.
10 non-accidental trauma.mp.	25 or/15-24
11 (nonaccidental:and injur:).mp.	26 4 and 14
12 (hematoma or haematoma).mp.	27 25 or 26
13 physical punishment.mp.	
14 or/5-13	
15 (battered child or shaken baby or battered baby).mp.	

Table 1. Summary of papers included

Author, year, location, title	Study population	Study type	Outcome	Gold standard criteria met	Strengths and limitations
Bariciak E et al 2003 ⁵ Ontario, Canada Dating of Bruises in Children: an Assessment of Physician Accuracy	50 children under 18 years (mean age 6.5 years; 58% boys) accidental injury with bruising of known age from Emergency Hospital Children's department.	Study using qualitative methodology	Physician accuracy in determining the age of a bruise. A comparison of accuracy among levels of clinical training, interobserver accuracy of age estimation and bruise characteristics and association between age and colour.	Observers blinded to time of injury Abuse and, predisposing medical cause for bruising excluded. Accurate timing for injury causing bruise known. In vivo study. Population predominantly fair or medium skin colour.	Statistical analysis to eliminate chance effect and identify significant findings. Small numbers in "old" bruise group and group examined by emergency physicians may reduce power of results. Large number of observers (39) may raise the level of observer variability seen
Stephenson T, Bialas Y ³ . 1996, U.K Estimation of the age of bruising	23 children with 36 accidental bruises from an injury at a known time recruited from an orthopaedic ward. 8months to 13 years old	Prospective case series	Visual inspection of 50 photographs of bruises by one examiner who documented the sequence of colour changes over time and estimated the age of the bruise	Assessor blinded to time of injury. Time of injury known. Photographic study introducing photographic variability. Population of white children only. Children with non-accidental injury excluded	Small purpose designed study. No assessment of intra-observer error and no statistical analysis presented..
Carpenter RF ⁴ , 1999. U.K The prevalence and distribution of bruising in babies	177 babies (6-12 months) recruited sequentially in routine baby clinics. 1 refusal. 32 bruises noted in 22 children	Prospective, cross-sectional	Visual observation of colour of bruises by one examiner as part of a wider study.	No detail given for accurate timing of bruise or blinding of observer. Abuse or predisposing cause for bruising not excluded. In vivo study.	Ageing and colour not the main focus of the paper. Young, specific age range not representative of child population.