P190 IPAD4 – IMPROVING PAEDIATRIC AIRWAY DOCUMENTATION

Peter Donnelly*, Joanne Perkins. *Evelina London Children's Hospital, London, UK*

10.1136/archdischild-2019-epa.545

Introduction and aims Intubation outwith the theatre environment is associated with higher risks than in-theatre intubation.¹⁻² Patients admitted to the paediatric intensive care unit (PICU) may also have airway abnormalities making intubation unpredictable. Staff should be aware of any previous procedural difficulties. This audit set out to improve documentation about the paediatric airway in PICU.

Methods A quality improvement project was performed in PICU over 24 months with progress being recorded using a predesigned proforma. This aimed to ascertain details regarding the patients airway and airway proceduralist. It was also recorded if the bedside nurse was aware of the documented grade of laryngoscopy. The following interventions were performed and subsequently re-audited 1: a new airway details box was added to the paper observation balance chart, 2: a new electronic system was implemented in the PICU to replace all paper charts, 3: a laminated 'cheat sheet' was placed at every bedside displaying key airway details. A 20 chart snapshot audit was performed after each intervention.

Results Some areas of documentation have shown marked improvement over the audit cycles. Bedside nurse awareness of airway details showed marked improvement with 90–100% (previously 24–75%) being aware of the grade of laryngoscopy. 100% of nurses knew where to find details about previous intubations and the size and length of the endotracheal tube was documented in 100% of cases. Documentation of the ease of bag mask ventilation (BMV) remains largely unchanged with an initial documentation rate of 50%. This fell with the initial two interventions before improving back to 50% in the most recent re-audit. Another area of improvement was documentation of laryngoscopy grade improving across the audit cycles from 79% to 95%. Documentation of the grade of airway proceduralist and ease of intubation showed marked deterioration with the implementation of the electronic monitoring system (falling from 79–100% to 5–10%, and from 28–50% to 15% respectively).

Discussion and conclusion The interventions performed to date have had mixed results with many areas showing improvement in documentation. Implementation of a new electronic system has provided some challenges and will provide an opportunity for further quality improvement interventions. Bedside nurse awareness of essential airway details have shown marked improvement over the duration of this project.

REFERENCES

1. Bowles TM, et al. Out-of-theatre tracheal intubation: prospective multicentre study of clinical practice and adverse events. *British Journal of Anaesthesia*. 2011; **107** (5): 687–92

P191 AUDIT ON ROLE OF CHEST X-RAY IN CHILDHOOD COMMUNITY ACQUIRED PNEUMONIA (CAP)

^{1,2}Pankaj Agrawal*, ²Muhammad Shoaib Iqbal, ²Asim Khan. ¹Cork University Hospital, Cork, Ireland; ²Letterkenny University Hospital, Letterkenny, Ireland

10.1136/archdischild-2019-epa.546

Background Community Acquired Pneumonia (CAP) is defined as a clinical diagnosis of pneumonia in a previously healthy child due to an infection which has been acquired outside hospital. It is a major cause of morbidity and mortality in children worldwide and responsible for large number of hospital admissions. British Thoracic society (BTS) has classified CAP into mild to moderate and severe CAP. Chest X-ray should not be considered a routine investigation in children thought to have mild to moderate CAP. It was observed that large number of children admitted with CAP undergo chest radiography. We therefore decided to conduct an audit and implement the changes to prevent unnecessary exposure of X-rays in children and to reduce the workload on Radiology department.

Objectives To establish if we are following the BTS guidelines for mild to moderate community acquired pneumonia in children (update 2011), regarding chest X-Ray in children admitted as in-patients to the Paediatric Ward in Letterkenny University Hospital. **Methods:** Data was collected from the Medical Records of children who have been admitted to the Paediatric Ward during the period 1st Dec 2016 to 28th Feb. 2017. Children more than one year of age who were diagnosed as mild to moderate community acquired pneumonia as per BTS guidelines were included in the study. Data was collected using a short questionnaire using the audit tool provided by the BTS guideline.

Results A total of 49 patients chart were obtained. Out of these, 18 patients were excluded from the study, and 31 patients met the diagnostic criteria for inclusion. Among these 31 patients, 27 patients (87.09%) had chest x-ray done during admission. Most of these patients had unnecessary chest x-ray done for them, also there was no clear documentation on the reason the chest x-rays were carried out.

Conclusion There was very poor adherence to BTS guidelines regarding Chest X-Ray in children with mild to moderate community acquired pneumonia.

Recommendations 1). British Thoracic society guidelines should be followed appropriately in managing children with CAP. 2). Un-necessary Chest X-Rays on admission should not be done routinely in mild to moderate CAP. 3). There should be regular teaching sessions on recent BTS guidelines to keep updated all doctors working in Paediatric unit in Letterkenny University Hospital.

P192 THYROID SCREENING PRACTICES IN THE FIRST YEAR OF LIFE IN CHILDREN WITH DOWN SYNDROME

Lubna Mahmood*, Alfonso Herrera. *St. Luke's Hospital, Kilkenny, Ireland*

10.1136/archdischild-2019-epa.547

Introduction Down syndrome, trisomy 21, is the most common cause of developmental disability in Ireland with a birth prevalence of 1 in 546 which is highest in Europe. It is associated with several congenital anomalies, including cardiovascular, gastrointestinal, metabolic, endocrine systems and intellectual disability. Among endocrine disorder, those affecting thyroid function are most frequent.

