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Oral Presentation – Thursday 09.10-09.15
General Paediatrics

THE HAPPINESS TOOLKIT: A NOVEL MODEL OF CARE FOR CHILDREN WITH EMOTIONAL AND BEHAVIOURAL DIFFICULTIES IN THE OUTPATIENT SETTING

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Aims: This study aimed to explore whether the 'Happiness Toolkit' was effective in helping children with social-emotional and/or mental health difficulties and their families to engage in positive mental health practices, and whether this could boost self-esteem, develop resilience, and promote positive mental health in these children while they await assessment from psychology or psychiatry services.

Methods: After ethical approval was received, this prospective pilot study was conducted in paediatric outpatient clinics at Mullingar Regional Hospital over 4 weeks. A total of 56 children attended these clinics, all of whom agreed to participate, after they and their parents received information leaflets about the study. All 56 children were screened with the ASQ: SE2 or PSC on presentation, and a total of 20 patients screened positive for social-emotional or mental health conditions. A therapeutic alliance was established, a detailed history and physical exam were taken, and the toolkit was explained by the clinician in detail. Data was collected in a pseudo-anonymised fashion, and parents were contacted 4-6 weeks later to complete a structured questionnaire.

Results: Of the 20 patients participating in the study, 10 (50%) were awaiting psychology/psychiatry intervention, and 50% had been waiting for more than one year. A total of 90% of patients reported improvements in their symptoms at follow-up, with 10% reporting no change. Most parents reported feeling their relationship with their child had improved and that their child was more open with them. Parents of children with ASD and intellectual disabilities found the toolkit somewhat difficult to use. Some patients found the toolkit hard to fit into their busy daily schedule.

Conclusion: This study has highlighted the effectiveness of "The Happiness Toolkit" in enhancing and supporting the mental health of children with social-emotional and/or behavioural and mental health conditions in the outpatient setting.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.15-09.20
General Paediatrics

EMERGENCY DEPARTMENT UTILIZATION AMONG ADOLESCENTS AND YOUNG PEOPLE: A MULTI-SITE RETROSPECTIVE COHORT ANALYSIS

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Aims: The objective of this study is to describe presentation of adolescent and young people to a regional and tertiary paediatric emergency service, encompassing paediatric emergency departments and an urgent care centre within a hospital group, a national referral centre and multi-university-affiliated institution.
Methods: We carried out a multisite retrospective cohort analysis. Patients were identified using Symphony™. We included all patients who presented to the paediatrics emergency department after their 12th birthday from January 2022 to December 2023 (2 years). All patients were triaged using the Irish Children's Triage Score. Data was analysed using Microsoft Excel and R studio software.
Results: Over 2 years, a total of 51858 patients were identified. The age range was 12 to 23 years old (Median=13), with 98% of patients between 12 and 16 years old. 54.88% were male, 45% female and 0.08% (43) undisclosed gender. The most common presentation were injuries (32%), specific pain 8.04% (including abdominal, back pain, headache, chest pain and unclassified pain), mental health (4.97%) and gastroenterology issues (4.45%). 12 patients presented in cardiac arrest (0.02%). 2.79% of the patients were triaged category 5, 42.3% triage category 4, 33.3% category 3, 19.8% category 2, 1.32% category 1. 65% of patients were discharged without further follow up, 10.44% discharged with follow up and 9% were admitted.
Conclusions: This is the first study in Ireland describing the demographics, presenting complaints and admissions rates for young people with unscheduled visits to a regional and tertiary paediatric emergency department. Adolescents and young people have unique needs that may not always be adequately resourced in paediatric emergency departments[1]. The results highlight the most common presentations of this subgroup of patients, with injury and pain being the most common. This study will inform areas for development for services for young people in the following years[2].

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.20-09.25
General Paediatrics

RSV BURDEN ON IRELAND'S TERTIARY CHILDREN'S HOSPITALS:AN IN-DEPTH WINTER 2023/2024 REVIEW

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Aim:
Respiratory Syncytial Virus is a major cause of respiratory infections in infants, especially during autumn and winter, when healthcare systems are already burdened. The impact of RSV on the paediatric population, their families, and our healthcare system has not been evaluated, and is likely underestimated in the Republic of Ireland. Our aim was to quantify RSV-positive admissions at Children's Health Ireland (CHI) at Crumlin and Temple Street during the RSV season from October 2023 to January 2024 and analyse patient demographics, length of stay, and assess the impact on healthcare resources and costs.

Methods
This retrospective cohort study examined paediatric RSV hospitalizations from October 10, 2023, to January 9, 2024, with ethics approval (Rec-421-24). It included PCR-confirmed RSV cases, & excluded repeat admissions to CHI within 5 days. Data was collected from the HIPE database for ward admissions and an electronic HCR for PICU admissions, followed by detailed chart reviews.

Results
The study identified 869 patients: 712 at the ward level and 157 at the PICU level. Bed days totalled 3224 days (8.8 years) with total costs exceeding €6 million approx. for this time period. The peak in admissions occurred in November, which led to a 61% reduction in elective surgeries and over 100% PICU occupancy. Most patients (55.2%) were under 6 months old, and 16% were born in October.

Conclusion
The RSV surge has heavily strained the already overburdened healthcare system, impacting admissions and service delivery. The data highlights the need for improved preparedness during peak RSV seasons. Importantly, 43% of RSV admissions were for infants born before October 2023. With the HSE launching the RSV immunization program this year, we believe that medical professionals can use our data to promote and encourage families to participate in the program

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.25-09.30
General Paediatrics

IMPROVING HISTORY-TAKING IN CHILDREN PRESENTING WITH COUGH - A QUALITY IMPROVEMENT PROJECT

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Aim: *To evaluate the impact of a cough proforma on the quality of ascertained histories in children presenting with a primary symptom of cough.*

Methods: An idealised cough proforma was developed supported by studies and clinical guidelines. It comprised of 35 questions under six domains, namely **i)** an idealised cough history, **ii)** associations and impact on activities, **iii)** development, feeding and co-morbidities, **iv)** pertinent family history, **v)** red flags and **vi)** medication utilisation and impact. The quality of the cough history was evaluated utilising data abstracted retrospectively from the charts of a sequential series of 50 children who attend the asthma clinic with a primary symptom of cough and compared to the proforma. An educational session facilitated implementation of the proforma. Subsequently 50 children with a primary symptom of cough were evaluated prospectively using the proforma.

Results: The data was entered and analysed on MS Excel and Prism GraphPad. The mean age of the retrospective group was 6.53 years and of the prospective was 6.72 years. We report the relative frequencies of the 35 answers documented in the retrospective versus the prospective cohort as follows: for *<25%* of the time an answer was recorded, 24 questions retrospectively versus 0 prospectively; for *between 26 and 50%*, 4 questions retrospectively versus 0 prospectively; *for 51 to 75%*, 5 questions retrospectively versus 8 prospectively; and *for >76%*, 1 question retrospectively versus 26 prospectively.
Contingency tables were drawn up for the number of times an answer was documented for a question in each cohort, and the chi-squared test and Fischer exact test run on them. The p-values derived were significant for all but two variables (Timing and Family history).

Conclusion: The cough proforma enhanced the documentation of the cough history in children. It can be utilised as a data-gathering tool for trainees.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.30-09.35
General Paediatrics

PREDICTORS OF APPROPRIATE REFERRAL TO A PAEDIATRIC NEURODISABILITY CLINIC FOR IMPROVED OUTCOMES

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Aims
Children with developmental concerns are often referred to hospital-based paediatric clinics, leading to unacceptably long waiting lists. We aimed to investigate patient characteristics predictive of appropriate referral to a paediatric neurodisability service to support development of clinical guidelines.

Methods
The clinical features of children seen in the outpatient neurodisability clinic during a waiting list initiative in 2021 were collected onto a spreadsheet. Referral appropriateness was gauged using surrogate outcomes, namely whether the patient was offered testing for genetic anomalies and nutritional deficiencies, and clinic follow-up. Univariate logistic regression analyses were carried out to identify potential predictors of investigation and follow-up, which were then used as covariates in multivariate logistic regressions.

Results
Our cohort included 200 children (134 males) with mean age 6.7 years. 81.9% of referrals were from physicians. The mean wait time was 25 months. Investigations were offered to 31.5% of children, with genetic anomalies and nutritional deficiencies found in 10.5% and 21.1% of children investigated, respectively. Clinic follow-up was offered to 26.0% of children. Significant univariable predictors of investigation were age, autism, dyspraxia, intellectual disability/global developmental delay (ID/GDD), pre-existing diagnosis, relevant medication, family history, and clinic follow-up. Of these, ID/GDD (OR = 5.15, p = 0.002), pre-existing diagnosis (OR = 2.38, p = 0.036), family history (OR = 3.02, p = 0.003), and clinic follow-up (OR = 2.53, p = 0.025) remained significant in multivariate analysis. Significant univariable predictors of clinic follow-up were male sex, age, dyspraxia, and months waiting. Dyspraxia (OR = 0.13, p = 0.013) and months waiting (OR = 0.96, p = 0.043) remained significant on multivariate analysis.

Conclusion
The rate of investigation and follow-up in our clinic cohort was low, suggesting a high volume of inappropriate referrals. Our findings help elucidate factors conducive to appropriate referral to a paediatric neurodisability service.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.35-09.40
General Paediatrics

HEARING LOSS PANEL ON HISTORICALLY UNDIAGNOSED CASES

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Introduction: Paediatric hearing loss can be genetic or non-genetic. Mainstreaming Hearing Loss (HL) genetic panel testing is indicated for children with bilateral HL.

Aims: Identify children with permanent childhood hearing loss (PCHL) whose aetiology is unknown prior to the introduction of HL panels. Practical advantages of HL panels.

Method: Retrospective review of the aetiological assessment for children with PCHL attending the Deaf-and-Hard-of-Hearing (DHH) clinic in CGH, since June'21.

Results: 46 children attended DHH clinic. 2 excluded for incomplete data. 44 patients included.

Original BAAP 2015 protocol (Connexin only): 34 children
- 10 male, mean age of presentation 6.8years.
- Unilateral PCHL: 13
  - Known aetiology (non-genetic): 8
  - Unknown aetiology: 5
- Bilateral PCHL: 21
  - Genetic: 12 (57%; 29% without HL panel)
    - Connexin: 6
    - Not Connexin: 6
      - Subsequently mutations identified on HL panel.
  - Non-genetic: 1
  - Unknown aetiology: 8 (8 out of 21, 38%)

HL panel (from June'23): 10 children
- 4 male, mean age of presentation 7.6years.
- Unilateral PCHL: 1
  - Known aetiology (non-genetic causes): 0
  - Unknown aetiology: 1
- Bilateral PCHL: 9
  - Genetic: 8 (89%)
  - Non-genetic: 0
  - Unknown aetiology: 1 (1 out of 10, 10%)

Discussion: Our review identified several advantages of mainstreaming hearing loss panel for PCHL:
- Quick turnover, 6-weeks hence reduced diagnostic delay
- Cost saving, reducing referrals for ophthalmology and MRI IAM/Brain
- Identify aetiology for histologically negative cases – 6 of 7 cases from original BAAP 2015 era

Conclusion:
More aetiology was identified with panel testing as compared with single gene testing. We would like to make a case to offer hearing loss panel to historically negative patients.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.40-09.45
General Paediatrics

THE POST PANDEMIC VIRAL SURGE AND ITS IMPACT ON A REGIONAL PAEDIATRIC HIGH DEPENDENCY UNIT (PHDU), JULY 2020-JUNE 2024

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Aims: The Paediatric High Dependency Unit (PHDU) at University Hospital Limerick (UHL) has been in place since prior to the COVID-19 pandemic. This study analyses the evolution in viral patterns of those admitted to PHDU in the post pandemic era.

Method: A retrospective analysis of 538 PHDU admissions, microbiological and discharge records from July 2020 - June 2024.

Results: 429 patients (79.7%) had PCR testing, 251 (58.5%) of these identified a pathogen and 99 (23.1%) had a negative narrow viral panel (COVID19, RSV, Flu A, Flu B). Rhino/enterovirus was commonest n=106 (42.2%), followed by RSV n=64 (25.5%). During 2020/2021 there were 0 admissions for RSV, rising in 2021/22 to 20, 17 in 2022/23 and 27 in 2023/24. Median age at PHDU admission with RSV was 3 months 2021/22 dropping further to 2 months in 2023/24.
Rhino/enterovirus admissions climbed on average 15.2 per year from 2020 to 2024 (p=0.02), as did human metapneumovirus (2.9 per year [p=0.01]) and non- SARS-CoV-2 coronavirus (2.1 per year [p=0.02]). RSV PHDU admissions (n=64) were concentrated in November and December n=54 [84.4%]. RSV positivity as a proportion of all positive tests dropped from 21% in 2021/2022 to 16% in 2023/2024. A Logit regression model, controlling for age, gender, weight and year, showed RSV was strongly predictive of a CPAP requirement (OR 12.07 p <0.0001).

Conclusions: Viral patterns have evolved significantly over the last 4 years. RSV rapidly re-emerged as a dominant pathogen and remains strongly associated with high support requirements. The rise of other viruses among the PHDU population relative to RSV may be due to increased testing, however, RSV positivity has dropped as a share of all tests indicating this is not the sole factor. This study will form a baseline for assessment of the impact on PHDU of the introduction of Nirsevimab immunisation.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.45-09.50
General Paediatrics

FACTORS AFFECTING NIRSEVIMAB UPTAKE IN FIRST MONTH OF INTRODUCTION IN REGIONAL HOSPITAL MULLINGAR

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Aims: Respiratory syncytial virus (RSV) is the most common cause of bronchiolitis and pneumonia in children under 1 year in Ireland, with 1 to 2 out of every 100 infants < 6 months with RSV needing admission.[1] Nirsevimab, a monoclonal antibody against RSV, was introduced in Ireland in 2024 to be offered to all infants born at the beginning of RSV season. Multiple international clinical trials have shown Nirsevimab to reduce RSV related hospitalisations by 80%. [2] This analysis aims to review the uptake of Nirsevimab in the first month of introduction and identify factors which may have affected uptake.

Methods: This is a retrospective analysis of Nirsevimab uptake on the postnatal ward. Numbers of all babies born, those who received and those who did not receive the vaccine were documented. Nirsevimab consent forms were used to collect data on mothers age, parity, babies gestation and information provided to mothers

Results: All infants included were above 36 weeks gestation. 100 infants received Nirsevimab and 26 infants' parents declined it. Of those mothers who declined it, average age was 29.9 years (range 17 to 43). 69% were Irish, 3.8% Irish Traveller and 26.9% were of other ethnicity. 42% of those who declined were multiparous women, 26.9% were primips and 30.7% were unknown.

Conclusion: There was a 79.3% uptake rate of Nirsevimab in our unit in September 2024. Results are in line with speculation from Fitzsimons et al which showed that 78% of parents would definitely or likely get RSV immunisation.[3] As data emerges, we plan to compare data with national records and examine trends to establish methods to increase uptake. One conclusion is that a discussion regarding Nirsevimab should be had by Paediatrics with parents on discharge check.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.50-09.55
Sub-Speciality

Management of Naevus Sebaceous among Irish Dermatologists and Plastic Surgeons

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Introduction:
Naevus Sebaceous (NS) is a congenital cutaneous hamartoma, most commonly located upon the head and neck. Historically, excision was recommended due to potential for malignant transformation. Recent studies have suggested risk for malignant transformation is <1% and unlikely in childhood (1).

Methods:
A questionnaire was distributed to Irish Dermatologists and Plastic Surgeons registered with IAD and IPS via e-mail address, to investigate current management practice of Naevus Sebaceous in Ireland.

Results:
Our questionnaire had 55 responses: 27.3%(n=15) were Consultant Dermatologists, 25.4% (n=14) Dermatology SpR/Registrars, 34.5 %(n=19) were Consultant Plastic Surgeons and 12.7% (n=7) Plastic Surgery SpR/Registrars. Only 36.4%(n=20) indicated they were 'Very Confident' in NS detection. Only 27.3%(n=15) of respondents routinely recommend excision of NS – with 50%(n=13) of Plastic Surgeons and 6.9%(n=2) of Dermatologists recommending excision (p=0.0003). Most common indication for routine excision was potential for malignant transformation, as indicated in 93.3% (n=14) of responses. Other indications included cosmesis and functional impairment e.g. hair loss. Only 18.2%(n=10) of respondents indicated their practices in management of NS to have changed in the last 10 years. Less than half (41.8%, n=23) of respondents provide an information leaflet to patients; including 7.7% (n=2) in Plastic Surgery and 72.4%(n=21) in Dermatology (most commonly DermnNet or BAD).

Discussion:
Our study demonstrates that there is significant variation in the management of Naevus Sebaceous in Ireland, notably between plastic surgeons and dermatologists. It is important to have standardised care across Ireland, and we thus advocate for the development of evidence-based guidance for treatment of naevus sebaceous.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 09.55-10.00
Medical/Education Management

FOUNDATIONS IN PAEDIATRICS: EVALUATING THE USE OF PODCASTING AS AN ADJUNCT LEARNING STRATEGY IN TEACHING PAEDIATRICS AMONG MEDICAL STUDENTS

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Aims: Podcasting is a digital resource whose use in medical education and clinical training is growing rapidly. We examined the patterns of use, perceived acceptability and usefulness to medical students of a specifically designed paediatric podcast series.
Methods: Ten brief audio-only English language podcasts were created as an adjunct learning strategy to complement the existing module curriculum. Podcasts were produced by departmental faculty in collaboration with medical students, with a two-stage peer review process. Closed-captioning (CC) was enabled. Patterns of use and learning styles were determined by anonymous survey offered to all students in the final rotation of the academic year.
Results: Total number of downloads over 5-week period was 284. 66 of 74 students responded to the survey (89%). The population surveyed was diverse, with 38 (58%) of respondents being non-native English speakers. Overall, there were high levels of satisfaction regarding audio quality and ease of use. 49 (74%) students listened to at least one podcast episode (mean 6 episodes). Students reported listening during a variety of activities, with 29 (59%) listening 'on-the-go', while commuting. Only 9 (18%) listened solely during "dedicated study time". 37 (76%) agreed the podcast helped them to learn core topics. Option for CC was used by 19 (39%) with 14 (74%) rating it *"useful"*. 32 (65%) reported they *"felt a greater sense of community and connection within the [overall] module"* from listening to the podcast series. The most frequent reason cited for lack of engagement was *"Not enough time"* 16 (94%).
Conclusion: Podcasts are a welcome additional learning resource for a diverse cohort of medical students undertaking their Paediatrics rotation. Medical student preference for learning outside of dedicated study time demonstrated in this study represents a change in trend from previous research [1] and likely reflects societal trends in consumption of digital content.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 11.20-11.30
General Paediatrics

5-YEAR REVIEW OF ATTENDANCES BY CHILDREN AND ADOLESCENTS FOR A FORENSIC MEDICAL EXAMINATION

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Aims: This retrospective cohort study examines referrals, victim characteristics, perpetrator profiles, and the service provided to children and adolescents by the Forensice Medical Examination (FME) service at the Laurels Clinic in Dublin. The goal is to identify risk factors and patterns of abuse to inform prevention efforts and improve recognition and response to concerns of Child Sexual Abuse (CSA).
Methods: Data from child protection reports of 448 children who attended the FME service between January 2018 and December 2022 were analysed. Ethical approval was obtained, and data collection followed STROBE guidelines. Descriptive statistics evaluated demographics, assault characteristics, disclosure patterns, and clinical findings.

Results: Of the 448 patients, 79% were female, with 37.3% aged 5-11 years. A majority disclosed their abuse 68.3%, with younger children and males less likely to disclose. Penetration was disclosed by over 50% of adolescents but only 6% of children under 5. Nearly half (49.1%) exhibited behavioural changes, particularly sexualised behaviours in younger children. Most abuse occurred at home (23.8%), and 30.6% of cases involved blended families. Perpetrators were predominantly male (77.9%), with 10.8% being children, an increasing trend during the study period.

Conclusions: The study highlights risk factors for child sexual abuse, including middle childhood age, disabilities, and blended families. The study emphasises the importance of early detection and prevention programs, particularly for younger children, due to the rise in young perpetrators. Expanded FME services and prospective data collection are recommended for improved care and support.

Faculty of Forensic and Legal Medicine (FFLM) and the Royal College of Paediatrics & Child Health (RCPCH), "Service specification for the clinical evaluation of children and young people who may have been sexually abused," RCPCH, London, 2015. Von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. The lancet. 2007 Oct 20;370(9596):1453-7.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 11.30-11.40
Sub-Specialty

DEVELOPMENT OF A NOVEL PROTOCOL FOR ASSESSING BASOPHIL AND NEUTROPHIL ACTIVATION IN RESPONSE TO ALLERGENS USING FLOW CYTOMETRY

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Aims
Allergic reaction severity is unpredictable and may be influenced by co-factors including illness, exercise and medications. Human and mouse models show that neutrophils are activated during the allergic reaction, possibly amplifying the initial allergic response. The Basophil Activation Test (BAT) is a useful in vitro model of the allergic reaction. This study aims to modify the BAT to allow simultaneous measurement of both basophil and neutrophil activation in response to allergens.

Methods
A novel protocol was developed based on published BAT protocols and in-house neutrophil activation protocols. Experiments were performed in house dust mite (HDM) allergic and non-allergic adults. Variables including incubation time, temperature and blood tube preservatives were investigated. Gating strategies were optimised to ensure adequate populations of both cell types. Lipopolysaccharide, anti-IgE and N-formylmethionine-leucyl-phenylalanine were used as positive stimuli controls. Phosphate-buffered saline was the negative control. Serial dilutions of HDM extract was used as the allergen.

Results
The optimised sample processing was determined to be blood collected in lithium heparin bottles processed within 90 minutes with a 30 minute incubation time at 37 degrees celsius and then kept at room temperature rather than on ice. Basophils were gated as SSC^{low}, CD193+ CD123+. Neutrophils were gated as CD66b expressing granulocytes. CD63 and CD11b were used as activation markers of basophils and neutrophils respectively. Positive and negative controls performed as expected and dose-response curves to HDM extract were produced.

Conclusion
This novel protocol allows for the combined analysis of both neutrophils and basophils by flow cytometry and will be used for subsequent studies in children with food allergy to assess the impact of neutrophil activation on the sensitivity and reactivity of basophils to food allergens.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 11.40-11.50
General Paediatrics

PAEDIATRIC INVASIVE PNEUMOCOCCAL DISEASE IN THE REPUBLIC OF IRELAND; A RETROSPECTIVE REVIEW OF SEROTYPES, ANTIMICROBIAL RESISTANCE, VACCINATION FAILURES AND IMMUNOLOGICAL INVESTIGATIONS 2021-2023

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Background: Paediatric invasive pneumococcal disease (IPD) is evolving in response to changes in vaccination. With authorisation of two new extended valency pneumococcal conjugate vaccines (PCV), serotype surveillance is imperative to inform health policy. IPD can serve as the initial manifestation of underlying immunodeficiency, however there is no internationally agreed clinical practice guideline available to guide investigation.

Methods: A retrospective review of all cases of paediatric IPD in the Republic of Ireland (ROI) between July 2021 and June 2023 was conducted. Serotyping and antimicrobial resistance (AMR) profiles were analysed in available isolates. Additionally, a retrospective clinical audit of immunological investigations among IPD cases receiving tertiary level care in ROI was performed.

Results: 99 cases of IPD were reported over the study period, with 37 isolates available for serotyping and AMR assessment, and 82 cases included in the clinical audit. Respiratory cases predominated (64.6%). 37.8% of isolates were PCV13 serotypes, half of which had been fully vaccinated. 27% and 5% of isolates were serotypes not included in PCV13 but included in PCV20 or PCV 15 respectively. Penicillin non-susceptibility was reported in 35% of isolates. Immunological investigations were undertaken in 70% of cases with six patients receiving a new diagnosis precipitating their IPD presentation.

Conclusion: IPD continues to evolve with changes in demographic, serotype and AMR patterns observed in ROI in the post pandemic era. PCV20 may have the potential to extend coverage to a larger proportion of recently observed serotypes compared to PCV15. Clinical practice regarding immunological investigations following IPD in ROI is quite heterogenous highlighting the need for a national clinical practice guideline.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 11.50-12.00
Sub-Specialty

EARLY NEURODEVELOPMENTAL OUTCOMES IN INFANTS WITH MODERATE-SEVERE ATOPIC DERMATITIS

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Aims
Atopic dermatitis (AD) in infancy is associated with itch, sleep disruption, systemic inflammation, increased caloric needs, and impaired growth. These consequences may interrupt normal neurodevelopment. Little is known about the impact of AD on cognition and behaviour in infancy. The aim of this study was to deeply characterise the neurodevelopmental outcomes of 20-month-old infants with moderate-severe AD, compared to controls.

Methods
As part of the longitudinal SPINDLE study, a thorough neurodevelopmental testing protocol was performed at 20 months using the CogniTot touchscreen app, the Achenbach Child Behaviour Checklist (CBCL), and the Modified Checklist for Autism in Toddlers, Revised (M-CHAT-R). The gamified CogniTot app assesses processing speed, selective attention, working memory, acquired learning, problem solving, cognitive shift, and sustained attention. The CBCL screens for behavioural and emotional difficulties. Infantile and parental sleep measures were reported by parents. AD was assessed using clinical severity scoring.

Results
Neurodevelopmental follow up was completed by 32 controls and 28 cases. Infants with AD attempted fewer Cognitot levels (26.1 v 24.5, p=0.001) and had significantly worse problem solving (p=0.01). More infants with AD failed the M-CHAT-R screening than controls (p<0.05). Four (14%) infants with AD were diagnosed with autism by 20 months.

Conclusion
This deeply phenotyped cohort study scrutinised specific aspects of cognition in infants with AD, and has highlighted distinct domains of abnormal neurodevelopment. The results highlight, for the first time, the serious neurologic complications of AD in infancy, including potentially higher risk of early onset attention deficit and autism. Larger studies are required to confirm this relationship.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 12.00-12.10
Sub-Specialty

PROSPECTIVE AND RETROSPECTIVE COHORT STUDY OF DIAGNOSTIC DATA IN PAEDIATRIC COELIAC DISEASE PATIENTS

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Aim: Coeliac Disease (CD) may present at any age-group and is a common indication for endoscopic assessment. The aim of the study was to explore the demographic and diagnostic factors in paediatric patients with suspected CD.
Methods: Patients were identified from the prospective SUCCEEDS study (Science Underlying CoeliaC Evolution: Explanations, Discoveries, Solutions), from November 2022-January 2024. Retrospective data from 2018-2022 was collated and data analysed collectively. Serum levels of tissue transglutaminase IgA antibodies (tTg-IgA) were recorded in patients suspected of having CD, and diagnosis was confirmed through duodenal biopsy (Marsh Grade > 2). The performance of tTG serology thresholds were assessed for diagnostic accuracy. Data were analysed using JAMOVI statistical software.
Results: A total of 883 patients were identified from the combined SUCCEEDS (prospective cohort) and retrospective cohorts. In total 697 patients (79%) were diagnosed with CD. Using serology results relative to the upper range of normal (ULN), values within 2.1-4x ULN had the highest sensitivity (90%), whereas values >10x ULN had the highest specificity (81%) and positive predictive value (90%). Younden's index was highest (0.29) at a threshold of 4.1-6x ULN with an area under receiving operating curve of 0.69. There were no significant predictors of CD, including sex, birth history, breastfeeding history, home dwelling location, exposure to farm animals, and CD family history (X^2 $p>0.05$).
Conclusion: Our real world data suggest Irish coeliac serology testing performance is less than that quoted in published literature. Further research including analysis of follow up data and recruitment of patients is necessary to interpret the data more accurately.

Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 12.10-12.20
Sub-Specialty

AN ENDEMIC OF DIABETES TECHNOLOGY-ASSOCIATED ALLERGIC CONTACT DERMATITIS IN A PAEDIATRIC POPULATION

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[6], University of Pennsylvania, Pennsylvania, USA

Aim: Continuous glucose monitors (CGM) and continuous subcutaneous insulin infusion pumps (CSII) are associated with allergic contact dermatitis (ACD)[1-5]. We sought to identify the culprit allergens in paediatric patients with type 1 diabetes (T1DM) attending Cork University Hospital and to determine which devices were implicated.

Methods: 16 participants underwent patch testing (age 1 – 16 years, 9 male) to BSCA standard series, methacrylate series, scrapings from diabetic devices and a non-commercially available diabetes technology series. Participants attended on day 0, 4 and 7 for readings. Device and dressing extracts were analysed by gas chromatography-mass spectrometry.

Results: 12 participants had definite positive results. One had a possible reaction to CSII components. 11 of 16 reacted to their device and/or dressing, one had a possible reaction. Nine reacted to Dexcom G7™, two to Dexcom G6™. One had a possible reaction to Tandem t:slim X2™. 10 had positive patch tests to colophonium in the diabetes technology. Eight of those did not react to colophonium in the standard series. Two reacted to hexanediol diacrylate. One reacted to IBOA and N,N-dimethyl diacrylamide but not modified colophonium. The colophonium derivative methyldehydroabietate was present in several devices and dressings, including Dexcom G7™. IBOA was detected in devices and adhesives. We found evidence of benzoates and cinnamates in one device.

Conclusion: Colophonium derivatives are the predominant allergens in Dexcom G6™, Dexcom G7™ and their dressings. The standard series failed to detect all but one case of allergy to colophonium in this study. Devices still contain IBOA despite it being a common cause of ACD. Device manufacturer information relating to potential allergen exposure cannot be relied upon. Legislation is needed to ensure manufacturers disclose all potential sensitizing materials contained within devices. Patients with known allergies can then practice avoidance.

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 12.20-12.30
Sub-Specialty

A STUDY OF SINGLE NUCLEOTIDE POLYMORPHISMS AND THEIR ASSOCIATION WITH OUTCOMES IN A NATIONAL COHORT OF CHILDREN WITH KAWASAKI DISEASE

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Background: Kawasaki disease (KD), an acute inflammatory syndrome of childhood associated with a medium-vessel vasculitis with a predilection for the coronary arteries, is now the leading cause of acquired heart disease in children in developed countries(1). The exact aetiology remains a mystery but genetics play an important role(2). Treatment with intravenous immunoglobulin (IVIG) successfully reduces the prevalence of coronary artery aneurysm (CAA) formation(3), however, IVIG resistance, affects 10-20% of patients, in whom the risk of CAA development is significantly increased(4).

Aims: We sought to assess whether single nucleotide polymorphisms (SNPs) which have been associated with KD in other populations are also relevant in our national cohort(5-17).

Methods: Patients were identified and recruited from cardiology and infectious disease department databases. We chose 30 SNPs which were associated with increased susceptibility to KD, CAA, and IVIG resistance in other patient populations. Samples were collected via buccal swabs. Genotyping was performed using KASP Genotyping Assay at LGC Genomics.

Results: Of the 39 patients included, the majority were cases of typical KD (82%). A third developed CAA and 31% demonstrated IVIG resistance. In patients assessed for a *VEGFA* rs699947 (C/A) SNP, participants harbouring the AA genotype had a significantly reduced association with CALs and IVIG resistance compared to the CC or CA carriers. Analysis of the *CD40* rs1569723 (A/C) SNP revealed an increased risk associated with the C allele for coronary artery dilatation and IVIG resistance.

Conclusions: We performed the first evaluation of the genetic profile of patients with KD in Ireland. We found that the *VEGFA* rs699947 C/A polymorphism is protective and associated with a decreased risk of CALs and IVIG resistance, while the *CD40* rs1569723 A/C polymorphism harbours increased risk. In the era of machine learning, future research should evaluate whether an individual's SNP profile, in combination with clinical data, could predict high-risk patients who should receive early treatment intensification.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 15.00-15.10
Sub-Specialty

WATERWIPES REDUCE INFLAMMATION IN AN ADVANCED HIGH-FIDELITY 3D SKIN MODEL OF NAPKIN DERMATITIS

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Aims
Prolonged contact with urine can irritate skin, due to ammonia and other irritants in urine, made worse by occlusion from nappies. The aim of this study was to assess how WaterWipes affect the inflammatory response caused by ammonia in synthetic urine.

Methods
Inflammatory cytokines release was evaluated in a high-fidelity 3D-reconstructed skin model. WaterWipes liquid was compared to an alternative wipe liquid, soapy water, tap water, and a negative control. To
produce a high-fidelity skin model, adult human dermal fibroblasts were placed within a fibrin matrix and neonatal human keratinocytes were applied.

Synthetic urine (11µL) was placed on the skin models (except for the 'negative' control) for six hours at 37C. After incubation, synthetic urine was washed off twice with 500µL of each test item. One 'untreated' control was not rinsed as a positive control. A small residue was left on the skin model at 37 degrees Celsius for 18 hours.

