G349(P) SPECTRUM OF PAEDIATRIC TRAUMATIC BRAIN INJURY PRESENTING TO TERTIARY PAEDIATRIC EMERGENCY DEPARTMENTS

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Aims To determine the burden and aetiology of traumatic brain injuries (TBIs) presenting to tertiary paediatric emergency departments (PEDs). To determine the number of TBIs that are symptomatic, requiring imaging, re-presenting and requiring admission.

Methods Retrospective analysis of presentations of children 0–16 y to the 3 Paediatric Emergency Departments (PEDs) in a large urban area for 24 months. Diagnoses of head injury, intracranial bleed, skull fracture and those re-attending with the same complaint within 28 days were included. Hospital *Symphony* Emergency Department Information System (EDIS) and radiology (NIMIS) information systems were interrogated. Demographics, mechanism of injury, CT ordering and discharge destination were recorded. Demographic Data was extracted from the 2016 national census.

Results Head injury was diagnosed in 13 336 of 2 24 860 (5.9%) presentations to PEDs over 24 months. Median (range) age of presentation was 5.3 (0–16) years. The age profile was: Infants, n=1705 (12.8%), preschool age, n=6424 (48.2%) primary school age, n=3673 (27.6%), adolescents 12–16 y, n=1970 (14.8%). In adolescents, males predominant (73%) but gender equal in other age-groups. The rate of presentation is 3.7% per year at preschool age.

Number admitted, transferred or reviewed was n=1460 (10.8%) with a neuroimaging rate of 4.4%. The triage category was 4 in 6718 (50%) and the place of accident was known in n=5298 (39.5%). Accidents occurred at home n=3325 (62.7%).

In those with known mechanisms (52%), falls were predominant; n=3315 (47.5%) particularly from a height (n=1925) including from beds (n=298). Rugby alone accounts for a small number, n=229 (3.26%), but n=190 (18.4%) of the adolescent group.

Conclusion Preschool children have the highest incidence of head injury and the majority of injuries follow a fall. Sport accounts for a significant number of injuries in older children. Standardised reporting would improve information on demographics and mechanisms and allow targeted interventions in each age-group.

G350(P) IMPROVING DISCHARGE PLANNING FOR CHILDREN PRESENTING TO THE EMERGENCY DEPARTMENT WITH WHEEZE

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Objectives and background Childhood wheeze is a common presentation in the emergency department. The National Review for Asthma Deaths has identified that there are still

significant shortcomings in the acute and chronic care of asthma and wheeze in the UK. A 'Wheeze Clerking Proforma' (WCP) was introduced in the ED of a busy district general hospital to improve information gathering, acute management and discharge planning, according to recommended standards, with a view to improving overall outcomes. There were immediate improvements in clerking and acute management with the introduction of the WCP, however discharge planning remained unsatisfactory.

To improve discharge planning, the WCP was redesigned to increase emphasis on discharge and to encourage parents to instigate completion of the 'discharge checklist'. A retrospective case note audit was conducted to determine the success of this approach.

Methods Children aged 1–16 attending with wheeze from 01/05/2017 to 14/05/2017 and 05/06/2017 to 17/06/2017 were identified from a manual search of ED patient records.

Information was collected on patient demographics, wheeze-specific information gathering, acute treatment and discharge outcomes.

Data were analysed using Microsoft Excel.

Results 66 eligible children were identified; 58% were clerked on WCPs. Information gathering for children on WCPs was superior in all domains. All children received appropriate acute treatment.

29 children were discharged, 11 of whom had WCPs. These children were more likely to have inhaler technique checked (45% vs 6%), receive an emergency action plan (36% vs 0%), be advised to see the GP within 48 hours (45% vs 17%) and have appropriate follow-up arranged (18% vs 6%).

Conclusions Placing more emphasis on discharge planning and encouraging parents to engage in this process has improved discharge outcomes in the ED, although there remains room for improvement.

G351(P) HIGH FALLS FROM WINDOWS AND BALCONIES IN CHILDREN (2006–2011)

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Aims Young children are at risk of falls due to their lack of danger awareness and curious nature. Falls from heights more than two metres are associated with significant risk of death and disability and contributed to 2.7% of injury-related deaths in Ireland between 2006–2011. The aim of this study was to further explore falls from windows and balconies, to identify demographics, injury type and severity, long-term outcomes and to inform strategies for prevention.

Methods This retrospective cohort study reviewed high falls from windows and balconies in children from 2010 to 2016 in Ireland. Data was obtained from submissions to the Trauma Audit and Research Network (TARN) database and analysed in Excel.^{1,2}

Results Seventy-six high falls were recorded during the study period with twenty falls occurring from a window or balcony. Of these twenty children, eighteen were less than five years, with a median age of 2 years (range 1.0–7.6 years) and a male to female ratio of 2.3:1. In this patient cohort, there were two deaths, four children sustained moderate disability and fourteen had a good recovery according to Glasgow

Outcome Score (GOS). The head was the most severely injured body part in 75% of falls (15/20). Injury severity score was greater than 15 in 65% (13/20) indicating moderate to severe injury. Although data was not available for all children, it was noted that high falls occurred more often in the home than in public places (9 vs. 3 cases) and were onto concrete (14 cases). The two deaths were associated with falls from fourth and fifth floor windows.

