Buprenorphine's analgesic effect is due to partial agonist activity at mu-opioid receptors (ORs), and has very strong receptor affinity. It's also a kappa-OR antagonist. The unique activity of the drug as a partial agonist/antagonist at varying receptor sites, means that above a certain dose, employing other opioid receptor agonists as breakthrough (BT) analgesia, may perceptibly be ineffective.

Studies have looked at effectiveness of morphine sulphate and other mu agonists for episodic BT pain in patients receiving transdermal (TD) buprenorphine. With typical clinical doses, it is possible to use morphine sulphate or other mu agonists without loss of analgesia. Antagonism is felt to only be a concern at very high doses. The usual doses in practice, as cited by the Palliative Care Formulary (PCF), range from 10–40 mcg/hour. Evidence suggests the phenomenon may become relevant at doses exceeding approximately 66 mcg/hour.

This is poorly studied in children to date.

Aims

- The study aim was to ascertain, of children under review by Specialist Palliative Care (SPC) in a Paediatric Hospital, who were prescribed TD buprenorphine as their background analgesia: what dose(s) were used; BT analgesia; whether above cut-off dose cited, BT analgesia changed.
- With respect to our paediatric population on the higher doses of buprenorphine, to determine if there was loss of analgesic benefit with use of opioid agonist BT.

Methods

- SPC brainstorming session.
- Literature review.
- Liaising with in-house pharmacist in relation to local prescribing trends, Meeting with SPC pharmacist.
- Data generated from pharmacy records detailing patients in question.
- Demographics collected/kardexes studied.
- Chart review with on doses above 65 mcg/hr.
- Data was collected including PRN opiate choice/dose/changes to PRN opioid corresponding with up-titration of the buprenorphine, other non-opioid analgesics/pain scores.

Results Of 15 patients, one buprenorphine dose exceeded named cut-off dose. Oxycodone was breakthrough analgesic, from which he derived benefit. He had experienced opioid induced hyperalgesia on TD fentanyl, prompting rotation to buprenorphine.

Conclusions This study revealed one patient on agonists where they may not be advisable. He suffered no ill consequence. The review, albeit small patient numbers, was an insight into our prescribing in relation to buprenorphine. It may remind us to consider the mode of activity of commonly used medications in our practice, explain why in some instances, the BT medication of choice is not proving effective.

P176

BLOOD CULTURE IN CHILDHOOD COMMUNITY-ACQUIRED PNEUMONIA- WHEN SHOULD WE DO IT?

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Introduction It is recommended that blood cultures are collected from those with moderate to severe community-

acquired pneumonia (CAP)¹. Positivity of blood culture in childhood CAP is often quoted as <10%² and blood cultures are considered to be of limited utility as the organisms are rarely identified. Also, positive results often do not alter the choice of management. *Streptococcus pneumoniae* is cultured in the blood in <5% of cases of pneumococcal CAP cases³. Thus, this study is done to prove that we should not routinely be doing blood cultures in all children with CAP as it is more likely to cause an unnecessary burden to the care of the children.

Methods The total numbers of blood culture collected from paediatric age group patients were obtained from microbiology laboratory quality officer, and they were subdivided into those taken in the emergency department, paediatric assessment unit and also the general paediatric ward. Positive results were looked at, and the diagnoses were extracted from the patients' charts to see any of those were diagnosed as community-acquired pneumonia.

Results In total, from 1st January 2018 till 31st December 2018, there were 934 blood cultures taken from paediatric age group patients. There were 398 (42%) taken in general paediatric ward, 215 (3%) taken in paediatric assessment unit and 321 (34.4%) taken in the emergency department. However, there were only 40 (4.5%) positive blood cultures out of 934 samples sent. Eleven out of 40 (27.5%) positive cultures were treated as true positive cultures. Only one out of the eleven patients was diagnosed with *Streptococcus pneumoniae* CAP sepsis, and the patient has a background history of Trisomy 21. Most of the positive cultures were contaminants, and two were from patients diagnosed with CAP.

Conclusion Blood cultures should not be routinely taken from patients diagnosed with community-acquired pneumonia as there is a high prevalence of viral respiratory infection in children, and the probability of false-positive blood cultures that may lead to unnecessary repeat cultures, hospitalisation and parental distress. Special considerations should be taken into account when deciding to collect blood cultures from patients diagnosed with CAP such as from children with long-standing comorbidities that may complicate the course of the illness or children who presented with evidence of sepsis or complicated illness. More importantly, guidelines on when blood culture is necessary and when it should be repeated are crucial in ensuring a better quality of care.

P177

THE MODIFIED SARNAT SCORE IN THE ASSESSMENT OF NEONATAL ENCEPHALOPATHY: A QUALITY IMPROVEMENT INITIATIVE

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Introduction 'Neurophobia', the fear of clinical neurology by physicians, is widely acknowledged in the literature. The Sarnat Score is essential for the clinical designation of the severity of encephalopathy in neonatal patients. A recent review of therapeutic hypothermia cases (n=140) in the Republic of Ireland (2016–2017), highlighted incomplete documentation of the Sarnat Score in neonates with encephalopathy. On the first day of treatment, posture, tendon reflexes, tonic neck and moro reflexes were undocumented for 70%,

66%, 95%, and 64% of cases respectively. Level of consciousness, motor activity, muscle tone, pupil size and reaction to light were similarly inadequately documented.