Samples were tested for inflammatory cytokines [interferon (IFN) gamma, interleukin (IL) 1 alpha, IL-1 beta, IL-2, IL-4, IL-13, IL-6, IL-12p70, IL-10, and tumour necrosis factor alpha] using ELISA 24 hours after
application of urine and 18 hours after application of the test item.

Results
WaterWipes liquid had lower production of pro-inflammatory cytokines (eg IL-1 beta and IL-12p70) compared to the alternative wipe liquid and soapy water. WaterWipes liquid had higher production of anti-inflammatory cytokines (eg IL-10) compared to tap water.

Conclusion
WaterWipes liquid is superior in reducing inflammation associated with irritant dermatitis from urine exposure on neonatal skin in vitro.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 15.10-15.20
Sub-Specialty

The Burden of Tuberculosis in Children's Health Ireland – Results of a Case Review and Audit of practice

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Aims: The aim of this audit and case review was to describe the clinical complexity of the active Tuberculosis (TB) cases seen in Childrens Health Ireland (CHI) since 2019 and to ascertain the numbers of patients seen by the Paediatric Infectious Disease (PID) Department for investigation and management of latent TB from January 2019 to September 2024.

Methods: Active TB disease is notifiable to Public Health departments but the workload burden of latent disease treatment and contact tracing is not recorded. The microbiology databases of CHI at Crumlin and Temple Street were interrogated to identify all patients who had an Interferon Gamma Release Assay (IGRA) sent from January 2019 to September 2024. This data was cross referenced with outpatient letters. Data was collected for patients who had been seen in the PID department and had an IGRA sent.

Results: There has been a steady increase in IGRA tests sent from the CHI PID service since 2019 with 61 samples in total sent in that time from CHI at Temple Street, 23 of which were in 2023,representing an increase in referrals for investigation and management of latent TB. Active TB have risen dramatically with 9 cases identified in the first 9 months of 2024 in CHI Crumlin and Temple Street compared to a median of 6 cases per year (range 1-9) reported to HPSC from 2019-2023. The complexity of these cases was also significant including cases of TB meningitis, spinal TB, extremely drug resistant TB and miliary TB.

Conclusion:There is a growing burden of TB management noted across CHI sites. There has been an increase in the numbers of active cases, and we have also seen an increase in the number of latent cases.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 15.20-15.30
Sub-Specialty

THE IMPACT OF BIRTH WEIGHT ON BONE MINERAL DENSITY IN A LONGITUDINAL IRISH COHORT.

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Objective: Bone health is of great importance during both childhood and adolescence and is predictive of bone density into adulthood. Bone mineral density (BMD) and bone mineral content (BMC) are two measurements of bone health assessed using dual-energy x-ray absorptiometry (DXA). The aim of the study was to examine the influence of birth weight on BMD and BMC in a longitudinal Irish birth cohort at 5 years of age and again at 9 to 11 years of age.

Methods: Secondary analysis of data was carried out on mother-child pairs from the ROLO Study cohort group where the child has completed a DXA scan at 5 years (n=103, timepoint one) and/or 9 to 11 years of age (n=353, timepoint two). The relationship of birth weight to bone density parameters was examined among the whole study group, and secondly among the subgroup of those children who had DXA at both timepoints (n=76).

Results: There are significant positive correlations, between birth weight and BMD, and birth weight and BMC at timepoint one. All correlations decreased by timepoint two in both the total population and the subgroup. After adjusting for confounding variables, the predictive value of birth weight for both BMD and BMC was of statistical significance at timepoint two only.

Conclusions: Birth weight was not predictive of BMD or BMC in early childhood; however, birth weight was predictive of both BMD and BMC in the preteen years. This study supports evidence that the intra-uterine environment, as reflected by birth weight, is an important period for programming of bone health particularly in the pre and early adolescent years.

Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.00-16.05
Sub-Specialty

A Catalogue of inherited autosomal recessive disorders found amongst the Roma Population of Europe

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Background: The Roma population are an endogamous, genetically isolated, minority population who migrated from North-Western India to Europe from the 10th Century. Approximately 10-12 million Romani people reside in segregated settlements in Europe, North America and China. In addition to endogamy, they also practice consanguinity. This results in higher frequencies of rare autosomal recessive disorders, some of which are unique to the Roma population. Some disorders result from founder variants, others within a wider clan and some are private variants.

Objectives: Clinicians with experience in managing and diagnosing rare diseases have developed a comprehensive catalogue of autosomal recessive inherited disorders found in the Roma population. Our aim is that this catalogue will aid rapid diagnosis and highlight the differentials to consider.

Methods: We performed a detailed literature search to identify relevant publications and variants described in patients whose ethnicity was described as Roma. In addition, we interrogated data from clinicians in Europe to collect additional unpublished variants, yet to be reported in the medical literature. We mapped these disorders to their European country of origin.

Results: We identified 83 distinct autosomal recessive disorders, manifesting as 85 distinct phenotypes and 104 pathogenic disease variants, including published and unpublished findings in the Roma population.
Conclusion: We assembled a catalogue of inherited autosomal recessive disorders, one pseudo-autosomal disorder and 104 pathogenic variants found in the Roma population. We hope this will assist the medical community to make prompt diagnoses and consider targeted genetic approaches to facilitate timely and cost-effective investigations in this population.

IMJ
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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.05-16.10
Sub-Specialty

5y follow up study of single dose challenges in the diagnosis and management of cow's milk allergy in infants

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Background: A previous study, completed in 2020, demonstrated that a single dose of milk at the ED_{05} significantly accelerated the timeline to resolution of a CMPA over a 12 month period, compared to routine care of directly starting milk reintroduction using the milk ladder approach.[1]
Objective: To assess the current milk tolerance status and rates of other atopic conditions including food allergy and asthma of children who were previously involved in our study 5 years' ago .
Method: Telephone interviews were conducted with previous participants' families with one family conducting their interview via email.
Results: 47/57 parents and families were successfully contacted (82%) evenly distributed between the original intervention and control groups. The current mean age of each group (5.7 years) was similar. No difference was found between intervention (27/30) or control group (13/17) in the rate of full tolerance of cows' milk protein at 5 years old $p>0.05$. Higher baseline SpIgE to cows' milk protein, at the time of diagnosis of CMPA was with associated with incomplete tolerance of milk at 5y, (Mann Whitney, $p=0.03$). There was no difference between the groups in rates of of other atopic conditions at 5 y.
Conclusion: At 5 years post study completion, most children have achieved full tolerance of cows' milk protein in their diet, in line with the known natural history of CMPA. Children who had received a single dose of milk at the ED_{05} did achieve tolerance earlier faster than those on routine care, which suggests a social and nutritional advantage. Higher baseline SpIgE was associated with less complete tolerance at 5 years These longitudinal data may guide assessment of long term prognosis and the likelihood of resolution of CMPA at the outset.

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IMJ Official Journal of the Irish Medical Organisation

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May 29th, 2025

Oral Presentation – Thursday 16.10-16.15
Sub-Specialty

HYDROXYUREA IN SICKLE CELL DISEASE: TREATMENT EFFICACY AND LIMITATIONS IN A TERTIARY PAEDIATRIC CENTRE

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Aim: Hydroxyurea (HU) increases fetal haemoglobin (HbF) production, inhibiting the polymerisation of haemoglobin S in sickle cell disease (SCD), reducing red cell sickling and thus reducing vaso-occlusive events (VOE). Despite HU therapy, admission with VOE still occur; reasons for this include treatment non-adherence, true non-response and sub-optimal dosing. The aims of this project are to identify the reasons for admissions by SCD patients on HU to a tertiary paediatric centre, to evaluate the efficacy of therapy, and to identify causes of potential treatment failures.
Methods: This was a single centre retrospective review over a 12-month period (01/09/2022-31/08/2023). Data was collected locally from patient chart reviews, laboratory and pharmacy records.
Results: 150 patients received HU during the study period, aged between 3 and 22 years. There were 210 hospital admissions; 78 (31.7%) of these admissions were by 53 patients on HU >6months, with 48 of these admissions (61.5%) by patients on HU alone and 30 (38.5%) on a combination of HU and a blood transfusion (BT) programme.
Some reasons for admission in the HU + BT programme group included infection (n=16, 53.3%), VOE (n=7, 23.3%) and splenic sequestration (n=4, 13.3%). The 7 VOE admissions were by 5 patients (4 males, 1 female) with a mean age of 16.4 years.
Of those on HU alone, VOE was the most common reason for admission (n=21, 43.7%), with other causes including infection and splenic sequestration. Males accounted for 66.7% of VOE admissions. The mean age was 12 years.
17 of the admissions with VOE across both groups, made up of 14 patients (12 male; mean age 13.3 years), had HbF% <20.
Conclusion: HU is an efficacious treatment for SCD. VOE remains a significant problem, particularly in older adolescent males on HU. HbF levels in this group <20% suggest medication compliance issues. Further research and specific education programmes need to be targeted at this group to improve outcomes.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.15-16.20
Sub-Specialty

IDENTIFYING VICTIMS OF CHILD SEX TRAFFICKING IN THE LAURELS SEXUAL ABUSE CLINIC FOR THE FIRST TIME IN IRELAND

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Aims:
Child sex trafficking (CST) is challenging to identify[1] and is underreported in Ireland compared with other countries globally. Only 5 children were officially identified by Gardaí to be victims of CST in Ireland in 2023[2]. This study aims to describe the demographics and risk factors in this cohort in order to encourage the use of screening tools for CST and to further develop paediatric services for children who are victims of CST.

Methods:
A retrospective chart review was carried out in The Laurels Clinic at CHI Tallaght between January 2023 and September 2024 on patients that had been identified as either confirmed or highly suspected cases of CST during that time period.

Results:
10 children were identified to be highly suspected/confirmed victims of CST which is 4.2% of total Laurels Clinic referrals in the study period. 90% were Irish females with an average age of 14.3 years. 40% of referrals were from the Rotunda Sexual Assault Unit. 10% disclosed involvement of a third party trafficker with the remaining 90% highly suspected. 100% of cases had multiple sexual partners; 80% of these partners were adults >18. 70% were exchanging sex, mostly for food and drugs with the remaining 30% highly suspected to be. 20% had STIs (chlamydia/gonorrhoea), and 20% were on contraception. 90% had a history of substance use. 80% were in the care of TUSLA and 90% had a history of running away. 20% were screened using the J Greenbaum screening tool.[3]

Conclusion:
The Laurels Clinic can play a key role in increasing the identification of children who are sex trafficked particularly within Ireland as opposed to internationally. New legislation has been enacted which will allow the HSE to formally identify victims of CST. Understanding how to identify these cases and how to appropriately use targeted screening requires more education.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.20-16.25
Sub-Specialty

OSTEOSARCOMA: THE IRISH NATIONAL CHILDREN'S CANCER SERVICE EXPERIENCE 2017-2024

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Introduction

Osteosarcoma, the most common primary malignant bone tumour, has a peak incidence in the second decade of life[1]. CHI Crumlin treats children as per standard arm of the EURAMOS-1 trial[2](MAP chemotherapy) alongside surgical resection.

Methods

A retrospective audit of appendicular osteosarcoma cases in CHI Crumlin November 2017-March 2024 was performed. Data were compared with international data represented by the EURAMOS-1 trial cohort[2] and previous departmental audit (2007-2012)[3].

Results

Twenty-eight patients with osteosarcoma were identified. Twenty-five with appendicular osteosarcomas were further analysed:14/25(56%) male, mean age at diagnosis 11.7 years, osteoblastic(44%) and chondroblastic(40%) subtypes, distal femur/proximal tibia primary site 20/25(80%), metastatic disease at presentation 11/25(44%). Time from diagnostic biopsy to commencing chemotherapy - median 11 days(range 2-29 days). Primary site surgery was performed in 22 cases: en-bloc resection/endoprosthesis(n=18), limb amputation(n=4), negative resection margins in 17/22(77%). Histological response to chemotherapy was good (tumour necrosis ≥90%) in 9/22(41%). Median time to post-operative chemotherapy -27 days(range 21-69 days).

Survival data (excluding 2 patients who remain on treatment) includes: 3-year EFS 43% (6/14), 3-year OS 57% (8/14). Time to death – median 11.5 months (range 2-51 months). Time to first event – median 10 months (range 1-29 months).

Discussion

Data were compared both to previous departmental audit and international standards reflected in published EURAMOS-1 trial. Tumour location, gender and age at diagnosis were comparable to previous audit and EURAMOS-1. Incidence of chondroblastic subtype was higher than EURAMOS-1:40% vs 16%. Metastatic disease at presentation was higher than previous audit(20%) and EURAMOS-1(17%). Median time to post-operative chemotherapy was higher than our previous audit (21 vs 27 days). 3-year OS was lower at 43% compared with previous audit (73%) and EURAMOS-1 (79%).

Conclusion

Our cohort of osteosarcoma patients demonstrated higher rates of chondroblastic subtype, higher rates of metastatic disease at presentation and poor response to chemotherapy which may, in part, be responsible for poorer survival in our cohort.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.25-16.30
Sub-Specialty

WHY DO WE GO NUTS OVER WALNUTS?

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Background: Oral food challenges (OFCs) continue to be the gold standard in food allergy diagnosis and are performed on a regular basis across three Children's Health Ireland (CHI) sites. Anecdotally, staff performing OFCs at CHI perceive walnut challenges to have a higher risk of positive result, including anaphylaxis.
Aim: To assess the rate of positive OFCs to walnut, and the rate of severe reaction (i.e. anaphylaxis requiring administration of adrenaline when compared to other nuts).

Method: Systematic clinical data on all food challenges has been collated by Allergy Clinical Nurse Specialists at CHI Tallaght over a ten year period. This database was used to extract relevant information for patients undergoing walnut OFCs and compared to patients for peanut and hazelnut OFCs.

Results: From March 2014 to September 2024, 23 patients underwent OFCs to walnut at CHI Tallaght, compared to 454 peanut and 123 hazelnut challenges. 11 patients (47%) had positive food challenges to walnut, with the majority reacting at the third dose (300g, 430g total dose). Eight patients (35%) had skin prick testing (SPT) of 0mm prior to challenge, with the remainder between 3mm and 6mm. Two patients (8.6%) experienced symptoms of anaphylaxis requiring IM adrenaline. Both had pre-challenge SPT of 4mm.
Conclusion: The positive OFC rate of 47% is a similar outcome to other nut challenges in our database and internationally. However, rate of anaphylaxis (8.6%) was significantly higher than that of peanut (1%) and hazelnut (2%) cohorts. The exact reason for this increased risk of more severe reactions is not clear, though it is hypothesised that the sensitivity of SPT to walnut may be lower than that of other nuts. Performing IgE component testing in conjunction with SPT in walnut allergic patients may be warranted.

1. Allergen Recognition Patterns in Walnut Allergy Are Age Dependent and Correlate with the Severity of Allergic Reactions. Ballmer-Weber, Barbara K. et al. The Journal of Allergy and Clinical Immunology: In Practice, Volume 7, Issue 5, 1560 - 1567.e6
2. Management of anaphylaxis in children undergoing oral food challenges in an adapted COVID-19 field hospital. Al Saleemi A et al. Archives of Disease in Childhood 2021;106:e52.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.30-16.35
Sub-Specialty

Asesing the utility of an extended-hours Child Life Therapy programme in the Paediatric Emergency Department.

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Aims
Child life therapists (CLT) are valued healthcare professionals who support children in hospital by engaging, educating, and empowering [1] them on their healthcare journey. Within our centre, CLT has previously been used for scheduled and inpatient care but their role in the emergency department (ED) is less established [2]. In 2024, Royal Children's Hospital ED commenced an extended hours CLT service to support the care needs of children attending the hospital for unscheduled care. This project aims to examine the utility of this service by capturing clinician and consumer opinion surveys and referral demographics captured through the electronic medical record (EMR).

Methods
Referral were captured through the EMR over a six-month period. Consumer and clinician surveys were anonymously collected using RedCap ™ survey tool.

Results
150 consumer surveys were completed and 57 clinician surveys. Demographics revealed that preschool and primary-school-aged children were most referred to CLT. 13.5% of those referred to CLT were diagnosed with one or more of ADHD/ASD/intellectual disability. 67.75% of referrals made were for procedural support.

69.33% of those surveyed reported their child experienced 'much less distress' than they previously experienced in hospital or than was anticipated. 70% reported 'much less worry' experienced by their child with the support of CLT.

Of interest, 56% of clinicians responded that the involvement of CLT ensured their patient 'avoided sedation completely' for the planned procedure. 15.7% stated that sedation was 'decreased/reduced' with the presence of CLT, compared to what had been planned for the patient prior to CLT intervention.

Conclusion
CLT has greatly benefitted children in ED from a psychosocial perspective and in reducing sedation requirements for procedures. Clinicians reported procedures were quicker with the support of CLT. Further study is needed into the cost-benefit of CLT and the potential to improved workflow and reduction in pharmacological sedation given their support.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.35-16.40
Sub-Specialty

CHILDHOOD-ONSET PRIMARY SJOGREN'S SYNDROME: CLINICAL FEATURES, IMMUNOLOGICAL PROFILE, AND CLINICAL MANAGEMENT OF AN IRISH COHORT.

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Aims: Primary Sjogren's Syndrome (pSS) is a systemic autoimmune disease that is characterized by inflammation of the exocrine glands.[1] Childhood onset pSS is rarely reported and underdiagnosed due to the limited data available.[1] Published reports have identified distinct features of paediatric cases and neither the American-European Consensus Group nor the American college of Rheumatology/EULAR criteria are validated in the Paediatric population.[1] We conducted this study to identify and report our recent clinical experience with childhood-onset pSS by characterizing the clinical presentation, immunological profile, and management of patients diagnosed in our tertiary paediatric centre.

Methods
We conducted a retrospective chart review of patients diagnosed with pSS in the last decade (2013-2023) at the National Centre for Paediatric Rheumatology. Data was collated anonymously and analysed using SPSS. Descriptive statistics were used to summarise the data. Ethical approval was obtained (REC-403-24).

Results
Nine patients in total identified; 77.8% (n=7/9) female; mean age at the time of first symptom onset was 10.5 years (± 3.71) . Commonest presenting complaint was dry mouth (66.7% n=6/9), followed by dry eyes (55.5% n=5/9), and recurrent parotid swelling (55.5% (n=5/9). Autoantibody profile identified a positive ANA titre>1/160 (55.5%, n=5/9), positive anti-Ro antibody (66.7% (n=6/9), and positive anti-La antibody (55.5%, n=5/9). Eight of the nine patients had a parotid ultrasound; 77.8% (n=7/9) of the ultrasound scans identified heterogenous parotid glands. Management included: hydroxychloroquine (7/9), methotrexate (2/9), and mycophenolate mofetil (1/9).

Conclusion:Clinical features of paediatric pSS is variable with a predominance of extra glandular manifestation as compared to the adult cohort. Validated diagnostic criteria are required for paediatric cases and given the rarity of this condition will require collaboration and the consensus of international working groups to define this complex autoimmune disorder in greater detail.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.40-16.45
Sub-Specialty

DIAGNOSTIC YIELD OF METABOLIC AND GENETIC INVESTIGATIONS INEVALUATING CARDIOMYOPATHY AND MYOCARDITIS IN PAEDIATRIC PATIENTS AT CHI CRUMLIN.

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[2]Paediatric Cardiology, CHI at Crumlin, Dublin, Ireland

Background:
Myocarditis and paediatric cardiomyopathies (CMO) are rare but serious conditions. Recent research suggests genetic predispositions and inborn errors of metabolism (IEM) may play significant roles in the pathogenesis of both diseases. By reviewing metabolic and genetic investigations, this study aims to clarify their contribution to the onset and progression of these conditions.
Aim:
To evaluate the diagnostic utility of selected investigations in children diagnosed with myocarditis or cardiomyopathy.
Methods:
A retrospective review of medical charts for patients diagnosed with myocarditis or CMO at CHI Crumlin from January 2022 to July 2024 was conducted. Data on viral panels, metabolic screening, genetic testing, and connective tissue disease (CTD) screens were extracted. Results were categorized as positive, negative, incomplete, or pending, and analyzed using descriptive statistics.
Results:
Of the 32 patients identified, one was excluded due to missing notes, leaving 31 for analysis (25 CMO and 6 myocarditis). In the myocarditis group, 5 out of 6 patients had positive viral panels, with parainfluenza and rhino-enterovirus being the most common pathogens. One patient had an IEM, and two had genetic mutations. In the CMO group, 16 had viral panels, with 5 positive. Genetic testing revealed mutations in 15 of 25 patients, most commonly in the *TNNT2* gene. Three patients were identified with IEM from metabolic work-ups, while one patient had a positive CTD screen.
Conclusion:
While metabolic and genetic testing yielded limited results in myocarditis, genetic mutations were more prevalent in patients with CMO. This suggests that genetic testing plays a role in diagnosing and managing CMO, whereas viral and metabolic investigations are more relevant for myocarditis. Understanding these underlying factors can guide treatment and prognosis in paediatric patients and may help establish a guideline for newly diagnosed CMO and myocarditis.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Thursday 16.45-16.50
Sub-Specialty

To investigate the clinical outcomes of refractory ulcerative colitis (UC) treated with ustekinumab in
the Irish paediatric population.

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Methods
A retrospective review of ustekinumab-treated Irish paediatric UC cases from October 2020-October 2023 was undertaken. Inclusion criteria included any ustekinumab treatment, diagnosis of UC or IBD-unclassified (IBDU), partial or non-response to at least 1 maintenance therapy, age <16 years old at diagnosis. Induction with 6mg/kg intravenously was followed by 6-8 weekly subcutaneous 90mg injections. Clinical and laboratory details were obtained from patient charts and clinical databases, with disease activity defined by PUCAI score.

Results
Ustekinumab was prescribed to 13 patients, 12 with UC and 1 with IBDU. There were 9 males, mean age at diagnosis was 11.5 years (+/-1.9 standard error). At diagnosis, 7/13 had severe disease phenotypes and 12/13 had either extensive or pancolitis. 2/13 had had associated arthropathy. Twelve were on concomitant 5-aminosalicylic acid and all had failed anti-TNF therapy (10/13 with infliximab, 3/13 adalimumab). One patient continued dual vedolizumab therapy and 4/13 continued dual tofacitinib therapy due to partial response. Remission was achieved in 8/13 following ustekinumab treatment. Of the 5/13 with refractory disease, 2 remained active despite intensification of therapy. Three patients have discontinued ustekinumab to date. The mean time to remission was 1.8 months (+/-0.8 SE). The mean duration of ustekinumab therapy in the cohort was 17 months (+/-13.3 SE).

Conclusions
Our real-world data affirm that ustekinumab is effective in patients with UC/IBD-U refractory to anti-TNFα therapy. Earlier positioning in therapeutic algorithms may further improve clinical outcomes. Multicentre collaborative research is needed to advance the evidence base for this indication.

IMJ Official Journal of the Irish Medical Organisation

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May 29th, 2025

Oral Presentation – Friday 11.55-12.05
Neonatal

CARDIAC FUNCTION AND PULMONARY HAEMODYNAMICS IN INFANTS WITH DOWN SYNDROME REQUIRING SURGICAL CORRECTION FOR CONGENITAL HEART DISEASE

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Aim: The aim of the study was to evaluate if babies with Down Syndrome (DS) and congenital heart disease (CHD) necessitating surgical correction display altered biventricular myocardial performance and pulmonary haemodynamics compared to babies with DS not requiring surgical correction for CHD over the first two years of age.

Methods: We prospectively enrolled 70 infants with DS of whom 13 required surgical correction for CHD. Echocardiography scans were performed at six time points over the first two years of age.

Results: Infants with DS who required surgical correction for congenital heart disease (DS-Surg, n = 13) were compared to infants with DS who did not require surgical correction for CHD over the first two years of age (DS-no Surg, n = 57). Atrioventricular septal defect (n = 7, 54%), ventricular septal defect (n = 6, 46%) and atrial septal defect (n = 3, 23%) were the most frequent lesions. Left ventricular (LV) global longitudinal strain (%), LV longitudinal systolic strain rate (1/s) and LV early diastolic strain rate (1/s) were all significantly lower on Day 1 evaluation in the DS-Surg group compared to the DS-no Surg group with 16.3 ± 2.8 vs 19.6 ± 2.5 ($p < 0.01$), 1.4 ± 0.2 vs 1.6 ± 0.2 ($p = 0.02$) and 2.1 ± 0.8 vs 2.6 ± 0.6 ($p = 0.04$) respectively. LV longitudinal systolic strain rate measurements remained significantly lower in the DS-Surg vs DS-no Surg cohort throughout the first two years of age. No differences echo-cardiography surrogates of pulmonary haemodynamics were detected between the two groups over the study period.

Conclusions: Our data indicates that the DS-Surg group were a notably different sub-cohort of babies with DS in terms of LV performance. Such findings mark the DS-Surg cohort as particularly vulnerable and may warrant closer cardiovascular surveillance with increasing age.

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May 29th, 2025

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Neonatal

PRETERM INFANT INNATE IMMUNITY IN SEPSIS: IMMUNOMODULATION WITH MELATONIN

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Aims: Preterm infants are particularly susceptible to invasive bacterial infections and necrotising enterocolitis (NEC). Despite advances in neonatal intensive care, mortality due to sepsis and NEC remains high in this population. Immunomodulatory agents may play a role in the future of treating these infants. Our aim was to evaluate the preterm infant's innate immune response to sepsis and NEC and assess melatonin use as an immunomodulatory agent ex-vivo.

Methods: Preterm infants (less than 32 weeks gestation and/or less than 1500g) and neonatal controls were recruited prospectively. Whole blood was stimulated with or without lipopolysaccharide (LPS) and Melatonin (ex-vivo). Flow cytometry was used to assess innate immune cell function on whole blood samples. Toll-like receptor (TLR)-4 (receptor for endotoxin/LPS) and CD11b expression (cell activation marker) were used as markers of activity for neutrophils (CD66b+), monocytes (CD14/CD16+) and subpopulation of monocytes.

Results:forty-three infants were recruited, 37 preterm including infants with episodes of infection, and 6 healthy term controls. Increased expression of CD11b on neutrophils following LPS was significant in preterm infants. Preterm infants with sepsis had reduced neutrophil and nonclassical monocyte activity compared to term and preterm infants. TLR4 and CD11b expression on classical and intermediate monocytes did not differ significantly between groups. There were no differences in innate immune function after treatment with melatonin in any groups.

Conclusion: In preterm infants with sepsis endotoxin-tolerance and trained immunity is a factor which represent a dysregulated immune response to sepsis. This may be amenable to immunomodulation as an adjunct to antibiotics for sepsis management.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Friday 12.15-12.25
Neonatal

Acute Kidney Injury in Infants with Patent Ductus Arteriosus - The Influence of Haemodynamics and Therapeutics

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Objectives
This study aims to test the hypothesis that infants with a haemodynamically significant patent ductus arteriosus (hsPDA) have a higher incidence of acute kidney injury (AKI) and to investigate how the management of the ductus affects the incidence of AKI.

Methods
A single-centre retrospective cohort study was conducted for infants <29 weeks' gestation at the Rotunda Hospital, Dublin, Ireland. The El-Khuffash PDA severity score was applied to patients following a haemodynamic echocardiographic assessment performed on day of life two. Bi-ochemical, clinical, and echocardiographic data were collated for all participants. Mann Whitney U and Chi square tests were utilised to assess for association between individual characteristics and the primary outcome of AKI.

Results
We report a cohort of n=86 infants with a patent ductus arteriosus of a mean (standard deviation) gestation of 27 (1) weeks and a mean birth weight of 957g (235g)
Ten (11.6%) of infants developed acute kidney injury. Birth weight, gestation, death by discharge, high risk PDA score, PDA treatment and Ibuprofen receipt were shown to have statistical significance in their association with the outcome of AKI on univariate analysis. Ductal diameter in isolation was not associated with acute kidney injury The presence of a high-risk PDA score was independently associated with the occurrence of AKI. Therapeutic intervention and the use of ibuprofen proved significant in their respective associations with AKI.

Conclusion
Ductal diameter in isolation is redundant as a measure of haemodynamic significance, in the context of AKI prediction. PDA treatment and Ibuprofen use are independently associated with an increased risk of AKI in premature infants with PDA. Further work to ascertain predictors of AKI in this cohort is needed.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Oral Presentation – Friday 12.25-12.35
Neonatal

PRETERM INFANT INNATE IMMUNITY: MODULATION WITH ANAKINRA

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Aims: Preterm infants have dysregulated immune responses to sepsis and necrotising enterocolitis (NEC). This dysregulated immune response has been linked with multiorgan dysfunction and poor neurodevelopmental outcomes. Inflammasome mediated interleukin-1 cytokines are implicated in neonatal sepsis and white matter changes in preterm infants. Anakinra (interleukin-1 receptor antagonist) may reduce multiorgan injury in preterm infants. Our aim was to assess anakinra use as an immunomodulatory agent ex-vivo in preterm infants.

Methods: Preterm infants (less than 32 weeks gestation and/or less than 1500g) and term control infants were recruited. In preterm infants, serial blood samples were obtained. Whole blood was stimulated with or without lipopolysaccharide (LPS) and anakinra (ex-vivo). Innate immune function was assessed using flow cytometry. CD11b expression (cell activation marker) and Toll-like receptor (TLR)-4 (receptor for endotoxin/LPS) were used as markers of activity for both neutrophils (CD66b+) and monocytes (CD14/CD16+).

Results: Thirty five infants were recruited (Preterm n=28 and healthy term controls n=7). Neutrophil CD11b expression was significantly increased following LPS treatment in preterm infants, addition of anakinra treatment did not reduce this response. CD11b expression on non-classical and classical monocytes was significantly increased in preterm infants compared to term following addition of LPS which was not dampened by anakinra. TLR-4 expression on total monocytes in preterm infants was reduced when compared to term.

Conclusion: Although dysregulated immune responses are found in preterm infants they have robust response to LPS. In future this may be amenable to potential immunomodulation to improve outcomes.

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May 29th, 2025

Oral Presentation – Friday 12.35-12.40
Neonatal

COMPARISON BETWEEN A LOW VOLUME MICRO METHOD AND THE STANDARD LABORATORY METHOD TO MEASURE NEONATAL HAEMOGLOBIN AND HAEMATOCRIT VALUES

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Background: Neonates have a low total blood volume and are at risk of anaemia from multifactorial causes. Iatrogenic anaemia caused by repeated blood sampling to monitor laboratory parameters can contribute to the need for transfusion. "Point of care" laboratory equipment uses smaller volume of blood for analytic determinations and may, therefore, help to prevent anaemia.
Materials and methods: We compared the results of haematological parameters measured using a standard laboratory method and a "point of care" micro method, with the aim of validating the use of this latter method in clinical practice in a tertiary neonatology centre. A prospective observational study was conducted with 43 paired samples blood test's results. Capillary, venous, or arterial blood samples analysed through point-of-care testing (POCT) were systematically matched with corresponding blood samples sent for full blood count (FBC) analysis. Both sets of samples were simultaneously obtained from the same infant, either at the same time or within the same day.
Results: The concordance between the data obtained with the two analysers, expressed as the intraclass correlation was 0.916 (95% CI: 0.6-1.4) for Haemoglobin values and 0.869 (95%CI:0.04- 0.07) for Haematocrit values. Both were statistically significant (P value= <0.05).
Conclusion: The concordance between the values obtained with the two analysers was high for both parameters. This comparative analysis serves as a foundational framework for a Quality Improvement Project aiming to further explore strategies in larger patient cohorts for reducing blood loss and minimizing the risk of iatrogenic anaemia

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May 29th, 2025

Oral Presentation – Friday 12.40-12.45
Neonatal

VIDEO ANALYSIS OF NEONATAL INTUBATIONS USING VIDEO LARYNGOSCOPY: A PROSPECTIVE COMPARISON OF CLINICAL PRACTICE WITH RESUSCITATION GUIDELINES

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Background
The Neonatal Resuscitation Program (NRP) recommends direct laryngoscopy (DL) as the primary method for neonatal intubation. Video laryngoscopy (VL) is suggested as an option, particularly for training novice operators or for intubating infants with difficult airways. The program outlines specific steps for intubation, including managing the external environment and techniques for visualising key anatomical landmarks. It is unclear whether the DL method can be effectively applied to VL.
Objectives
To determine the degree of adherence to resuscitation guidelines during intubation using VL, and to examine the relationship between guideline adherence and intubation success.
Methods
In a cohort of newborn infants who were intubated with VL, we simultaneously recorded the view obtained with the video laryngoscope and an external view of the procedure with a GoPro video camera, and synchronised the recordings for analysis. In each set of recordings, we assessed infant and operator positions, interventions during the procedure, and the anatomical landmarks visualised.
Results
We assessed 95 intubation attempts that were made in 57 infants [median corrected gestational age 28 weeks and weight 1160g]. Sixty-six of 95 (69%) intubation attempts were successful. Operators spent more time attempting to insert the ETT through a visible glottis than locating it. Sixty-six (69%) attempts were performed with an appropriate lift manoeuvre. The vocal cords were visualised in only 58 (61%) attempts while the glottis was seen in 85 (89%).
Conclusions
Neonatal intubation using VL differed from the technique recommended in resuscitation guidelines. Revised guidelines considering the use of VL may be warranted.