Conclusions High falls from windows and balconies, although infrequent, do occur and are preventable. Boys and children under 5 are at highest risk. Education on fall prevention, and environmental modifications such as window guards and alteration of surfaces below windows and balconies may prevent death and serious injury in young children.

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G352(P) THE PREVALENCE OF BACTERAEMIA IN CHILDREN PRESENTING TO THE ED

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Aim To determine the point prevalence of bacteraemia in a large paediatric emergency department.

Methods From a database of all blood cultures taken from children in our institution in 2016, we identified those taken in the Paediatric Emergency Department. To manage the scope of enquiry and allow for seasonal variability all those taken in January and May 2016 had in depth analysis. Blood culture results and discharge summaries were reviewed using the hospital's internal systems.

Results In January and May 2016, there were 3310 and 3781 attendances at our Paediatric Emergency Department, respectively (7091 total).

203 (2.9%) children who were admitted through our emergency department in the 2 month period had a blood culture taken. 13 were positive, of which 10 were considered clinically insignificant contaminants (predominantly coagulase-negative Staph.). Of the true positives, 2 were Streptococci, the other was *Neisseria meningitidis*. Prevalence of confirmed bacteraemia (3/7091) was 0.04%.

100/203 (49.2) were discharged less than 48 hours after blood culture was taken. The most common discharge diagnosis was lower respiratory infection (56/203, 27.6%), followed by viral infection (31/203, 15.3%). 23/203 (11.3%) had a diagnosis of presumed or suspected sepsis.

Conclusions This point prevalence study confirms previous work that there is a low yield of positive blood cultures in Paediatric Emergency Departments. Extrapolation would suggest that there may be as few as 18 cases of confirmed bacteraemia presenting annually to a department seeing nearly 50 000 children. It is also impossible to ascertain with this methodology how many children were actually bacteraemic (i.e. high clinical suspicion but no isolated cultures) however it would suggest the incidence of sepsis is extremely low.

Whilst the low yield may cause to examine our use of blood cultures, in particular in lower respiratory infections, the fact that 49.2% were discharged in under 48 hours offers

encouragement that the practice of routinely waiting for negative blood cultures before stopping IV antibiotics is being phased out. Also the 11.3% positive rate (similar to positive CT findings in head injury) suggests sepsis recognition processes are effective despite increasing presentations.

G353(P) EVALUATION OF A PROCEDURAL SEDATION SERVICE USING KETAMINE (PSK) IN THE PAEDIATRIC EMERGENCY DEPARTMENT (PED)

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Background/aims Around 7500 children with injuries present yearly to our PED, many necessitating a general anaesthetic for repair. PSK is safe and efficient for facilitating management of painful procedures. Patients are selected according to our protocol for procedures predicted to last ≤ 20 min. The service runs during PEM consultant supervised hours (80% of the time during a week). Trainees receive direct supervision in delivering PSK on three occasions before completing a work based assessment to practice independently. Our primary aims were to evaluate safety, efficacy and patient satisfaction of PSK. Our secondary aim was to evaluate cost savings.

Methods Data were collected between May and July 2017 on all procedures performed using PSK using an Electronic Patient Record. Patients were followed up by telephone using a validated survey to assess satisfaction. The financial cost of each procedures, PED and theatre times were obtained from our hospital finance department.

Findings Overall 12 procedures were performed (4 laceration repairs, 7 fracture manipulations and 1 hernia reduction). All procedures were successfully completed. 10 cases were discharged home, while 1 forearm fracture successfully manipulated and casted required admission for close observation and the emergency inguinal hernia reduction required definitive management. There were no significant adverse effects noted. Average procedure time was 18 min (CI: 14 to 23 min; $p=0.05$) and the average recovery time was 64 min (CI: 50 to 79 min; $p=0.05$). Average total time in department was 314 min (CI: 270 to 358 min; $p=0.05$) with 10 cases exceeding 4 hours in the department. The trust saved as much as £1470/patient for orthopaedic MUAs. Average parent satisfaction score overall was 9.2/10.

Conclusion PSK in the PED is a safe, cost effective service which benefits the patient by avoiding fasting periods, delays in injury management and general anaesthesia. PSK has high patient satisfaction. It is efficient in facilitating procedures, has a short recovery although efficiency in timing of patient selection could be improved to potentially avoid 4 hour breaches. There is still potential to expand the service activity, especially with regards to management of lacerations.

G354(P) ARE UNNECESSARY FLUID CHALLENGES SLOWING THE FLOW OF A&E DEPARTMENTS?

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