

Survey of practices for documenting evidence of bruises from physical abuse during child protection proceedings

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ABSTRACT

Accurate recording of forensically important information on bruises is vital in child protection proceedings (Royal College of Paediatrics and Child Health (RCPCH)). An online survey was distributed to the RCPCH child protection committees to assess compliance with guidance. 56 individuals were contacted by email, 47 (84%) completed the survey. Results showed that the paediatricians always or usually record size (n=41; 87%), site (n=45; 96%), shape (n=32; 68%) and colour (n=36; 77%); n=10; 22% of the paediatricians stated that they 'always' used a ranking system for likelihood of abuse; n=12; 35% of those surveyed 'sometimes' estimated the size of the bruise. Results showed that paediatric bruise reporting is inconsistent and incomplete for some fields compared with national guidance.

The robust and accurate recording of forensically important information on injuries such as bruises is vital in child protection proceedings. This is highlighted in the Child Protection Companion,¹ designed and developed by the Royal College of Paediatrics and Child Health (RCPCH), which specifies best practice in paediatric bruise recording in the UK.

An online survey was created and distributed between November 2018 and March 2019 to assess an overview of the practices of paediatricians in the UK. Ten questions (online supplemental appendix 1) were created to determine which information doctors carrying out child protection medicals record following history and examination, what images they take and what post hoc image analysis they undertake on injuries that may have been sustained from physical abuse. Members from the RCPCH child protection committees provide a fair representation of clinicians involved in child protection in the UK. Fifty-six individuals were contacted by email and 47 (83.9%) of them completed the survey.

The majority of those surveyed stated that they always or usually record size (n=41; 87% (46 responders)), site (n=45; 96%), shape (n=32; 68%) and colour (n=36; 77%), in

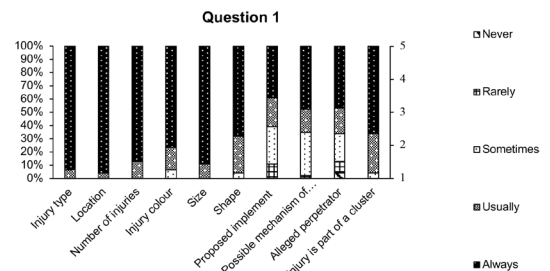


Figure 1 Results for the question 'When taking history and visual analysis of a cutaneous injury of a child with suspected physical abuse do you record the following information?' Results are shown as a stacked bar chart.

accordance with best practice outlined in the Child Protection Companion¹ (figure 1). The higher percentage for colour compared with shape may indicate that bruise colour has some relevance to paediatricians in their daily practice contrary to the evidence presented in prior research.^{2,3} Other indicators of abuse such as proposed implement (n=18; 39% (46 responders)), possible mechanism (n=22; 48% (46 responders)) and alleged perpetrator (n=22; 47%) were 'always' recorded by less than half of the paediatricians.

Survey data demonstrated that a quarter (n=10; 22% (45 responders)) of those surveyed 'always' used a ranking system⁴ when offering an opinion on the likelihood of

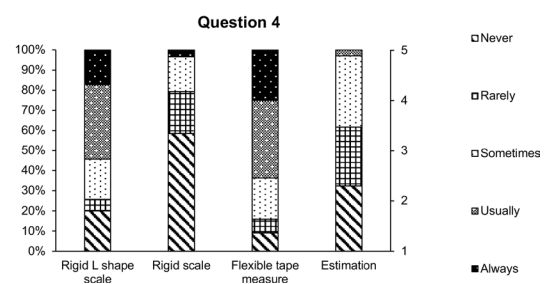


Figure 2 Results from question 'When taking such measurements what method do you employ?' Results are shown as a stacked bar chart.



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abuse. A third (n=14; 30%) of respondents measured the size of all injuries at every examination, including those deemed to be accidental; n=6; 17% (35 responders) of respondents stated they always use a forensic standard (ABFO No.2) scale (figure 2) when measuring bruises. Over a third (n=12; 35% (34 responders)) of respondents 'sometimes' estimated the size of the bruise. One respondent stated that they 'sometimes' use software to measure a bruise from a digital photograph. Results showed that n=36 (77%) respondents would use user-friendly software to digitally analyse bruises; n=41; 89% (46 responders) of respondents confirmed they would use a reporting service (from a medical photography department) to digitally measure a bruise, if such a service was available.

Our results show that paediatric bruise reporting is inconsistent and incomplete for some fields with respect to recommended guidelines in the Child Protection Companion.¹ These results also suggest that an enhanced medical photography service would be acceptable to the vast majority of respondents. We acknowledge the hiatus between data collection and reporting these findings, although no recent publications suggest that an improvement in practice has occurred. Our findings indicate that child protection teams should critically review their existing procedures for reliably recording such evidence; future studies of ours will introduce a standard proforma to achieve this aim.

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REFERENCES

- 1 RCPCH. 2020 child protection evidence reviews. 2020. Available: <https://www.rcpch.ac.uk/key-topics/child-protection/evidence-reviews> [Accessed 9 Oct 2020].
- 2 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;8:255–63.
- 3 Langlois NEI. The science behind the quest to determine the age of bruises—a review of the English language literature. *Forensic Sci Med Pathol* 2007;3:241–51.
- 4 Lindberg DM, Lindsell CJ, Shapiro RA. Variability in expert assessments of child physical abuse likelihood. *Pediatrics* 2008;121:e945–53.