

**Abstracts****Annual Out of Town Conference**

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PRESENTATIONS**CONTINUOUS SUBCUTANEOUS INSULIN INFUSION (CSII) PUMP THERAPY AUDIT**

V. Vasi, N Flanagan

Background and Aims: Studies have shown that CSII produces consistent glycaemic control over time with an improvement of 5mmol/mol (0.5%) in HbA1c. Bolus insulin doses are given via the CSII with the pump's bolus wizard facilitating accurate variable boluses. CSII gives variable insulin background (basal) infusion rates maintaining a smooth glucose profile. Fewer injections and flexibility brings improved quality of life. We aimed to look at the efficiency of CSII pump in glycaemic control and cost effectiveness by comparing the HbA1c, hypo and hyperglycaemic episodes before and after CSII.

Methods: Data was collected using the web based TWINKLE system and case notes. Online tool csiaudit.co.uk was used to interpret the results. 50 patients on CSII in the South Eastern trust were included (performed May 2014).

Results: An improvement in HbA1c of 5mmol/mol (0.64%) was noted in patients on CSII pumps. The average HbA1c was 64mmol/mol (8.05%). An increase in admissions with hypoglycaemia was noted with CSII, but all with intercurrent illnesses (viral gastroenteritis). A 21% drop in admissions with hyperglycaemic episodes was noted.

Conclusions: There was improved glycaemic control in patients on CSII pump therapy as illustrated by reduction in HbA1c and admissions with hyperglycaemia. CSII pump therapy proved to be cost-effective. Family education and training should be ongoing and resourced to ensure continued benefits.

AUDIT OF THE MANAGEMENT OF BURNS IN A PAEDIATRIC EMERGENCY DEPARTMENT

Dr Andrea Stobo, Dr Elizabeth Dalzell, Dr Danielle Leemon

Background & aims: Burns are a common cause of attendance to the Emergency Department (ED) and they can have life-long implications. It became apparent during attendance at the British Burns Association's Emergency Management of Severe Burns (EMSB) Course that our management of burns deviated from course guidelines. We aimed to identify variation in order to improve our management.

Methods: A retrospective audit of all cases coded as a burn

or scald in the 6 month period 01/02/2011-31/07/2011 and 01/02/2012-31/07/2012 was carried out using the ED Symphony clinical data system. A gold standard was agreed using the EMSB course teaching and r plastic surgery team recommendations. Standards identified included cooling methods, de-roofing of blisters, dressings, documentation, involvement of the plastic surgeons, follow-up and antibiotic prescription.

Results: There were 107 patients identified in both time periods. 57% (2011) and 46% (2012) had documented cooling of the wound. 29 patients had wounds de-roofed in both time periods. 66% (2011) and 59% (2012) had a description and drawing, 16% (2011) and 29% (2012) had a description and no drawing and 16% (2011) and 8% (2012) used a burns chart. 14% (2011) and 17% (2012) had % Total Body Surface Area (%TBSA) documented. 7.5% (2011) and 8.4% (2012) of patients were admitted. 13% (2011) and 23% (2012) received antibiotics.

Conclusions: Practice is variable and documentation is poor. A planned revision of the department algorithm will highlight the importance of cooling, deroofing and documentation. The introduction of a burns specific flimsy should improve documentation.

PERFORMANCE OF SUPINE SPIROMETRY IN CHILDREN WITH NEUROMUSCULAR DISORDERS- A FEASIBILITY STUDY

Kathryn C.A Ferris, Dara B O'Donoghue, Isobel Douglas, Janine McVeigh, Barbara Maxwell, Michael D Shields

Background and aims: Children with neuromuscular disorders such as spinal muscular atrophy type 2 and Duchenne Muscular Dystrophy develop progressive weakness that can result in nocturnal hypoventilation and need for ventilatory support. We hypothesise that supine spirometry more accurately reflects sleeping ventilatory function than traditional sitting/standing and hence could be a predictor of nocturnal hypoventilation in these children. The aim of the study is to determine the feasibility of performing supine spirometry in the clinic and to compare sitting and supine spirometry.

Methods: We undertook a cross-sectional study within the Respiratory neuromuscular disease outpatient clinics recruiting 15 children (aged 5-21 years). Lung functions tests were performed in the upright position then repeated while supine.



