

reported that as a result of the simulation, they felt their approach to safeguarding had changed and they now felt “more confident to ask the difficult questions”, “protect the children they were seeing” and “set a good example to their junior colleagues”.

Conclusion We successfully ran a Safeguarding simulation to help prepare junior trainees for their role in the initial management of a child with safeguarding concerns. It is a scalable learning exercise, which is low tech and easily reproducible in local safeguarding courses. We would recommend the use of simulation for this purpose.

G216 A META-ANALYSIS OF “WII THERAPY” IN CHILDREN WITH CEREBRAL PALSY

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Aims There has been growing interest in the therapeutic potential of the Nintendo Wii and Wii Fit (Wii) as Virtual Rehabilitation Therapy tools in conditions affecting motor function such as stroke, Parkinsons disease, ataxia, DCD, and cerebral palsy (CP). Although one case report showed significant gains in an adolescent with diplegic cerebral palsy, there was previously only a limited evidence base on use in children. This meta-analysis focused on RCTs in CP and aimed to calculate effect sizes to see if further trials are warranted.

Methods Eleven databases were used to find Wii RCTs. Studies were filtered by a focus on i) Cerebral Palsy ii) published 2006 – 2012 covering the availability of the Wii and iii) discounting broader virtual therapy. Effect size was calculated using Cohen’s d. Effect size below 0.3 was classified as small, 0.3 to 0.8 medium and 0.8 + as large.

Results With the heterogeneous nature of CP a number of different tools and outcomes were measured in the different studies, and numbers were generally too small to give statistically significant results. However, two studies meeting criteria (N = 29, 14) showed effect sizes of 0.74 and 0.60 for balance. One study (n = 6) showed effect size 0.30 for motor function (GMFM). Other studies measured outcomes such as manual dexterity, bone mineral density or energy expenditure with variable results.

Conclusion The two studies assessing balance showed moderate effect sizes. This is in agreement with research looking at improvements in balance in other motor disorders including our own study in children with DCD, acquired brain injury, spinocerebellar ataxia, adults with stroke, and case reports in children with CP. Lack of uniformity across research hinders understanding of whether the Wii is effective paediatric intervention. Studies are predominantly pilot phase, lack agreement over measurement tools, use small sample sizes, and few had calculated power and sample size. Studies also suffer from selection bias due to the motivational aspects of the Wii. Nevertheless, results suggest there may well be significant therapeutic gain in motor function for children with cerebral palsy, warranting larger-scale and more definitive studies.

G217(P) VALIDATION OF A PROPOSED CLINICAL TOOL TO ESTIMATE THE PROBABILITY OF ABUSIVE HEAD TRAUMA IN CHILDREN AGED LESS THAN THREE YEARS

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Background Abusive head trauma (AHT) is the most common cause of death and disability in abused children, and presents significant diagnostic challenges. Previous research identified six

individual features (retinal haemorrhage, rib and long bone fractures, facial bruising, apnoea and seizures) associated with AHT to create a statistical model to determine the probability of AHT based upon different combinations of these features in a child with intracranial injury.

Aims The **primary aim** was to independently validate the statistical model on a novel dataset. The **secondary aim** was to look for association between AHT and the original six features, and further features not included in the original model, to suggest areas for refinement.

Methods Retrospective, notes-based review of 44 cases of children aged less than 36 months admitted with intracranial head injury (20 AHT), identified at neuroimaging (01/01/2007–31/02/2012). Sensitivity, Specificity, Positive Predictive Value (PPV) and Negative Predictive Value (NPV) were calculated to determine the model’s accuracy. Fisher’s Exact Test and logistic regression were used to test for association between individual features and AHT.

Results

Abstract G217(P) Table 1

	Values
Sensitivity	84.2–87.5%
Specificity	29.2–86.4%
NPV	70–76.2%
PPV	51.4–84.2%

Significant association was found between AHT and retinal haemorrhage (p < 0.001), seizures (p < 0.02). Strong but not significant association was found between AHT and apnoea (p < 0.08), and between non-AHT and skull fracture (p < 0.25). Subdural haemorrhage, not included in the original model, was significantly associated with AHT (p < 0.04). On sub-analysis of retinal features, too numerous to count retinal haemorrhage was significantly associated with AHT (p < 0.04). Retinal haemorrhages were more likely to be multi-layered and bilateral in AHT cases.

Conclusions When tested on this dataset the model had similar sensitivity and specificity to the original study, although imputing data caused variation. Type of intracranial injury and specific retinal features were identified as areas for refinement. The high sensitivity suggests that the tool has the potential to identify cases of suspected AHT that Warrant further detailed assessment, and could be useful for clinical practise.

G218(P) A REVIEW AND AUDIT OF PENETRATIVE AND FORENSIC CHILD SEXUAL ABUSE CASES

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Aims To review all penetrative child sexual abuse (CSA) cases presenting to a local unit over 12 months and audit against national guidelines for sexually transmitted infection (STI) screening and Forensic medical examination appropriateness and timing.

Methods This was a retrospective audit of all penetrative CSA cases including oral, anal and vaginal penetration presenting to the unit over 12 months from January 2010.

The medical reports were reviewed for demographic data including age, gender and relationship to perpetrator and the local database was searched for any previous medical reports on the same children. The Hospital’s results server was checked for any STI results relevant to the cases and the findings were audited against national guidelines for both STI screening and for forensic medical examination appropriateness and timing.

