Clinicians reported benefit from students assisting with their service development project. Supervisors agreed that the teaching freed up time thus lessening the pressure of their clinical duties.

Conclusion Innovative approaches to placement models can be beneficial for both students and clinicians. The hybrid model approach should be considered to continue expansion of placement numbers, whilst maintaining a high standard of learning and promote non-clinical skills in preparation for the transition to qualified practitioners. In future, further placements should be implemented with continued feedback collection.

62 THE BECKWITH WIEDEMANN SYNDROME (BWS) TONGUE REDUCTION INTEGRATED CARE PATHWAY (ICP) PROJECT

Nick Sullivan, Sophie Grout, Johanna Andersson. *Great Ormond Street Hospital for Children NHS Foundation Trust, UK*

10.1136/bmjpo-2023-GOSH.54

BWS is a congenital overgrowth syndrome with a prevalence of 1 in 14,000. GOSH has been the Nationally designated BWS surgery service since 2012. This project involved a year-long collaboration between the EPR team, Transformation team and nursing staff to incorporate the Integrated Care Plan (ICP) into Epic. Feedback from parents on the ward said that the staff were lovely and very friendly, but knowledge of the condition could have been better due to some instances of missed analgesia. Over 90% of ward staff agreed adding ICPs directly into Epic was a good idea and only half of staff surveyed said they felt confident looking after these patients. Therefore, we also planned to deliver nurse education as part of the wider ICP project rollout.

The aim of this project was to:

- Standardise care on the post operative ward
- Reduce risk and variation in care
- Improve discharge
- Use the BWS service as a trial for EPR based ICPs before developing for other services that also used ICPs, but not built into Epic.

Results

- As of August, up to 40 Panther Ward nurses have been taught and the ICP project explained. This is over 80% of eligible staff.
- Since the 2nd iteration of using EPR ICPs in a live environment 100% of patients have had a completed ICP within their nursing documentation.

Conclusion

- We will continue to rollout and develop the ICP usage within the BWS service and other ICPs in other areas are now being developed, such as the tracheostomy ICP.
- Post operative nursing care has now been standardised for BWS surgery patients.
- Nurses have a greater knowledge of the condition which has also helped with patient satisfaction and outcomes.

65 AUTOMATIC EXTRACTION OF STRUCTURED INFORMATION FROM CARDIOLOGY MRI REPORTS

[1]Sebin Sabu, [1]Pavithra Rajendra, [1]Andrew Taylor, [2]Alexandros Zenonos, [2]Rebecca Pope, [1]Neil J Sebire, [1]Anastassia Spiridou, [1]Daniel Key, [1]Shirin Patel. *[1]DRIVE, Great Ormond Street Hospital for Children NHS Foundation Trust, UK; [2]Roche Products Ltd, UK*

10.1136/bmjpo-2023-GOSH.55

Background Cardiac MRI reports contain rich structured information that can be valuable for research. However, such information is present only in documents (e.g., PDFs, Word) requiring manual extraction. Manual extraction of important clinical information from these reports is time and resource consuming, in a health service under intense pressure. We are developing an AI tool that accelerate automation of processing large volumes of reports and provides structured data. This data then can be easily accessible for research and other uses. The automated AI approach brings significant savings compared to the manual effort that would have required otherwise to input the data into a standard structured format, specifically for cardiac MRI reports.

Methodology Our AI tool makes use of natural language processing techniques (NLP), a subfield within artificial intelligence, which enables machines to understand human language. Our NLP-based pipeline, developed initially as a proof-of-concept, consists of: (1) automatically processing large volume of documents extracting various information (e.g., file details, sections, tables), (2) automatically extracting key information (e.g., patient details, checks, measurements). The above two sub-pipelines are modularised for usage beyond the scope of this project for processing other types of reports or documents. The pipeline incorporates several methods that range from conducting a simple logic step (e.g., rule-based) to complex NLP-based approaches (e.g., using large language models) within a fully automated and optimised flow.

