

MRI of the underlying CNS in all infants with a midline IH on the scalp, neck or spine.

Association of Paediatric Emergency Medicine

G71 ASSESSING THE IMPACTS FROM THE FIRST YEAR OF ROTAVIRUS VACCINATION IN THE UK

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Aims The United Kingdom added rotavirus vaccine (Rotarix GlaxoSmithKline) to the national immunisation schedule in July 2013. We have performed two years of active surveillance at our regional children's hospital to establish the baseline characteristics of disease burden pre-rotavirus vaccine and now report the epidemiological trends one year after vaccine introduction.

Methods During the 2012–2014 rotavirus seasons, children presenting to our regional paediatric emergency department with gastroenteritis symptoms (>2 loose stools and/or >1 episode of forceful vomiting in the last 24 h) had stool virology analysis (real-time PCR), severity assessment (Vesikari score) and clinical outcome recorded. Nosocomial cases were retrospectively identified as patients admitted with a non-gastroenteritis diagnosis testing positive for rotavirus more than 48 h after admission.

Results In comparison to the pre-vaccine seasons, in the first year after vaccine introduction there were 42–47% ($p < 0.001$) fewer attendances diagnosed with gastroenteritis, a 38–58% ($p < 0.001$) reduction in gastroenteritis admissions and a total saving of 300–358 bed days occupancy. Overall there was a 73–78% reduction in number of stool samples testing positive for rotavirus. In those under 1 year old there was a 94% reduction in rotavirus positive cases and a 67–70% reduction in those too old to have been vaccinated (1–4 years).

Conclusions In the first year after the introduction of universal vaccination against rotavirus we observed a profound reduction in gastroenteritis presentations and admissions and a fall in overall seasonal workload. Although by early 2014 only those under 1 year old had been vaccinated, there was also a significant herd effect with many fewer cases than expected in older children. Extrapolating these findings to the UK population we estimate secondary healthcare savings in the first year of ≈£7.5 million. Ongoing surveillance will be required to determine the long term impact of the rotavirus immunisation programme.

G72 SIMULATION TRAINING IN SAFEGUARDING CHILDREN AND ADOLESCENTS: TRAINEES WANT IT, TRAINEES LIKE IT AND WE NEED TO DELIVER IT

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Aims Simulation is increasingly used in medical education though not traditionally in safeguarding training. We conducted a national survey of 50 paediatric and emergency medicine

doctors, all with safeguarding responsibilities, which revealed a gap in training and lack of confidence in managing adolescent safeguarding and unexpected child death. Few had experienced safeguarding training via simulation but when asked their training preferences the majority said their preference would be via simulated scenarios. We designed an innovative course simulating common safeguarding scenarios and reviewed candidates' perception of change in knowledge and self-confidence in dealing with these difficult situations.

Methods Three safeguarding scenarios were simulated using manikins and actors: a physically abused neglected child, the unexpected death of an infant in a difficult social context and the possible sexual exploitation of a young teenager. Candidates took turns to communicate sensitive safeguarding issues with the actors. A multi-disciplinary team including Detective Inspectors from Project Indigo, Youth Workers from Red Thread, Paediatric Bereavement Team and named doctors for Safeguarding and Child Death participated in each scenario modelling communication skills and leading discussion about legal processes and safeguarding resources. Each scenario was followed by a group debrief aiding reflection and consolidating learning.

Results Pre and post-course questionnaires revealed a significant improvement in confidence in managing these safeguarding scenarios. Candidates' perception of simulation as an educational tool in safeguarding, thought pre-course to be "effective", was rated as "very effective" post-course. The course was extremely well received with feedback including "this course was amazing"; "by far the most useful safeguarding course I've ever been on"; and "an excellent programme with unique practical application of theory".

Conclusion Simulation is a validated tool in medical education, allowing trainees to practice skills in a safe, supportive environment without the risk of patient harm.¹ By actively experiencing an event, simulation stimulates 'emotional insight',² with debrief aiding reflection to identify strategies to improve future practice.³ Simulation in safeguarding improves confidence in managing difficult scenarios and trainees clearly want it to become a much larger part of their safeguarding training. We urge other centres to follow our lead and incorporate simulation into their safeguarding training programmes.