Official Journal of the Irish Medical Organisation

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May 29th, 2025

Oral Presentation – Friday 12.45-12.50
Neonatal

EFFICACY AND SAFETY OF A NEW GUIDELINE ON PREVENTION OF METABOLIC BONE DISEASE OF PREMATURITY IN PRETERM INFANTS

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Background and aims: Preterm infants are at risk of developing metabolic bone disease of prematurity (MBDP), characterised by inadequate mineralisation of the skeleton due to insufficient calcium and phosphate provision[1]. Previous screening in Cork University Maternity Hospital (CUMH) measured serum alkaline phosphatase (ALP), vitamin D, calcium and phosphate with management predominantly focused on phosphate and vitamin D supplementation. Current evidence suggests phosphate supplementation alone may reduce serum-ionized calcium, leading to secondary hyperparathyroidism and exacerbating MBDP[1]. Parathyroid hormone (PTH) is a more sensitive marker of calcium deficiency than serum calcium levels[1]. In September 2023, we introduced new guideline for prevention of MBDP, including measuring PTH. We aimed to evaluate whether the addition of PTH measurement improved management of calcium or phosphate deficiencies and assess safety of new calcium treatment.

Methods: Infants <32 weeks and/or <1.5kg born in CUMH between September 2023 to March 2024, were screened and treated for MBDP according to guideline. Outcomes compared to similar cohort born in CUMH in the previous six months.

Results: A total of 41 infants in the post-guideline group (mean gestational age 28 weeks, mean birth weight 1.28 kg) were compared to 41 infants in the pre-guideline group (mean gestational age 28 weeks, mean birth weight 1.17 kg).

- 37% infants in post-guideline group had elevated PTH levels (> 68ng/L). Calcium supplementation initiated for average 14 days. Subsequently, discontinued for one infant with ionized calcium levels > 1.45mmol/L[2].
- 20% infants in pre-guideline group had hypophosphatemia (< 1.8mmol/L), commenced phosphate for average 40 days. In contrast, 15% in post-guideline group with hypophosphatemia commenced both phosphate and calcium for average of 23 day, representing 43% reduction in duration.

Conclusion: PTH screening revealed high incidence of hyperparathyroidism, calcium supplementation proved to be safe, with no significant hypercalcemia. Concurrent phosphate and calcium supplementation markedly reduced duration of treatment, indicating improvement in management of MBDP.

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Oral Presentation – Friday 12.50-12.55
Neonatal

THERAPUTIC HYPOTHERMIA ON TRANSPORT: ARE WE ACHIEVING THE TARGET TEMPERATURE?

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Introduction:
Hypoxic ischemic encephalopathy (HIE) is estimated to occur in 1 to 2 per 1,000 full-term live-born neonates and is associated with high rates of morbidity and mortality. Therapeutic hypothermia (TH), initiated within six hours of birth, is the only evidence-based treatment for HIE. Servo-controlled TH is the current gold standard and has been available to the NNTP since 2016.

Aim:
Assess adherence to NNTP guidelines for passive and active cooling, comparing to previously collected data.

Method:
Retrospective study included all neonates transported by NNTP for therapeutic hypothermia between January 2020 and December 2023, using NNTP database. Results compared to 2014 and 2018 audits.

Results:
77 patients were transported for TH by NNTP. 54% were during the day shift (08:00- 20:00) and 46% during night shift (20:00 – 08:00). 95% of the patients were transported by ground transport using servo-controlled active TH and 5% by air transport using passive cooling. 62% of the patients were intubated and ventilated during transport, 24% were in room air, and 14% were on non-invasive ventilation (CPAP/ HFNC). The median time from transport request to team arrival was 2 hours and 35 minutes.
5% of the patients had a temperature below the target on NNTP arrival during our study period compared to 13%(2014) , 7% (2018). 93% of the patients reached the target temperature at 6 hours of age compared to 77 % (2014) ,87 %(2018). On arrival at the receiving unit, all the patients reached the target temperature during our study period and in 2018 audit ,93% of the patients reached the target temperature during the study period in 2014.

Conclusion:
Adherence to NNTP passive and active cooling protocols was satisfactory, and proportion of infants at target temperature at 6 hours is continuing to improve. Further audits will support further improvement in achieving the target temperature by referring units.

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Oral Presentation – Friday 12.55-13.00
Neonatal

NEONATAL RESUSCITATION DOCUMENTATION IN BABIES BORN LESS THAN 32 WEEKS: A REAUDIT

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Aims:
Premature infants have increased risks of complications compared to term infants[1]. Research shows care provided within the first hour of life improves outcomes[2]. Using scribe sheets for clear documentation during neonatal resuscitations contributes to this[3]. Our group performed previous audits (2018-2022) on this topic finding that significant interventions have reduced since the introduction of this tool. This reaudit aims to identify whether improvements have occurred and if other areas require change.
Methods:
A retrospective chart review was conducted on infants (N=54) born in Galway University Hospital at <32 weeks' gestation from January 2022 to July 2024, with scribe sheets located for N=49. Information was compared to previous years audit data (2018-2021) (N=94). A data collection tool using Excel was used for descriptive statistical analysis.
Results:
Every scribe sheet was reviewed compared to 71% in the last audit. MR SOPA techniques were done on 67% of patients, improved from 59%. Oxygen usage improved with lower concentrations used: 100% oxygen was used in 12% of cases in this audit, compared to 20% of cases previously. 53% of newborns received positive pressure and 47% did not, compared to 63% and 37% in the previous cohort, respectively. Infants were intubated in 12% of cases, improved from 20% beforehand. No chest compressions occurred in this audit compared to 5% previously. Of infants born, 59% were inside hours (0800-1700), improved from 45% in the previous audit.
Conclusion:
Increasingly accurate documentation at neonatal resuscitations demonstrates the advancements that have become common practice at our centre. Regular MDT resuscitation training focusing on skills and role allocations have shown less interventions being employed, once correct initial steps are taken. Further improvements can be made with regular updates of the scribe sheet, increased attendance at simulation training and early debriefs to discuss areas for change.

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May 29th, 2025

Oral Presentation – Friday 13.00-13.05
Neonatal

NEONATAL MORBIDITIES ASSOCIATED WITH EARLY TERM AND TERM DELIVERIES AT A TERTIARY MATERNIY HOSPITAL

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BACKGROUND:
Neonatal outcomes are known to vary based on gestational age, even between infants born between 37-41 weeks gestation.[1,2] The definition of 'term' has been re-evaluated to distinguish between 37 0/6- 38 6/7, and those 39 weeks or greater, the former now distinctly classified as early term.[3] There has been a rise in rates both of elective caesarean sections and planned inductions of labour at various gestations in recent years at the Rotunda hospital.[4]

AIM:
To compare rates of admission to a neonatal unit, and associated morbidities in infants delivered at early term with those born 39 weeks or older. Secondary data is assessed regarding methods of labour onset and delivery modes of these early term and term babies.

METHODS:
Data was extracted from The Maternal and Newborn-Clinical Management System (MN-CMS) Electronic Chart following ethical approval from the hospital ethics committee. Anonymised data was collected regarding babies born aged 37-41 weeks born in 2023 (n=7698). Primary data was analysed regarding gestations at delivery, modes of labour onset, and final methods of delivery. Admission rates and reasons for admission to the neonatal unit were assessed.

RESULTS:
The number of total deliveries of babies 37-41+6 weeks was 7698. Of the total deliveries, 25% were preterm elective c-sections (n=1943), 41% were induced labour (n=3119), and 34% were spontaneous onset of labour (n=2636). Of 1943 elective sections the admission rate was 22% at 37 weeks, 10% at 38 weeks and 6% at 39 weeks. Infants delivered at early term following induction of labour also had a higher admission rate than their term counterparts (25% at 37 weeks, versus 7-9% at all other gestations). Common reasons for admission included respiratory diagnoses, jaundice and neonatal hypoglycaemia.

CONCLUSION:
It is likely that Initiatives taken to minimise early term delivery would reduce neonatal admissions and short term infant morbidities.

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Official Journal of the Irish Medical Organisation

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May 29th, 2025

Oral Presentation – Friday 13.05-13.10
Neonatal

STAFF CULTURAL SURVEY: THE ROTUNDA NEONATAL DEPARTMENT

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Aims
This study presents the findings of a cultural survey conducted among staff members within the Neonatal Department of The Rotunda Hospital, aimed at assessing levels of satisfaction and perceptions of workplace culture. The survey focused on evaluating two key aspects: the support provided by managers and leaders, and the compassion demonstrated among colleagues towards both staff and patients. Ethical approval was obtained through the hospital research and ethics committee.
Methods
Using a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), participants rated statements related to managerial support and compassionate behaviour within the workplace.
Results
55 staff members across medical (41.8%), nursing(49.1%) and allied healthcare professsionals (9.1%) responded to the survey, representing a 46% response rate. Results indicate generally positive perceptions regarding managerial practices. Managers are perceived to encourage warm and supportive relationships among staff, with 83.7% of respondents either strongly agreeing or agreeing. Recognition of good performance by managers is acknowledged positively by 74.5% of respondents, although there is room for improvement. A significant majority (72.8%) believe that managers effectively address work-related problems that hinder productivity. 67.2% of respondents feel that managers listen attentively to staff to understand how to provide effective support. Managers are perceived as very compassionate towards staff facing problems, with 85.5% expressing agreement.
Conclusion
These findings underscore the importance of ongoing initiatives to enhance and promote a culture of empathy and support within the Neonatal Department. The outcomes of this survey will serve as a foundational resource for hospital administrators and departmental leaders, informing strategic efforts to address identified challenges and cultivate a workplace culture that prioritizes staff well-being and patient care.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 1
General Paediatrics

CASE REPORT OF LARYNGEAL(VENTRICLE) POLYP IN A 3 YEARS OLD CHILD.

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Aim: The case report highlights the importance of a comprehensive clinical evaluation, including a thorough history, physical examination, and appropriate diagnostic tests, to accurately identify the underlying cause of respiratory symptoms in children.
Case Description: The patient, a 3-year-old male with no significant medical history, presented to the ED with a one-week history of noisy breathing, dry cough, hoarseness, and one day of breathing difficulties. on Assessment he was reported to have stridor with increased work of breathing and suprasternal recession. Viral croup was diagnosed, and he received oral dexamethasone and a dose of adrenaline nebulisation in the ED. He was admitted for observation and required a second dose of adrenaline that evening due to worsening stridor. He met discharge criteria the next day, with no stridor at rest and stable condition. However, further history revealed the noisy breathing and stridor worsened in the evening during sleep, and the cough was atypical for viral croup, prompting suspicion of an alternative diagnosis.
Result: A lateral neck X-ray showed an opacity in the larynx, suggesting a foreign body or structural abnormality, He was referred to ENT, where micro-laryngoscopy revealed a 4 mm pedunculated polyp in the left laryngeal ventricle prolapsing toward the true cord, causing a ball-valving effect with inspiration. The polyp was successfully excised, and histopathology confirmed the diagnosis.
Conclusion: Given uncommon occurrences, paediatric laryngeal lesions are mostly described through rare case reports or small case series. These lesions can be found in various parts of the larynx, including the epiglottis, aryepiglottic fold, ventricle or subglottis. Among these lesions a saccular(ventricular) cyst is relatively well-documented, although is very rare, approximately 1.5% of all congenital lesions of the larynx. pedunculated polyp located in the laryngeal ventricle was described far less and predominantly in the adult population.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 2
General Paediatrics

CLINICAL HANDOVERS AUDIT IN THE GENERAL PAEDIATRIC DEPARTMENT AT CHI TALLAGHT

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Aim
The audit aimed to assess the quality of clinical handovers in the General Paediatric Department at CHI Tallaght, using the ISBAR (Introduction, Situation, Background, Assessment, Recommendation) tool as a benchmark for structured communication. The objectives were to evaluate compliance with national handover standards, determine the inclusion of essential patient details, and identify areas for improvement.

Methods
A prospective observational audit was conducted, auditing four handover sessions (one morning and three evening handovers), with 63 patients handed over. Data collection focused on several key aspects, including the identification of patients by name, age, and medical record number and the inclusion of key ISBAR components: situation, background, assessment, and recommendation. Additionally, the presence of a safety pause and read-back procedures were assessed, along with the overall duration of the handover.

Results
The results showed significant variability in compliance with the ISBAR tool. While 98.4% of patients were identified by name, the medical record number was omitted in all cases. Key ISBAR elements such as the situation and recommendation were frequently missing, and only one of the four handovers (25%) included a safety pause. The median handover duration was two minutes per patient (IQR 1-3 minutes), which was within acceptable limits, but there were concerns about the completeness of information transfer.

Conclusion
This audit emphases the importance of verbal handover even when standard written tools are used. ISBAR training and Implementation of a mandatory safety pause, along with a read-back protocol, is advised to ensure patient safety. Future plans involve re-auditing in one year time

Communication (Clinical Handover) in Acute and Children's Hospital Services: National Clinical Guideline No. 11 .

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 3
General Paediatrics

IMPLEMENTATION OF CRITERIA-LED DISCHARGE ON STARLING ACUTE MEDICAL ADMISSION UNIT: A MULTIDISCIPLINARY QUALITY IMPROVEMENT PROJECT

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Aim:
Criteria-led discharge (nurse-led discharge) was launched for gastroenteritis, asthma exacerbation, head injury, and bronchiolitis in June 2024 in Children's Health Ireland. This project aimed to use QI methodology to support the implementation of CLD and to assess the safety and feasibility of CLD within an acute paediatric admission unit.

Method:
Three Plan-Do-Study-Act cycles were completed between June - September 2024. Data on suitability, uptake, and completion of CLD was retrospectively collected using a ward-based paper record. IPMS was used to determine length-of-stay, readmission rate<48 hours, and time of discharge. The discharge diagnosis was confirmed using G2 Speech transcription software. Interventions included consultant/NCHD teaching, ongoing nursing training with clinical oversight, a survey of nursing staff attitudes to CLD, and championing of the initiative by the multi-disciplinary project team.
Result:

Before implementation of CLD Out of 51 total admissions, 8 cases were identified as suitable for CLD (15.7%). After implantation of CLD, the Suitability decreased across the three cycles, from 36% (cycle 1), to 30% (cycle 2) and 23% (cycle 3). Rates of initiation of CLD rose from 26% (cycle 1) to 66 % (cycle 2) following the launch of CLD but fell to 11% (cycle 3). The rate of successful completion of CLD ranged from 80 to 100%. There were no readmissions within 48 hours for patients discharged using CLD.

Conclusion:
The suitability of patients for CLD decreased, likely due to seasonal variation. A fall in the rate of uptake of CLD may reflect the change of clinical staff following the NCHD changeover. The low incidence of re-admission and high completion rates supports the safety and feasibility of CLD in this setting. Further nursing staff training and clinician buy-in will be essential to ensure the future success of CLD.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 4
General Paediatrics

2 YEAR OLD BOY WITH A PROLONGED FEVER AND RASH WHILE ON HOLIDAY IN IRELAND

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Background
A previously healthy 2-year-old boy developed prolonged fever, a non-blanching rash, and respiratory distress while on holiday in Ireland. His symptoms began with a persistent cough and coryzal features a month before hospital admission. As his condition worsened, he developed abdominal distension, intermittent grunting, and respiratory distress. Laboratory findings revealed anaemia (Hb 84), elevated inflammatory markers (CRP 160, ESR 54), and hyperferritinaemia (ferritin 3040). A chest X-ray showed left lower lobe consolidation and a small pleural effusion. Blood, urine, and stool cultures were negative.

Methods
Initial treatments included broad-spectrum antibiotics, IV methylprednisolone, and intravenous immunoglobulin (IVIG), targeting potential differential diagnoses such as atypical Kawasaki disease, systemic juvenile idiopathic arthritis (soJIA), macrophage activation syndrome (MAS), and post-infectious inflammatory syndromes. Despite initial improvement, the patient experienced a relapse, prompting further treatments, including a second dose of IVIG and pulse methylprednisolone. IV Anakinra was introduced for suspected early MAS.

Results
The patient showed significant clinical improvement following treatment with Anakinra. His ferritin levels dropped from 18,344 to 557, and CRP normalized to <4. He was diagnosed with soJIA complicated by early MAS, requiring ongoing multidisciplinary care. At discharge, he was transitioned to subcutaneous Anakinra with follow-up care arranged in the United States.

Conclusion
This case highlights the complexity of prolonged fever and rash in young children, which may signal systemic inflammatory conditions like soJIA and MAS. Early recognition and targeted therapy, such as Anakinra, are crucial in managing MAS. A multidisciplinary approach involving infectious disease, rheumatology, and haematology teams is essential for effective management of these severe inflammatory disorders.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 5
General Paediatrics

Quality Improvement Project of Intravenous Fluid Bolus and Deficit in Paediatrics

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Background

- Gastroenteritis is a common childhood illness that causes vomiting, diarrhoea and fever. Assessment of the degree of dehydration influences route and rate of rehydration. Children with mild or moderate dehydration, enteral (oral or NG) rehydration is preferable. IV fluid rehydration may be required for children with severe dehydration or those who cannot tolerate enteral intake.

Aim

- To see if documented degree of dehydration led to appropriate use of bolus and deficit fluids.

Methods

- Data was collected retrospectively and prospectively in the period 31/3/24-30/4/24. Chart review for documentation of signs of dehydration, degree of dehydration in, age, diagnosis**,** electrolyte imbalance and metabolic acidosis**.**

Result

- A total number of 23 patient received IV fluids , 7 (30.4%) received IV bolus, 5(21.7%) received deficit, one of them received a bolus as well . 16(69.6%) gastroenteritis , 3(13.0%) URTI4(17%) miscellaneous.
- IV bolus group 3(42.8%) had no documentation of degree of dehydration, 2((28.5%) dehydrated without degree specified, mild and moderate dehydration 2(28.5%). Urine output not documented in 3(42.8%) patients, reduced in 2(28.5%). Normal electrolyte in 5(71.4%) patients , abnormal 2(28.5%), normal VBG 4(57.1%), normal urea 5(71.4%) , high urea 2(28.6%). Signs of dehydration not present 2(28.5%), fully documented 2(28.5%).

- Fluid deficit group, no documentation of degree of dehydration 3(60%), mild-&moderate dehydration 2(40%). Signs of dehydration fully documented in 3 (60%), not documented 1(20%). Urine out reduced in all patients 100%, normal electrolyte 4(80%), high urea 4(80%). VBG abnormal 2(40%)

Conclusion

- All who got intravenous bolus fluid, had no documentation of shock or severe dehydration. Only one patient received a bolus and deficit fluid . Lack of full documentation to justify use of boluses in all patients.
- Teaching of NCHD at induction, monitoring through out. Use of handout assessment document and sticked to the emergency clinical chart.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 6
General Paediatrics

RED FLAG HEADACHE, ANISOCORIA AND ARTERIOVENOUS MALFORMATION IN PAEDIATRIC AGE GROUP

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Aim: Case report of an intracranial bleed due to arteriovenous malformation (AVM) in a young girl. To raise awareness of its possible occurrence in paediatric patients and clinical presentation.

Methods: Case presentation and retrospective review of clinical notes, data, investigations and management results. Literature review of AVM from Cochrane Library, PubMed and Google scholar. Consent was obtained.

Results: A 15 year-old girl presented with severe sudden onset right sided headache and vomiting, associated with dizziness, fatigue and intermittent blurred vision. In the days leading up to presentation she has been symptomatic with a fever, nasal congestion and reduced oral intake. On examination, she had an erythematous pharynx, tenderness over the maxillary region and the rest of the examination was normal. Initial diagnosis was URTI, sinusitis, but she was admitted for observation given the disproportionate pain she described. The bloods were unremarkable and Rhino/enterovirus was detected on the viral swab. The following day, the pupils were noted to be reactive but asymmetrical. There were no motor or sensory deficits. Urgent CT brain performed reported acute right parietal intracerebral bleed, about 54mm, associated mass effect and a possibility of intraventricular bleeding. CT angiogram reported right parietal arteriovenous malformation with adjacent right parietal haematoma of about 40mm. She was promptly transferred to a neurosurgical centre for an MRI angiogram and further surgical intervention.

Conclusion:
The incidence of AVM malformation in the paediatric population is about 1.5 patients per year with more than 50% of the cases presenting with a subarachnoid haemorrhage.[1] Headaches are the most common symtptom in children above the age of 5 while seizures are more common in those under 5.[2] It is a time critical transfer presentation**.** It can co-exist and be masked by other diagnosis like URTI**.** Early diagnosis of AVMs through complete history, frequent clinical reviews, examination, and urgent imaging modalities can help in preventing serious life-threatening complications.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 7
General Paediatrics

EOSINOPHILIA WITH RESPIRATORY SYMPTOMS AND RASH: A DIAGNOSTIC CHALLENGE

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Aims: Peripheral blood eosinophilia can be caused by a wide variety of conditions including allergic, infectious, inflammatory and neoplastic. Paediatric patients presenting with these findings can be a diagnostic quandary requiring extensive multi-disciplinary team input and investigations to reach a timely diagnosis.

Methods:
A 2 year old boy presented to a regional Paediatric Unit with episodes of shortness of breath and rash between July and August, 2024. He was initially treated for a lower respiratory tract infection with wheeze and was subsequently discharged on antibiotics. He re-presented within 10 days with similar findings and he was found to have persistently raised eosinophils. Haematology and Immunology services were consulted by phone and recommended further investigations including parasitic serology. He was subsequently transferred to our tertiary care centre for further MDT input.

Results:
He had normal examination findings. A chest X-ray, echocardiogram and eye review were normal. An abdominal ultrasound showed multiple hypoechoic nodules throughout the liver. His serology returned positive for *Toxocariasis*. A definitive diagnosis of *Toxocara* was made. He was treated with Albendazole and steroid. He remained well over the course of his admission and he was discharged to home with a plan for local Paediatric follow up.

Conclusion:
This case illustrates the value of a complete history including clinical timelines and activities including travel history and animal exposures, to ensure early consideration of infectious causes including parasitic infection in the diagnostic work up of persistent eosinophilia with recurring systemic symptoms.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 8
General Paediatrics

Role of CT Brain in Children presenting to the Paediatric ED with a Non Traumatic Headache at Portiuncula University Hospital, Ballinasloe, Ireland

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AIMS:
Headache is defined as pain located above the orbitomeatal line, is one of the most common complaints in children and adolescents. It is recognized as one of the top medical and neurologic contributors to the global burden of disease and is a leading cause of disability in adolescents and young adults. [1, 2].
“To compare local practice of Brain imaging using CT scanning with NICE guidelines, it's indications and Recommendations to minimise radiation exposure in Children presenting to the ED with Headaches"

METHODS:
Data was collected retrospectively from the PACS Mediweb for all Children referred for non traumatic urgent CT Brain presenting to Paeds ED at Portiuncula University Hospital between October 2022 to January 2024. Information for indication for CT scan & imaging results were then used to generate an Excel spreadsheet for Data Analysis.

RESULTS:

A total of 58 patients underwent CT Brain in the selected time period for acute presentation of a non traumatic headache.
Among all scans performed during this period, 26 % (15/58) had relevant positive findings.
The most common finding was Sinusitis 46.6% (7/15) and there were concerns for medical causes of illness.

The rest 53.6%(8/15) were; one positive for mastoidites, middle ear infection, post surgical Arnold Chiari malformation, Arachnoid cyst, blocked VP shunt, periorbital thickness, generalised brain swelling due to BIH and one with bony protuberance in inner vault of skull respectively.
There was no CT positive for any tumour.

CONCLUSION:
Unless there's a very strong suspicion of a SOL or a blocked VP shunt causing signs & symptoms of either Hydrocephalus or a Midline shift, CT brain for simple headaches could be deferred from the ED. In case neuroimaging is warranted then MRI should be arranged after Consultant R/v for better management and to minimise radiation exposure to children with growing brains.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 9
General Paediatrics

Optimizing Sepsis Management in Paediatric Emergency: A Retrospective Audit of Form Compliance and Protocol Adherence at Portiuncula University Hospital, Ballinasloe, Ireland.

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AIMS:
Sepsis and septic shock are time-critical medical emergencies that can cause significant morbidity and mortality in paediatric and young adult patients. Early recognition and treatment are vital to improving patient outcomes. However, recent reviews of children and young people presenting with sepsis have highlighted the challenges of recognising and responding to sepsis in busy emergency settings. This audit aimed to evaluate the completeness of sepsis forms in the Paediatric Emergency Department at Portiuncula University Hospital to improve documentation and ensure early intervention.

METHODS:
A retrospective review was conducted on septic patients attending the Paediatric Emergency Department from January 2024 to July 2024. The sample included 25 randomly selected patient files. The audit evaluated whether sepsis forms were triggered and properly completed following the sepsis 6 protocol.
RESULTS:

Out of 25 patient files, only 15 sepsis forms (60%) were completed according to standard. This indicates that, in many cases, essential sepsis management steps were potentially missed. Common omissions included failure to note risk factors and lack of escalation of suspected sepsis for review. The incomplete documentation on 40% of forms could lead to inadequate management of septic patients, who are at high risk of deterioration.

CONCLUSION:

The audit revealed that only 60% of sepsis forms were fully populated, which may compromise patient care. Sepsis should always be suspected if children exhibit unexplained symptoms. Every interaction with the patient requires reconsideration of Red/Amber flags. Early escalation using ISBAR and adherence to the Sepsis 6 protocol are critical.

To address these gaps, sepsis forms must be made visible and readily available in Emergency rooms, and staff should be reminded of their importance. Continuous education, including the use of HSE sepsis-specific materials and mandatory training (ICTS, Sepsis, Paediatric Early Warning System), is essential to improving compliance, patient outcomes and reducing the risk of deterioration in septic children and young adults.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 10
General Paediatrics

Handover Harmony: Elevating Pediatric Care Through Effective Doctor's Handover Practices at Portiuncula University Hospital, Ballinasloe, Ireland.

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AIMS:

In Paediatric medicine, the efficacy of communication during clinical handovers is crucial for safeguarding patient safety and ensuring continuity of care. This audit was undertaken to rigorously evaluate adherence to established handover protocols, emphasizing pivotal practices that underpin the quality of care delivered to pediatric patients.

METHODS:

An observational audit was meticulously conducted over a 6 month period from January 2024 to July 2024 within the pediatric unit, encompassing 25 distinct random doctor's morning handovers. Leveraging a standardized audit tool aligned with the Irish National Clinical Handover Guidelines, we systematically assessed compliance with essential elements of effective handover practices, including the facilitation of face-to-face communication, thorough documentation, adherence to ISBAR3 and the clear articulation of accountability for patient care.

RESULTS:
The findings of this audit revealed an exemplary compliance rate of 100% across all assessed parameters, underscoring that each handover was executed in strict accordance with established protocols, thereby reinforcing the integrity of the handover process.

CONCLUSION:
These results illuminate a profound commitment to exemplary communication and patient safety within the pediatric unit, signifying the successful implementation of best practices in doctor's handovers. This audit underscores the imperative of ensuring that all pertinent patient information is conveyed accurately and comprehensively. Ongoing reinforcement and systematic monitoring of these practices are essential to maintain these elevated standards, further enhancing the delivery of pediatric care and ultimately improving patient outcomes

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 11
General Paediatrics

FAILURE TO THRIVE DUE TO RARE CASE OF HYPOTHALAMIC GLIOMA

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Aim
The aim of this report is to present the case of a 6-month-old male infant who presented with failure to thrive, leading to the diagnosis of a hypothalamic low-grade glioma.
Method:
A 6-month-old boy born via elective caesarean section due to a previous caesarean section, with a birth weight of 3.8 kg (75th percentile), presented with failure to thrive. Despite adequate feeding and no history of vomiting or diarrhoea, his weight fell to the 0.4th percentile by 6 months of age. Routine metabolic workup, thyroid function tests (TFT), iron studies, full blood count (FBC), and blood gas analyses were all within normal limits. He was admitted in ward for monitoring of feeding. There was no concern about his calorie intake while in hospital. A CT scan of the brain was performed, revealing a hypothalamic tumor. Histopathology of the biopsy confirmed the diagnosis of a low-grade glioma, specifically an astrocytoma with pilocytic features.
Results:
The patient was diagnosed with a hypothalamic low-grade glioma, based on the histological findings of pilocytic astrocytoma. Following the diagnosis, chemotherapy was initiated to manage the tumor.
Conclusion:
This case highlights the importance of considering intracranial pathology, such as hypothalamic tumors, in infants presenting with failure to thrive despite normal metabolic and systemic workup. Early neuroimaging in such cases can lead to timely diagnosis and management of potentially life-threatening conditions like low-grade gliomas. The patient is currently undergoing chemotherapy with a goal of tumor control

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 12
General Paediatrics

BODY MASS INDEX IN CHILDREN WITH 22Q DELETION SYNDROME

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Background:
Pertaining to CHI 22q clinic, we had an opportunity to monitor closely the growth of these children and that led us to research more about added risk for age related obesity.

Aims:
Developing awareness regarding the adverse effects associated with increased BMI in these children with compromised immune system and reflection on whether 22q syndrome itself bears any potential risk for obesity in children of adolescent age group.

Methods:
Retrospective review of clinic letters done via digital dictation (G2) for children with age >2years who had regular follow ups and appropriate weight/height centile measurements.
Total 75 children were randomly selected for study and they were allocated in 3 different age categories as part of primary data collection (0-6years,6-12 years and 12+years). Data regarding correctly plotted BMI centiles against each age group and gender variation were stratified for secondary outcome. Finally, all data were entered to Microsoft excel for descriptive statistical analysis.

Results:
Among 21children under 6years,79% had BMI>50th centile whereas 16% with BMI>91st centile and only 5% had BMI>98th centile.
Between 6-12years age, total 20 children were included with BMI >91st centile in 10% and BMI>98th centile in 11%. Similary,79% kids had BMI>50th centile as previous age group.
34 children were grouped for the age category of 12years+ and noted to have higher proportion of kids with BMI>98th centile (16%) compare to the other groups. There were 74% with BMI>50th centile and 10% with BMI>91st centile.

Conclusion:
For children with 22Q deletion, adolescent age group had more children with over-weight with equal gender distribution. However as per the latest national survey of childhood obesity (COSI round 5), the study did not show any higher prevalence of obesity than the adolescent group in general.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 13
General Paediatrics

A CASE OF MULCHANDANI-BHOJ- CONLIN SYNDROME

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Background: The Mulchandani-Bhoj-Conlin Syndrome (MBCS) is a rare disorder caused by maternal uniparental disomy of chromosome 20 (UPD(20)mat), leading to intrauterine growth restriction (IUGR), severe short stature, and feeding difficulties. Only 21 cases have been reported, and its phenotype can resemble Russell-Silver Syndrome (RSS), characterized by IUGR, relative macrocephaly, and mild dysmorphic features. This report describes a 5-year-old with MBCS, highlighting the importance of considering UPD(20)mat in cases of unexplained feeding issues and RSS-like symptoms.

Methods: The patient, a 5-year-old male born at 36 weeks with IUGR, underwent extensive genetic and endocrine evaluations after initial assessments suggested RSS. Diagnostic work-up included microarray analysis, methylation testing, and, ultimately, whole exome sequencing, which confirmed UPD(20)mat. Monitoring included growth and developmental assessments, with growth hormone therapy considered due to persistent growth failure.

Results: The patient's phenotype included IUGR, severe short stature, macrocephaly, and mild dysmorphic features (triangular face, clinodactyly). Despite sufficient caloric intake, he was unable to catch up growth. Early growth hormone levels were low but later normalized, similar with previous findings in MBCS. Growth hormone therapy was initiated recently based on literature showing its effectiveness in similar cases.

Conclusions: This case highlights MBCS as a potential diagnosis in patients with RSS-like features and feeding difficulties. The prolonged diagnostic process underscores the need for awareness of UPD(20)mat, as earlier identification may improve treatment timelines and outcomes. Screening for UPD(20)mat should be considered in RSSlike cases without known molecular abnormalities.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 14
General Paediatrics

SERUM UREA AND CREATININE LEVELS AMONGST IRISH CHILDREN WITH DOWN SYNDROME

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Aims
To assess whether Irish children with Down Syndrome (DS) have higher serum urea and creatinine levels than the general population.