This tool will be deployed in the new GOSH DRE development environment for processing approximately 10,000 cardiac MRI reports.

This project has been completed by Great Ormond Street Hospital NHS Foundation Trust and Roche Products Ltd as part of a collaborative working agreement. Roche Products Ltd had no influence on the results or decision to publish regarding this work.

70 REVIEW OF CURRENT CLINICAL PRACTICE IN GENETIC TESTING FOR PRADER WILLI SYNDROME

[1]Ratha Sritharan, [2,]Deborah Morrogh[2]Zoe Allen, [1]Shereen Tadros, [1]Lara Menzies. *[1]Clinical Genetics, Great Ormond Street Hospital for Children NHS Foundation Trust, UK; [2]Great Ormond Street Hospital for Children NHS Foundation Trust, UK and North East Thames Regional Genetics Service, UK*

10.1136/bmjpo-2023-GOSH.56

Introduction Prader-Willi syndrome (PWS) is a multisystem genetic disorder arising from lack of expression of paternally inherited imprinted genes on chromosome 15q11-q13.[1] The characteristic phenotype includes severe neonatal hypotonia, hyperphagia and childhood obesity, short stature, hypogonadism, learning disabilities and behavioural difficulties.

The evolving phenotype from birth to adulthood means that age-dependent diagnostic criteria are helpful to guide genetic testing.[2] Early diagnosis is pertinent due to emerging therapeutic benefits from prompt initiation of growth hormone including increased height, muscle mass, bone density and stamina, with decreased body fat.[3]

Objectives We performed an audit of PWS methylation requests and PWS diagnostic microarray by the North Thames Genomics Laboratory Hub from 2019-22, to better understand current PWS testing practice.

Results 59 tests were performed, identifying 28 patients with PWS (47% diagnostic yield). 50 patients for whom testing was requested met diagnostic testing criteria.[2] Much of the test cohort comprised neonates with hypotonia, demonstrating this is a key early feature of PWS.[2] Furthermore, 93% (25) of the diagnosed PWS patients presented with hypotonia.

However, under 50% of patients negative for PWS were referred to Clinical Genetics for further review. As per the National Genomic Test Directory, hypotonic neonates are eligible to have the R69 Hypotonic infant genetic test set[4] yet this was undertaken in just 13% of hypotonic infants.

The main features in those tested for PWS above two years was obesity, hyperphagia and intellectual disability. From available data, we identified 8 patients with PWS on growth hormone, however only 1 patient started under 3 months old.

Conclusion PWS should always be considered in neonates with hypotonia, as part of the R69 hypotonic infant screen. Methylation testing should also be considered for children/adolescents with obesity and learning difficulties. Early diagnosis of PWS enables early intervention with growth hormone, with important therapeutic benefits.

REFERENCES

1. Elena G, Bruna C, Benedetta M, Stefania DC, Giuseppe C. Prader-willi syndrome: clinical aspects. *J Obes*. 2012;**2012**:473941. doi: 10.1155/2012/473941. Epub 2012 Oct 23. PMID: 23133744; PMCID: PMC3486015.
2. Butler MG, Miller JL, Forster JL. Prader-Willi syndrome – Clinical genetics, diagnosis and treatment approaches: an update. *Curr Pediatr Rev*. 2019;**15**(4):207-244. doi: 10.2174/1573396315666190716120925. PMID: 31333129; PMCID: PMC7040524.
3. Passone CGB, Franco RR, Ito SS, Trindade E, Polak M, Damiani D, Bernardo WM. Growth hormone treatment in Prader-Willi syndrome patients: systematic review and meta-analysis. *BMJ Paediatr Open*. 2020 Apr 29;**4**(1):e000630. doi: 10.1136/bmjpo-2019-000630. PMID: 32411831; PMCID: PMC7213882.
4. National genomic test directory, Rare and inherited disease eligibility criteria. 1 June 2023 Version 5.2, www.england.nhs.uk/publication/national-genomic-test-directories/