Results: 73% of our patients were able to perform supine spirometry; 91% were able to perform the tests when supine at an angle of 45-90°. For 27% of our patients it was not feasible to perform supine measurements as they were unable to perform any lung function tests due to weakness or they were unable to lie supine because their wheelchair did not tilt or they required a hoist for transfer out of their wheelchair.

FEV1 and MEPs correlated closely for the sitting and supine positions ($R = 0.910$ and 0.816 respectively).

Conclusion: This preliminary study suggests that it is feasible to perform supine spirometry in patients with neuromuscular disorders in the clinic setting and that there may be a correlation with sitting spirometric values. Future studies should explore this further as well as the relationship between supine spirometry and overnight sleep studies.

A STUDY OF PAEDIATRIC MEDICAL STUDENT SELF-ASSESSED CONFIDENCE AND CLINICAL EXPERIENCE

Kathryn C.A Ferris, Clare Thomson, Kieran McGlade, Michael Stevenson and Dara B O'Donoghue

Background and aims: QUB medical students undertake a 6 week Paediatrics module in 4th year. The aim of this study is to determine students' performance, confidence and experience in Paediatrics.

Methods: 4th year medical students were invited to participate in the study by completing an online survey.

Students were asked to rate their: Confidence in recognising and managing cases, Perceived knowledge of conditions, Confidence in their ability to perform tasks, Exposure to a range of common Paediatric cases was also surveyed.

Results: 50 students completed the survey; 14.3% postgraduate students; 61.2% females. Every module group and hospital site was represented.

The average rating of student confidence in their ability to recognise and manage these cases/conditions was low; cerebral palsy, spina bifida, SVT, unwell neonate, congenital heart disease, cystic fibrosis and developmental delay. 50% or less of students surveyed had exposure to these cases; cerebral palsy, anaemia, coeliac disease, cystic fibrosis, spina bifida, arthritis and scoliosis. Specialties in which students perceived their knowledge to be low include haematology, metabolism, rheumatology, psychiatry and oncology. The tasks that students felt least confident in performing included discussing ethical issues in paediatrics and discussing infant feeds and nutritional requirements.

Conclusions: We identified areas and tasks where students feel their knowledge and abilities are suboptimal. This will guide the paediatric course co-ordinators to target specific specialties to develop new resources including online lectures and interactive cases which will form the new "blended" course commencing in the 2014/15 academic year.

PRESENTATIONS

LYMPHADENOPATHY: STANDARDISING OUR PRACTICE

Kathryn Ferris, Dr Elizabeth Dalzell, Dr Andrew Fitzsimons

Background: There is no guideline for the management of lymphadenopathy in children presenting to RBHSC A&E resulting in uncertainty, over-investigation and inappropriate referrals/reviews. Lymphadenopathy is a common reason for A&E attendance. Lymphadenopathy is frequently caused by infections and is often self-limiting however malignancy needs to be considered. History and examination alone should guide the clinician towards a diagnosis; in most cases investigation is not required. A guideline should help to guide the clinician to when investigation, follow up and referral is required.

Aim: Establish our current practice and develop a guideline for staff working within RBHSC A&E to standardise and improve our practice

Methods: Retrospective chart review using symphony, Search of patients attending the A&E department between 1st January 2014 to 31st December 2014, Diagnosis of Lymphadenopathy, swollen lymph nodes or lymphadenitis. Results documented in our audit proforma

Results: 64 patients attended RBHSC ED with a diagnosis of swollen lymph nodes, generalised lymphadenopathy and lymphadenitis from 1st Jan 2014 -31st Dec 2014. 66% had other signs or symptoms of infection. 47% of the children had blood tests performed and 31% were scanned on their initial presentation to the ED. 56% had formal follow up organised of which 61% were followed up in our ED review clinic.

Conclusions: We have used our results to develop a guideline on the assessment and management of Lymphadenopathy to be used in the RBHSC ED. We hope that this guideline will help to standardise and improve our practice..

VIRTUAL VISITATION IN THE NEONATAL UNIT- IMPROVING PATIENT EXPERIENCE IN A DISTRICT GENERAL HOSPITAL.