Methods
Ethical approval was obtained. Outpatient renal function test results of 201 children aged 0-16 years who attended the DS clinic in CHI Tallaght from June 2022-June 2024 were collected. Exclusion criteria included children with renal disorders and results from emergency attendances. Data from 196 patients was analysed using R statistical software version 4.4.1. An exact binomial one-sided test with 5% significance level was performed to compare the proportion of children with DS with elevated urea and creatinine in each year to the expected proportion based on laboratory reference ranges.[1, 2, 3]

Results
28% (p-value <0.0001) of children in 2022-23 and 31.25% (p-value <0.0001) in 2023-24 had a creatinine level above the reference range. 27.59% (p-value <0.0001) in 2022-23 and 28.35% (p-value <0.0001) in 2023-24 had a urea level above the reference range. Further analysis was carried out to assess for confounding factors such as congenital heart disease.

Conclusion
Irish children with DS have higher urea and creatinine levels than the general population, which is consistent with similar studies carried out in France[4] and Japan.[5] We do not routinely screen these children for renal disorders, however, they are at increased risk of congenital anomalies of the kidney and urinary tract, the prevalence of which may be as high as 4% in this cohort. [6, 7, 8] This study highlights the importance of checking renal function tests with annual bloods for children with DS and the need for further investigation or referral to appropriate specialists in the case of abnormal results. Further research is needed to determine whether specific reference ranges for creatinine should be applied for children with DS to avoid unnecessary investigation.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 15
General Paediatrics

BLOOD CULTURE TESTING AMONG PAEDIATRIC ADMISSIONS: THE PICTURE FROM STARLING ACUTE MEDICAL ADMISSION UNIT (AMAU), A SHORT-STAY, HIGH-TURNOVER INPATIENT UNIT

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Aims: Blood culture (BC) testing is important to identify serious bacterial infection in febrile children, but contaminated tests can prolong length-of-stay (LOS)[1]. The aim of this study was to determine the proportion of children who had BC testing on admission to the AMAU, and to assess for association with LOS. Secondary aims were to determine the contamination rate and time-to-positivity (TTP) for positive BC tests.
Methods: This retrospective cohort study, was performed at a tertiary paediatric hospital in Dublin, Ireland. All patients admitted to the AMAU over 8 months (13/8/2023- 28/4/2024) were included for analysis. Demographics, admitting diagnosis, and LOS were identified using Integrated Patient Management System and Symphony ICT system. WinPath laboratory system was used to collect microbiological data. Microsoft Excel was used to collate data, IBM SPSS software for data analysis and Mann-Whitney U-test to compare medians.
Results: Of 971 patients admitted during the study period, 528(54%) had BC testing. Of those 528 children, 35(6.6%) were positive. Of 35 positive BC, 29(83%) were contaminants and 6(17%) were deemed significant, indicating a rate of true bacteraemia of 1.1%. Of 29 contaminated BC, 21(72%) had a virus identified. In aerobic bottles, median TTP was 15 hours (14-24 hrs) for clinically significant BC, compared with 21 hours (13-46 hrs) for contaminants($p=0.051$). In anerobic bottles, median TTP was 15 hours (13-16 hrs), compared with 40 hours(19-120hrs) for contaminants($p=0.001$). Children who had BC testing had longer LOS than those who did not (median=43 hours; IQR 28 hrs vs. median=27 hours; IQR 40 hrs; $p<0.001$).
Conclusions: 54% of admitted patients had BC taken, which was associated with longer LOS. All children with clinically significant bacteraemia had positive BC by 24 hours. Judicious use of BC testing and consideration for discharge of clinically improved children with negative cultures at 24 hours may reduce LOS.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 16
General Paediatrics

THE UTILITY OF MCUG IN CHILDREN WITH UTI AND RENAL ANOMALIES IN AN ACUTE GENERAL HOSPITAL

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Introduction: Micturating Cystourethrography (MCUG) is a radiological technique used to diagnose urinary tract abnormalities such as vesicoureteral reflux (VUR) and posterior urethral valves (PUV). The procedure involves filling the bladder via a urinary catheter with a contrast agent and taking X-rays while it empties, giving detailed visualisation of the urinary tract drainage. While MCUG is effective, radiation exposure and patient comfort must be carefully considered in this invasive investigation. Alternatives to MCUG include ultrasound, DMSA scan and MAG3 renogram. These all offer lower radiation exposure, however, less reliably identify VUR.[1,2]

Aims and Methods: A retrospective review of charts, radiology databases and microbiology results of children who underwent MCUG at WGH between 2018-2023, aiming to assess adherence to guidelines and outcomes for these patients for quality improvement purposes.

Results: 10 children were identified during this time period. 6 scans were indicated by UTI diagnosed <6 months of age. Of those, 2 (33.3%) identified VUR, with 1 patient also having PUV. 3 were indicated by antenatal hydronephrosis, of which 1 patient was diagnosed with VUR. 1 scan was indicated by ureterocoele - this patient had no abnormalities on this scan, however, later developed a UTI and was found to have possible VUR on subsequent scans.

Conclusions and Quality Improvement: The number of patients with UTI in which VUR was identified correlates with the RCPI guidelines reported incidence of 30%, suggesting an appropriate number needed to diagnose in this centre. Documentation of follow up following referral to tertiary centres could be improved, as could mode of communication between WGH and these centres. Further audit is required to include all patients diagnosed with UTI to assess for adherence to the guidelines from the initial diagnosis.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 17
General Paediatrics

EVALUATION AND IMPROVEMENT OF HANDOVER QUALITY IN A REGIONAL PAEDIATRIC AND NEONATAL DEPARTMENT: A PATIENT SAFETY INITIATIVE

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Aims

Clear communication between healthcare professionals is key to providing safe and effective patient care. The ISBAR (Identification, Situation, Background, Assessment, Recommendation) clinical handover tool is the nationally recommended standardised communication tool for conducting clinical handover, and has been shown to improve patient safety and outcomes across various clinical settings [1, 2].

The aim of this project was to evaluate compliance with the ISBAR format in daily paediatric and neonatal handover meetings, and to improve compliance through educational and visual aid interventions.

Methods

A baseline audit was conducted to assess the use of ISBAR in daily handover meetings. All patient discussions from 10 consecutive handover meetings were evaluated and the use of each ISBAR domain in each patient discussion was recorded in a yes/no format.

Following the initial audit, two interventions were introduced: a teaching session for paediatric NCHDs about the significance of effective patient handover, and the incorporation of a reminder about the importance of ISBAR to the daily handover sheet template.

A re-audit of 10 additional meetings was performed to assess the impact of these interventions.

Results

The initial audit showed high compliance (100%, 69/69) with the situation, background and assessment elements of the ISBAR tool. However, identification of the patients (72%, 50/69) and recommendations for care (75%, 52/69) were often omitted from handovers.

Following the educational and visual aid interventions, compliance with the ISBAR format increased. Identification of patients rose to 94% (65/69), and in 100% (69/69) of cases, the situation, background, assessment and recommendation for care were handed over.

Conclusion

The implementation of educational and visual aid interventions improved compliance with the ISBAR communication tool in patient handovers. These improvements highlight the importance of continuous training and the use of structured communication tools to enhance patient safety and the quality of clinical handovers.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 18
General Paediatrics

PAEDIATRIC AND NEONATAL SIMULATION BASED ACTIVITY FOR WEXFORD GENERAL HOSPITAL(May 2023-Sept 2024)

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Simulation experiences are widely acknowledged as instrumental in the enhancement of procedural and behavioral skills, heightening team coherence and performance [1,2], emulating actual or potential situations in practice, facilitating the achievement of cognitive, psychomotor, and affective skills requisite in everyday clinical settings [3].

Aim: To facilitate and coordinate simulation based activities, which were multi-disciplinary, insitu (clinically based), and psychologically safe, across both paediatric and neonatal settings within the hospital.

Methods:

1. Construct simulation-based experiences identified through educational needs assessment, and retrospective High Acuity Low Occurrence (HALO) cases.
2. Promote fidelity conceptually, utilising IPADS, lab results, manikins, and clinically based settings, and psychologically, through the preparation of the attendants with pr-brief, and familiarization of equipment and requisite contextual information regarding cases.
3. Foster a culture of simulation-based learning, to improve team dynamics, communication, knowledge skills and attitudes (KSAs) requisite in delivery of safe care during HALO events[4,5,6].
4. Mitigate against failure of successfully ran simulations, through anticipation of high activity periods.

Results:
Neonatal Simulations : 9
Scenarios: Meconium Aspiration 2, Cooling 2, Flat Newborn 4, Preterm 1
Attendees: 75
Paediatric Simulations: 19
Scenarios: Sepsis 7, Status Epilepticus 3, RSV Bronchiolitis 1, ABCDE assessment 5. Pertussis 1, Blocked VP Shunt 1,SVT 1.
Attendees: 143
Conclusions:

1. Perseverence in nurturing a culture of simulation based learning, though difficult initially, is now viewed more positively as a medium for learning.
2. Measurement of learner's progress towards the meeting of objectives would be useful data, in assessing the impact of simulation based experiences. A model to measure learner's progress such as "The New World Kirkpatrick Model " [7] would serve to address four sequential levels of evaluation: 1. Reaction 2. Learning 3. Behaviour and 4. Results.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 19
General Paediatrics

Assessment of Urine Microscopy and Culture in Febrile Infants: A Retrospective Audit

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Aim: This audit evaluated whether urine samples were consistently sent for microscopy and culture from the Paediatric Emergency Department at Our Lady of Lourdes Hospital (OLOL) in febrile infants.
Methodology: A retrospective audit with two phases was conducted. Cycle one examined infants ≤12 weeks CGA who presented to the ED February 1st -28th 2023. Data collected included demographics, temperature, co-morbidities, urine dipstick results, microscopy, cultures, and antibiotics prescribed. Information was gathered from patient notes, ED attendance log, and the hospital lab system. Findings were presented to the Paediatric Department in April 2023. Cycle 2 examined infant ED presentations that presented between September 1 to 30.
Results:
Cycle 1- 8 infants ≤12 weeks CGA with fever >38C were identified. 100% had a urine dipstick. 25% had urine sent for MC+S. 16.6% of positive for WCC or nitrites were not sent for culture.
Cycle 2- 9 infants ≤12 weeks CGA with fever >38C were identified, 4 of whom had urine sample sent for MC+S. Six (66.6%) of the study group had urine dipstick, two (22.2%) patients had neither urine dipstick nor microscopy sent.
Conclusion: The audit revealed that many febrile infants ≤12 weeks did not receive urine microscopy and culture, deviating from national and international guidelines that recommend these tests for all febrile infants under 3 months. Urine dipstick alone is insufficient to rule out urinary tract infections in this vulnerable group, and non-compliance poses a risk of missed infections. Following an educational intervention for paediatric staff, a slight improvement was observed in the second audit cycle. This highlight the importance of continued medical staff education and the development of clear guidelines to ensure adherence and improve patient care.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 20
General Paediatrics

OPTIMIZING INTERPROFESSIONAL COMMUNICATION: COLLABORATIVE SAFETY HUDDLE IN PAEDIATRIC WARDS CHI AT TALLAGHT – QUALITY IMPROVEMENT PROJECT

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Introduction:
Effective communication during handovers is critical to patient safety in healthcare settings, particularly in paediatric wards where patient conditions can change rapidly. This quality improvement (QI) project aimed to enhance interprofessional communication and improve patient care by implementing structured daily huddles in the Paediatric wards of CHI Tallaght University Hospital.
Studies have shown that patients are safer when huddles take place, as they help improve bed management and overall patient care (Frankel et al. 2007; Provost et al., 2015).
Aims and Objectives:
The objective was to improve communication between doctors and nurses through structured huddles designed to address safety risks, "watchers" (ill patients), discharge plans, and ward flow, leading to better patient management and care coordination.

Methods:
The huddles were conducted twice daily in front of the patient boards in both Maple and Oak wards. The nurse in charge led these brief 5-minute sessions, which were attended by the post-take and intake medical teams and nursing staff.
Timeline:
April 2024: The project was proposed, and the idea was developed.
May 2024: The proposal was formalised, and approval from the nursing administration was secured. Huddles began in Oak Ward on May 28.
June 2024: The huddles expanded to Maple Ward. Posters were created to promote the initiative, and documentation templates were introduced for consistent tracking.
August 2024: Staff surveys were distributed via QR code to evaluate the huddles' effectiveness.
The project utilised Plan-Do-Study-Act (PDSA) cycles for iterative improvements. Staff feedback informed adjustments and additional training and support were provided as needed.

Results: Survey results showed that 70.59% of staff were satisfied with communication, with 43.75% reporting significant improvements. Additionally, 88.24% observed improved communication as a direct benefit, while 70% found the huddles had clear objectives. However, 66.67% occasionally needed to remember to attend, and 44.4% cited being too busy to join regularly.
Conclusion:
This project improved communication, team coordination, and patient safety. PDSA cycles ensured continuous refinement, demonstrating the huddles' effectiveness in enhancing interprofessional collaboration in Paediatric care settings.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 21
General Paediatrics

Breathe Easier: Pleural Vent as a palliative care plan for recurent pneumothoraces in ulrich muscular dystrophy patient

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Aim
This abstract aims to highlight the effectiveness of pleural ventilation as a palliative care strategy for managing chronic pneumothorax and respiratory distress in patients with Ulrich muscular dystrophy. By emphasizing patient comfort and quality of life, we seek to demonstrate the potential benefits of this intervention in a population that faces significant respiratory challenges due to their condition.

Method
A case of a 15-year-old girl with UMD who experienced severe respiratory distress due to recurrent pneumothorax despite optimal medical management, including non-invasive ventilation and chest tube insertion. After thorough discussions with her family about her care goals and preferences, a pleural vent was placed as a palliative and less invasive intervention to relieve her symptoms

Results
Following the placement of the pleural vent, the patient experienced significant and immediate relief from respiratory discomfort. This intervention proved to be more effective than traditional invasive chest tube placement, providing a less invasive option for managing her chronic recurrent pneumothorax. While the pleural vent improved her ability to breathe easily, it also presented a complication of blockage, which required careful monitoring and management. Despite this challenge, the intervention enhanced the patient's overall well-being, demonstrating the pleural vent's value as a palliative care strategy for patients with complex respiratory issues. This case emphasizes its benefits in improving quality of life while acknowledging the need for vigilance regarding potential complications.

Conclusion:
This case illustrates the potential of pleural vent placement as a palliative strategy for managing severe respiratory distress in adolescents with UMD. By prioritizing patient comfort and quality of life, healthcare providers can help patients navigate the complexities of progressive diseases with dignity. The case underscores the importance of personalized care approaches and their profound impact on patients and families, warranting further research into the broader application of this intervention.

Ball M, Babu S, Wallis A, Asciak R. Promising role for pleural vent in pneumothorax following CT-guided biopsy of lung lesions. The British Journal of Radiology. 2022 Jul 1;95(1135):20210965. Shaalan AM, Alhuthaifi A, Elwakeel EE, Ezeldin TH. Outcomes of using pleural vent for managing spontaneous pneumothorax. The Egyptian Journal of Surgery. 2023 Apr 28;41(4). Jones L, Johnston R, Aujayeb A. Ambulatory management of pneumothorax using a novel device: Rocket Pleural Vent. BMJ Case Reports CP. 2019 May 1;12(5):e229408. Fraser KL, Wong S, Foley AR, Chhibber S, Bönnemann CG, Lesser DJ, Grosmann C, Rutkowski A. Pneumothoraces in collagen VI-related dystrophy: a case series and recommendations for management. ERJ open research. 2017 Apr 1;3(2).

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 22
General Paediatrics

Hard palate lesion in a toddler ?? Diagnosis

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Aims: To report, raise awareness and highlight the symptoms of pediatric hard palate foreign bodies.

Methods: Case presentation and retrospective review of clinical notes, data and investigations results. Literatures review of palatal foreign body with search in PubMed and Google scholar. Consent obtained from the patient's careers. Results: A previously healthy 2-year-old boy presented with her parents with sore roof of her mouth and decrease oral intake. Mum reported that she had been chesty six weeks prior to admission and received antibiotics and steroids. She is otherwise healthy. She has a background history of non-verbal Autism and she has severe expressive and receptive language delay. On examination, he had a circular lesion of 3.5 cm with white spots and redness mouth lesion. Her blood investigations include FBC, U&E, LFT, CRP, coagulation profile, CK, LDH, and autoimmune screen are normal. Initially, she was treated with three weeks of Mycostatin and 1 week of oral Fluconazole. She was refereed and see by the pediatrics surgeon. She had an examination under general anesthesia and a foreign body was removed.

Conclusion: Palate foreign body impaction is rare in children. It is often misdiagnosed as neoplastic or inflammatory lesions causing much stress to parents. Physicians should keep a high index of suspicion of foreign body impaction when prompted for lesions of the hard palate. 32 cases of hard palate foreign body impaction were reported from 1967 to date to the pediatrics age group.

M. Khalaf, H. Smaily, S. Rassi, Pediatric hard palate foreign bodies: Case report and Systematic review of the literature, International Journal of Pediatric Otorhinolaryngology, Volume 127, 2019, 109654, https://doi.org/10.1016/j.ijporl.2019.109654.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 23
General Paediatrics

PAEDIATRIC HDU, REGIONAL ACTIVITY IN THE SARS-COV-2 ERA (PHRASE) STUDY. A 4 YEAR PERI AND POST PANDEMIC ANALYSIS.

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Aims: The Paediatric High Dependency Unit (PHDU) at University Hospital Limerick (UHL) operates as the only standalone PHDU outside of Dublin's PICU centres. The aim of this study was to describe PHDU case load, outcomes and respiratory support requirements of patients. This in turn may provide guidance on the reduction of burden on PICU resources facilitated by a regional PHDU model.
Method: Admission records from the PHDU were analysed on a monthly basis from the period July 2020 - June 2024. Trend and seasonal analysis was performed on the data to assess variations in the time series data.
Results: Admissions increased from 74 in year 2020/21 rising to 207 in year 2023/24 of which respiratory aetiologies accounted for n=19 [25.7%] and n=103 [49.8%] respectively. In 2023/24 non-invasive ventilation (CPAP/BiPAP) was the maximal respiratory support for N=48 (23.2%). Of the recorded outcomes (n=5 [7.7%] in 2020/21 and n=10 [14.0%] required transfer to PICU. Seasonality was statistically significant with 5.83 more admissions per month expected in winter [CI 1.60-10.06]. Numbers of admissions per month showed a statistically significant secular trend over the full sample (0.2 more admissions per month CI 0.13-0.27). There was a strong secular trend in higher use of CPAP over time, a 0.1 increase per month (CI 0.06 to 0.13) with a strong seasonal component in December, with 3.97 more patients on CPAP [CI 1.95 5.98]. Median length of stay was unchanged at 1 day (IQR 1-2 days).

Conclusions: This data shows UHL PHDU had a patient population in line with prior studies with satisfactory patient outcomes. A low rate of transfer for tertiary care, over a prolonged period stretching across and beyond periods of pandemic related social-restriction was demonstrated. This is supportive evidence in favour of developing regional PHDU capacity, thus decreasing winter strain on PICU bed capacity.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 24
General Paediatrics

IMPROVING CLARITY AND EFFICIENCY IN GENERAL PAEDIATRICS CLINIC LETTERS: A QUALITY IMPROVEMENT PROJECT AT CORK UNIVERSITY HOSPITAL

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Aims

This quality improvement project aims to determine if an intervention promoting standardised letter format and enforcing a strict letter length can enhance the clarity of letters sent to GPs from General Paediatric clinics at Cork University Hospital (CUH)[1].

Methods

The audit was divided into two phases, pre-intervention and post-intervention. Each phase involved reviewing a sample of General Paediatrics Clinic letters at CUH, with key parameters recorded. The intervention consisted of a brief talk delivered after morning handover to the NCHDs at CUH, supported by a PowerPoint slide detailing the audit. A weekly reminder was sent to the NCHD's. Each letter received a score of 1 if a heading was present, otherwise, it received a score of 0. Points were given for more concise letters. Letters were read at a consistent pace to ensure uniform assessment.

Results

Pre-Intervention Phase
50 letters were reviewed:
- Diagnosis was mentioned in 37 letters (74%).
- Auxology was included in 23 letters (46%).
- Medications were listed in 15 letters (30%).
- Impression was included in 2 letters (4%).
- Plan was detailed in 11 letters (22%).
- 34 letters (68%) could be read in under two minutes.

Post-Intervention Phase
50 letters were reviewed:
- Diagnosis was mentioned in 41 letters (82%).
- Auxology was included in 34 letters (68%).
- Medications were listed in 19 letters (38%).
- Impression was included in 13 letters (26%).
- Plan was detailed in 37 letters (74%).
- 43 letters (86%) could be read in under two minutes.

Conclusion

The intervention led to an overall improvement in the quality of paediatric letters at CUH. However, further efforts are required to consistently include medications in the letters. Future audits should continue to monitor these parameters to ensure ongoing improvements in letter quality.

1. Professional Record Standards Body (PRSB). Outpatient Letter Standards Final Report. Available at: PRSB Outpatient Letter Standards Final Report.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 25
General Paediatrics

NARRATIVE REVIEW: IMPACTS OF SOCIAL MEDIA AND SMARTPHONES ON CHILD & ADOLESCENT HEALTH

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Background
Social media and smartphone usage has increased dramatically among minors in recent years on. Various control measures are being considered internationally to mitigate addiction and impact in this cohort.[1] This review evaluated the latest evidence of these technologies' health effects on children and teenagers.

Methods
Literature search was conducted through. PubMed. Included studies were published in English from 2019 onwards, with titles containing non-MeSH search terms from three categories: 1. (social media, smartphone, screen use, Instagram, TikTok); 2. (health, addiction, impact, harm, disorder, benefit, improve); 3. (infant, child, children, teenager, adolescent, school).

Results
192 studies were reviewed, and 85 were included in final analysis. They were categorised into 10 themes according to domain of health impact: mental health (18), physical health (8), risk behaviours (4), diet (3), relationships (8), sleep (5), smartphone and social media addiction (17), school performance (3), access to information (4), apps / social media for health improvement (15). A wide range of outcomes were measured including self-harm, anxiety, myopia, depression, mood improvements through music, poison ingestion, oral hygiene practices, mother-infant bonding, hypertension, inattentionand impulsivity, promotion of healthy foods, musculoskeletal discomfort, and knowledge of sexual and reproductive health. Overall, 60 studies demonstrated negative health effects, 18 were positive and 7 were neutral.

Conclusion
While smartphones and social media undoubtedly can improve the lives of young people, there are many dangers and health hazards associated with their use and overuse. Most studies in this review demonstrated negative health outcomes for children, particularly in the domains of mental health, physical health and relationships. Positive outcomes in the literature mainly related to specific health improvement smartphone apps. These findings can inform policy for increased regulation of smartphone and social media usage among minors to protect their mental and physical health.

1. Montag C, Demetrovics Z, Elhai JD, Grant D, Koning I, Rumpf HJ, et al. Problematic social media use in childhood and adolescence. Addict Behav. 2024;153:107980.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 26
General Paediatrics

TIKTOK & TEENS: AN EXPLORATION OF HARMFUL AND INAPPROPRIATE CONTENT RECOMMENDED TO ADOLESCENTS BY THE SOCIAL MEDIA ALGORITHM

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TikTok & Teens: An exploration of harmful and inappropriate content recommended by the social media algorithm
Category: Health Improvement
J. Gannon, F. O'Hanlon, C. Lynch

Background

The proportion of adolescents using social media and time spent on these sites continues to rise.(1) Concern has been raised about children's access to harmful content through these platforms. The extremely popular social media site TikTok lists "Youth Safety and Well-being", "Safety and Civility" and "Mental and Behavioral Health" policies on its website which ban depiction of certain content to protect users.(2)

Methods

Four dummy TikTok accounts were created with adolescent age profiles (13M, 13F, 15M, 15F). Each "user" scrolled the For You Feed for three hours, only stopping to watch reels from four themes (conflict, mental health, drugs & alcohol, diet & body image, respectively). The users never clicked links or profiles, searched for keywords, or followed accounts.

Results

Screen recording captured all videos displayed in each feed. Reels were compared to TikTok's policies to assess for violation of terms. Over 12 hours, there were 128 videos which violated TikTok's safety policies: 23 for 13M, 36 for 13F, 44 for 15M, 25 for 15F. The most common inappropriate themes were suicide, disordered eating, gun violence and promotion of hateful ideologies.

Conclusion

Social media companies like TikTok generate billions of dollars in advertising revenue, achieved by maximising the amount of time spent by users on the site. To date they have largely been allowed to self-regulate in protecting youth from exposure to harmful content. This experiment demonstrates that TikTok's own video restrictions for adolescents are regularly violated, even without users searching or following accounts, as the algorithm recommends increasingly extreme videos across various domains to maintain their attention. Regulatory authorities like Coimisiún na Meán must take firm action against these companies to mandate enforcement of their own safety policies and protect children from online harm. Other potential measures such as banning social media for under-16s are being considered.(3)

1. Central Statistics Office [online] Internet Coverage and Usage in Ireland 2023 [Available from: https://www.cso.ie/en/releasesandpublications/ep/p-isshict/internetcoverageandusageinireland2023/frequencyofinternetusage/.
2. TikTok [online] Community Guidelines [Available from: https://www.tiktok.com/community-guidelines/en.
3. Irish Examiner [online] Doctors back calls to ban social media use for under-16s [Available from: https://www.irishexaminer.com/news/arid-41464183.html.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 27
General Paediatrics

ASSESSING THE QUALITY OF CARE FOR CHILDREN WITH ACUTE GASTROENTERITIS IN THE PAEDIATRICS EMERGENCY DEPARTMENT AT MRHM

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Aims:
The audit aimed to determine compliance with CHI guidelines in the management of infants and children presented with GE to the Mullingar Paediatric Emergency Department
Methods:
A review of 100 patient charts from August and September 2023 assessed the quality of care provided to children with acute gastroenteritis who presented to the Paediatrics Emergency Department at MRHM. The review also focused on using the IPMS system to evaluate ED history and determine whether patients were represented with similar conditions within one week of their initial episode.
Results:
There were 52% boys and 48% girls aged 2-10 years. Clinical evaluations found that the Mucus membrane was not assessed in 82%. CRT was not examined in 41% of cases, peripheral pulse quality was not noted in 96% of patient files, and blood pressure was not reported in 81 % of instances. The degree of dehydration wasn't mentioned in 68% of patients. Meanwhile, 22% of patients under study have moderate dehydration. Blood tests were ordered for 20% of patients, all with a normal renal profile. No patient was recommended to use an NG tube. ORT was tried in 60% of instances. IV fluid is not recommended in 92.9% of cases. Hospital admission was required in 3% of patients after the first presentation.

Conclusion:
This audit showed that audit standards were not achieved at different levels of management and that all areas, including documentation, investigation, and management, needed improvement. Although the overall outcome was positive, only a tiny population was admitted to the hospital, and the representation rate was low. Proforma was prepared to make the management of GE in children easier and safer. We will launch a campaign to raise awareness of the national guidelines and conduct a reauditing.

Jenny Hayden, Roisin McNamara et.al. 2021. Gastroenteritis: Acute Management.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 28
General Paediatrics

PAEDIATRIC ORAL SEDATION SAFETY CHECKLIST DEVELOPMENT IN CORK UNIVERSITY HOSPITAL

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Background: Oral sedation is increasingly used for procedures in children in the ward and day unit setting. It is frequently used for diagnostic and therapeutic interventions where sedation is needed to assist while performing and improving the success of the procedure (CT,LP, bloods). Until May 2024, our unit did not have a protocol for pre-sedation safety assessment. Following a critical incident on the paediatric ward following oral sedation in a child with obstructive sleep apnoea we reviewed our practice.
Methods: Through multi-disciplinary (MDT) input we spoke with our nursing colleagues to develop a strategy plan for the development of a safety assessment to prevent unnecessary sedation, harm or complications arising from oral sedation use in paediatrics. We reviewed the required qualifications of those prescribing sedation; equipment and baseline medical assessments required. A wide variety in pre-sedation assessments was being used by staff, with no clear way of assessing and standardising who had performed a safety assessment prior to the administration of oral sedation.
Results : MDT input (senior nursing and medical staff, and senior nurse educators) was sought to develop a medical pre-sedation safety assessment for the patient, a list of needed equipment, and a strategy to cope with potential difficulties. This was incorporated into a safety checklist to be completed prior to administration of sedation. Our protocol was reviewed, edited and approved by our MDT team prior to implementation.
Conclusion/Discussion: Oral sedation is routinely given for the facilitation of paediatric procedures outside of the ICU/ED setting. Ensuring PLS qualified staff members are prescribing sedation and by developing a safety sedation checklist we have strived to minimise undue harm and risk associated with the use of sedation. An audit of use is planned to ensure implementation following 6 months of education and dissemination in 2025.

1. CHI Sedation Guidelines: hWps://media.childrenshealthireland.ie/documents/Oral-SedaTon-.pdf 2. Starship SedaTon Guidelines: hWps://starship.org.nz/guidelines/sedaTon-in-children/ 3. The Royal Children's Hospital Melbourne: hWps://www.rch.org.au/clinicalguide/guideline_index/Procedural_sedaTon/ 4. EMED Procedural Checklist: hWps://emed.ie/_docs/Proc- SedaTon_Paediatric_Checklist_CUH_20200823.pdf

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 29
General Paediatrics

Pediatrician's calculated QT interval on ECGs of adolescents presenting to paediatric assessment unit with syncope, pre-syncope or chest pain.

Y Ibrahim[1], N Van der Spek[2]
Dr Yahya Ibrahim [1] . Prof. Nick Van Der Spek [2] . Cavan General Hospital (CGH). June 2024

Background: Syncope, pre-syncope and chest pain are common presentation to paediatric emergency department. The vast majority of cases are due to vasovagal syncope or postural hypotension.

Prolonged QT interval increases risk of developing polymorphic ventricular arrhythmia 'Torsades de Pointes' (TdP), resulting ventricular fibrillation and cardiac arrest. QT interval correction enables comparison of QT intervals at different heart rates. Recent evidence comparing automatic and manual QT-interval and QTc readings found them to be highly discrepant. Bazett's formula was the best formula at eliminating the effect of heart rate on QT interval.

Aims: The primary aim was to discover how accurately is the QT interval measured by paediatric doctors in CGH. This is by determining variation of measurements obtained by doctors in the department on a sample of ECGs and to screen what methods useds to calculate QT interval.
Secondary Aims included providing departmental education about ECG interpretation and to highlight a common presentation to paediatric ED.

Methods: Doctors in Paediatrics department in CGH were handed a pack of 10 ECGs to calculate the QTc interval for each ECG along with childrens health Ireland ECG checklist as a guide. Those ECGs were of adolescent patients who presented with Syncope, pre-syncope or chest pain in the 6-week period between first of April and 15th of May 2024.

Results: Eleven non-consultant doctors and one consultant responded to the study. 75% of doctors said they always calculated the QTc manually and 66% used the Bazett's formula. Identical readings obtained or readings within +/-5 msec occurred between 33% and 60% of the time.

Conclusion: Results are comparable to data obtained in large studies which admit that calculating the QTc manually is challenging especially in abnormal ECGs. It was a greed to design a teaching program for NCHDs that can be performed 6-monthly to train NCHDs on how to calculate QTc interval.

References.

- *Baumert M, et al. QT interval variability in body surface ECG: measurement, physiological basis, and clinical value: position statement and consensus guidance endorsed by the European Heart Rhythm Association jointly with the ESC Working Group on Cardiac Cellular Electrophysiology. Europace. 2016 Jun;18(6):925-44. doi: 10.1093/europace/euv405. Epub 2016 Jan 27. PMID: 26823389; PMCID: PMC4905605.*
- *Dahlberg P, et al. QT correction using Bazett's formula remains preferable in long QT syndrome type 1 and 2. Ann Noninvasive Electrocardiol. 2021 Jan;26(1):e12804. doi: 10.1111/anec.12804. Epub 2020 Oct 18. PMID: 33070409; PMCID: PMC7816807.*
- *Benjamin Neumann, et al. automatic assessment of the QT-interval and corrected QT, EP Europace, Volume 25, Issue 9, September 2023, euad213, https://doi.org/10.1093/europace/euad213*
- *Postema PG, Wilde AA. The measurement of the QT interval. Curr Cardiol Rev. 2014 Aug;10(3):287-94. doi: 10.2174/1573403x10666140514103612. PMID: 24827793; PMCID: PMC4040880.*

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 30
General Paediatrics

A teenager with rare variant of ataxia.

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AIM

We would like to present the clinical, genetic and radiological findings of a 13 year and 5 month old girl who presented to our hospital with episodic ataxia.

METHODS

We retrospectively looked at the patient chart and investigations on our laboratory.

CASE DISCUSSION

She was being followed in our OPD and was linked with Paediatric Neurology, metabolic team and genetics team for ongoing episodic ataxia since the age of 15 months. Previously, she was healthy, neuro-developmentally normal girl, born at term, with no family history of ataxia and achieved normal early milestones including normal walking at 15months. She also developed urinary incontinence, hearing and visual problems. She had Ataxic gait, Romberg's sign positive, failed to do the tandem walking, spine was normal, reduced muscle bulk, reduced tone and power, however, reflexes were fine in both lower limbs. She had normal MRI brain, EEG and metabolic work up. Genetics revealed (CONDSIAS) - stress induced childhood onset neurodegeneration with variable ataxia and seizures, likely pathogenic homozygous variant ADPRS gene.