73 CHALLENGES OF USING FITBIT TO CAPTURE PHYSICAL ACTIVITY IN AMBULATORY CHILDREN AND YOUNG PEOPLE WITH CEREBRAL PALSY

Deepti Chugh, Lucy Alderson. *Great Ormond Street Hospital for Children NHS Foundation Trust, UK*

10.1136/bmjpo-2023-GOSH.57

Background Mainstream wearable technology has potential to measure walking in real-world settings in children with cerebral palsy. It can determine the pattern of physical activity and give insight into the trajectory of change following treatments, where the goal is to improve functional mobility. The primary objective of this study was to determine the feasibility and accuracy of using Fitbit Alta activity monitors in children with cerebral palsy.

Methods Patient and Public Involvement activities with children with cerebral palsy and their parents explored the acceptability of using a fitness tracker for 3-6 weeks within a proposed research study to investigate change in physical data following an intervention. The wrist-based Fitbit monitor was preferred over the research-grade accelerometer. Fifteen children with ambulatory cerebral palsy wore Fitbit on their wrist during the 6-Minute Walk test (6-MWT). GMFCS level II= 10 and III= 5. Age range 4y 9m to 10y 10m. All children were asked about their experience of wearing Fitbit.

Results Children aged seven years and above were enthusiastic about wearing Fitbit over longer durations. Younger children (under 7yrs) were less keen or did not tolerate it. In children with GMFCS level III, who walked using a posterior walker with short step length, the step count on Fitbit was less than the distance walked. Fitbit was more reliable in capturing step counts in children with mild difficulties in walking. However, compared to the distance walked in the 6-MWT, the Fitbit step count appeared to be an underestimation. Furthermore, due to technical issues, in 4 children, the step count was not recorded.

Conclusion The use of Fitbit in children with ambulatory cerebral palsy did not seem feasible in children who use walking aids, especially in younger children. Further longitudinal exploration in children with cerebral palsy who can walk without using walking aids is indicated.

Acknowledgements for funding or support This project was carried out as part of the NIHR Pre-doctoral Clinical Academic Fellowship, funded by the HEE/NIHR Integrated Clinical and Practitioner Academic programme.

74 AIRWAY TOPICALISATION FOR PAEDIATRIC MICROLARYNGOBRONCHSOSCOPY (MLB) AND OTHER AIRWAY PROCEDURES: REVIEW OF LOCAL PRACTICE AND CREATION OF A NEW STANDARD OPERATING PROCEDURE (SOP)

[1]Katherine Harvey-Kelly, [1]David Reicher, [1]Alice Miskovic, [2]Katherine Brooks. *[1]Great Ormond Street Hospital for Children NHS Foundation Trust, UK; [2]Barts Health NHS Trust, UK*

10.1136/bmjpo-2023-GOSH.58

Background Airway topicalisation with local anaesthetic (LA) is common in paediatric anaesthesia to facilitate endoscopic airway procedures, reduce perioperative complications and provide analgesia. Topicalisation has a risk of LA toxicity and aspiration, however, guidance on LA dosing and fasting duration is limited. A review of literature and local practice was done to standardise nil-by-mouth time and advise on LA dosing via a SOP.

Methods Records of patients who underwent MLB at GOSH between September-December 2021 were reviewed. LA dose, fasting instructions, time nil-by-mouth and complications were recorded. A departmental survey was also undertaken to identify individual practice. Based on findings a SOP was introduced in November 2022 and a re-audit completed In July 2023.

Results 224 records were reviewed, with no recorded episodes of LA toxicity, aspiration or intraoperative complications. 1% and or 4% lidocaine were used in all cases with 2-3mg/kg (0.37-5.7) used in 72% of cases. Fasting instructions were undocumented in 23% of cases. Fasting times varied from 20