combination of physiotherapy, medical agents and, occasionally, surgery.

An early and regular physical rehabilitation program is recommended with use of assistive devices such as ankle-foot orthoses.

As a first step, a trial of Dopamine should be considered if the diagnosis of HSP is in doubt. Furthermore some forms of HSP have shown response to Dopamine. Oral Baclofen is used as a first-line anti-spasticity drug followed by oral Gabapentin and Tizanidine. Intrathecal baclofen in selected patients has shown promising results; this should be considered early in eligible patients if oral medication is failing to achieve desired spasticity control or side effects limit oral dosing.

The evidence for the use of botulinum toxin in HSP is limited and unclear. Its benefits are greatest when combined with therapy and splinting. Diazepam can be used as an adjunct to other oral medications to improve symptom control.

Selective Dorsal Rhizotomy is not routinely offered for HSP and should only be considered for uncomplicated stable HSP when all other treatments have failed and quality of life is severely affected.

Conclusion Managing spasticity well in patients with HSP can immensely improve their quality of life. We propose a standardised referral and management pathway that summarises the approach to medical and surgical options for patients with HSP.

GP117 LUMBAR PUNCTURE PERFORMANCE AND THE PAEDIATRIC PATIENT, ONE HOSPITAL'S EXPERIENCE

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Aim To evaluate the frequency, indications, success rate and clinical impact on the performance of lumbar punctures (LP) in a paediatric population attending a general hospital.

Methods Utilising the Mayo University Hospital Microbiology database the number of CSF samples analysed was determined over a 1 year period. Failed LPs were determined using blood Polymerase Chain Reaction (PCR) testing as a surrogate marker of sepsis. Data abstracted included 1) age 2) indication for LP 3) physician performer 4) procedure quality 5) number of attempts 6) CSF analysis and 7) final diagnosis. The charts of those patients with blood PCR requested were reviewed to discern the indication for the test and an evaluation of why the LP procedure failed.

Results The number of procedures where CSF was obtained was 18, the indications for LP were a) 5 newborns with suspected sepsis, b) 2 neonates from home with fever without focus, c) 8 infants (29–90 days) with fever without focus and irritability, d) 3 over 3 months of age; 1 with 3 afebrile seizures and 2 with fever and an unwell appearance.

? Registrars performed 94% of the procedures ? Only 1 SHO attempted a LP but had a failed attempt ? The numbers of LP with 1 attempt was 15 (83%), 2 attempts 3 (17%). The number of atraumatic CSF was 15 (83%).

The final diagnoses on the CSFs were: 13 sterile cultures and 5 positive for viruses. Of the 7 children who had Blood PCR performed, 1 had LP attempted and failed after 2 trials in a child who later proved to have pneumococcal sepsis.

Conclusion LP is performed in infants rather than children. Consequently, attaining competency in LP performance will

elude many Basic Specialist Trainees on their general paediatric rotations. Teaching LP performance using simulation techniques is required. Although bacterial meningitis is rare nowadays, LP is still required to evaluate cases of suspected Serious Bacterial Infection especially if no focus is found after initial assessment.

GP118 FLUID PRESCRIBING FOR CHILDREN BY NON-PAEDIATRIC CLINICIANS

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Background The prescription and monitoring of fluids for paediatric patients has been very much in the forefront of paediatricians' minds within Northern Ireland over the last number of years.

Regional fluid prescription charts and guidelines have been created and compulsory learning modules, teaching and audits are common place within the paediatric setting, ensuring safe prescribing practices.

However paediatricians and paediatric trainees are not the only medical staff who may prescribe fluids for children. We aimed to examine whether doctors within other specialties who treat children are as aware or focused on the issues with paediatric fluid prescribing as we are.

Methods An anonymous questionnaire was handed out to emergency department and surgical doctors. Based on a simple, common paediatric presentation respondents were asked how they would prescribe bolus and maintenance fluids to include type of fluid, volume, rate of administration and monitoring. The answers given were assessed based on the regional paediatric fluid prescribing guidelines.

Results There were a total of 15 respondents (10 emergency department and 5 surgical) over a range of grades (F2/SHO/ST1/ST4/staff grade/specialty doctor).

27% respondents would prescribe inappropriate bolus fluid. 64% respondents would prescribe inappropriate bolus volumes. 47% respondents would prescribe inappropriate maintenance fluid. 40% respondents would prescribe maintenance fluids at an inappropriate rate. 36% respondents would check electrolytes too infrequently.

Conclusion This highlights that although much emphasis is placed on safe fluid prescribing within paediatrics the same weight may not be placed on this issue across other clinical specialties. Further teaching and training is required for all specialties involved in paediatric fluid prescribing to ensure patient safety.

