Abstract G213 Table 1 Bruise location according to mechanism

Location	Fall < 1m (n = 131)	Impact (n = 125)	Fall: standing ht. hitting an object (n = 61)	Fall 1–2m (n = 19)	Fall: standing ht onto toy (n = 19)	Crush injury (n = 12)	Sports injury (n = 5)	Fall downstairs (n = 5)	MVC (n = 7)	Total (n = 384)
Forehead	35	46	25	4	1			2	1	114 (29.7%)
Knee/shin	41	28	2	4	7	1	3	1	1	88 (22.9%)
Head	12	14	6	2	2	2		1		39 (10.2%)
Cheek	5	5	6		2				1	19 (5%)
Hand	4	2	2			4	1			13 (3.4%)
Eye	2	4	6						1	13 (3.4%)
Trunk back	8	2	2			1				13 (3.4%)
Thigh front	4	3	2	1					2	12 (3.1%)
Arm lower	5	2		4						11 (2.9%)
Buttocks	3	2	1		3		1			10 (2.6%)
Foot	2	6		1		1				10 (2.6%)
Arm upper	1	4		1		2			1	9 (2.3%)
Nose	4	1						1		6 (1.6%)
Chin		1	4	1						6 (1.6%)
Mouth	3	1		1	1					6 (1.6%)
Elbow	2	1	2		1					6 (1.6%)
Trunk front		1	1		2	1				5 (1.3%)
Thigh back		1	2							3 (0.9%)
Genitalia		1								1 (0.3%)

G214 THE BEST WAY TO TEACH DEVELOPMENTAL ASSESSMENT – A SINGLE BLINDED RANDOMISED STUDY COMPARING TEACHING MODELS

doi:10.1136/archdischild-2013-304107.226

S Feyereislova, D Nathan. *Community Paediatrics, Nottingham Childrens Hospital, Nottingham University Hospitals Trust, Nottingham, UK*

Aims Developmental assessment is a core paediatric competency but research demonstrates teaching gaps. This single blinded, randomised controlled study compares three teaching approaches to developmental assessment in a large group setting based on student's self perception and objective competency assessment.

Methods Students were randomised into one of the following (1) a didactic lecture followed by self study with online resources (control group) (2)a didactic presentation and small group tutorial (small group) (3) a combined didactic lecture and interactive component using audio-visual equipment (Interactive Developmental Teaching-IDT group). The audiovisual system is widely and cheaply available nationally and utilised one teacher and 2 children, and aimed at 45 students.Competency scores (based on the RCPCH scoring system, and adapted for undergraduates), mean score of self reported confidence and degree of motivation were compared.

Results 114 students participated**.** A statistically significant difference between the mean assessment scores was demonstrated for the small group (38,0; 95% CI 36,5–39,6) and IDT group (37,9; 95% CI 36,5–39,4) as compared to the control group (34,8; 95% CI 33,2–36,4). Students' self reported confidence, acquisition of knowledge and degree of motivation to practise after the teaching was higher in the IDT and small group compared to the didactically taught (control) group. The teaching cost, if measured by trainer's time, was one fifth in the IDT group compared to the small group teaching.

Conclusions The IDT is an effective teaching method in large groups, improves competencies compared to didactic lecturing and is as useful as small group teaching. Adoption of the IDT appears to facilitate learning in this important domain and can be feasibly delivered with falling ratios of teachers to students.

G215 "PHONE A FRIEND": USING SIMULATION TO PRACTISE WORKING TOGETHER IN SAFEGUARDING CHILDREN

doi:10.1136/archdischild-2013-304107.227

[1]RM Shute, [2]J Runnacles. [1]*Postgraduate Medical Education Department, Great Ormond Street Hospital, London, UK;* [2]*Transformation Team, Great Ormond Street Hospital, London, UK*

Aims Paediatric trainees attending a course to support transition to ST4/registrar role reported high anxiety around fulfilling their Safeguarding responsibilities due to lack of experience. They described a widespread practise whereby safeguarding concerns are escalated immediately to seniors, reducing juniors' clinical exposure.

Simulation offers a safe environment to rehearse communication skills essential in Safeguarding, including inter-professional information sharing. We therefore developed a short scenario, "Phone a friend", for this course with the aims to:

1. Provide a learning environment to practise the leadership and communication skills needed to initiate management of a child where there is a safeguarding concern.
2. Help trainees apply safeguarding knowledge, thereby reinforcing learning and building confidence.

Method Collaboratively, we constructed a challenging yet realistic scenario that highlighted key safeguarding themes. In small groups, trainees first observed their colleague take a history from a mother (actor) whose child had presented to A&E with a non-accidental injury. Realistic supporting information was given (A&E triage and clerking notes). Another trainee swopped into the "hot seat" and spoke to the 'on-call paediatric consultant' (faculty consultant) for advice and a third trainee spoke to the 'duty social worker' (facilitator) to escalate their concerns. The calls were made on speakerphone and the trainee in role could call 'time out' to ask for advice from the group. This was followed by a structured debrief with individual teams presenting key learning points to the larger group.

Results Course feedback showed that trainees valued highly the chance to "run through what you would actually do or say". They

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

doi:10.1136/archdischild-2013-304107.228

W Farr, I Male. *Mid Sussex Child Development Centre, Sussex Community Trust, Haywards Heath, UK*

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

doi:10.1136/archdischild-2013-304107.229

[1]CB Morris, [2]S Maguire, [2]D Farewell, [3]P Watts, [2]A Kemp. [1]*School of Medicine, University Hospital of Wales, Cardiff, UK'* [2]*Child Protection, University Hospital of Wales, Cardiff, UK;* [3]*Paediatric Ophthalmology, University Hospital of Wales, Cardiff, UK*

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

doi:10.1136/archdischild-2013-304107.230

[1]M Cutland, [1]K Castle, [1,2]A Thomas. [1]*Community Paediatrics, St James University Hospital, Leeds, UK;* [2]*Community Paediatrics, Leeds Community Healthcare NHS Trust, Leeds, UK*

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.