DISCUSSION

CONDSIAS is a rare variant of ataxia. Trio exome (genetic) analysis has detected two likely pathogenic (disease-causing) variants (spelling change) in the ADPRS gene. The ADPRS gene codes for the ARH3 protein which is involved in regulating the way cells respond to stress. Pathogenic variants (disease-causing spelling changes) in the ADPRS gene lead to stress-induced neurodegeneration (loss of neuronal cells) and are seen in a condition called stress-induced childhood-onset neurodegeneration with variable ataxia and seizures (CONDSIAS).

While there is no cure for CONDSIAS, we can help by minimising the impact of identifiable stress such as treating infections appropriately with anti-pyretics and anti-microbial therapy (where indicated, i,e. for bacterial infections).

CONCLUSION

CONDSIAS is a rear condition with no cure. We can help by minimising the impact of identifiable stress such as treating infections appropriately.

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IMJ Official Journal of the Irish Medical Organisation

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May 29th, 2025

Poster No. 31
General Paediatrics

Rising Incidence of Facial Nerve Palsy Post-COVID-19: A Case Report on Facial Nerve Paralysis in a Toddler

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Aim:
This abstract aims to highlight the association between COVID-19 and an increased incidence of Facial Nerve palsy. We present a unique case of a previously healthy 16-month-old girl who developed sudden-onset left-sided facial paralysis following COVID-19 infection.

Methods:
A 16-month-old girl was brought into the emergency department with acute onset left-sided LMN facial paralysis without any preceding trauma or infection. Clinical evaluation confirmed unilateral facial weakness, characterised by the inability to close the left eye and noticeable asymmetry during facial expressions (House-Brackmann Grade IV). Comprehensive investigations were conducted to exclude alternative causes of facial palsy, with the only notable finding being a positive SARS-CoV-2 PCR result. The patient received a 10-day course of oral prednisolone along with protective eye care. She was monitored through regular follow-up visits.

Result:
At the 4-week follow-up, the patient showed significant improvement in facial weakness (House-Brackmann Grade II). Further follow-up at 12 weeks showed complete recovery.

Conclusion:
Although Bell's palsy is rare in children, particularly those under two years old, early recognition is vital. This case underscores the importance of thorough diagnostic evaluation to rule out other potential causes, as well as the need for prompt treatment. Additionally, eye care, including protective measures, plays a crucial role in preventing complications and facilitating recovery. Given the available data about the increase in number of Bells Palsy cases post Covid-19 pandemic, it is also crucial to investigate the potential rise in Bell's palsy cases linked to COVID-19 in paediatric population, as highlighted by this case, to enhance understanding and guide future clinical management strategies. Moreover, the findings in this case also suggest that facial palsy can manifest as the sole symptom or initial sign of COVID 19, further substantiating SARS-CoV-2 as a potential viral cause of Facial nerve palsy.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 32
General Paediatrics

RARE ASSOCIATION OF RECURRENT URINARY TRACK INFECTIONS WITH IDIOPATHIC INFANTILE HYPERCALCEMIA AND NEPHROCALCINOSIS: A CLINICAL INSIGHT

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Background: This case report details an infant boy with a history of two culture-proven urinary tract infections (UTIs), who presented with hypercalcemia and nephrocalcinosis, discovered incidentally during UTI evaluations.

Methods: Data is collected retrospectively by reviewing patient chart.

Results: The patient was admitted twice for recurrent UTIs, during which routine blood tests revealed borderline elevated calcium levels. A renal ultrasound, performed to investigate the UTIs, incidentally identified nephrocalcinosis. Clinical examination revealed no dysmorphic features, and the infant was developmentally normal, with appropriate immunizations.

Comprehensive investigations showed an elevated urinary calcium-to-creatinine ratio while urinary oxalate, citrate, and organic acids remained within normal limits. Parathyroid hormone (PTH) levels were low, effectively excluding hyperparathyroidism as a cause. These findings led to a diagnosis of IHI.
The infant's diet was adjusted to decrease calcium intake, and vitamin D supplementation was discontinued, resulting in normalized calcium levels upon follow-up. This case highlights the uncommon association between recurrent UTIs, IHI, and nephrocalcinosis.

Conclusion: It emphasises the need for heightened awareness of metabolic disorders in infants presenting with recurrent infections. Early detection and dietary management can prevent long-term complications, demonstrating the importance of interdisciplinary collaboration in pediatric care for accurate diagnosis and effective treatment strategies.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 33
General Paediatrics

A UNIQUE CASE OF SUBDURAL EMPHYEMA IN A 9-YEAR-OLD: INSIGHTS INTO DIAGNOSIS AND CONSERVATIVE MANAGEMENT OUTCOMES

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Aim:
To present a case of a 9-year-old male with prolonged fever, headache, and neurological symptoms that ultimately led to the diagnosis of subdural empyema, highlighting the diagnostic challenges and management approach.

Objective:
To describe the clinical presentation, diagnostic workup, and management of a paediatric patient with subdural empyema and evaluate the outcome following conservative management and prolonged antibiotic therapy.

Methodology:
A 9-year-old male presented with a 3-week history of intermittent fever and headache. He had received a course of amoxicillin with no improvement. Upon presentation, he was lethargic, with normal neurological examination and no signs of meningism. Initial blood tests revealed leukocytosis (WBC 17 x10^9/L) and elevated CRP (128 mg/L), with normal liver function tests and electrolytes. A lumbar puncture was performed, yielding normal results, and a CT brain scan revealed mild sinusitis. The patient was started on IV Ceftriaxone, which resolved his fever within 5 days; however, his headache persisted. He was transferred to a tertiary care centre for further evaluation. During his stay, the patient experienced a focal seizure. MRI of the brain revealed subdural empyema, confirmed by an abnormal EEG pattern in the occipitotemporal region..

Results:
Conservative management with antibiotics, guided by neurosurgical consultation, can lead to successful outcomes without the need for surgical intervention. Following neurosurgical consultation, the empyema was managed conservatively with a prolonged course of antibiotics. He was started on Levetiracetam for seizure control and weaned off antibiotics after 6 weeks

Conclusion:
This case emphasizes the importance of considering subdural empyema in paediatrics patients with prolonged fever and headache, even when initial imaging and lumbar puncture are inconclusive. Early recognition and appropriate treatment are crucial for preventing complications and ensuring recovery.

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Poster No. 34
General Paediatrics

A Car Sear Tolerance Screening Audit, the First Step to Increased Safety for a Vulnerable Cohort.

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Aim
Several fatalities of infants during routine car seat travel were reviewed as part of the General Medicine Critical Incident Review Process. This precipitated the creation of a Clinical Working Group to review the process of Car Seat Tolerance Screening and parental education with a view to improving outcomes. The first step was to audit the Car Seat Assessments performed in 2023, to inform future guidelines and improvement of processes.
Methods
This retrospective audit was performed using the EMR EPIC system to identify assessments completed. Any children who were discharged from the hospital from January 2022 and January 2023 and had a Car Seat Tolerance Test were included for review in the audit using Excel.
Results
62 patients were identified with the following diagnoses; (27) 42.8% with a presumed genetic syndrome or neurological condition requiring respiratory support, (19) 30.1% Prematurity + complications, 6 (9.5%) Structural/surgical issues, 4 (6.4%) T21, 7 (11.1%) Congenital cardiac disease/other medical issues. The duration of the assessments varied from 10 minutes to >90 minutes, and the number of assessments required was between 1 and 4. The outcomes of the assessment were; 56 (91.9%) passed +/-modifications, 5 (8.0%) failed initially, passed on repeat +/- modifications. 11 patients (17.7%) required modification of their existing seat, 6 patients (9.7%) required an alternative seat, the presence of a second adult present for travel was recommended in 17 (27.4%) patients. Only 1 patient was not safe for car travel despite modifications.
Results
This audit identified significant variation in the performance of screening and highlighted the variety of conditions that may trigger referral with no clear clinical pathway. Key areas identified for improvement include the creation of a referral process to capture vulnerable infants requiring assessment, the necessity for standardisation of assessments +/- recommendations where possible and improved parental education around safe travel and risk assessments for individual infants.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 35
General Paediatrics

DEVELOPMENT OF A QUESTIONNAIRE TO EXPLORE BARRIERS AND FACILITATORS IN EARLY CHILDHOOD CARE CENTRES' ADHERENCE TO NUTRITION GUIDELINES

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Aims
Early Childhood Education and Care (ECEC) centres are key settings for promoting healthy eating and preventing obesity, as they provide 70% of the daily food intake for preschool children (ages 0-4) in Ireland.[1] National nutrition guidelines exist, but many barriers hinder effective implementation.[2] Given that Ireland has one of the highest rates of obesity and overweight among toddlers in Europe, this research is crucial.[3]
The aims of this study were: (1) to review the literature to understand the barriers and facilitators ECEC staff face in adhering to nutrition guidelines; and (2) to develop a quantitative questionnaire for ECEC centre managers which focuses on meal provision, nutrition policies, nutrition education, mealtime practices, and challenges in following guidelines.
Methods
A literature review was conducted in PubMed to identify key barriers and facilitators. A questionnaire was then developed, incorporating findings from the review and two validated measures: the Environment and Policy Evaluation and Observation as a Self-Report Instrument (EPAO-SR)[4] and the Childcare Food and Activity Practices Questionnaire (CFAPQ).[5] A proposal was drafted outlining sampling, recruitment, pilot testing, and data analysis methods.
Results
The literature review revealed key facilitators, including supportive policies, enhanced staff training, parental engagement, optimized mealtime environments, resource management, and government support. The preliminary questionnaire has been developed and will be piloted before distribution to ECEC centres across Ireland.
Conclusion
This research is part of a wider project aimed at understanding the role of ECEC centres in obesity prevention. The questionnaire will help identify the key needs of Irish centre managers and staff, offering valuable insights into the resources and support that government and public health agencies should provide to foster healthy eating environments. Moreover, the results will inform the development of nutrition education programmes for ECEC staff and guide early-stage interventions to prevent obesity in Irish children.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 36
General Paediatrics

A REVIEW OF ADHERANCE TO THE FEBRILE NEUTROPENIA GUIDELINES IN "SHARED CARE" HAEMATOLOGY/ONCOLOGY PATIENTS ADMITTED TO A PERIPHRAL HOSPITAL

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Aims:
Children's Health Ireland (CHI) at Crumlin is the tertiary referral centre for the treatment of children with Oncology. The care is provided to these children, in a shared care manner, locally at Wexford General Hospital (WGH) through CHI guidelines.
Our aim was to assess the compliance to the recommendation of these guidelines.
Methods:
This was a retrospective study, and adherence to the guidelines for treatment of febrile neutropenia was assessed through chart review. We reviewed the charts of oncology patients who were admitted with the diagnosis of febrile neutropenia over the last three years. We collected the information regarding their diagnostic investigations, antimicrobial treatment, risk classification and outcome of the admission.
Results:
There were 11 admissions with febrile neutropenia, 3 were girls and 8 were boys. Their age ranged between three and fifteen years.
Most common diagnosis was medulloblastoma (3/11) 27%, followed by acute lymphoblastic leukemia (2/11) 18%.
All patients were attended immediately and their PEWS were documented. Vital signs were checked hourly / 4 hourly, according to the guide lines in 100% of the admissions.
Empiric antibiotics and early administration were noted in 100% of cases. Early discussion with the tertiary center was documented in 80% of cases. Blood cultures were taken from both central and peripheral lines in 100% of cases. All recommended lab tests were done in 100% of cases. Respiratory system was the source of infection in 36% of cases and unknown source was in equal percentage of patients.
Conclusion:
It revealed that the overall level of adherence to the guidelines in our hospital was highly achieved. The number of cases reflects the rarity of the malignant diseases.
The audit highlights an area of improvement in documenting an early discussion with the tertiary center, which was highlighted in the departmental teaching.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 37
General Paediatrics

HEALING X-LINKED HYPOPHOSPHATEMIC RICKETS WITH BUROSUMAB IN A TEENAGE PATIENT:A CASE REPORT

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Background

X-Linked Hypophosphatemia is caused by mutations in PHEX Gene (Phosphate regulating gene with Homology to Endopeptidases on X Chromosome , which is normally responsible for activating FGF23. Mutations in PHEX gene causes increased levels of FGF23 , which leads to decreased tubular reabsorption of Phosphorus in the proximal Tubules. Clinical effects are Delayed Dentition, Tooth abscesses, Short stature, Limb deformities, Bone pain , Osteomalacia and Enthesopahy. Laboratory findings include high Urinary Phosphate, Low serum Phosphorous, increased ALP ,whereas PTH may be normal or increased ,Serum Calcium is normal and GFF23 levels are markedly increased .Conventional treatment consists of oral Phosphorous and 1,25 D [1]. Alternative new approach is Monoclonal Antibody “Burosumab” approved for use in 2018 ,that binds to FGF23 , hence reducing its activity [2].

Methods

We describe a case of 15yr old Girl diagnosed with XLH , now under treatment with Endocrinology Department CHI at Temple Street Hospital. Our patient had clinical findings of Genu Varum , Supernumerary tooth, Normal centiles, generalized bone pains and fatigue symptoms. Radiologic findings showed Genu Varum deformity and osteosclerosis of Pelvic Bones. Laboratory investigations showed raised ALP, raised PTH, High urinary Phosphate and raised FGF23 levels.
She was started on Burosumab in 2020 under monitoring by Endocrinology CHI at Temple Street.

Results :

Treatment with burosumab improved renal tubular phosphate reabsorption, serum phosphorus levels, linear growth, physical function and reduced pain and the severity of rickets.

Conclusion

We see clinical improvement and biochemical outcome is extremely encouraging in our patient with much improved quality of life with ongoing treatment with Burosumab.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 38
General Paediatrics

NEONATAL JAUNDICE MANAGEMENT IN THE PAEDIATRIC ASSESSMENT UNIT (PAU) – AN AUDIT OF PRACTICE

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AIMS:

Neonatal jaundice is common and usually transient (1,2). Significant hyperbilirubinaemia and serious liver disease must be identified (2,3). Several babies attend paediatric assessment unit (PAU) for evaluation of jaundice. There is variation in tests done although local and national guidelines exist (1,3,4).

Audit aims were to evaluate current jaundice assessment and management practice, to identify areas of improvement especially prolonged jaundice screening and improve patient experience.

METHODS:

Babies attending PAU at Cork University Hospital (CUH) between 01.01.2023 and 31.12.2023 with jaundice were identified from the appointment diary and the attendance book. Demographics and investigation results were obtained from iCM, iLab and T-Pro letters. CUH guideline was gold standard (1).

RESULTS:

44 babies had jaundice. Age range 4-56 days – 6.8% (3) <7 days, 0% 1-2 weeks, 52.3% (23) 2-5 weeks and 40.9% (18) 6-8 weeks. Most attended in August (10).

41 (93.2%) had prolonged jaundice – 78.4% exclusively breastfed.

- 80.5% were term infants. 9.8% ex-preterms.
- 95.1% had total bilirubin (TBR) result. 4.9% had transcutaneous bilirubin (TcB) result.
- 87.8% (36) had TBR and direct bilirubin (DBR) results. 7.3% had only TBR result.
- One had DBR >20% of TBR – 65.3%.
- 75.6% with TBR <250 µmol/L and DBR <20 µmol/L had additional tests – repeat TBRs, FBC, U&Es, LFTs and TFTs.
- 82.9% had stool colour documented.

7.3% were admitted – 1: 3 weeks old ex-preterm to CUMH, and 2: 6 weeks old term babies to CUH. 1 preterm and 1 term were discussed with gastroenterologist and had reportedly normal abdominal ultrasound scans.

CONCLUSION:

93.2% had prolonged jaundice. TcB use in 1–14-day olds is reasonable (1, 2, 4), and may reduce bloods done and costs.

Biliary atresia is time sensitive – surgery in UK before 60-days old (3). We propose aiming for PAU/ED prolonged jaundice assessment by 4 weeks of age. Tests must include DBR and TBR (1, 2,3,4).

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 39
General Paediatrics

THE IMPORTANCE OF INTRODUCING PAEDIATRIC BASIC LIFE SUPPORT TO ANTENATAL CLASSES: A CROSS SECTIONAL QUALITATIVE STUDY

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Introduction
Over 23,000 and 2,200 annual Paediatric-Out-of-Hospital-Cardiac-Arrest (POHCA) occur in the USA and Ireland respectively.[1,2] Lowest survival rates are in cases below 1 year of age with higher incidence and mortality compared to other age groups of children.[3,4] Effective bystander and first-responder rescue is the foundation for subsequent professional treatment of children in cardiac arrest.[5]

Aim
To evaluate the attitudes and preferences of pregnant mothers in introducing paediatric basic life support (PBLS) to in-hospital antenatal classes.

Method
Cross-sectional qualitative study in the obstetrics, gynaecology, and paediatrics department in University-Hospital-Kerry. A 10-question survey was issued to women of gestational age 20 weeks onwards in September 2024. The data was collected and analysed using descriptive statistics.

Results
Seventy-five mothers participated in the survey. Sixty percent were aged between 26-35 years old, and 41% were primigravida. Notably, 70% of respondents strongly agreed on the importance of having PBLS skills. 65% expressed a willingness to undergo BLS training. Despite this, 60% had never received any form of BLS training, neither paediatric nor adult. Furthermore, 64% believed that PBLS should be included in routine antenatal classes; and 59% preferring to receive the training before childbirth, 17% opting for both antenatally and postnatally. 98% agreed that PBLS training should be provided to all parents. 'Interest in the topic' is the commonest encouraging factor in participants (33%). However, personal time constraints are identified as the most common obstacle to participation (37%), followed by lack of childcare (28%).

Conclusion
This study highlights a strong desire among expectant mothers for PBLS to be integrated into antenatal classes. A majority not only recognize the importance of learning PBLS but are also willing to participate in training sessions.
Incorporating PBLS into antenatal classes will play a crucial role in enhancing infant outcomes and ensure parents are better equipped to handle POHCA.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 40
General Paediatrics

CYSTATIN C: A POSSIBLE MARKER FOR RENAL DYSFUNCTION IN CHILDREN WITH TRISOMY 21

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Aims
Trisomy 21 (T21) is a condition that affects multiple systems, and is known to cause higher rates of both renal and urological disease, ranging from 4 – 21.4%. Serum creatinine levels have typically been the benchmark by which we determine levels of renal dysfunction, but this has a number of pitfalls when it comes to children due to variations in muscle mass, age, ethnicity, and sex, further compounded in children with T21. The role of Cystatin C (CysC) has been theorized to provide a more accurate reflection on renal damage in children as it is not affected by varying muscle mass and other variables. Our aim is to calculate CysC levels in children with T21 and compare with normal accepted values for children with no known renal disease or T21 diagnosis. We hope it can provide a more specific marker for underlying or evolving renal damage in these children.
Methods
Blood samples were taken from 54 children with confirmed T21, along with 14 controls. Ages ranged from 3 weeks to 16 years, with other demographics including documented comorbidities, achievement of developmental milestones, and neuroimaging.
Results
We found that there were significantly higher levels of CysC in the serum of children with T21 compared to age matched controls, with a mean of 71,869pg/ml in the former compared to 665pg/ml in the controls. Sex, age, or associated co-morbidities did not appear to significantly alter the levels of CysC, which ranged from 65,441-79,284.06pg/ml.
Conclusions
At baseline it appears that children with T21 have elevated levels of CysC. It is theorized that CysC may play a neuroprotective role in T21, but what we don't yet know is how closely it corresponds with established renal disease. This baseline elevation makes our results difficult to interpret. Further studies correlating these findings with creatinine levels and renal imaging could provide further guidance.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 41
General Paediatrics

GOOD START
(Guidelines tO develOp a comprehensive Discharge checkliST for neonAtes with tRisomy Twenty one)

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Aims
Downs Syndrome (DS) is the most common chromosomal disorder worldwide, affecting approximately 1 in 800 live births. It is multisystem condition which can have result in a number of complications, and while some of these can manifest at later points in childhood and even in to adulthood, there are several that can be screened for as early as the neonatal period. The aim of this project was to update our own neonatal discharge checklist for children with T21, based on the most up to date literature and evidence.
Methods
A review of international guidelines, including DSMIG 2018, AAP 2022, and EDSA, was carried out to provide up to date information on which systems are most commonly affected in DS. Following on from this, a database search of MEDLINE and PUBMED was performed to cross reference these guidelines with the most up to date clinical research.
Results
We generated a list of twelve systems, each further subdivided into specific pathologies and timelines for appropriate investigations. Based off of this we then extrapolated which investigations would be most appropriate during the neonatal period and used this information to update our clinical guidelines. The main areas we felt could be improved upon was our renal and respiratory investigations. This is based on the evidence which describes higher rates of congenital renal disease (4 – 21.4%) as well as obstructive sleep apnoea (20-80%) in the DS population.
Conclusions
A comprehensive evidence-based checklist can help with early identification and treatment in those children with potential underlying renal anomalies and respiratory complications. Based on this evidence we would recommend a post-natal US scan for children born with DS, along with annual urinalysis and blood pressure recordings. We would also recommend an early referral to respiratory for cardio-respiratory polysomnography to prevent delayed OSA diagnosis.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 42
General Paediatrics

PHYSICAL ACTIVITY IN CHILDREN WITH CYSTIC FIBROSIS

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Aims

Physical activity confers numerous health benefits for children and adolescents[1]. Despite this, only 13.5% of children in Ireland attain recommended levels of activity[2]. Better aerobic fitness is associated with improved survival in CF[3]. In the pre-modulator era, the ability of children with CF to exercise was limited by reduced lung function, malnutrition and frequent respiratory tract infections[4]. The aim of this audit was to investigate the level of physical activity of children with CF in Ireland, compared with WHO guidelines.

Method

A questionnaire was formulated to assess physical activity in children aged 5-17 years under the care of the CF team. Parents were contacted by phone and asked to participate. Verbal consent was obtained, and explanation of terms provided. Responses were anonymised and data analysed using Microsoft Excel.

Results

34 patients participated, with an average age of 10.6 years. Participants engaged in physical activity on a mean of 5.9 days per week for an average of 82.5 minutes per day. For 91.2% of participants this was moderate – vigorous intensity and included activities that strengthen muscle/bone. 16 (47.1%) participants were compliant with current WHO guidelines on physical activity. 50% reported that exercise was a part of their child's physiotherapy regime.

16 participants (47.1%) noted a change in activity levels since starting modulator therapy. Of note, some participants started modulator therapy at a very young age, which precluded accurate comparison of this factor. Barriers to engaging in physical activity reported included transport, climate, low mood, illness, Portacath devices and hospital admissions.

Conclusion

Our study suggests that most children with CF engage in regular physical activity. Compliance with WHO guidelines appears to be better than the general population. A reduction in fatigue and disease burden in the post-modulator era are contributing factors to increased participation in physical activity.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 43
General Paediatrics

PACIFIER USE: WHAT IS THE EVIDENCE?

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Aims: Soother or pacifier use is controversial, with many non-evidence-based sources of information readily accessible online. This systematic review aimed to evaluate the existing literature to establish the evidence and provide a comprehensive overview of the clinical implications of soother use on a variety of health outcomes.

Methods: Searches were conducted in PubMed, EMBASE and Cochrane Library for studies published in English between January 2004 and January 2024. All published, full-text randomised controlled trials, expert opinions, observational studies, systematic reviews, and meta-analyses were assessed. Ten reviewers extracted the data and the process was displayed in a PRISMA flow diagram and graded according to a hierarchy of evidence.

Results: The search yielded 595 abstracts, of which 46 full texts were included in the review. The literature supports the use of soothers to improve the feeding transition from gavage to oral in preterm infants, reduce pain during medical interventions, and decrease the risk of sudden infant death syndrome. Malocclusions are a potential complication of prolonged soother use which can be reduced using orthodontic pacifiers. There is limited evidence of the impact of soother use on growth, otitis media and development of speech and emotional intelligence. There is strong evidence to suggest that pacifier use did not significantly affect breastfeeding prevalence or duration, up to four months of age. However, definitive evidence surrounding short term breastfeeding difficulties faced by mothers is lacking.

Conclusions: The outcomes of soother use are multifactorial. Further high-quality research is required in order to prioritise the delivery of evidence-based facts to families.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 44
General Paediatrics

AUDIT OF VITAMIN D LEVELS AND ADEQUACY OF PRESCRIBED TREATMENT AT CHI CONNOLLY: DECEMBER 2023 TO JAUNARY 2024

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Aim: The aim of this audit is to identify patients that had their vitamin D levels tested and if they were prescribed adequate amounts of vitamin D based on the Royal Children's Hospital (RCH) Melbourne guideline for vitamin D deficiency.

Method: This was a retrospective review of all the vitamin D levels taken in the general paediatrics clinics from the 1st of December 2023 to the 31st of January 2024 at CHI Connolly. All the patients that had low vitamin D defined as less than 50 nmol/l were then looked at to see what treatment was prescribed for them.

In term infants under three months, mild deficiency (30-49 nmol/l) is treated with 400 units daily for three months, while moderate or severe deficiency (<30nmol/l) requires 1000 units daily for the same duration. For children aged 3 to 12 months, the approach mirrors that of infants. In children aged 1 to 18 years, mild deficiency is treated with 1000-2000 units daily for three months while moderate or severe deficiency necessitates 1000 to 2000 units daily for six months.

Results: The total number of patients that had vitamin D levels tested was 41. The total number of patients with vitamin D levels less than 50nmol/l was 11 (n=11). 10/11 patients (90.9%) did not receive adequate treatment based on the RCH guidelines. These patients were all underdosed. Only 1/11 patients (9.1%) received adequate vitamin D treatment.

Conclusion: This indicates that the majority of patients deficient in Vitamin D were not adequately prescribed the enough treatment. New HSE guidelines for vitamin D deficiency should be drawn up to ensure adequate treatment of vitamin D deficiency.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 45
General Paediatrics

Abstract Title PRESCRIBING PARACETAMOL IN PAEDIATRIC WARD

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The aim of this audit was to examine prescription writing of Paracetamol for in-patients in the Paediatric Ward of Letterkenny University Hospital and establish if it is in accordance with Children's Health Ireland Paediatric Formulary and HSE guidance on approved abbreviations.
A questionnaire was devised for use in the audit. Questions were designed to determine if there was adherence to the selected guidelines (Children's Health Ireland Paediatric Formulary and HSE guidance on approved abbreviations).

Data was collected from the drug prescription and administration kardex from Paediatric in-Patients in Letterkenny University Hospital admitted from 20/03/2023 to 31/03/2023.

Excluded:
Children not admitted to the Paediatric Ward Infants less than 1 month
Infants less than 4kgs
Data was analysed by a Clinical Audit Administrator using IBM SPSS Statistics v. 28.
Total of 42 kardex.
result showed significant deficiency in writing total dose in 24 hours and not rounded as per paediatric formulary.

Paediatric formulary

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 46
General Paediatrics

EVALUATING PATIENT FLOW AND DURATION OF STAY IN THE PAEDIATRIC DECISION UNIT: AN AUDIT

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AIMS:
To evaluate the length of stay for patients in the Paediatric Decision Unit and review the time taken for medical evaluation across different triage categories.

MATERIALS AND METHODS:
Retrospective data using convenience sampling technique was collected for 430 patients that visited PDU in MUH for year July'2023 to Apr'2024. Data on patient demographics, referral pathway, length of stay, admission diagnoses, treatment received, and discharge outcomes were collected.
STANDARD:
Patients triaged as Category 3 should be seen within 60 minutes, and Category 4 should be seen within 120 minutes of arrival. Length of Stay should not exceed 6 hours as per National Model of Care for Paediatric Healthcare Services, Ireland.
RESULTS:
Out of 430 patients, 21.4% were under 3 months, 25.6% were between 3 months and 1 year, and 35.6% were aged 2 to 5 years. 63% of the patients were seen over weekdays while 37% were seen over the weekends.

Additionally, 46.7% presented between 16:00 and 20:00 hours. Among the symptoms, 58% had respiratory issues, 19% presented with vomiting and diarrhea, and 10% had abdominal pain. The mean time for doctors to see Triage 3 patients was 43 minutes (95% CI: 39 to 44 minutes) and 54 minutes (95% CI: 48 to 56 minutes) for Triage 4. The mean length of stay was 3.5 hours, with 22% exceeding the 6-hour limit.

CONCLUSION:
The audit identifies important trends in the pediatric decision unit, particularly among patients under 5 years old, with good adherence to standards. Peak presentation times suggest the need for improved resource allocation during high-demand hours. Enhancing staffing levels and securing early senior input can reduce decision delays, which are often affected by delayed lab results.

1) HSE. A National Model of Care for Paediatric Healthcare Services in Ireland. Dublin: National Clinical Programme for Paediatrics and Neonatology: 2014. Chapter 24. p. 1-15
2) Otto R, Blaschke S, Schirrmeister W, Drynda S, Walcher F, Greiner F. Length of stay as quality indicator in emergency departments: analysis of determinants in the German Emergency Department Data Registry (AKTIN registry). Intern Emerg Med. 2022 Jun;17(4):1199-1209. doi: 10.1007/s11739-021-02919-1. Epub 2022 Jan 6. PMID: 34989969; PMCID: PMC9135863. 3) Jarvis, P.R. (2016) 'Improving emergency department patient flow', Clinical and Experimental Emergency Medicine, 3(2), pp. 63–68. doi:10.15441/ceem.16.127.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 47
General Paediatrics

A COMPARISON OF MANAGEMENT OF ASTHMA EXACERBATION ACROSS LEVEL 2 PAEDIATRIC EMERGENCY DEPARTMENTS

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Aims:
Asthma exacerbations are a common presentation to paediatric emergency departments and the severity of such presentations varies from mild to life threatening. However, the management is not uniform across the country as there is no single HSE guideline available. Therefore, we felt that an audit into asthma exacerbation management could lead to the creation and implementation of such a guideline.

Mathods:
We circulated a google forms-based survey to the various paediatric emergency department doctors via WhatsApp and asked for them to complete this survey. 16 questions were included.

Results:
85.7% of responses state that a guideline is in use in their department.
57.1% use a local guideline. 21.4% use the HSE asthma severity index. 7.3% use the CHI guideline. 7.1% use NICE guidelines. There is variety in bronchodilator delivery and type; O2 saturation targets; and other therapeutic options.

Conclusion:
It is clear that the management of asthma exacerbations is not standardised across the country. There are slight variations between the individual guidelines and the different hospitals and NCHDs utilise different guidelines as required. However, the management across the different emergency departments is similar.

The introduction of a standard guideline like the DKA guideline is a possibility. This would enable uniformity of care. Further research is required but the introduction of a standardised guideline for the management of asthma exacerbation seems possible.

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2. Starship Clinical Guidelines, New Zealand https://www.starship.org.nz
3. PRAM on line: https://www.mdcalc.com/pediatric-respiratory-assessment-measure-pram-asthmaexacerbation-severity
4. Gray MP, Keeney GE, Grahl MJ, et al. Improving Guideline-Based Care of Acute Asthma in a Pediatric Emergency Department. Pediatrics 2016;138:e20153339.
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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 48
General Paediatrics

LONG TERM ENDOCRINE ISSUES IN ADULTS BORN PREMATURELY: A SYSTEMATIC REVIEW

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Aims
The aim of our review was to systematically analyse the literature base surrounding long-term endocrine related outcomes for adults born prematurely. Prematurity is a risk factor for chronic disease later in life. According to figures in Ireland, preterm births represent 7% of all births, presenting a significant issue for adult healthcare resources.

Methods
A systematic review was conducted by searching the official databases PubMed and Web of Science. Studies were included in the review based on criteria that they investigated an endocrine outcome in adulthood in the following categories: hypothalamic-pituitary axis pathologies, growth, thyroid, adrenal function, insulin sensitivity, lipid metabolism, cardiometabolic pathology, and bone health. We were guided by the standards set by the “Preferred Reporting Items for Systematic Review and Meta-Analysis” (PRISMA) Statement.
Results
The search yielded 1814 studies and after removal of duplicates, 1584 papers entered screening. 65 full texts were reviewed, after applying inclusion and exclusion criteria, 27 studies were used for data extraction. Results revealed that being born premature was a significant risk factor for multiple endocrine issues in later life. Reduced height, dysfunction of the HPA axis, lower fertility rates, lower bone mineral density and increased odds of hypothyroidism were all outcomes that were associated with preterm birth. Cardiometabolic related outcomes formed the bulk of our data (11/27); these studies found associations between prematurity and increased risk of diabetes, decreased insulin sensitivity, higher body fat percentage and dyslipidaemia.
Conclusion
Our research highlighted that prematurity is associated with long term endocrine dysfunction in multiple domains. The review provided a large data set demonstrating this association across various endocrine pathologies relating to bone, thyroid, growth, reproduction and metabolism. This review highlights the necessity of long term follow up into adulthood for individuals born preterm and directs towards future research in this field.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 49
General Paediatrics

ISOLATED ACCIDENTAL FRENULUM INJURY IN 5 MONTH OLD INFANT DUE TO TEETHING RING

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Aims: The lingual frenulum is formed by oral mucosa and the underlying floor of mouth fascia, which is mobilized into a midline fold with tongue elevation and/or retraction. There is sparse literature on the occurrence of accidental frenulum injury in infants.