This quality improvement initiative aimed to educate doctors in a tertiary neonatal unit regarding the importance of systematic evaluation and documentation of neonatal encephalopathy using the Modified Sarnat Score.

Methods An education session for all medical staff working in the neonatal unit was held, outlining the importance of appropriate use and documentation of the Sarnat Classification in clinical practice. Index cards were issued to all staff, describing the individual components of the score and those techniques necessary to elicit the relevant neurologic signs. A teaching video, demonstrating neurological assessment of a neonate using the Modified Sarnat Score, was recorded and uploaded to the official hospital website. Anonymous questionnaires were obtained to assess effectiveness of teaching.

Results In total, 17 Healthcare Professionals attended the education session, with a mean of 8 years experience working in Paediatrics. 58% (n=10) had previously received education on the Sarnat Score. 47% (n=8) had used the Sarnat Score previously in clinical practice. Lack of formal training on the score was the main reason cited amongst those who had not used the score previously. 23% (n=4) correctly identified the individual components of the score prior to education. 12% (n=2) correctly scored $\geq 80\%$ of the clinical scenarios provided. Following education, 71% (n=12) correctly scored $\geq 80\%$ of the clinical scenarios provided. All staff (n=17) found the education session informative, and felt more confident using the Sarnat Score following the session. 58% (n=10) felt that further education on the Sarnat Score was required.

Conclusion It is recognised that the neurological assessment of infants is challenging, particularly for inexperienced clinicians. The validated Sarnat classification system is a valuable resource in the clinical assessment of neonates with encephalopathy. This clinical tool provides physicians with a standardised approach to systematic neurological examination and documentation of pertinent neurological findings.

P178 DEVELOPMENT OF A CARE PATHWAY FOR CHILDREN WITH EDWARD'S SYNDROME

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Edward's syndrome (Trisomy 18) occurs in approximately 1 in 10,000 live births and is characterised by low birthweight, micrognathia, low-set ears, occipital prominence, clenched fists with overlapping fingers, rocker-bottom feet, cardiac and renal anomalies and developmental delay.

In the past Edward's syndrome has been regarded as a lethal condition, with little intervention other than comfort care being offered following delivery. However, it has become clear that with medical intervention the prognosis for children with Edward's syndrome is better than previously thought, with 5 -10% surviving beyond their first birthday.

Paediatricians have the challenge and the opportunity of helping families face an uncertain future and should engage collaboratively with them to focus on positive life-goal management plans, hopes and aspirations. However some doctors

may feel unprepared to manage children these children and have been criticised by parents who say they have focused too much on end-of-life plans, not giving their child a fair chance and creating 'self-fulfilling prophecies' limiting a child's chances.

Along with professionals and parents we have developed guidelines to assist health professionals, giving them a framework for the management of children with Edward's syndrome to try to ensure high quality, evidenced based practice for each individual child. The guideline includes management following diagnosis (antenatal or postnatal); care of mother and baby following delivery; discharge planning; follow up in the community; care in the first weeks, months and year of life; and care of the older child.

The guideline, which will be presented, aims to aid both paediatricians and parents. Ideally parents should feel that as their child grows and develops an individualised care plan is in place and they are clear as to what is going to happen in the future in order to support both them and their child.

P179 PROMOTING AWARENESS OF CLEFT CARE: IMPROVING COLLABORATION & COMMUNICATION

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Background Cleft lip and/or palate affects approximately 1 in 700 live births worldwide. 50% of the Irish cohort present as a cleft of the palate alone. Up to a third are not detected within the first 24 hours of life. Averages of 60% with lip involvement are diagnosed on antenatal scanning. Cleft Teams accept referrals upon diagnosis, collaborating and communicating with local services on a Hub & Spoke model to provide care. Delays in diagnosis and referral times can have a negative impact on the child and family. Some 400 syndromes are associated with clefting, most within the rare diseases category, and may not be diagnosed until months or years after birth.

Aims

- Promote awareness of how cleft care is organized in Ireland.
- Encourage enhanced collaboration & communication with local hospital and community based services to improve diagnosis rates and referral times.
- Highlight the need for on-going monitoring by key health care professionals (HCPs).

Methods

- Audits of timing of diagnosis demonstrated.
- Interventions planned by the Cleft Clinical Nurse Specialist (CNSp) detailed.
- Areas for improved working links are discussed.

Results On-going audit demonstrates upward trends in diagnosis rates – 82% diagnosis in the 1st 24 hours of life for 2018 birth cohort with cleft palate only. Education sessions provided by the CNSp to HCPs have received positive feedback. Liaison with Public Health Nurses is proving successful for weight monitoring and cleft surgery planning.

Discussion Although cleft is a specialist area of practice it affects on average 80 families a year in the Republic of Ireland. The Cleft CNSp has a role to educate and collaborate