Results 3% of all 1289 child protection referrals seen in the 12 month period were penetrative CSA cases. 60% of cases were female and 76% were under 13 years of age. 23% of cases had another child aged 11 to 16 years as the perpetrator and 89% of these were non-relations. 35% had previous child protection medicals performed within 3 months to 8 years. 20% (7 cases) were forensic medical examinations and 1 of these was deemed by the author to have been seen out of the appropriate forensic sampling window. 40% of the forensic cases where emergency contraception was indicated as part of the medical care were seen more than 5 days after the incident. We performed STI screening on 82% of cases as per local protocol and of those tested there was a 6% STI rate

Conclusions A large number of penetrative CSA cases are seen yearly, many are re-referrals and a significant number are perpetrated by other children. Forensic medical examinations were indicated in 20% of cases however these often fell outside the window for timely emergency contraception and appropriate forensic sampling. A significant minority of cases seen also had an STI when screened.

We suggest particular attention should be given to timing of medical examinations to optimise not only forensic sampling but also medical care and emphasise the importance of appropriate STI screening.

G219(P) AN ASSESSMENT OF THE QUALITY OF CHILD PROTECTION REPORTS CREATED AT A SINGLE NHS TRUST

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Aim There have been a number of high profile cases around safeguarding. To compare CP medical reports to current gold standard and identify what needs improving, so that CP medical reports offer a clear opinion of the nature of the injuries identified. The aim of this study was to identify the gold standard for compiling safeguarding reports, and to highlight any shortfalls compared to this locally agreed standard, so that these can be improved upon for future reports.

Methods 329 child protection reports were collected over an 18-month period at a single NHS trust. Key areas assessed included documentation of: consent, date/time, any past medical/social history, growth parameters, injuries seen and location, conversations, referrals and management plans, and whether a clear opinion was given.

Results Written or verbal consent was documented in only 42% of cases. Date was documented in 97% and time in 24 hour clock in 85% of cases respectively. Reason for referral was clearly documented in 79% of cases. A background to the case was including past medical history, development, social history was poorly documented (fig. 1). Cleanliness and general appearance was commented upon in 55% of cases (fig. 2). Opinions, conversations, investigations and referrals had variable reporting (fig. 3) with investigations in 152/329 (46%), treatment in 143/329 (43%), referrals 205/329 (62%) and conversations documented in 247/329 (75%) cases.

Conclusion Injuries were documented in 270/329 (82%) cases. An interpretation of the injuries was given in 280/329 (85%) cases, with an opinion on whether these may be consistent with the mechanism of proposed injury in 260/329 (79%). Even though a good proportion of injuries were documented correctly and interpretation was likewise reported in >80% of cases, this should in fact be reported in all cases and therefore although good, there is still room for improvement.

The major area of disparity was in the consent documentation which was poor. The recommendation of the study was that clear consent must always be sought and documented (including verbal consent) every time. The type and location of injury should likewise

be clearly documented as well as any opinion given as to the nature of these injuries, so that there can be no ambiguity and therefore a clear judgement can be made.

G220(P) PATTERNS AND MANAGEMENT OF FRACTURES IN CHILDREN UNDER 18 MONTHS IN A GENERAL HOSPITAL

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Background The type of fracture alone cannot ascertain associated safeguarding/child protection issues, and it is therefore important to carefully assess and document each case. It is expected that all fractures under 18 months are discussed with the paediatric team in view of the raised likelihood of abusive cause in this age group.

Aims To assess whether fractures in children less than 18 months of age presenting to the emergency department (ED) are discussed with a consultant paediatrician; and to review documentation and which team(s) managed fractures in this age group.

Methods Children under 18 months of age having skeletal x-rays between September 2010–11 were identified from the Radiology IT system. For those showing a fracture information was gathered from clinical IT systems, ED notes, and hospital case notes. The type of fracture, mechanism of injury, and time to presentation were reviewed. It was determined whether the patient was discussed with a consultant paediatrician; and whether management involved the paediatric team or was solely by the ED or orthopaedic team.

Results 209 x-ray reports (in 162 children) were reviewed and 55 fractures identified. Three were excluded as ED notes not found. Age range was: 0–6 months 7 fractures; 6–12 months 40 and 12–18 months 8. See table 1 for fracture types. The time interval between injury and presentation was recorded in 27(51%) (74% <24 hours vs. 26% >24 hours). The mechanism of injury was noted in 36(70%). 21(40%) were discussed with a consultant paediatrician of whom 2 had abusive fractures. 17(33%) were referred to orthopaedics alone; and 14(27%) were managed only by ED.

Conclusions Documentation and discussion with paediatrician was inadequate. Clavicular fracture was most frequent and finger crush fractures quite common. It was not possible to judge accurately which cases were checked for social services involvement by ED. Further awareness-raising with ED staff followed by re-audit is planned.

Abstract G220 Table 1 Types of fracture in children under 18 months

Clavicle 11	Femur 5
Radius 10	Tibia 7
Ulna 4	Tibia + fibula 2
Radius + ulna 1	Metatarsal 1
Humerus 6	Skull 1
Finger 7	

G221(P) AUDIT OF CSA (CHILD SEXUAL ABUSE) SERVICE

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Background In our trust the current CSA service was established in 2010. We run weekly clinics jointly done by two experienced community paediatricians. On a monthly basis we hold a peer review meeting where cases are discussed including photographs and reports.

Details To determine whether the referral criteria are followed and to analyse the referrals received since January 2010.