Methods: Consent was obtained from parent for photo and case presentation A five month old male attended OPD at 9:30am for follow up of respiratory symptoms. He was breast feeding well and thriving but not yet offered solids. Mother reported that earlier that morning he suddenly started crying while teething ring in mouth and she noted blood coming from corner of mouth. She reported it as she was concerned he may have been at risk of infection. There was a prior report of mild ankyloglossia but no intervention had been advised as there were no feeding difficulties. He was teething since three months of age. He had the GO Play Chomper Teether Tesco 3mo Plus since 3 months. On examination he had a torn frenulum but there was no visible blood. . Otherwise, examination was normal apart from mild eczema. (Photo for poster of injury and teething ring available).

Results: There were no child protection concerns identified and a diagnosis of accidental injury was made. A review of child protection literature suggests that toddlers can present with frenulum injury following fall against low table or when they bang their face against floor. It is also recognised that children who have suffered from physical abuse have had a torn frenulum as part of a wider picture of multiple serious abusive injuries (1)

Conclusions: This is an example of an isolated accidental frenulum injury which are rarely documented in this age. The manufacturers of teething ring were informed.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 50
General Paediatrics

INCIDENCE AND CLINICAL PROFILE OF HYPERTROPHIC PYLORIC STENOSIS IN A TERTIARY CENTRE: FIVE-YEAR REVIEW

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Aim:
Hypertrophic Pyloric Stenosis (HPS) affects 1-3 per 1,000 live births and necessitates urgent intervention due to mechanical obstruction and the metabolic alkalosis caused by prolonged vomiting. The loss of stomach acid leads to elevated bicarbonate levels, resulting in electrolyte imbalances, dehydration, and organ dysfunction[1]. Pyloromyotomy is the definitive treatment. The "Improving Services for General Paediatric Surgery" policy highlights the need for Regional Paediatric Surgical Facilities (RPSF) to provide timely care for conditions like HPS. Establishing these services would improve care and clinical outcomes. Surgical proficiency requires performing a minimum of five pyloromyotomies annually. To date, no analysis has been conducted on HPS cases at University Hospital Limerick (UHL).

Methods:
A retrospective review was carried out for all infants diagnosed with sonographically confirmed HPS at UHL over a five-year period. Data on patient age, gender, and biochemical markers were collected to assess the severity of metabolic alkalosis at admission or prior to transfer.

Results:
Nineteen infants were included, with a mean age of 34.5 days (±13.3); 79% were male. Blood gases were performed in 68% of cases. Blood gas analysis showed that 53.8% had normal pH, 38.5% had alkalosis, and 7.7% had acidosis. Elevated lactate levels were present in 92.3% of patients, and 46.2% had high bicarbonate levels. Significant correlations included a moderate negative correlation between pyloric stenosis length and pH ($r = -0.6$), a strong negative correlation between CO_2 and lactate ($r = -0.7$), and a very strong positive correlation between CO_2 and bicarbonate ($r = 0.8$).

Conclusion:
With a rising number of HPS cases and the recent appointment of a Consultant General Surgeon with Paediatric expertise at UHL, the findings support expanding local surgical services. Local pyloromyotomy would reduce patient transfers, enable earlier intervention, minimize complications, and improve clinical outcomes, enhancing both patient safety and family well-being.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 51
General Paediatrics

SILENT SIGNALS: UNRAVVELLING PENDRED SYNDROME THROUGH CLINCIAL AND GENETIC INSIGHTS- A CASE STUDY

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Aim:
Pendred syndrome is a rare autosomal recessive disorder marked by congenital sensorineural hearing loss and thyroid dysfunction, commonly presenting with goitre. With an incidence of 7.5 to 10 per 100,000 individuals, it accounts for up to 10% of congenital deafness cases[1] . This case report highlights the diagnostic journey, clinical progression, and management of a 7-year-old boy diagnosed with Pendred syndrome. Initially identified in the United States, the patient returned to Ireland, where multidisciplinary care continues. The report highlights the critical role of early detection and coordinated interventions, such as genetic testing, audiological assessments, and thyroid monitoring.

Method:
The patient's diagnostic data from the USA and Ireland was thoroughly reviewed. After failing his new-born hearing test in the left ear, with normal hearing in the right ear, the patient later developed progressive bilateral hearing loss over several years. An MRI revealed bilaterally enlarged vestibular aqueducts, strongly suggestive of Pendred syndrome, prompting further genetic testing. Pathogenic variants in the SLC26A4 gene confirmed the diagnosis. Audiometric assessments revealed bilateral sensorineural hearing loss, while thyroid function tests remained within normal ranges, despite a family history of thyroid disease. The clinical, genetic, and radiological findings were systematically analysed to present a comprehensive case study.

Result:
The patient exhibited classic Pendred syndrome features, including bilateral sensorineural hearing loss and enlarged vestibular aqueducts. Genetic testing confirmed the SLC26A4 mutations. Although the patient has not developed hypothyroidism, thyroid function is closely monitored. Fitted with hearing aids, the patient is now under evaluation for cochlear implantation to further enhance auditory function.

Conclusion:
This case demonstrates the importance of early genetic testing, imaging, and audiological evaluations in managing Pendred syndrome. Multidisciplinary care, including regular thyroid monitoring and timely auditory interventions such as hearing aids or cochlear implants, is essential for optimising the quality of life in children with Pendred syndrome.

1. Garabet Diramerian L, Ejaz S. Pendred Syndrome. [Updated 2023 Apr 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 52
General Paediatrics

EXPLORING THE IMPACT OF DOG-OWNERSHIP ON NEURODEVELOPMENT OUTCOMES IN PAEDIATRIC NEURODEVELOPMENTAL DISORDERS: A SYSTEMIC REVIEW: "PAWSITIVE" IMPACT

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Aims: Dog ownership has the potential to positively influence neurodevelopmental outcomes in children with neurodevelopmental disorders, in particular in children with autism spectrum disorder (ASD). The present study aims to synthesise the existing literature and provide a comprehensive understanding of the implications of dog ownership on this cohort.

Methods: This systematic review utilised Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) to assess the literature pertaining to dog ownership and neurodevelopmental outcomes. Three databases, EMBASE, MEDLINE and Cochrane Library, were searched. Covidence facilitated paper screening and data extraction. At every stage of study selection , screening was done in duplicate.

Results: There were 451 papers reviewed, with 16 included in the final analysis. Despite heterogeneous reporting methods, the impact of dog ownership on children with ASD was positive across multiple domains of neurodevelopment. Of the 16 studies included, 14 reported improved emotional regulation and social engagement in children with ASD who lived at home with a dog. Improvements in cognitive, speech and language function were reported in 7 of the studies Additionally, in 6 of the studies it was reported that a pet dog improved family dynamics and reduced anxiety levels in parents of children with ASD.

Conclusion: These outcomes support dog ownership as a feasible non-pharmacological intervention, one which may be considered as part of a global, multi-disciplinary approach for children with NDD. Further research such as large prospective cohort studies are recommended to determine long term outcomes and to determine the specific mechanisms through which dogs can contribute to positive changes in the life of a child with ASD.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 53
General Paediatrics

Familial Hyperkalaemic periodic paralysis (HyperPP) And Normal Potassium

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Introduction:
Familial Primary-Periodic-Paralysis (PPP), a skeletal muscle channelopathy[1] is a rare neuromuscular disorder characterised by hyperkalaemia, hypokalaemia or normokalaemia during an episode of muscle weakness with an incidence of 0.001%[2].

Aim:
To report case of a young boy with Normokalaemic periodic paralysis and a family history of HyperPP and SCN4A mutation.

Method:
Case report and retrospective review of clinical notes, data, investigations and management results. Literature review of Periodic-Paralysis from Cochrane Library, PubMed and Google scholar.

Result:
Twelve year old boy presented to OPD complaining of two year history of muscle weakness and stiffness. These episodes of weakness occurred once every two to three weeks involving all limbs, inhibiting his ability to walk or stand. No headache or cutaneous stigmata. Developmentally normal. Family history was significant for hyperkalaemia in brother, mother, maternal grandmother, and maternal uncle. His mother described similar bouts of muscle weakness, treated with glucose gel. At first presentation he had a normal neurological exam.
Initial blood tests for Potassium, R|L|B-profile, CK, LDH, TFTs, CRP, and vitamin D were normal. FBC revealed an eosinophilia.
Re-presented to ED 2/12 later with an episode of muscle stiffness and weakness lasting three days. Now using crutches. Hypotonia and reduced power 3/5 on neurological examination. Biochemistry were again normal except eosinophilia. Haematology review concluded probable transient eosinophilia, secondary to hyperPP. ECG showed normal sinus rhythm and T waves. Abdominal-Ultrasound, CXR and MRI brain- normal. He was referred to neurology, and started on acetazolamide, which greatly reduced the frequency of muscle weakness episodes and allowed him to walk on his own. Second ED presentation with testicular torsion, treated with bilateral orchidopexy with good result. Genetics confirmed SCN4A mutation and remains on supportive treatment.

Conclusion:
- NormoPP resembles HyperPP in clinical manifestations. Rarest subtype and rarely reported[2]
- Several associated mutations: CACN1S calcium channels, SCN4A sodium channels, and KCNJ2 potassium channels with Autosomal dominant inheritance patterns[3].
- Suggestive Family history and genetic testing will aid diagnosis in normoPP
- Symptomatic treatment substantially improve quality of life.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 54
General Paediatrics

EVALUATING ADHERENCE TO THE BAAP GUIDELINES FOR AETIOLOGICAL INVESTIGATIONS IN CHILDREN WITH SENSORINEURAL HEARING IMPAIRMENT (SNHI) AT SLIGO UNIVERSITY HOSPITAL

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Aims: To evaluate adherence to the 2015 British Association of Audiovestibular Physicians (BAAP) guidelines for aetiological investigations in children with sensorineural hearing impairment (SNHI) at Sligo University Hospital and assess the impact of a standardised operating procedure (SOP) on adherence rates.

Methods: A retrospective audit was conducted on 47 patients diagnosed with SNHI from January 2013 to July 2024. Data were compared between pre-protocol (2013-2017) and post-protocol (2018-2024) periods. Key investigations included CMV testing, urinalysis, MRI requests, ophthalmology referrals, ENT referrals and genetics requests (Connexin 26 mutation).

Results: Adherence to BAAP guidelines improved significantly post-SOP implementation: CMV testing increased from 36% to 91%, urinalysis from 22% to 88%, MRI requests from 16% to 86%, ophthalmology referrals from 72% to 95% and genetics requests from 20% to 86%. ENT referrals remained high, improving from 84% to 95%.

Conclusion: The SOP led to substantial improvements in adherence to BAAP guidelines. To sustain these gains, the authors recommend ongoing audits, automatic referrals to the paediatric hearing lead and introduction of a notification system on arrival to clinic for timely investigations to ensure consistent care and comprehensive evaluations for children with SNHI. This audit has led to an external recommendation for a specialised SNHI outpatient clinic involving ENT and Paediatrics.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 55
General Paediatrics

ENHANCING DISCHARGE PROCESS THROUGH IMPLEMENTATION OF A GENERIC DISCHARGE PRO-FORMA

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Background:

The discharge process is crucial for smooth patient transitions from hospital to home. We faced a significant backlog of pending discharge letters, which highlighted the need for a streamlined, standardised discharge process. This project aimed to implement a new discharge pro-forma to reduce discharge times, eliminate the backlog, and ensure a sustainable discharge process.

Method:

A retrospective review was conducted to assess the existing discharge process, including completion times, staff compliance and clearance of pending discharges. We developed a new standardised pro-forma covering essential discharge elements. After a one-week pilot for user feedback, we rolled it out across CHI, Tallaght, holding weekly meetings to track progress, address challenges, and make adjustments. After 8 weeks, we evaluated the reduction in pending letters and gathered staff feedback for further improvement.

Result:

Initially, 726 pending discharge letters were documented. After implementing the pro-forma, we reduced the backlog to fewer than 40 letters within 6 weeks, achieving an approximate 94% reduction. The average time required to complete each discharge letter decreased from 9 minutes to 5 minutes, reflecting a 44% increase in efficiency. NCHDs survey indicated high satisfaction with the new pro-forma. Of the 26 NCHDs involved, 18 responded to the survey, and all reported that the new pro-proforma quicker and easier to use. This allowed medical staff to process more discharges in the same timeframe, contributing directly to the reduction in pending letters. Additionally, compliance with the inclusion of essential information has increased.

Conclusion:

The implementation of the new standardised discharge pro-forma successfully cleared almost 95% of pending letters within the designated timeframe. Moving forward, we will continue using the pro-forma for future discharges and plan to develop a printed discharge template to be completed for day ward admissions and uncomplicated admissions, ensuring ongoing improvements in patient care and process efficiency.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 56
General Paediatrics

SYSTEMATIC REVIEW OF ACUTE NON-PHARMACOLOGICAL INTERVENTIONS FOR SEVERE PAEDIATRIC TRAUMATIC BRAIN INJURY IN THE ACUTE SETTING

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Aims: Traumatic brain injury in the paediatric population (pTBI) is a leading cause of worldwide injury-related death in children 1- 19 years old (1), affecting approximately 2.5% of children in the U.S.A. (2). Despite this, there is a lack of consensus on the use of non-pharmacological interventions in the acute management of TBI i.e. treatment within the first 24 hours post-injury. This systematic review aims to evaluate the current literature and compile evidence on the hospital-based, non-pharmacological management of pTBI.
Methods: A systematic review was performed of the literature available in PubMed, EMBASE, and Cochrane CENTRAL based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines and a modified version of the PICO framework. Studies were selected based on predetermined eligibility criteria. Risk of bias was evaluated using the ROB- 2 tool for randomised control trials.
Results: Following removal of duplicates, 1505 titles and abstracts were screened, of which 107 were identified for full text review. A total of seven randomised controlled trials were included in this systematic review. Therapeutic hypothermia (n=5) and treatment of raised intracranial pressure (ICP) and cranial hypertension (n=2) were studied. Therapeutic hypothermia did not improve mortality or improve functional outcomes. Decompressive craniectomy in the context of intracranial hypertension improves both mortality and functional outcomes, however there was no added benefit in targeting cerebral perfusion over intracranial pressure targeted therapy.
Conclusion: There is no evidence for the use of therapeutic hypothermia in the acute treatment of pTBI in the first 24 hours post-injury. A possible role of early decompressive craniectomy under emergency circumstances (i.e. severe raised intracranial pressure), with standard-of-care treatment is underscored. along with possible future steps in the direction and design of research in this domain for translation to the clinical setting is discussed.

1. National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System. Available at: http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html. 2. Haarbauer-Krupa, J., Lundine, J. P., DePompei, R., & King, T. Z. (2018). Rehabilitation and school services following traumatic brain injury in young children. NeuroRehabilitation, 42(3), 259-267.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 57
General Paediatrics

A COMPLETED AUDIT CYCLE OF THE ASSESSMENT AND MANAGEMENT OF PAEDIATRIC SEPSIS AT WEXFORD GENERAL HOSPITAL

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Introduction: Sepsis in children may present initially with non-specific and non-localised symptoms, therefore it is important to have a low threshold for suspecting sepsis and initiating investigations and treatment together[1], as outlined in the International Guidelines for the Management of Septic Shock and Sepsis Associated Organ Dysfunction in Children: National Implementation Plan 2021 which is the standard of care in acute settings in Ireland.[2] We present results of a completed audit cycle on assessment and management of paediatric sepsis at our hospital.
Methods: Initial audit - retrospective data collection with interval sampling methods of all paediatric sepsis cases in 2022 – 7 cases included. Results from the initial phase of audit led to the initiation and implementation of a quality improvement plan across multiple disciplines . A re-audit of cases by retrospective data collection from April to June 2024 was conducted – 13 cases included.
Results: Initial phase: 100% adherence to taking blood cultures, early senior input, fluid bolus as required and prompt antimicrobials. Poorer adherence to urine output assessment (29%) and use of the sepsis form (initiated in 14% of cases, and completed in 0%). Quality improvement plan: ensure staff adherence to mandatory training, education on use of sepsis form, simulation training and raising awareness on presentation of, and assessment and management of paediatric sepsis. Re-audit: urine output documented in 84% of cases, sepsis form initiated in 84% of cases and completed in 8%.
Conclusion: This completed audit cycle shows that education, training and awareness about paediatric sepsis leads to improved assessment and management in these cases. There continues to be room for improvement and we will continue to explore how this can be achieved.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 58
General Paediatrics

A REVIEW OF INFANT PERTUSSIS ADMISSIONS TO WEXFORD GENERAL HOSPITAL

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Introduction: Pertussis is an endemic disease; every 3-5 years larger epidemics are expected even with high vaccination coverage.[1] It is a notifiable disease, and in 2023, there were 18 pertussis cases in Ireland. In 2024 to week 36, there has been 458 cases.[2] The current increase potentially linked to lower circulation during COVID-19 pandemic, combined with suboptimal vaccination uptake. Pertussis is highest risk for unimmunised or partially immunised infants under 6 months of age.[1]
Aim and Methods: Retrospective chart review of all infants admitted to the paediatric ward with a diagnosis of pertussis from May – August 2024. We were interested to learn more about the management, vaccination status and outcome for these infants.
Results: 8 infants were admitted with pertussis during the study period. All infants were under 3/12 old. They were all previously healthy, born at term with no significant past medical history or comorbidities. 5 were from the Irish Traveller community. In 4 cases mothers were not vaccinated against pertussis in pregnancy, in 1 case the mother was – unclear for remaining cases. All infants received oral azithromycin. 3 required supplemental oxygen via high flow nasal cannulae and were subsequently transferred to PICU due to deterioration.
Conclusion: Infants are at highest risk of severe morbidity and mortality with pertussis. All infants included in our review who required respiratory support subsequently deteriorated and required PICU transfer. As advised by the European Centre for Disease Prevention and Control, there is a need to employ risk communication on the disease and importance of vaccination, and strategies to promote vaccine acceptance and uptake.[1] Maternal vaccination is estimated to give 81% protection against pertussis in babies under 3 months of age, and timely infant vaccination extends protection – to 95% protection after 3 doses.[3]

1. European Centre for Disease Prevention and Control (2024) 'Rapid Risk Assessment: Increase of pertussis cases in the EU / EAA.' Stockholm, Sweden. Available at: https://www.ecdc.europa.eu/sites/default/files/documents/Increase%20in%20pertussis%20cases%20in%20the%20EU-EEA%20-%20May%202024%20FINAL.pdf (Accessed 30 September 2024) 2. Health Protection Surveillance Centre (2024) 'National Notifiable Disease Hub: Pertussis' Available at: https://infectious-diseases-hpscireland.hub.arcgis.com/ (Accessed 30 September 2024) 3. Ladhani, S. (2024) 'RCPCH webinar: Whooping cough (pertussis) – an update.' Royal College of Paediatrics and Child Health. July 2024

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 59
General Paediatrics

The achievement rate of annual care process, treatment targets of diabetic children in paediatric department, University Hospital Kerry, 2022/23.

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Aims: The aim is to assess the quality of diabetes care delivered to diabetic children in order to improve the services and outcomes in compliance with National Institute for Clinical Excellence (NICE) guidelines.

Methods: Data of patients with type 1 diabetes mellitus from August 2022 to august 2023 was reviewed from the patient charts and filled in the predetermined audit tool based on NICE Guidelines[1]. Data was correlated in Excel spreadsheet and analysed using descriptive statistics.

Results: Theresults gave a good overview about the mandatory health checks being received by Type 1 diabetics and an insight into further quality improvement. 3% of the total diabetic children are receiving all health checks. 21.4% of the patients are getting total HBA1c checks as per protocol while BMI is assessed for only 7.1 %. Thyroid screening was done for 97.6% of diabetics over the audited year while 62% and 48.1% was the recorded rate of checking blood pressure and albuminuria respectively on clinic followups. Retinopathy screening was done for 74.5% while 7.4% got foot examination. Coeliac screening was done for 95.2% of the patients while total IgA was done for 64%. Structural education for diabetes is being provided for 100% of the patients while none of them is getting psychological assessment or help if needed in view of chronic illness. 58% of the children were found to have HbA1c below 58 mmol/mol as the treatment target per NICE guidelines. Diabetes autoantibodies were checked for 88% of patients on diagnosis.

Conclusion: The percentage of children receiving complete healthchecks are very low so we recommended and designed a checklist Performa to be included in patient's chart and filled on every OPD visit. More accessible MDT diabetic team to improve HbA1c targets and locally run retinopathy screening was also suggested. To Re audit in a year to assess improvement.

1. NICE Guidelines

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 60
General Paediatrics

An unusual case of shoulder pain: A case report of 15 years old with acute clavicular osteomyelitis

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Aims: Clavicular osteomyelitis is less reported entity in literature due to its rare occurrence.16 cases reported in 89 reviewed articles.[1]How challenging it may seem prompt diagnosis is crucial to avoid chronic complications.We report a case of acute clavicle osteomyelitis to highlight that simple presentations can have unusual underlying cause.
Methods: Retrospective case report of clinical notes, investigations and management. Literature review using Google Scholar and PubMed.
Results: A 15-year-old boy presented to ED at Cork University Hospital with progressively worsening pain in left shoulder extending to neck and anteriorly around upper left chest with restricted movements at left shoulder for 4 days.No documented temperature however he was on regular paracetamol and ibuprofen with minimal pain relief.No prior history of trauma or skin break of any kind.Previously well,no significant medical background.Examined well systemically.Local exam revealed diffuse erythematous tender swelling around left sternoclavicular joint and involving left clavicular region.Significantly reduced range of motion secondary to pain at left shoulder joint but joint did not appear red,hot or tender.Blood investigations showed Leucocytosis and CRP of 126.6 which climbed to 189.6 and 198.1 before falling to 160.7 and later 13.5 at day 11 of treatment. CXray unremarkable.MRI confirmed left clavicle osteomyelitis.He was started on IV Flucloxacillin and PO Clindamycin empirically after Paediatric and Ortho input.Blood cultures were positive for Staphylococcus aureus and after discussing sensitivities with microbiology,same antibiotics were continued. Followup MRI after 2 weeks showed a localised fluid collection 2 x 3 cm managed conservatively due to significant clinical improvement.He was changed to oral antibiotics after 2 weeks from first negative blood culture and discharged to complete 6 weeks antibiotics in total.
Conclusion: Clavicle is a rare site for osteomyelitis in paediatric population comprising < 3% of all cases.[1,3,6]Staphlococcus aureus is the most common causative organism.[1,4] Acute clavicle osteomyelitis has a good prognosis with appropriate antibiotic therapy.[1]

1. Rare case of clavicle osteomyelitis in a child and literature review http://dx.doi.org/10.1155/2016/8252318 2.Acute presentation of clavicular osteomyelitis in a 8 year old patient https://doi.org/10.1177/00099228211012221 3.A rare case of osteomyelitis of the clavicle in a child due to group A streptococcal infection. Doi: 10.1136/bcr-2018-227090 4.Chronic osteomyelitis of the clavicle in a paediatric patient: A case report https://doi.org/10.1016/j.ijscr.2024.109667 5.Primary osteomyelitis of the clavicle in children https://doi.org/10.3928/01477447-20160526-10 6.Delayed Diagnosis of Pediatric Sternoclavicular Joint Infections and Clavicular Osteomyelitis During the COVID-19 Pandemic: A Report of 3 Cases DOI: 10.5435/JAAOSGlobal-D-21-00302

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 62
General Paediatrics

The Utilisation of CT Brain Scans in Children Under 16 Years for Head Injuries at CHI, Tallaght

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Aim: This audit aims to evaluate the indications, appropriateness, and outcomes of CT brain imaging in children under 16 years of age, as well as to assess adherence to CHI guidelines.
Methods: A retrospective audit was conducted at CHI, Tallaght, examining the medical records of children under 16 who underwent CT brain scans for head injuries over a one-year period.
Results: A total of 97 children underwent CT brain scans during the study period, with a male predominance (60%, n=58). The median age was 10 years (IQR 4–13). Most patients (93%, n=90) received CT scans within 24 hours of presentation, with 89% (n=86) scanned during their first presentation. Notably, 28% (n=27) of patients had no red flags for raised ICP or head injury, and 20% (n=19) underwent CT scans that were not indicated according to CHI guidelines. Among these 19 patients, 89% (n=17) had normal CT results, while 11% (n=2) showed nonspecific changes, leading to MRI follow-up, which yielded normal results. Of the 78 patients whose CT scans were indicated by guidelines, 88% (n=69) had normal findings, 6% (n=5) were found to have skull fractures (including one with subgaleal haemorrhage and three requiring outpatient neurosurgery referral), and 1 patient had a sigmoid sinus haemorrhage requiring immediate neurosurgery referral. Three patients had non-specific findings; one underwent MRI, which returned normal results, and all three patients were subsequently discharged without the need for further follow-up.
Conclusion: The audit revealed a high rate of normal CT findings, with a significant proportion of scans performed despite a lack of clinical indications according to CHI guidelines. It is recommended that stricter adherence to clinical guidelines be enforced to limit the unnecessary use of CT brain scans in children, ensuring that imaging is only performed when clinically indicated to minimise radiation exposure risks.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 63
General Paediatrics

Assessment of CT Brain Imaging Practices in Paediatric Patients with Non-Traumatic Complaints at CHI, Tallaght

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Aim: This audit aims to evaluate the use of CT brain scans in children under 16 with non-traumatic complaints to determine adherence to clinical guidelines.
Methods: A retrospective audit was conducted from July 2023 to June 2024 at CHI, Tallaght, children under 16 who underwent CT brain scans for non-traumatic conditions.
Results: We included 204 patients, the mean age was 10 ± 4 years, with a male predominance (55%, n=113). A significant portion of CT scans were requested from the ECU (52%, n=105), followed by in-patient wards (31%, n=64), and outpatient clinics (17%, n=35). Most scans (62%, n=126) were performed at the patient's first presentation, with 20% (n=40) at second attendance, and 2% (n=3) on three or more reattendances. Headache was the most common presenting complaint (61%, n=124), and 68% (n=136) of patients exhibited at least one red flag for increased ICP. However, 21% (n=42) of the scans were performed without meeting the clinical criteria, and all of these scans returned normal results.
Of the total cases, 4% (n=8) had acute intracranial pathology requiring immediate intervention. Six children (3%) had space-occupying lesions and were transferred to neurosurgery, one had an intracranial abscess, and one was diagnosed with acute encephalitis and was transferred to the intensive care unit. Notably, two patients with acute intracranial pathology were only diagnosed after a second presentation. In terms of OPD referrals, 10% (n=21) were referred to neurology, 4% (n=8) to ophthalmology, and 3% (n=7) to neurosurgery.
Conclusion: The audit revealed that a significant number of CT brain scans were performed without proper clinical justification, with 21% of scans deemed unnecessary. While the detection of acute intracranial pathology was crucial in some cases, the overall findings suggest overutilisation of CT scans, particularly in the absence of red flags or strong clinical indications.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 64
General Paediatrics

BLEEDING FROM TUMMY TO KIDNEYS AND BRAIN

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Aim:
Report a case of Verotoxicogenic E.Coli Haemolytic Uremic Syndrome (VTEC HUS) complicated with complete thrombosis of left internal carotid artery in a pre-school age girl. To raise awareness of its peak incidence in children younger than 5[1] and highlight central nervous system (CNS) involvement.
Methods:
Case presentation and retrospective review of clinical notes, data, investigations and management results. Literature review of HUS from Cochrane Library, PubMed and Google scholar. Consent obtained.
Results:
A previously well 3-year old girl presented with vomiting for 1 day and diarrhoea for 3 days, preceded by gastroenteritis 2 weeks prior. Her vaccination was up to date and had no travelling history. Initial work up showed anemia, thrombocytopenia, elevated liver enzymes and creatinine. Kidney ultrasound was normal and the stool sample later was positive for VTEC toxin. Creatinine kept rising despite initial treatment with diuretics and fluids, requiring peritoneal dialysis. On day 10 of admission, she had visual impairment and left sided weakness. MRI Brain showed occlusion of the left internal carotid artery and CT angiogram confirmed complete thrombosis. She was commenced on IV Methylprednisolone which subsequently was switched to oral, aspirin for secondary prevention and Rivaroxaban. Despite significant radiological findings, she remained relatively well with mild deficit on right side (she is right hand dominant) which resolved over the course of stay. She was able to use her right hand with no obvious clinical deficits during review one month later! An echocardiogram done during admission was normal.
Conclusion:
Ireland has high notification rate of VTEC in Europe (incidence rate of 19/100,000) with high incidence of HUS (10%)[2]. Approximately two-thirds of patients require dialysis[3]. Thrombotic microangiopathy in susceptible organs occur due to severe systemic inflammation and immune reactions. This case highlights early diagnosis and thorough supportive treatment are crucial interventions for favorable outcomes in severe cases of typical HUS.

1. Mijatovic D, Blagaic A and Zupan Z. Case Report: Severe form of hemolytic-uremic syndrome with multiple organ failure in a child: a case report F1000Research 2014; 3:79. Available at https://doi.org/10.12688/f1000research.2546.2 2. Health Protection Surveillance Centre: Gastroenteric and Zoonotic Diseases in Irealnd, 2022. Available at PowerPoint Presentation (hpsc.ie) 3. Mansour MA, Khalil DF, Hasham MA et al. Hemolytic uremic syndrome with central nervous system manifestations, a case report and literature review. Radiol Case Rep. 2023; 18(6):2268-73. Available at doi: 10.1016/j.radcr.2023.02.035.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 65
General Paediatrics

BRAIN IS TIME

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Background:
Stroke is an under-recognized condition in paediatric patients as the incidence is considerably lower than in adults. Estimated incidence of childhood acute ischemic stroke (AIS) is 1.6 per 100,000 children/year[1]. It is among the top 10 causes of mortality in children aged 5 to 25 years[2].
Aim: Case report of AIS in a teenage girl due to basilar artery occlusion. To raise awareness of its possible occurrence in paediatric patients and highlight age-related variable clinical presentation.
Methods: Case presentation and retrospective review of clinical notes, data, investigations and management results. Literature review of AIS from Cochrane Library, PubMed and Google scholar. Consent was obtained.
Results: A 15 years old girl presented with a 1-month history of left arm numbness, 1-day of ataxia and left eye nystagmus. She had headache on the day of presentation. She had no vomiting, weakness, bowel or bladder dysfunction and no recent illness. Examination noted ataxic gait with positive Romberg's sign and intermittent left eye nystagmus. The rest of the clinical examination and blood investigations were normal, including a non-contrasted CT brain. She however had 4 episodes of vacant staring 12hours later followed by aphasia. Her MRI brain demonstrated acute diffusion restriction at the junction of midbrain to superior pons extending partially into the right crus. Magnetic resonance angiography (MRA) showed absent flow within the mid and distal basilar arteries.
Her presentation was time critical and brilliantly managed through FAST assessment and timely involvement of the in-house adult stroke team. The Paediatric National Institutes of Health Stroke Scale (PedNIHSS)[3] was 25 and she was transferred promptly to the nearest center for thrombectomy. She had protracted hospital stay, rehabilitation and continued Neurology/stroke-team follow-up
Conclusion:
AIS is under-diagnosed with significant morbidity, overall cumulative negative impact higher in children; long-term disability, adverse effect on cognitive outcomes and associated mortality. Prompt diagnosis and management will reduce morbidity.

1. Shivam Om Mittal, Sreenath ThatiGanganna, Benjamin Kuhns, et al. Acute Ischemic Stroke in Pediatric Patients. Stroke. 2015; 69 (2): e32-4. Available at https://doi.org/10.1161/STROKEAHA.114.007681. 2. Mastrangelo M, Giordo L, Ricciardi G, De Michele M, Toni D, Leuzzi V. Acute ischemic stroke in childhood: a comprehensive review. Eur J Pediatr. 2022; 181(1): 45-58. Available at doi: 10.1007/s00431-021-04212-x. 3. Collins-Sawaragi YC, Walker H, Sanpera-Iglesias J, et al. RCPCH Stroke in Childhood Guidelines: how well are these being followed? Archives of Disease in Childhood. 2021;106:415. Available at https://doi.org/10.1136/archdischild-2020-319209.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 66
General Paediatrics

EVALUATING THE SUCCESS OF INPATIENT MR IMAGING IN CORK UNIVERSITY HOSPITAL

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Aims: Inpatient MR imaging is required in a range of paediatric presentations. Many patients are unable to comply with scanning protocols without sedation/anaesthesia. We aimed to evaluate the success of MRI scanning in our inpatient cohort for January 2024 in the absence of access to MRI under general anaesthesia except on a monthly elective list.