Dr Natalie Thompson, Sister Alison Barrett, Stefanie Minnis, Gemma Currie, Dr Mugilan Anandarajan Consultant Paediatrician

Background: Neonatal units within Northern Ireland have restrictions on visiting times and use of mobile technology due to infection control concerns. Siblings and extended family do not get the opportunity to meet the new baby until after discharge. Families can face emotional difficulties, and changes in family dynamics when the newborns are hospitalised for a prolonged period. The aim of this project is to improve family experience, by using telecommunication devices to allow access to family members at home.

Methods: We introduced 'virtual visitation' where parents are able to transmit real time images of their newborn through



a secure portal to their families, via videoconferencing on a trust encrypted IPAD, using confidential passwords. The pilot project was introduced for 6 months in 2015. The initial project involved 20 families and feedback enabled service development. The next phase of the project involves families using the IPAD on a regular basis. An instruction manual was produced and an IPAD stand purchased for ease of use. Staff training helped to improve the extent of the service offered. Formal written feedback is obtained from each family, driving ongoing improvements.

Results In the pilot phase, all parents (n=20) reported positive feedback in terms of improved family morale and sibling relationships. Areas of improvement were addressed including; equipment issues, Internet access problems, availability of the device, and confidentiality.

During the current phase, formal feedback questionnaires are used to determine family satisfaction.

Conclusions Although the project remains in the early stages, we have shown through verbal and written feedback that virtual visitation can be successfully used as a tool to improve parent experience, bonding, enhance family dynamics and improve confidence in the neonatal team.

IMPROVING MATERNAL BREAST MILK USAGE IN THE HIGH RISK NEONATAL POPULATION.

Authors: G Stewart, J Price, U Robinson, S Craig

Background: Maternal breast-milk confers many benefits for the extremely preterm or growth-restricted neonate. In 2013, national benchmarking demonstrated that at Royal Jubilee Maternity Hospital neonatal unit breast milk feeding at discharge was less than half of the UK population average.

Aims: In order to increase maternal breast milk usage at discharge, we focused on increasing rates at day 28 of feeds. We aimed to increase use by 10% over six months.

Methods: The percentage of exclusive maternal breast milk feeds was recorded for babies born at <32 weeks gestation and/or less than 1500 grams at birth. This was noted for days 1, 14 and 28 of feeds and at discharge. A database of results was created and reviewed monthly. Strategies to drive change were implemented, including: 1. Involving breast-feeding coordinator to enhance milk production, 2. Improving access to breast pumps, 3. Distribution of manual expression equipment 4. Multidisciplinary team education.

Results: 110 babies met the population criteria. Rates of maternal milk usage increased on days 1,14 and 28 of feeds during 6 months. By 4 months of intervention, rates at day 28 had increased by 17%. However, there was no improvement in exclusive maternal breast milk use at the time of discharge noted during this 6 months.

Conclusion: An improvement in maternal milk usage for the at risk population, from initiation to day 28 of feeds was achieved. However, maintenance of this beyond day 28 remains a challenge. Further work is required to identify causative factors and consequently implement change.

FLIPPING PAEDIATRICS!

Kathryn C.A Ferris, Clare Thomson, Kieran McGlade and Dara B O'Donoghue

BACKGROUND AND AIMS: In restructuring the Year 4 Healthcare of Children module we wished to develop a course that represented integration between online classroom and ward; blended teaching not blended delivery. The teaching week was restructured and learning content divided into topics. New content was planned to complement and enhance existing talks creating an integrated online provision. Key to this was flipping lectures, putting didactic elements online freeing the face-to-face session for in-depth discussion and case exploration. Aiming to empower students to take responsibility for their own learning. Flipping lectures is a hot topic in medical education and the Healthcare of Children module has paved the way in introducing lecture flipping in Queen's University Belfast.

METHODS: Video cameras were taken to the hospital sites allowing clinicians to fit recording with their schedules. Training a F2 doctor to do recordings freed time for online content building and development given time constraints. Problems with consent and quality of historic media were addressed by filming new materials. Old paper cases were developed into online interactive cases with a greater emphasis on clinical skills and data interpretation.

RESULTS: The new course includes six flipped lectures. An emphasis on integration between online and face-to-face content reflects a truly blended approach. Focus groups with students and lecturers have highlighted the benefits and the difficulties associated with flipping the classroom.

CONCLUSION: Our results guide further development within the module but also have the potential to inform a true blended approach across the curriculum.