GP119 ANTIBIOTIC STEWARDSHIP: DETERMINING THE EXTENT OF E. COLI RESISTANCE TO CO-AMOXICLAV IN CHILDREN WITH URINARY TRACT INFECTION IN MAYO UNIVERSITY HOSPITAL

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Introduction A urinary tract infection is an infection in any part of the urinary system. Common symptoms in children

are fever, dysuria, frequency, urgency, suprapubic tenderness and haematuria. Symptoms indicating upper UTI are loin pain, flank tenderness, fever and rigors. Common causative organisms are *Escherichia coli* followed by *Klebsiella*, *Enterococci*, *Proteus*, Coagulase negative staphylococci and *Staphylococcus saprophyticus*. If not managed adequately UTI has been considered a risk factor for the development of renal insufficiency, scarring and end stage renal disease in children. UTI may be suspected on the basis of clinical features or findings on urinalysis or both. A urine culture is necessary for confirmation and appropriate therapy. Nitrites and leukocyte esterase are usually positive in infected urine, WBC count > 100/cmm is highly suggestive of UTI.

Aim This audit aims to assess sensitivity and resistance of *E. coli* causing UTI in children admitted to Mayo University Hospital where children with presumed UTI are empirically treated with co-amoxiclav as first line therapy until culture and sensitivity results are available. The level of resistance to Co-Amoxiclav has been increasing over the years.

Methodology Retrospective cross sectional hospital based study of children admitted to the Paediatric Ward in Mayo University Hospital, with a primary diagnosis of UTI over a period of 12 months from the beginning of July 2016 to the end of June 2017. The list of patients with the diagnosis of UTI was obtained from the HIPE department of the hospital. Charts of children from birth up to the age of 15 years were reviewed.

Results During the study period, there were 93 admissions to the hospital with UTI. Children from 1–5 years of age were the most affected age group (39.8%) followed by those less than 1 year old (36.6%), females accounted for (74%) of cases. Fever (78.5%) and irritability (47%) were the most common presenting symptoms. The most common pathogen was *E. coli* (76%) followed by *Pseudomonas* and *Proteus*. Almost (44%) of cases of *E. coli* UTI were resistant to Co-Amoxiclav.

Conclusion There is high level of *E. coli* resistance to Co-Amoxiclav in our region. According to microbiology recommendations, a resistance of 20% is significant enough to warrant a change of practice. Due to high resistance in our cohort that has emerged over the last few years we advise updating departmental protocol and adding a second antibiotic.

GP120

BRONCHO-OBSTRUCTIVE SYNDROME IN EARLY CHILDHOOD. THE BREASTFEEDING AS A PROTECTIVE AND THE ANTIBIOTIC USE THROUGH THE FIRST YEAR OF LIFE AS A PREDISPOSING FACTOR

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The broncho-obstructive syndrome/BOS/is a common health problem in the early childhood. The frequency of 'wheezing' in infancy and its etiopathogenetic factors are very important for the likelihood of development of asthma.

The present research includes 131 children with 'wheezing' before the age of three years and 74 healthy children without similar symptoms.

The results of complex study of 33 etiopathogenetic factors for the development of BOS syndrome in early childhood shows 10 of them as most significant, including cow's milk

allergy, breastfeeding duration, period of introduction of milk formula, application of antibiotic through the first year of life.

The study confirms the importance of breastfeeding as a protective factor against the development of BOS in infancy/ $p < 0.05$.

It shows also the role of the early introducing of nutrition with milk formula/ $p < 0.1$ / and the antibiotic treatment throughout the first year of life/ $p < 0.001$ /as a predisposing factors for the occurrence of BOS.

The role of cow's milk allergy for the development of BOS/ $p < 0.1$ /shows the importance of breastfeeding and avoidance of the early introducing of milk formula too.

Except all other positive influences the group of the breastfeeding children needs significant less antibiotic use compared to the others/ $p < 0.005$.

In conclusion the long term of breastfeeding, the avoidance of the early introducing of milk formula and antibiotic use may help to reduce the early childhood 'wheezing' and probably its conversion into asthma later.

GP121

MAKE A LIST, CHECK IT TWICE: IMPROVING WRITTEN COMMUNICATION IN PAEDIATRIC OUTPATIENT DEPARTMENTS

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Aims This quality improvement initiative aimed to improve the quality of paediatric out-patient department (OPD) letters in a non-tertiary centre, by assessing adherence to a pre-designed layout. The Sheffield Assessment Instrument for Letters (SAIL) is an assessment tool that gauges written communication performance in the OPD setting. This pre-designed layout has been proven to improve the quality of clinic letters. We assessed its efficacy and looked at the uptake of this template over a year long period.

Method Clinic letters generated from consultant led general paediatric clinics over one year were retrospectively analysed via a hospital database. A checklist based on SAIL assessment tool was designed. This modified checklist included the following parameters; word count, NCHD grade, use of paragraphs, problem list. All doctors starting or continuing to work in the paediatrics outpatients department were introduced to the template system at the beginning of their clinic. We compared our numbers between each of the four interventions which included; education sessions and laminated template placement in each clinic room to assess our progress. We performed a comparative analysis on the uptake of this intervention following its initial introduction in January 2018 and its continued use from July 2018. Our main focus was on inclusion of problem lists and medication lists in the GP letter

Results Initial assessment: 51% (n=132) of the letters included problem lists. 19.3% (n=50) included medication lists. Post first intervention: 77% (n=94) had problem lists and 47% (n=57) had medication lists. A template was placed in all clinic rooms.

A year on: 78.9% (n=94) had problem lists. 31% (n=38) had medication lists. A repeat education session took place. Post third intervention: 88% (n=208) had problem lists and 58% (n= 136) had medication lists. Over all there was a