Method: Data was collected retrospectively for MRI scans requested on paediatric inpatients at CUH for January 2024. Data collected included the number of patients and MRI slots booked as inpatients. Of patients booked under sedation we evaluated, the age and weight of the patient, type of sedation used, the rate of successful MRI scans achieved, and the number of MRI slots used.

Results: Thirty-eight MR scan slots were requested on inpatients during January 2024. 8 patients did not require sedation. 19 patients were booked for 30 MRI slots. 11 MRI scans were successfully performed on 10 patients using choral hydrate single dose. 4 additional patients were successful using top up sedation on an additional MRI slot. 5 patients received 15 slots with 2 patients progressing to general anaesthesia. As per previous audits success was more likely in those ranging in age from 6 months to 5 years weighing less than 20kg. Clonidine was trialled in 3 patients above 20kg and 5 years without success.

Conclusion: This study demonstrates that a significant cohort of inpatients are subjected to multiple sedation attempts and valuable MRI slots are wasted. Failures are predictable for children over 5 years and 20 kg but less predictable in those between 6 months and 5 years where the failure rate was 38%. Access to MRI under general anaesthesia is essential to achieve timely, successful scanning in a significant cohort of paediatric inpatients.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 67
General Paediatrics

OPTIMAL GLYCAEMIC CONTROL IN CHILDREN WITH TYPE 1 DIABETES: ARE WE THERE YET?

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Aims: Maintaining Hba1c, the main indicator of glycaemic control, within target range significantly reduces complications of type 1 Diabetes (T1DM). International studies have shown the percentage of children achieving target Hba1c is low, with some studies reporting as low as 11% (1). We aimed to examine the number of paediatric patients with (T1DM) attending our service who attained optimal glycaemic control over a one-year period. Optimal glycaemic control is considered a HbA1c </= 7% or 53 mmol/mol.
Methods: A retrospective chart review of all patients attending the outpatient diabetic clinic in OLOL with a diagnosis of T1DM was carried out. The average Hba1c over a one year period was calculated from each patient from Jan 2023- 2024. Any patient with an average HbA1c </=7% was included in our analysis. We also examined date of diagnosis, age at diagnosis, current age of patients and mode of insulin delivery.

Results:
Overall, 206 patients with a diagnosis of T1DM attended our clinic in 2023. Of these patients, 40/206 (19.41%) had an average HbA1c of less than or equal to 7(range 5.9-7). The median age of diagnosis of T1DM was 9.5 years (range: 1- 15 years). The majority (33/40; 82.5.5%) of this cohort were managed with continuous subcutaneous insulin infusions (CSII), with the remainder (7/40; 17.5%) on multiple daily injection (MDI) insulin therapy.

Conclusion:
A significant cohort of children attending our service achieved optimal glycaemic control of HbA1c <7 %. This is slightly above both national and international levels. The vast majority of those with optimal glycaemic control received CSII, perhaps indicating the positive impact of this technology on maintenance of glycaemic control in children.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 68
General Paediatrics

CHARGE SYNDROME: CLINICAL FEATURES, DIAGNOSIS, AND STATE OF THE ART MANAGEMENT STRATEGIES.

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Aim: This review aims to refine the "CHARGE Syndrome Checklist: Health Supervision Across the Lifespan (From Head to Toe)" by Hale et al. (2016) to enhance diagnostic precision and clinical utility for healthcare providers.

Methods: A comprehensive literature review was conducted on PubMed, following the diagnostic criteria outlined by Hale et al. (2016). Findings were categorized by organ system to synthesize an overview of CHARGE syndrome and refine the existing checklist.

Results: CHARGE syndrome, primarily caused by CHD7 gene mutations, presents with a spectrum of abnormalities: Coloboma, Heart defects, Atresia choanae, Retardation of growth, Genital abnormalities, and Ear abnormalities. The refined checklist organizes diagnostic assessments across multiple systems, emphasizing ophthalmic evaluations, comprehensive cardiac assessments, and strategies for managing respiratory, genitourinary, and auditory abnormalities. Challenges in diagnosing the syndrome due to its clinical variability are addressed through multidisciplinary collaboration, supporting personalized management plans.

Conclusion: Refining the "CHARGE Syndrome Checklist" (Hale et al., 2016) enhances diagnostic accuracy and management amidst genetic and clinical variability. This approach facilitates early detection and tailored interventions, improving patient outcomes. Future research should focus on advancing genetic testing and refining diagnostic protocols to further enhance clinical practice.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 69
General Paediatrics

A SNAPSHOT OF PAEDIATRIC EMERGENCY DEPARTMENT PRESENTATIONS TO REGIONAL HOSPITAL MULLINGAR IN MAY 2024.

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Background:
Presentations to our Paediatric Emergency Department (PED) are increasing. Overcrowding leads to delays in treatment, increased morbidity and mortality. On-call paediatric doctors are responsible for patients in the PED, paediatric ward, special care baby unit, postnatal ward in addition to attending high-risk deliveries. Staffing PED with paediatric-trained nurses is challenging.
Aims:
We aimed to establish presentations, referral routes, wait-times, investigations and treatments in PED with a view to identifying if there is a role for liaison with general practitioners.
Methods:
We retrospectively reviewed charts of a sample of patients attending Mullingar PED in May 2024 and collated data using Microsoft Excel.
Results:
Of a total of 1,279 presentations to PED in Mullingar during May, we gathered data from a representative sample of 324(25%) patient charts. 217(67%) patients presented out-of-hours. 92(27%) patients were triaged more than 30-minutes after presentation. 270(83%) patients were triaged Irish Children's Triage System category 3-5. Average wait for doctor review was 85-minutes with weekday evenings longer (119-minutes).
Patients who self-presented equaled those referred from another care provider and had similar triage categories. Sample admission rate was 7%(24), similar to total in May (6.4%). Referred patients did not have higher admission rates.
Point of care tests included blood glucose/ketones, swabs and urine tests. Only 110(34%) patients required other investigations. 168(52%) patients didn't require treatment. 135(40%) patients had treatment that could have been provided by primary care including inhalers and antipyretics. Only 23(7%) patients had treatment requiring ED attendance including nebulisers, intravenous fluids or antibiotics. Only 44(13.5%) general practitioners received correspondence following PED attendance.
Conclusion:
High attendance rates and paediatric nurse shortages are delaying triage. We will consider introducing NCHD twilight rostering, given high out-of-hour presentations. Sláintecare aims for community delivered care. We need to forge closer links between general practitioners and regional hospitals, prepare resources for primary care and empower parents to manage common childhood Illness.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 70
General Paediatrics

RARE CASE OF COMPLETE INTERFERON-GAMMA RECEPTOR-1 DEFICIENCY PRESENTING AS PERSISTENT FEVER WITH DISSEMINATED MYCOBACTERIUM AVIUM-INTRACELLULARE INFECTION

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AIM

Presenting a case of persistent fever without focus turn out to be rare case of complete Interferon-gamma Receptor-1 (IFNGR1) deficiency with disseminated Mycobacterium avium-intracellulare infection, highlighting the clinical presentation, diagnostic process, and therapeutic approach, with emphasis on hematopoietic stem cell transplantation (HSCT) as a potential curative intervention.

Method

A four-year-old girl presented to our hospital with a four-day history of fever. Initial septic work-up, including a lumbar puncture, revealed elevated inflammatory markers and leucocytosis, but no pathogens were identified. She was transferred to a specialized centre for further evaluation. Despite treatment with meropenem and linezolid, her fever persisted. Imaging showed splenomegaly and abdominal lymphadenopathy the patient's clinical management involved interdisciplinary care, with the involvement of infectious disease, immunology, and haematology specialists. A bone marrow biopsy revealed non-necrotizing granulomas, leading to additional tests, including mycobacterial cultures, which ultimately identified Mycobacterium avium-intracellulare. Given the unusual nature of infection, blood sample sent for immunology workup. Patient diagnosed with complete interferon-gamma receptor-1 (IFNGR1) deficiency testing. Cytokine studies confirmed the deficiency, and a STAT1 assay showed no response to interferon-gamma. Hematopoietic stem cell transplantation is the only curative option, prompting HLA typing for Patient and her family.

Result

The patient showed clinical improvement on a regimen of rifampicin, ethambutol, and azithromycin. Although ant mycobacterial therapy stabilized the infection, HSCT is being considered for long-term immune correction and infection prevention. The patient was referred for HSCT.

Conclusion

This case highlights that timely recognition and intervention are essential for improving patient outcomes and reducing the risk of recurrent infections**.** Complete IFNGR1 deficiency predisposes patients to life-threatening disseminated mycobacterial infections. While targeted antimicrobial therapy can provide temporary control, HSCT offers a potential cure by restoring immune function.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 71
General Paediatrics

MANAGEMENT AND DIAGNOSIS OF REACTIVE INFECTIOUS MUCOCUTANEOUS ERUPTION (RIME) IN A PEDIATRIC PATIENT: A COMPREHENSIVE CASE STUDY.

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AIM

To describe the clinical course, management, and post-treatment evaluation of a paediatric patient diagnosed with Reactive Infectious Mucocutaneous Eruption (RIME). RIME is characterized by severe mucositis and limited cutaneous lesions, typically preceded by a week of cough, malaise, and fever. Oral involvement is common, presenting as hemorrhagic crusting of the lips and erosions in the mouth as in our case, with potential ocular and urogenital symptoms.

Method

A 7-year-old female presented with fever, cough, and a widespread rash affecting her oral cavity and mucous membranes, characterized by hemorrhagic crusting of the lips and erosions. Upon hospitalization, she required intravenous fluids, oxygen therapy, antibiotics, antifungals, antivirals, and nutritional support via nasogastric (NG) feeding due to significant mucosal involvement. A multidisciplinary team, including specialists from Infectious Disease, Ophthalmology, and Dietetics, was involved in her care. The diagnosis of Reactive Infectious Mucocutaneous Eruption (RIME) was established following consultation with the infectious disease team. Despite extensive testing, no infectious cause was identified. Initial laboratory results indicated elevated C-reactive protein (CRP), a normal white blood cell count (WCC), microcytic anaemia, and thrombocytosis.

Result

After discharge, the patient demonstrated gradual improvement during outpatient follow-up, highlighting the importance of multidisciplinary collaboration in managing complex cases like RIME.

Conclusion

This case highlights the collaborative care approach has proven effective, ensuring a comprehensive and tailored recovery plan to meet patient ongoing health needs Management of Reactive Infectious Mucocutaneous Eruption (RIME) aligns with protocols for Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN). Initial care includes in-hospital evaluation for diagnosis and severity, alongside consultations from dermatology and infectious disease specialists. Supportive treatments focus on mucosal and skin care, eye care, hydration, nutrition, and pain management. Empiric antibiotic therapy targets potential pneumonia .This comprehensive approach effectively addresses both acute symptoms and ongoing support for paediatric patients with RIME.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 72
General Paediatrics

Assessment of paediatric referrals in a Regional Paediatric Assessment Unit/Paediatric Emergency Unit (July 2023-September 2023)

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Aims: To review patient referrals to the paediatric ED from the community and to assess outcomes of these referrals. To look into details of any further investigations done in our assessment unit. To identify how many required speciality referrals. To recognise how often the general paediatric clinic referrals are from the paediatric assessment unit(PAU).

Methods: This is a single-centre retrospective observational study that took place in Cavan General Hospital. Data was retrieved from departmental documentation and patient records including source of referral, further investigations, diagnosis, speciality referrals and outcome. Analysed over 3 months' period (July-September 2023). Attendance data was collected locally by PAU staff. Analysed using Microsoft Excel.

Results: Of the referrals seen in PAU discharge rate was 90% (n=118). Ten percent (n=17) were admitted to the hospital. Among these, 60% (n=47) underwent further investigations and discharged with reassurance. 20% (n=10) were booked in to the paediatric clinics from the PAU. Forty percent (n=30) were re-booked for PAU follow-up.

Conclusions: This project provided a great insight about the outcome of community referrals to the Paediatric assessment unit. We concluded that majority of the referred patients from their primary care or out of hours GP service were discharged home with safety plan.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 73
General Paediatrics

ESTABLISHING THERAPEUTIC ALLIANCE - AN ESSENTIAL SKILL FOR BETTER HEALTHCARE OUTCOMES IN PAEDIATRICS

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Aims: This review aimed to investigate factors which aid in establishing therapeutic alliance for better healthcare outcomes in paediatrics. The therapeutic alliance between a medical professional and a patient has been shown to improve treatment uptake and adherence and increase both doctor and patient satisfaction. However, fewer studies discuss methods to improve the alliance, particularly in Paediatric settings.
Methods: Studies focused on factors impacting therapeutic alliance and other aspects of doctor-patient relationships were gathered. The most common factors which aided the development of an alliance were identified.
Results: Among the 15 studies included in the review - Verbal, non-verbal and paraverbal communication interventions were discussed. Effective listening is also important for developing an alliance, as well as trust in physicians. Having cultural awareness also improves the relationship and experience of patients or the parents/guardians of young patients. In a paediatric context, patients being seen as individuals, shared decision-making and empathy of care providers were considered important. An emphasis must be placed on including younger patients' parents/guardians in the care plan, as this will contribute to decreasing patient stress and may increase younger patients' understanding of their treatment plans. Encouraging patients to reflect upon their condition can also improve their willingness to change, and thus will lead to improved adherence to treatment and a stronger doctor-patient alliance. However, further research is required on this topic to investigate additional factors and their effect on establishing therapeutic alliances in paediatric settings.
Conclusion: Amongst the most commonly reported factors which improve therapeutic alliance are communication, trust, reflection, empathy, shared decision-making and cultural awareness. Further research is required on additional factors that can improve the therapeutic alliance, especially in paediatric settings. Medical professionals should be aware of factors that can improve their alliance with patients and should aim to inculcate these traits in their practice.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 74
General Paediatrics

GRISEL SYNDROME (ATLANTOAXIAL SUBLUXATION) TRIGGERED BY ACUTE TONSILLITIS IN A PEDIATRIC PATIENT: CRITICAL INSIGHTS INTO DIAGNOSIS AND TREATMENT

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Aims
This case report highlights the rare occurrence of Grisel syndrome (atlantoaxial subluxation) triggered by acute tonsillitis in a paediatric patient, illustrating the critical importance of prompt diagnosis and effective conservative management to prevent potential neurological complications.
Methods
5-year-old female patient presented with significant neck pain and torticollis following an episode of acute tonsillitis. The clinical history indicated a rapid onset of symptoms, which included restricted neck movement and discomfort during routine activities. Comprehensive clinical evaluation and advanced imaging studies, including computed tomography (CT) and magnetic resonance imaging (MRI), confirmed a type 1 atlantoaxial subluxation, demonstrating an 18-degree rotational displacement between the atlas and axis. In light of these findings, a conservative treatment approach was initiated, which included bed rest, nonsteroidal anti-inflammatory drugs (NSAIDs), muscle relaxants, and cervical immobilization using a soft collar. This case underscores the importance of prompt diagnosis and effective management in preventing potential neurological complications, which can include severe pain and impairment in mobility.
Results
Conservative management led to substantial symptom relief and correction of spinal alignment. Follow-up imaging six weeks after discharge revealed normal vertebral alignment, with no neurological deficits observed. The patient successfully resumed normal activities, participating in play and school without restrictions, and no recurrence of symptoms was noted during three months of outpatient follow-up.
Conclusion
Atlantoaxial subluxation (Grisel Syndrome) although uncommon, should be considered in paediatric patients presenting with torticollis following upper respiratory infections. When initiated early, conservative treatment proves highly effective in alleviating symptoms and preventing complications. This case highlights the essential importance of prompt diagnosis and intervention in achieving positive outcomes, ultimately improving the quality of life for affected patients.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 75
General Paediatrics

TIME IS TICKING: AN AUDIT OF ESCALATING ANTIBIOTIC RESISTANCE IN PEDIATRIC UROPATHOGENS

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Aim:
This abstract aims to highlight the resistance patterns of common uropathogens in pediatric patients, driving smarter antibiotic choices, strengthening antimicrobial stewardship, and improving patient outcomes.
Methods:
A retrospective review was conducted over a one-year period from November 2019 to November 2020, using data from the Microbiology Laboratory at UHK. A total of 597 urine samples from pediatric patients, including inpatient and community-submitted samples, were processed. Inclusion criteria encompassed pediatric patients whose urine samples met study requirements and excluding all patients with any chronic urinary conditions. All qualifying samples were analysed. A re-audit covering the period from 2021 to 2024 is currently underway.
Results:
The audit analysed 548 urine samples, comprising 95 male and 453 female patients. The samples tested positive for various pathogens, identifying ten different organisms. Escherichia coli was the most prevalent, accounting for 80% of single-pathogen isolates. Other pathogens included coliform species (9%), Enterococcus (5%), Staphylococcus aureus, Pseudomonas aeruginosa, and Morganella morganii. Resistance patterns indicated that E. coli showed significant resistance to amoxicillin (44%), trimethoprim (23%), and co-amoxiclav (11%). Other coliform species exhibited high resistance rates, with 74% for amoxicillin and 26% for trimethoprim.
Conclusion:
The audit reveals a notable rise in antimicrobial resistance among pediatric uropathogens, particularly E. coli, which remains the dominant cause of pediatric urinary tract infections (UTIs). The high resistance levels to commonly prescribed antibiotics necessitate more strategic antibiotic use. Enhanced antimicrobial stewardship and targeted therapies based on susceptibility testing are crucial for improving patient outcomes and preserving antibiotic effectiveness. Ongoing re-audit results from 2021 to 2024 will provide further insights into resistance trends and stewardship efficacy

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 76
Sub-Specialty

AN ANALYSIS OF PAEDIATRIC HEADACHE PRESENTATIONS TO THE EMERGENCY DEPARTMENT IN CHILDREN'S HEALTH IRELAND

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Background
Paediatric headache is a common presentation to the Emergency Department (ED). It is a major cause of morbidity and while generally benign, it can sometimes be a symptom of serious brain pathology. We sought to describe the aetiology and clinical characteristics of patients with non-traumatic headache attending the ED, to analyse the management and treatment undertaken. We aimed to identify predictive factors for abnormal neuroimaging from red flag findings in this cohort.

Methods
A retrospective study was conducted over 30 months, including all patients aged 2-18 years who presented to the ED with a primary complaint of non-traumatic headache. Clinical features including red flag findings (vomiting,progressive headache,nocturnal awakening,photo/phonophobia,new focal neurology,gait disturbance,and new visual disturbance) were recorded from history and examination.Investigations and management undertaken for each patient were analysed.Patients with abnormal neuroimaging were identified and the occurrence of red flags was reviewed as compared to those with normal imaging.

Results
A total of 653 patients met the inclusion criteria(55% female, 45% male),while 80% of patients were attending the ED for the first time with a headache.Headache presentations accounted for 0.3% of all presentations to the ED, and 13.7% were admitted to hospital. Serious pathology was identified on 31/653 patients who had neuroimaging (4.7%),with 14 of 193 patients who had a CT brain(7.2%) and 17 of 53 patients who had an MRI Brain (32%).In the analysis of red flags as compared to abnormal neuroimaging,new visual disturbance was the only statistically significant finding.Vomiting was the most common red flag finding seen in those with abnormal neuroimaging.

Conclusion
This large retrospective study highlights the need to develop a comprehensive guideline for paediatric headache in CHI which considers local resources and policies.Well-designed,multi-centre prospective studies are needed to better define the clinical findings that warrant neuroimaging in children with headache and help evaluate further diagnostic values of red flags in this population.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 77
General Paediatrics

Pilot Study to Evaluate the Effectiveness of Absorbent Wristbands in Enhancing Quality of Life for Children with Neurodisabilities and Drooling in Low Socioeconomic Settings

PS Short

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Background and Rationale: Excessive drooling, known as sialorrhea, is a common issue in children with neurodevelopmental disorders like cerebral palsy, impacting quality of life and leading to various complications. Despite its prevalence, effective treatment remains challenging, with limited licensed options available for children. Traditional approaches include non-pharmacological methods followed by anticholinergic medications and, in some cases, botulinum toxin injections or surgery. However, these treatments can have side effects and compliance issues.
A low-cost intervention using absorbent wristbands may offer a promising alternative to manage drooling in children with neurodisabilities. Absorbent wristbands have been explored in small studies for saliva control, showing potential benefits. However, their effectiveness has not been rigorously evaluated in a randomized controlled trial, particularly in resource-limited settings where access to more expensive treatments is limited.
Objectives: The primary objective of this study is to assess the effectiveness of absorbent wristbands in reducing drooling frequency and severity and improving the quality of life for children with neurodisabilities in a low-resource setting. The secondary objectives include evaluating the feasibility and acceptability of the intervention among the families, as well as assessing any changes in oral awareness and motor coordination.
Methods/design: This will be a pilot study evaluating the use of absorbent wristbands plus standard rehabilitation in children with neurodisabilities and severe drooling, measuring drooling severity and quality of life before, during and after the intervention. The study will be conducted at the Nurture Africa clinic in Uganda over a 1-year period.
Participants: We will aim for 30 participants to be enrolled. All participants must have been evaluated by the physiotherapy team at Nurture Africa to assess eligibility.
Outcomes: The primary outcome is the change in Drooling Impact Scale (DIS) score from baseline to 3 + 12 months. Secondary outcomes include changes in DIS over time, Drooling Severity and Frequency Scale, adverse events, and caregiver quality of life. Feasibility outcomes will be assessed by number of candidates who could successfully complete the study and gathering data on potential reasons for drop-out.
If proven effective, this low-cost intervention could significantly improve quality of life for these children and their families. The study will contribute to the limited research on non-pharmacological management of sialorrhea in resource-poor areas. This study is to assess potential effectiveness of our intervention and assess the feasibility of running a study like this in this environment but further research should evaluate long-term sustainability and scalability.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 78
General Paediatrics

COMPLIANCE OF NCHD'S WITH UTI NICE GUIDELINES IN CASHEL WARD, PAEDIATRIC DEPARTMENT UNIVERSITY HOSPITAL KERRY.

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Introduction: The HSE guidelines for management of UTI in children have been adopted from NICE guidelines CG54 that covers diagnosing and managing first or recurrent upper or lower UTI in under 16s.

Renal scarring due to recurrent UTI may lead to hypertension, decreased renal function, proteinuria and end-stage renal disease. This is especially true if the condition is not diagnosed, investigated and managed appropriately.

AIM: To identifying deviations in the management practices from NICE guideline recommendations and opportunities of improving the quality of care.

Methods:-

Retrospective chart review of 43 patients admitted to Paediatric ward UHK with suspected UTI from April 2023-November 2023.

Data Analysed using descriptive statistics.

Following criteria were audited in accordance with NICE Guidelines.

1.MRN
2.SEX
3.AGE
4.DOB
5.Symptoms
6.Risk-Factors
7.Dipstick
8.Microscopy
9.Urine culture before antibiotics
10.Urine culture after antibiotics
11.UTI-Typical/Atypical/Recurrent/Unlikely
12.Imaging

Results:-

1.UTI is more prevalent in boys at an age younger than 1 year
2.Risk-factors identified correctly in 29 of the cases
3.UTI unlikely in 09/43; 20/43 atypical and 14/43 recurrent
4.Imaging ordered in 32/43 during acute infection, 2 had MCUG/DMSA as per guidelines,1 transferred to tertiary care and 09/43 had no imaging.
5.Out of 32 US ordered only 2 ordered within 6 weeks after infection in accordance to NICE guidelines, 12/32 ordered inappropriately in recurrent UTI who were >6months of age.

Summary

1. Three Interesting findings were revealed in our audit; (1) Only in 65% cases antibiotics were given appropriately after obtaining urine sample, that affected the diagnosis of UTI; (2) Most of the cases of recurrent UTI were ordered for initial US imaging during acute infection as opposed to guidelines; (3) UTI recurrences might have been prevented by properly looking for clues of urological risk-factors on first presentation and educating parents.
2. Steps were taken to ensure adherence to NICE Guidelines recommendations through NCHD and Nursing Staff Education along-with adequate information and education of parents before discharging home and appropriate follow-up as per guidelines
3. Re-Audit in a years time.

1. NICE (2022): Overview | Urinary tract infection in under 16s: diagnosis and management | Guidance | NICE, [online] https://www.nice.org.uk/guidance/ng224. 2. NICE (2022b): Recommendations | Urinary tract infection in under 16s: diagnosis and management | Guidance | NICE, [online] https://www.nice.org.uk/guidance/ng224/chapter/Recommendations. 3. Clinical Practice Guidelines : Urinary tract infection (n.d.): [online] https://www.rch.org.au/clinicalguide/guideline_index/Urinary_tract_infection/. 4. UTI in Children - HSE.ie (n.d.): HSE.ie, [online] https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/urinary/uti-in-children/.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 79
General Paediatrics

ESTROGEN AND PROGESTERONE IN IMMUNE DYSFUNCTION AT CHILDHOOD FOLLOW UP OF PRE-TERM INFANTS

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Aims
Infants born prematurely have increased risk of multi-organ dysfunction and death throughout their lives. Males are particularly higher risk and susceptible to the adverse effects of infection related inflammation with poorer clinical outcomes. Immune function, hormone exposure and genetic factors play contributory roles. Physiological concentrations of female hormones hypothesised to have a role in immune development, could affect the expression of CD11b and TLR4 on previously premature neonates. We aimed to assess the influence of sex hormones on innate immune responses .
Methods
A prospective cohort study recruited ex preterm infants born <1500g and <32weeks, now aged 5 years old. Blood samples were treated with LPS, estradiol (E2) and progesterone (PG) and compared with aged matched controls. Using flow cytometry, Toll-like receptor (TLR)-4 (recognition of lipopolysaccharide (LPS)) and CD11b (cell activation, migration) was analysed as a marker of innate immune function in neutrophils (CD66b+) and monocytes (CD14/16).
Results
In ex preterm children and age-matched controls (n=34), there was significant upregulation of neutrophil CD11b expression when exposed to LPS, E2 and LPS, PG and LPS and E2, PG and LPS in combination in preterm infants and trends are apparent between preterm and healthy control samples. A trend of progesterone treated samples shows some downregulation when treated with LPS in preterm children. Classical monocyte CD11b was similarly upregulated by LPS, E2 and LPS, PG and LPS and combination of the three.
Conclusion
Immune function is altered in ex preterm children and these dysregulated responses may increase risk of infection and complications. Immunomodulation has potential as a treatment for multiple end organ issues.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 80
General Paediatrics

SUSTAINED INFLAMMATORY RESPONSES AT CHILDHOOD FOLLOW UP IN PRETERM INFANTS : THE ROLE OF DEXAMETHASONE IN IMMUNE DYSFUNCTION

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Aims

Preterm infants have increased risk of multi-organ dysfunction and death throughout life. Dexamethasone is a potent synthetic glucocorticoid works by blockade of two pathways of inflammation, vasodilatation and immune cell migration. Corticosteroids play an essential role in blocking the inflammatory pathway in life threatening conditions. It is important that exposure to any medication is not without adverse event such as increasing predisposition to infection. We aimed to assess the effect of corticosteroids on innate immune responses at childhood in ex term infants.

Methods

A prospective cohort study recruited ex preterm infants born <1500g and <32weeks, now aged 5 years old. Blood samples were treated with LPS and dexamethasone (Dex) and compared with aged matched controls. Using flow cytometry, Toll-like receptor (TLR)-4 (recognition of lipopolysaccharide (LPS)) and CD11b (cell activation, migration) was analysed as a marker of innate immune function in neutrophils (CD66b+) and monocytes (CD14/16).

Results

In ex preterm children and age-matched controls, there was significant upregulation of neutrophil CD11b expression when exposed to LPS and Dexamethasone and LPS. Ex preterm samples exposed to LPS and Dexamethasone and LPS showed significant upregulation of total monocyte CD11b and classical monocyte CD11b with LPS and LPS and Dexamethasone.

There was no significant difference between TLR4 endotoxin recognition in control or children born prematurely.

Conclusion

Immune function is altered in ex preterm children and these dysregulated responses may increase risk of infection and complications. Dexamethasone use may make ex preterm infants susceptible to complications of the inflammatory response

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 81
General Paediatrics

12 DAY OLD BREASTFEEDING INFANT WITH LARGE AGGRESSIVE BREAST ABSCESS DUE TO PATON-VALENTINE LEUKOCIDIN TOXIN PRODUCING METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS

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Aim: The aim of this report is to present a 12 day old beastfeeding infant with large breast absecess due to paton-valentine leucocidin toxin producing methicillin resistant
Method
We describe and illustrate with clinical photography the case of a 12-day-old girl, whose mother is a health care professional, who presented with sudden acute onset of swelling and redness around her left nipple; she was otherwise well and afebrile. Examination revealed an inflamed 5cm abscess on her left breast. Serum Leucocytes were 20.8 x 10^9/L, CRP was 79 mg/L. Poor response to over-night flucloxacillin and co-amoxiclav; switched to cefotaxime. Blood cultures negative, wound swab grew Staphylococcus aureus; on day 5 of treatment this organism was defined as Paton-Valentine Leukocidin toxin (PVL) producing methicillin resistant staphylococcus aureus (MRSA). She com-menced vancomycin and her absess ruptured spontaneously.

Results: Excellent response to Vancomycin with healing and resolution. This baby's mother subse-quently developed large breast abscess which required surgical drainage and vancomycin therapy. On going follow up in recovery with initiation of decolonisation protocol.

Conclusion
PVL producing MRSA, whether community or hospital acquired, is an rare cause of breast abscesses in infancy is associated with severe and rapid progression and presents a diagnostic and therapeutic challenge with risk of recurrence and reinfection

1. Al Ruwaili N, Scolnik D. Neonatal mastitis: Controversies in management. J Clin Neonatol. 2012;1:207–10. [PMC free article] [PubMed] [Google Scholar] 2. . Faden H. Mastitis in children from birth to 17 years Pediatr Infect Dis J. 2005;24:1113 3. Seung EL, Jeongho L, Eun SS. Sepsis from neonatal mastitis and breast abscess. Soonchunhyang Med Sci. 2015;21:49–51. [Google Scholar

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 82
General Paediatrics

PARENTS' PERCEPTION OF THEIR CHILD'S NON-URGENT ILLNESS AND THE NEED FOR EVALUATION IN THE PAEDIATRIC EMERGENCY DEPARTMENT

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Aims: This audit aimed to assess parents' perceptions regarding their child's illnesses and the necessity of attending the Paediatric Emergency Department (PED). Additionally, it sought to identify socio-demographic factors leading to unnecessary PED visits and explore strategies to manage patient flow.
Methods: A prospective survey was conducted in the PED at OLOLH Drogheda. The triage nurse identified eligible patients (categories 3, 4, and 5 based on ICTS). A total of 60 questionnaires were distributed, and 42 (70% response rate) were returned. Parents of children aged 0-16 years were asked about their reasons for attending the PED.
Results: Of the respondents, 98% were registered with a GP, and most had first consulted their GP. The main reasons for attending the PED included the GP's recommendation, failure to obtain timely GP appointments, and symptoms persisting beyond 48 hours. About 69% of those who first saw a GP were referred to the PED, and 90% of parents deemed the PED visit necessary, though only 7% required admission. Parents who went directly to the PED largely did so because they could not secure a timely GP appointment.
Conclusion: While most parents found the PED consultation satisfactory, only a small proportion required hospital admission. Interventions aimed at improving health literacy about common childhood illnesses, timely GP appointments, and appropriate use of emergency services (including social media campaigns) could reduce unnecessary PED visits.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 83
General Paediatrics

SPINAL CARE IN A NATIONAL 22Q11.2 DELETION SYNDROME POPULATION ATTENDING A SPECIALISED SERVICE: A RETROSPECTIVE COHORT STUDY.

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Aims Scoliosis affects half of children with 22q11.2 Deletion Syndrome (22Q11.2DS), a rare microdeletion syndrome. It can impact quality of life and necessitates ongoing medical surveillance due to its varying severity. This study aims to assess spinal care in the 22q11.2DS national paediatric cohort attending a specialised service established at CHI, Crumlin in 2017.
Methods A retrospective review of patients up to age 18 was conducted from October 2017 to June 2024. Data were extracted from paper charts and electronic medical records, including the Integrated Patient Management System and NIMIS RIS, and analysed using Microsoft Excel.
Results Among 193 patients, 50.8% (n=98) were male. Following examination at the 22q clinic, 51.3% (n=99) had spinal X-rays at a mean age of 10 ± 4.5 years, either at diagnosis or prepubertally. Cobb angles were used to measure the severity of scoliosis. Of those X-rayed, 49.5% (n=49) had scoliosis (Cobb angle ≥ 10º), while 26.3% (n=26) had mild curvatures (<10º). A total of 53.5% (n=53) were referred to orthopaedics: 21.2% (n=21) by the 22Q clinic, and the remaining by other paediatric departments. Patients not referred were managed with an established care plan. The median wait time for an orthopaedic consultation was 9 months following referral (IQR 2), with a mean of 10.9 months. There was significant variability in patient wait times, ranging from 0 to 34 months. 30.6% (n=15) of patients referred required intervention and 5.2% (n=10) of the overall population (n=193) required surgical intervention. The average age of surgical patients was 10 ± 3.3 years.
Conclusion This study shows a 49.5% prevalence of scoliosis in 22q11.2DS patients. Routine clinical surveillance for scoliosis from time of 22q diagnosis is recommended, together with routine X-ray screening at both the pre-pubertal and pubertal periods or earlier if clinically indicated. Timely orthopaedic intervention favours better patient outcomes.