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- 2 Moon, 1999
- 3 Fanning and Gaba, 2007

G73 PAEDIATRIC DIFFICULT AIRWAY EQUIPMENT IN EMERGENCY DEPARTMENTS: A REGIONAL AUDIT

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Aims The 4th National Audit Project by the Royal College of Anaesthetists highlighted that difficult intubations account for 9% of all intubations in emergency departments (EDs).¹ It subsequently recommends that all paediatric EDs should have a difficult airway trolley (DAT) dedicated to paediatric use. The 2012 emergency care standard by RCPCH⁴ also specified a list of recommended airway equipment in emergency situations. Previous surveys demonstrated a general low availability of a paediatric DAT in anaesthetics departments (16%)² and PICU/HDUs

(42%).³ This audit aims to survey the availability of paediatric DATs and difficult airway equipment in regional paediatric emergency units.

Methods A standard questionnaire for DAT and difficult airway equipment was devised according to the RCPCH guideline.⁴ In February 2014, data was collected from senior nursing staff in all 34 regional paediatric EDs via telephone, email or in person.

Results 30 out of 34 units were included. Only 40% had a paediatric DAT on the unit, although all units had some paediatric difficult intubation equipment. A significant number of departments did not have capnography recording (23%), cuffed endotracheal tubes of all sizes (33%), or a cricoidotomy set (33%). Variation in the choice of laryngeal blades reflected individual preferences by specialists. 90% of units kept a daily checking rota.

Conclusion This survey highlights the need for improved availability of paediatric DATs and intubation equipment. Particular effort should be made to secure the more advanced equipment, and ensure the availability of a full size range for basic equipment.

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G74

IN THE AGE OF THE RAPID DIAGNOSTIC TEST, ARE THREE ROUTINE BLOOD FILMS NECESSARY TO EXCLUDE IMPORTED MALARIA IN CHILDREN PRESENTING TO THE EMERGENCY DEPARTMENT?

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Aims The number of children returning from areas endemic for malaria is increasing. Laboratory diagnosis of malaria has evolved with the advent of reliable rapid diagnostic tests (RDTs).¹

We aimed to evaluate the reliability of RDTs at one of the UK's busiest children's EDs and to assess whether this might have implications for serial testing for malaria which can be distressing to children, inconvenient for families and costly to the NHS.

Methods We audited the use of malaria RDTs (Table 1) (*Carestart-Malaria, Apacor*) requested in the ED over a 12-month period (October 2013–October 2014), and compared their performance against the gold standard of microscopy.

Results Population (n = 104), 48% female (n = 50), with a median age of 2.5 years. Two children were excluded from the analysis as an RDT had not been performed alongside microscopy. Most children had returned from South Asia (58%), with 18% from Sub Saharan Africa.

There were no negative RDT results on preliminary testing with a positive diagnosis on microscopy. Overall, a first RDT had sensitivity of 100% and specificity of 97.8%. Of the

children tested, 82% had only one RDT and blood film performed.

Abstract G74 Table 1 2 × 2 contingency table for malaria RDT

	Malaria	No malaria	Total
RDT positive	7 (4 <i>P falciparum</i> , 3 <i>P vivax</i>)	2	9
RDT negative	0	93	93
Total	7	95	102

Conclusion In this series, a single RDT combined with one film excluded malaria in returning travellers, and this is common practice within the ED and the wider Trust. However, other studies have reported that RDTs and preliminary microscopy can rarely miss infections.² A larger study needs to confirm the safety of a single RDT and film.

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G75

THE RAPID DEBRIEF: A TOOL THAT TRANSFORMS LEARNING AND SYSTEM CHANGE

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Aim To test the rapid debrief tool as a way of extracting immediate learning to implement system changes following the care of the critically ill child; overcoming the dispersion of people and memories in the traditional incident reporting cycles.

Method A rapid debrief was tested immediately after the care of a critically ill child was completed by the team. A template was used to collect what improvements were needed technically (resources, skills) as well as human factors such as communication and leadership. Action plans were generated by the team. The debrief and action plan was then circulated to all staff and discussed at the weekly service meetings. Outcomes were monitored by the Paediatric Resuscitation Group.

Results A total of 29 rapid debriefs were completed over 12 months, generating 81 action plans, of which 50 have been completed. Many of the actions were completed before the incident forms reached the clinical governance system. 20 related to equipment, 5 to medications, 7 to team issues (communication, leadership), 10 training issues and 11 planning and organisation wide issues. Compared to the year previous to the rapid debrief, clinical Incident reporting now shows a 1.7 times increase of low risk incidence reporting; incidents of moderate or high risk have been reduced by half. Staff feedback has been very positive.

The learning outcomes include the development of safe hand-over tools, improving resuscitation resources and team needs, incorporating human factors into the resuscitation training to build team resilience and an open challenging culture.

Conclusion The rapid debrief has helped improve our care of the critically ill child through the immediate extraction of learning and implementation of improvements. The tool enables faster system change compared to traditional reporting governance systems.