Congenital hypothyroidism is about 27 times more common among infants with DS than in general population. It has an incidence of 1% as detected by newborn screening. Beyond newborn period, it is reported to be as high as 85% in infants under the age of 12 months.

Aim The aim of this audit was to determine thyroid screening practices in the first year of life in children with Down syndrome in our Unit and compare them to national guidelines for the medical management of children with Down syndrome (DSMIG).

Methods We carried out a retrospective observational charts review. Children with karyotype confirmed Down syndrome and up to one year of age were included.

Results Ten children with DS were identified and all were included. Study cohort comprised 6 males and 4 females. It was noted that six children had no TFT done after the initial newborn screening. Out of other four, only one was on treatment for hypothyroidism, the other three had normal TFTs.

Conclusion and Recommendations It is a small retrospective audit but does reflect current clinical practice. It appears that our compliance with recommended guidelines is very low, 60% of children received no TFT after the initial newborn screening.

The clinical information which was not gathered and which could influence the frequency of testing was presence of other comorbidities like cardiac disease or Gastrointestinal disease.

Low level of adherence to screening recommendations in this audit is concerning and suggest a need to identify factors contributing to poor adherence to DSMIG guidelines for medical management of children with Down syndrome.

Broad dissemination of guidelines, frequent clinical reminders and similar auditing activities for quality assurance are important in improving adherence to clinical guidelines.

P193 QUALITY IMPROVEMENT IN NURSING CLINICAL HANDOVER

Emma Holohan*. *Childrens Hospital Group Temple St, Dublin, Ireland*

10.1136/archdischild-2019-epa.548

Quality Improvement in Nursing Clinical Handover

Nursing Clinical handover (CH) is a crucial point of vulnerability in patient care that can lead to errors and/or adverse events if incomplete or inaccurate (Department of Health 2015, Manias et al 2016). The Department of Health clinical guidelines for CH (2015) key recommendations are use of a communication tool such as ISBAR3 (identify, situation, background, assessment, recommendation, readback, risk), involve patient/carer and verbal handover with written documentation. A literature search regarding research into nursing clinical handover yielded multiple articles supporting these recommendations but no gold standard process identified yet. Many research methods were used to evaluate CH both qualitative and quantitative.

A change to existing process was necessary to improve timeliness of process, increase efficiency and effectiveness of handover, reduce risk of errors associated with clinical handover, promote interaction during handover as per the national guidelines and to involve parents/patients in handover as per national guidelines.

A new 3 step CH process, based on the national guidelines and up to date research literature, was introduced on a surgical ward specialising in neurosurgery and craniofacial surgery in Temple Street Children's University Hospital, Dublin in Feb 2108 following an audit of previous practice. Subsequent audit and staff survey identified the benefits of the new process

which has since been implemented by other wards in the hospital

The new CH process has succeeded in implementing the national guidelines and is a quality improvement project that addresses patient safety, reduction in medication errors, improvements in metrics data, facilitates 'hello my name is', and use of the communication tool ISBAR 3. It improves communication with patients and families and also improves time management as nurses can finish on time and reduces by 50% the time a nurse is away from patients for handover.

1. One to one handover in quiet area (incl any undergrad or supernumerary students as per allocated area)
2. Bedside review of each patient with both commencing and finishing nurse
3. Group handover in office with all staff

P194 SIGNS IN PAEDIATRIC RADIOLOGY; AN INTERACTIVE PICTORIAL REVIEW FOR PAEDIATRIC CLINICIANS

¹Simon Clifford*, ²Anna Smyth, ¹Zoe Hutchinson. ¹St. Vincent's University Hospital, Dublin, Ireland; ²British Columbia Children's Hospital, Vancouver, Canada

10.1136/archdischild-2019-epa.549

Purpose Radiology is an important facet in the management of child health. Timely recognition of diagnoses on imaging is necessary to enable initiation of appropriate therapies. In this presentation, a wide selection of radiology signs are presented. These are a mixture of common signs which should not be missed, as well as rarer signs which can easily be misinterpreted¹. The signs are presented primarily on plain film, although also using other modalities including ultrasound and CT². The signs are displayed in such a way as to allow the viewer to quiz themselves prior to the answer being revealed. This will aid in future interpretation and understanding of paediatric imaging, for both experienced clinicians and newer trainees alike.

Methods Can you differentiate the steep sign from the silhouette sign? Can you tell a deep sulcus sign from a continuous diaphragm sign? Do you know the scimitar sign from the snowman sign? Can you decide if it's Rigler's sign or football sign? Only after the viewer has had the opportunity to interpret the image, will the answer and explanation be revealed. For each sign, a brief overview of the radiologic features are described, along with the diagnosis and any associations. The clinical relevance of each sign is discussed^{1,2}.

Conclusion A varied selection of paediatric radiologic signs are displayed, including neonatology, chest, cardiovascular, gastrointestinal, genitourinary, musculoskeletal and neurology. The complete list of signs will not be named in this abstract, to allow the viewer to interact with the presentation, without extensive prior knowledge. After interacting with this pictorial review, the viewer will have an increased understanding of multiple signs in paediatric radiology, which will help improve management of child health.

REFERENCES

1. Arora, R & Kannikeswaran, N. Radiology callbacks to paediatric emergency department and their clinical impact. *Pediatr Radiol* 2018;48:1526. <https://doi.org/10.1007/s00247-018-4176-y>
2. Cogley JR, O'Connor SC, Houshyar R, Al Dulaimy K. Emergent Pediatric US: What Every Radiologist Should Know. *Radiographics* 2012;32:651-665. <https://doi.org/10.1148/rg.323115111>