Habel A, Herriot R, Kumararatne D, Allgrove J, Baker K, Baxendale H, et al. Towards a safety net for management of 22q11.2 deletion syndrome: guidelines for our times. Eur J Pediatr. 2014;173(6):757-65

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 84
General Paediatrics

AUDIT REVIEWING THE TREND TO OVER- OR UNDER-SCREEN FOR COELIAC DISEASE IN DIABETIC PATIENT FOLLOW UP IN OUR CENTRE.

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A internal audit was done on the Diabetic paediatric patients in St Lukes General Hospital Kilkenny with regards to the screening practices for Coeliac disease. The guidelines that were being followed at the time of this audit by the paediatric diabetic team was the 'Model of Care for All Children and Young People with Type 1 Diabetes' published in November 2015 which was published in the HSE Paediatric Diabetes Program website. It recommened screening for coeliac disease at the time of diagnosis and then yearly after the age of 12 or if diagnosed for more than five years. The guidelines offer no advice as to when to stop this yearly screening.[1] These guidelines have since been revised in 2024 with current recommendations being: 'A baseline coeliac screen followed by screening every 2 years if under 11 years or pubertal patients diagnosed for more than 2 years and from 11 years of age every two years and earlier if symptomatic.' The question that initiated this audit was: 'Is yearly coeliac screening really necessary?' There is little current research in this topic. A total of 78 patients were reviewed. A total of 305 coeliac tests were done between the required baseline screening and then the yearly screening as recommended. 68% of the recommended screening was successfully completed. Five children (6%) were diagnosed with coeliac disease. Conclusions: outdated guidelines have been followed, the recommended screening of the followed protocol is poorly adhered to and the department is over-screening for coeliac disease due screening at inappropriate times. More training is required on the follow up of patients with diabetes in the Unit. Finally, more research should be done to determine the requirement for such frequent coeliac screening because of the low incidence noted in our population basis.

Dr. Stephen O'Riordan CL, Paediatric Diabetes, Ms. Grace Turner PM, Ms. Claire Browne PM, Group PDW. Model of Care for All Children and Young People with Type 1 Diabetes. National Clinical Programmes for Diabetes and Paediatrics [Internet]. 2015; Version 1:[1-44 pp.]. 2. Dr Ciara Martin NCAa, People GlfCay. Annual review and co-morbidity screening in Paediatric Type 1 Diabetes. NATIONAL CLINICAL GUIDELINE [Internet]. 2024 28/09/2024 [cited 2024; Version 2:[7, 8 pp.].

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 85
General Paediatrics

THE PAEDIATRIC ASSESSMENT UNIT AT WATERFORD UNIVERSITY HOSPITAL: A SNAPSHOT IN TIME

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Aims
The Paediatric Assessment Unit (PAU) at University Hospital Waterford (UHW) is a consultant led service operating 7 days per week, accepting acute unscheduled referrals from the emergency department or community, alongside midweek scheduled reviews. The aim of this study was to examine the clinical activity of the PAU at UHW across a defined period to identify patterns of referral and clinical outcomes.
Methods
Data on PAU activity from September 2022 to September 2024 was obtained from IPMS and analysed to determine patterns of presentations across this 24-month period. Data for the recent 12 months, up to September 2024 is currently undergoing review with comparison of these 2 years' activities.
Results
September 2022 to September 2023 saw an average of 16 PAU attendances per day, with unscheduled care as the majority (>75%). March saw the highest number of unscheduled attendances (>450 across the month) which coincided with the Wexford General Hospital fire, while July-September 2023 saw the lowest (134xamina. 250 each). The busiest hours for unscheduled care falls between 12:00 and 21:00, with GP referrals making up 66% of the attendances. The admission rate was 134xamina. 30% depending on the time of year, with a higher rate during the summer. A reduction in admission rate was seen from 2023 to 2024. Patient addresses spanned multiple counties, with 66% coming from Waterford, 18% from Wexford, 11% from Kilkenny and the remaining 4% from both Tipperary and Carlow.
Conclusion
The PAU at UHW is a busy department which relieves pressure on the hospital's emergency department by accepting GP referrals directly. It also acts as a short-stay observation unit which may result in reduced hospital admissions over time. Ongoing analysis of PAU activity will allow further development of this aspect of the Paediatric Department at UHW, in line with the HSE's Paediatric Model of Care.

Royal College of Paediatrics and Child Health (2009) Short Stay Paediatric Assessment Units. Advice for Commissioners and Providers. 2. A national model of care for paediatric healthcare services in Ireland (2012). Chapter 24: Paediatric Emergency Medicine.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 86
General Paediatrics

REVIEWING THE PROCESS OF TAKING BLOOD CULTURES IN PAEDIATRIC WARD AND PAEDIATRIC EMERGENCY DEPARTMENT

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Background
Blood cultures are critical for diagnosing infections in hospitalized patients, but contamination during collection can result in false-positive results, leading to unnecessary treatments and prolonged hospital stays. Our department noted high contamination rates, prompting a quality improvement project aimed at reducing contamination through improved blood culture collection techniques.

Methodology
A three-cycle quality improvement project was conducted from August 2023 to July 2024. In the first cycle, baseline contamination data was gathered by reviewing lab records and clinical notes. Areas for improvement were identified, focusing on hand hygiene, skin antisepsis, and sterile collection techniques. Training and educational sessions were provided to staff involved in the blood culture process. In the second and third cycles, re-audits were conducted to assess the impact of these interventions. The contamination rates were analyzed across all three cycles to evaluate the effectiveness of the improvements.

Results
In the initial cycle, the contamination rate was a mean of 6%. After implementing the revised collection techniques, contamination rates dropped to a mean of 2% in the second cycle and slightly increased to 2.4% in the third cycle. Key factors in reducing contamination included enhanced adherence to hand hygiene protocols, the use of effective skin antiseptic agents, and stricter sterile techniques. However, the re-audits identified ongoing challenges, such as ensuring compliance during high-pressure situations and improving documentation.

Conclusion
The quality improvement project successfully reduced blood culture contamination rates through targeted interventions and continuous training. The project demonstrates the importance of ongoing monitoring and education in enhancing clinical practices. Reducing contamination improves diagnostic accuracy and minimizes unnecessary treatments, ultimately enhancing patient safety.

Hall, K.K., & Lyman, J.A. Updated Review of Blood Culture Contamination. Clin Microbiol Rev, 2006; 19(4): 788-802. Lamy, B., et al. How to Optimize the Use of Blood Cultures for the Diagnosis of Bloodstream Infections? A State-of-the Art Review. Front Microbiol, 2016; 7:697. Rupp, M.E., et al. Reduction in Blood Culture Contamination Through Use of Initial Specimen Diversion Device. Clin Infect Dis, 2017; 65(12): 201-205.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 87
Medical/Education Management

Compliance of HSE Record keeping Guidelines in the Paediatric Ward, MRH Portlaoise

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Aim: to assess the quality of medical records being kept after evaluation against hse standards. We want all patients' documentations on medical charts to be filled appropriately as per hospital policy and guidelines.

Method: clinical audit guidelines (ncca 2023) and clinical audit gdpr principals (noca 2019) were adhered during this process.

an automated clinical audit tool was used for analysis of collected data and percentage (%) compliance for each standard and for overall compliance (average of all standards) was determined.
bar charts were used for results presentation.

Results:
an overall compliance 68% for correct paediatric patient record keeping was demonstrated as an average from 30 charts (fig. 1). The results (fig. 2) for compliance to section one to five of hse healthcare record keeping guidelines were as follows:

- section one, correct patient identification was 93%, 93%, 83%, 97%,
- section two, writing legibility and clarity was 97%, 97%, 50%,
- section three, date on record entry was 100%, 60%, 53%,
- section four, author identification was 90%, 47%, 63%, 7%, 77% and
- section five, correction of record was 27%, 7%, 7%, 20%.

hse standards and recommended practices for healthcare records management, qpsd-d- 006-3 v3.0. 2. Medical council's guide to professional conduct and ethics for registered medical practitioners. 3. Medical record keeping: clarity, accuracy, and timeliness are essential bmj 2014; 348 :f7716 doi:10.1136/bmj.f7716 4. 136xaminat jr, 136xaminati tp, 136xaminat kl. The crabel score–a method for auditing medical records. Ann r coll surg engl. 2001 jan;83(1):65-8. Pmid: 11212456; pmcid: pmc2503558 5. Hse national centre for clinical audit (ncca). "clinical audit, a practical guide 2023". 6. National 136xamination136 for clinical audit (noca). "gdpr guidelines clinical audit, may 2019".

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 88
Medical/Education Management

A Clinical Audit of MDT NRP Weekly Simulation Drills for Paediatric NCHDs in the Labor Ward of a University Affiliated Level 3 Hospital.

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[1]Paediatrics, Portiuncula University Hospital, Ballinasloe, Ireland

AIMS:
This audit evaluated the effectiveness of weekly MDT Neonatal Resuscitation Program (NRP) simulation drills, focusing on ASPiH standards and AHA NRP learning outcomes. Key outcomes included proficiency in neonatal resuscitation skills, effective teamwork, and clinical decision-making during high-pressure scenarios (1, 2). The objective was to assess how well these drills met both structural standards and learning objectives to improve neonatal care and patient outcomes.

METHODS:
From January to July 2024, weekly MDT NRP simulation drills were conducted in the labor ward. These drills were assessed using an audit tool combining ASPiH standards and AHA NRP learning outcomes. The focus was on team-based care, leadership, and proficiency in critical interventions like positive-pressure ventilation (3). Faculty members observed teamwork, communication, and adherence to neonatal resuscitation protocols. The technical aspects were evaluated to ensure alignment with NRP guidelines. Post-simulation debriefs provided feedback, especially on oxygen management, communication, and reflective practice to enhance learning outcomes (4).

RESULTS:
The audit found that 85% of drills met ASPiH standards, providing a safe learning environment and structured debriefs (1). However, 15% of sessions encountered technical challenges, delaying resuscitation interventions. In terms of AHA NRP outcomes, 80% of participants demonstrated proficiency in positive-pressure ventilation, and 70% showed leadership during high-pressure scenarios (2). Communication and teamwork were effectively demonstrated in 75% of sessions, though 25% struggled with role clarity.

Debriefs were conducted in 90% of sessions, with 70% indicating feedback improved reflective practice. However, 30% of feedback lacked specific recommendations on improving clinical decision-making (3).

CONCLUSION:
While the drills largely adhere to ASPiH and AHA NRP standards, improvements in technical support and feedback are needed to enhance overall effectiveness (1, 3). Staff education and awareness regarding the ASPiH criteria is paramount.Displaying the NRP Algorithm on the Labor room and Theatre walls promotes cognitive deloading. Simulation Faculty and Technical Facilitator teaching & training should be encouraged.

Purva, M., & Nicklin, J. (2017). “ASPiH standards for simulation-based education: Process of consultation, design, and implementation.” BMJ Simulation & Technology Enhanced Learning. 2. American Academy of Pediatrics, American Heart Association (2021). “Textbook of Neonatal Resuscitation, 8th ed.” American Heart Association. 3. Wyckoff, M. H., et al. (2020). “Part 5: Neonatal Resuscitation: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care.” Circulation. 4. DeVita, M. A., et al. (2005). “Improving medical crisis team performance.” Critical Care Medicine.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 89
Medical/Education Management

A Clinical Audit of Departmental Case Presentations Conducted Twice Weekly by Paediatric NCHDs of a University Affiliated Level 3 Hospital.

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AIMS:
This clinical audit was conducted to assess the effectiveness of departmental case presentations delivered by Paediatric Non-Consultant Hospital Doctors (NCHDs) twice weekly in a university-affiliated Paediatric Department from January to July 2024. The presentations were evaluated against the Peer Observation of Teaching (POT) audit tool to ensure adherence to best teaching practices, including content structure, audience engagement, and curriculum alignment. The goal was to enhance the quality of these sessions, ensuring that they supported the learning objectives of medical students and staff [1, 2].

METHODS:
From January to July 2024, Paediatric NCHDs conducted departmental case presentations twice a week. The presentations were evaluated using the Peer Observation of Teaching (POT) audit tool, which provides standards for assessing teaching performance. Observers focused on aspects such as how well the presentations were structured, how NCHDs engaged with their audience, and how well the case material aligned with the curriculum. The audit involved pre- and post-presentation discussions to identify objectives and areas for improvement. Multimedia use, audience interaction, and visual aids were assessed. Post-presentation feedback was provided to guide improvements and to gauge reflective teaching practice. Feedback was collected from NCHDs to determine how well the presentations contributed to understanding clinical and academic content [3, 4].

RESULTS:
The audit found that NCHDs displayed strong clinical knowledge, but there was variability in teaching techniques. In 75% of presentations, material was well-structured. However, 25% lacked clarity, affecting student understanding. Active participation was encouraged by 60% of NCHDs, while 40% relied on didactic teaching. Curriculum alignment was consistent in 80% of cases, but 20% focused too heavily on case specifics. Feedback was provided, but 30% lacked specificity for improvement [1, 3].

CONCLUSION:
While Paediatric NCHDs demonstrated clinical competence, improvements in structure, engagement, and feedback are needed. More interactive delivery and specific feedback will enhance the educational value of these presentations [2, 4].

McCarrick, E., et al. (2023). “ICGP Peer Observation of Teaching Sample Audit for Non-Clinical Teachers.” ICGP Audit Toolkit, 2023. 2. Gosling, D. (2005). “Models of Peer Observation of Teaching.” SEDA Paper 118, London: Staff and Educational Development Association. 3. Hendry, G. D., and Dean, S. J. (2002). “Accountability, Evaluation of Teaching and Expertise in Higher Education.” International Journal for Academic Development, 7(1): 75-82. 4. Cantillon, P., and Sargeant, J. (2008). “Teaching Rounds: Teaching Clinical Reasoning – The Importance of Cognitive Learning Theories in Clinical Education.” BMJ, 337: a2682.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 90
Medical/Education Management

A Clinical Audit of Monthly Interdepartmental Paediatric Emergency Medicine Simulation Using Kirkpatrick's Four Levels of Evaluation in a University Affiliated Level 3 Hospital.

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Aims:
This Audit aimed to assess the effectiveness of a monthly interdepartmental simulation involving Paediatric and Emergency Medicine Non-Consultant Hospital Doctors and Emergency Department Nurses from January to July 2024. The evaluation was conducted using Kirkpatrick's Four Levels of Evaluation framework, which assesses reaction, learning, behavior, and results (1). The focus was to determine the impact of regular simulation-based education on enhancing clinical skills, teamwork, and patient outcomes in paediatric emergency care.

Methods:
The audit employed a mixed-methods approach. Participant reaction was measured through post-simulation surveys, which assessed their satisfaction with the monthly training, its relevance, and their overall experience. Learning was evaluated by comparing pre- and post-simulation test scores to determine improvements in clinical knowledge and skills (2). Behavioral changes were observed through follow-up clinical audits in real emergency settings, where the application of skills learned during the simulation was monitored. The results were examined by analyzing patient care outcomes, such as time-to-treatment and frequency of medical errors in paediatric emergencies, using hospital data collected before and after the regular simulation training sessions (3).

Results:
The audit revealed positive outcomes across all levels of Kirkpatrick's framework. At the reaction level, 95% of participants expressed high satisfaction with the monthly simulations, citing their realism and effectiveness in improving both individual and team performance. Knowledge scores improved by 30% post-simulation, demonstrating significant learning gains. In terms of behavior, clinical audits showed enhanced teamwork and faster identification of critical paediatric conditions during real emergencies. At the results level, the time-to-treatment for life-threatening cases decreased by 15%, with a 10% reduction in medical errors.
Conclusion:
The monthly interdepartmental simulation was highly effective in improving clinical and team-based performance, as evidenced by the positive outcomes across all four levels of Kirkpatrick's evaluation model. The observed improvements in patient outcomes highlight the value of continued, regular simulation-based training in paediatric emergency care.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 91
Medical/Education Management

Advancing Clinical Competence through Bedside Teaching: A Six-Month Audit of Paediatric NCHDs tutoring Medical Students Using the Mini-CEX Framework in a University Affiliated Level 3 Hospital.

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Aims:
This audit aimed to assess the effectiveness of bedside teaching delivered by Paediatric Non-Consultant Hospital Doctors (NCHDs) to medical students from two medical schools in the Paediatric and Postnatal Ward. The evaluation utilized the Mini Clinical Evaluation Exercise (Mini-CEX) tool to measure key clinical competencies, including medical interviewing, physical examination, clinical judgment, communication, professionalism, and overall clinical competence (1).

Methods:
From January to July 2024, 20 bedside teaching sessions were audited. Students from two medical schools participated, and their performance was assessed by NCHDs and Clinical Tutors using the Mini-CEX tool, which employs a 9-point Likert scale to evaluate several domains (2). In addition to quantitative ratings, qualitative feedback from both students and faculty was collected, offering a detailed evaluation of teaching quality and its impact on clinical learning (3). This mixed-method approach allowed for a comprehensive understanding of the educational outcomes of bedside teaching.

Results:
The audit revealed that bedside teaching was highly effective in fostering professionalism (mean score: 8.6) and communication skills (mean score: 8.3), with these competencies having the most significant impact on students' ability to engage effectively with patients and clinical teams. However, areas requiring improvement were noted in clinical judgment (mean score: 6.9) and physical examination skills (mean score: 7.1). Both students and faculty emphasized the need for more structured teaching and increased opportunities for hands-on practice in these domains (4).

Conclusion:
This audit provides evidence that bedside teaching in the Paediatric and Postnatal Ward is highly effective in developing communication and professionalism among medical students. However, further attention is needed to enhance clinical reasoning and examination skills. The Mini-CEX proved to be an insightful tool for assessing the effectiveness of bedside teaching and identifying areas where targeted improvements can further enrich student learning experiences (5). Postgraduate courses in Medical Education for NCHDs should be facilitated to develop their teaching skills.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 92
Medical/Education Management

CLOSING THE GAP: REDUCING RETURN OUTPATIENT WAITING TIMES IN THE PAEDIATRIC GASTROENTEROLOGY OUTPATIENT SETTING

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Aims: This study aimed to reduce waiting times for return outpatients to the CHI Tallaght Gastroenterology service and offer prompt follow up to patients lost to follow up during service interruption (e.g. COVID 19 pandemic). The study also aimed to discharge patients who remained on the waiting list in error.

Methods: We carried out a retrospective chart review of charts at the end/bottom of the CHI gastroenterology waiting list for a return appointment. Demographics were recorded as well as diagnoses, time since last blood tests and time since last scope. These charts were reviewed by the consultant fortnightly and booked for bloods, outpatient appointment, scope and/or discharged from the service.

Results: 66 charts were reviewed over an 8 week period. Coeliac disease (40; 60.6%) and eosinophilic oesophagitis (12; 18.12%) were the most common diagnoses. Of the charts reviewed 37 (56%) were offered an in person appointment within 3-6 months. 11 (16.6%) patients were offered a telephone appointment. 17 (25.75%) were discharged from the service and 9 (13.6%) of these were referred to the adult service. 29 (43.9%) patients were booked for bloods, 3 (4.5%) patients were referred for scope. 62 (93.9%) patients had not been seen in > 2 years. Of coeliac patients in this cohort 32 (80%) had not had bloods in > 2 years. The above interventions reduced the wait time for return appointments from 40 to 30 months.

Conclusions: This method of retrospective chart review presents a time efficient and achievable way of capturing patients lost to follow up and reducing waiting times in the return outpatient setting. Encouraging results in this initial 8 week period show promise to further reductions in waiting times as we continue these reviews. As CHI merges sites, this method could be used to consolidate outpatient lists and provide safe and time appropriate care.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 93
Medical/Education Management

IMPROVING PRESCRIBING SAFETY IN A TERTIARY PAEDIATRIC INTENSIVE CARE UNIT: A CLINICAL AUDIT

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AIM
To ensure appropriate, safe prescribing of high risk medications, highlight safety issues and reduce medication errors in a tertiary paediatric intensive care at Children's Health Ireland(CHI).

METHODS
A retrospective review was performed over a 4-week period in September 2024 of 15 paper medical kardexes in a tertiary paediatric intensive care. Data collected included but was not limited to; patient and prescriber identification, allergy status, prescription date and legibility, dosing route and frequency and discontinuation of prescriptions as per CHI policy. Prescriptions were compared to HSE Code of Practice for Healthcare Records Management: Abbreviations, CHI Clinibee paediatric formulary and CHI medication prescribing policy.

RESULTS
All kardexes correctly recorded patient identification, weight and allergy status. All prescriptions had an easily identifiable presciber and medical council number. 99.4% of prescriptions used the generic name of medication and 98.9% were legible, however only 65.7% were written in capital letters. Only 56.7% of prescriptions used HSE approved abbreviations; most commonly used unapproved abbreviations were related to frequency, for example OD instead of once daily and 8^{o} rather than 8 hourly or TDS. Mcg was written instead of micrograms in 41.4% of prescriptions. 30% of as required(PRN) prescriptions did not include a minimal or maximal dose interval or guiding clinical parameter. 79.4% were discontinued correctly, with name of the prescriber, date and line through the prescription. All continuous infusions had the correct volume and diluent, concentration, dose and rate range.

CONCLUSION
We have identified areas to improve prescribing safety in our unit, most notably the use of approved abbreviations in relation to frequency and dosing units, the need for minimal/maximal frequency in PRN prescribing, correct discontinuation of prescriptions and use of capital letters. We have commenced short safe prescribing feedback sessions in our unit and aim to re-audit this intervention prior to NCHD changeover.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 94
Medical/Education Management

The Experience of General Practice Trainees in a Tertiary Paediatric Training Centre.

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Aims:
In response to an 8% increase in the population, general practice trainee numbers in Ireland have risen by 10.5% with 286 trainees taking up posts in 2023. Trainees in the Dublin region undertake training in a tertiary paediatric centre within Children's Health Ireland (CHI). There is limited research into the experience of general practice trainees within the field of paediatric medicine. The aim of this research was to gain an insight into the experience of general practice trainees within the tertiary paediatric hospital setting.
Methods:
A hermeneutic phenomenological study was 143xaminat to gain an understanding of the experience of GP trainees in CHI at Temple Street. A focus group interview was conducted with 5/6 of available general practice trainees within the hospital which was transcribed and underwent thematic analysis.
Results:
Following analysis three distinct themes were identified. These themes consist of environment, communication and professional development.
Trainees noted a development in their knowledge and skill levels, reporting increased confidence and ability to manage paediatric cases during their placement. The working environment was viewed positively however communication was identified as the main concern for trainees. Trainees felt that a 143xamina induction into paediatric medicine would be of benefit in reducing anxiety. In turn, this would enable furthering of trainees' professional development. It was suggested that general practice specific teaching from experts would further enhance this experience.
Conclusions:
The experience of general practice trainees within the tertiary paediatric setting correlates with those described within the literature. Trainees reported a marked development in skills and confidence with managing paediatric cases. Further research and engagement with both the Irish College of General Practitioners and CHI is warranted to further develop the experience of trainees. This would allow for a mapping of the curriculum encompassing the needs for general practice trainees within the tertiary paediatric setting going into the future.

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 95
Medical/Education Management

QUALITY IMPROVEMENT PROJECT ENHANCING TIMELY COMMUNICATION TO CAREGIVERS AND PROFESSIONALS FOLLOWING PAEDIATRIC FORENSIC MEDICAL EXAMINATION (FME) FOR SUSPECTED SEXUAL ABUSE

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Aims:
1. To quantify the time interval between FME in suspected child sexual abuse, and subsequent correspondence to relevant parties.
2. To determine whether time intervals improve following implementation of a written prompt and staff education regarding proposed key performance indicators (KPIs).
Methods:
KPIs were chosen based on recommendations by the National SART Guidelines Development Group[1,2] and The Royal College of Paediatrics and Child Health[3]:
1. Correspondence to GP / Social Workers should be within 2 weeks (excluding mandatory Tusla notification which is immediate)
2. Communication with non-offending parent/caregiver including sexually transmitted infection results should be within 2 weeks
3. Submission of a written medico-legal report should be within 8 weeks
Case files from FMEs following suspected child sexual abuse were retrospectively examined at the Hazel Clinic, Galway between May and October 2022 (49 cases) to quantify timescales for parent/professional communication and for submission of medico-legal reports.
An email was then distributed to all staff at the unit advising on the findings, and the desirable KPIs mentioned above. Staff were advised that a written *''Record of Correspondence''*, would henceforth be included in each chart.
Re-audit following intervention included case files between November 2022 and June 2023 (40 cases).
Results:
Correspondence to:

1. GP: 69% within KPI pre-intervention, increasing to 74% post-intervention
2. Social worker: 82% within KPI pre-intervention, increasing to 97% post-intervention
3. Parents: 47% within KPI pre-intervention, increasing to 65% post-intervention
4. Submission of medico-legal report 100% within KPI pre- and post-intervention

Conclusion:
Prompt completion of paperwork and correspondence following a FME for suspected child sexual abuse is essentialto ensure safeguarding, to facilitate criminal investigation, to provide reassurance and to meet healthcare needs.

The current study demonstrates that a written prompt and email education around desirable timescales for communication (KPIs) results in positive improvements in timely communication.

1 National Guidelines on Referral & Forensic Clinical examination Following Rape and Sexual Assault (Ireland) 4th Edition 2018. National SART Guidelines Development Group 2 National Guidelines on Referral & Forensic Clinical examination Following Rape and Sexual Assault (Ireland) 5th Edition 2023. National SART Guidelines Development Group 3 Good Practice Service Delivery standards for the Management of children referred for Child Protection Medical Assessments. October 2020. UK Child Protection Special Interest Group & Royal College of Paediatrics and Child Health

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 96
Medical/Education Management

Digitalisation of Health Care; a leap towards Future- a quality improvement project

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Background:
"Digital Care: A Digital Health Framework for Ireland 2024-2030" presents a vision for using digital technologies to enhance patient care quality.[1]

Aims and Objectives:

- To create of an effective, accessible digital platform for the multidisciplinary paediatric team at Cork University Hospital to improve access to clinical guidelines, educational materials, induction documents and staff directory.
- To improve Quality & Safety of patient care.

Methods:

- This 145xamination145145n project was commenced in 2022 after a survey of the paediatric staff for a need of a digital platform at Cork University Hospital.
- Then project secured the approval & funding from hospital management.
- The pilot testing was started in Nov 2022 on a PDSA cycle as a QI methodology
- A digital platform of Eolas Medical[2] was launched for paediatric staff in August 2023
- Available resources were collated and 145xaminati into four main categories, each with a further sub-speciality folder. The four categories are: Paediatric Induction; Paediatric Guidelines; Contact Details; and Educational Portal.
- The material on the application is regularly reviewed and updated by the project team.

Results:

- Currently 187 multidisciplinary paediatric staff including medical, nursing & AHPs have been accessing to this digital application on regular basis
- The Clinical guidelines, including emergency management guidelines is available
- The Educational section has recorded lectures & tutorials
- The NCHD induction material is also available.
- Staff directory contained updated and current team allocations and their contact details.
- The NCHD on-call rota also is available

Conclusion:

- The platform has successfully improved access to useful resources for staff resulting in improvements in quality of patient care
- Ongoing work is needed to improve access to multidisciplinary educational material
- The project has potential for national implementation.
-

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 97
Medical/Education Management

PAEDIATRIC HISTORY-TAKING AND PHYSICAL EXAMINATION: DEVELOPMENT OF A BOOKLET WITH A COMPREHENSIVE, HOLISTIC APPROACH

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Aims: This booklet aims to provide a holistic overview of history-taking and physical examination. Various studies highlight the importance of effective history-taking and physical examination, which can lead to a diagnosis around 75% of the time. However, a holistic approach to the process is vital, where not only is a physician attempting to reach a diagnosis, but a patient should also feel supported. Throughout the process, screening for social, emotional and developmental issues is crucial for overall well-being as these conditions are becoming increasingly prevalent in paediatrics.
Methods: Resources discussing the various aspects of paediatric history-taking and physical examinations were gathered, as well as links for questionnaires and screening toolkits.
Results: Strategies for developing a therapeutic bond with patients are discussed – amongst these are empathy, encouraging reflection and clear communication. Differences in history-taking and physical examinations between adults and paediatrics are highlighted, such as the need to include younger patients' parents/guardians, as well as the importance of gathering information on infant/child overall development, including social and emotional health. Links to resources and screening tools to gain an overall holistic picture of the infant/child's well-being are included to supplement the history-taking and physical examination processes. One such resource included is a Happiness Toolkit, developed by one of the booklet authors, which aims to encourage self-care skills to improve mental health in children. An illustrated storybook and a wellness diary accompany the Happiness Toolkit. A detailed developmental evaluation handout, with accompanying animations, is also included to enhance the history-taking process.
Conclusion: This digital booklet highlights various aspects of history-taking and physical examination. Links are provided to available resources and screening tools to mitigate against the rising tide of social, emotional and behavioural issues in paediatrics to achieve a holistic approach to history-taking and physical examination.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 98
Medical/Education Management

SYSTEMATIC REVIEW ON THE USE OF SIMULATION IN THE TEACHING OF PAEDIATRIC LUMBAR PUNCTURE AND ITS ASSESSMENT TO DATE

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Aims: Lumbar puncture (LP) is an essential skill that all trainees should be proficient in. Simulation provides the ideal grounds for 147xaminatio and honing this skill safely. Therefore, this systematic review was conducted to explore the current use of simulation in the teaching of paediatric LP.

Methods: A systematic review of five electronic databases was conducted: EMBASE, Medline, CINAHL, Web of Science, and PsycINFO. A grey literature search was also conducted along with reference list screening. Kirkpatrick Hierarchy was used for coding outcomes. The methodological rigour of studies was evaluated using the QuADS score.

Results: Seventeen studies were included in this review; most of which (64%) were conducted in the USA. Studies typically targeted Paediatric trainees (76.5%), followed by medical students (17.6%), and emergency medicine trainees (11.8%). Partial/task trainers (88.5%) were the most commonly used simulation modality, followed by hybrid (6.9 %) and mixed simulation (6.9 %). The most common Kirkpatrick level of assessment was level 2 (learning) (76.5%), followed by level 4 (results) (35.3%), level 3 (behaviour) (17.6%), and level 1 (reactions) (11.8%). Outcomes assessed in studies that used the task trainer were positive in 46.7% of the studies, whereas outcomes in hybrid and mixed simulations were positive in both studies. Outcomes were mostly positive at level 2 (92.3%) and mostly neutral at level 4 (66.7%).

Discussion: This is the first systematic review on the use of simulation in teaching paediatric LP to date. Our review highlighted that task trainers can be successfully used in the teaching of paediatric LP, and have a considerable impact on learning outcomes (level 2). However, a deficit was identified in the use of other simulation modalities in teaching paediatric LP in addition to a lack of studies exploring outcomes in the clinical setting. Therefore, more research is needed to address the aforementioned deficits.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 99
Medical/Education Management

Optimising Preschool Wheeze and Asthma Management: A Checklist based audit

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Aims: Asthma and preschool wheeze checklists were developed as part of quality improvement program aimed at managing children aged 2-16 years who present with wheeze to CUH.
Methods: Checklists were designed to enhance management through systematic symptom assessment, identification of risk factors, documentation of parental education, and communication with GPs including follow-up. The checklists are one page quadruple carbon copy format sent to audit team, GP, parent, and medical record. An educational module was provided to medical staff including instructions on completing checklists. Approval from the hospital's audit department was obtained.
Results: Checklists from patients presenting to the ED and wards from September 2024 were analysed. A total of 73 checklists were completed by ED and paediatric staff on 71 patients. Among these presentations, 52 patients were diagnosed with preschool wheeze (14 admission s, 2 patients readmitted) and 21 with asthma (3 admitted). Severity assessments revealed 18 children with mild, 37 moderate, 11 severe disease, 5 undocumented. All children had complete respiratory symptom assessments and 70 of 73 had complete risk factor evaluations. Eleven patients with preschool wheeze (8 with mild severity) and 9 with asthma received prednisolone. 13 preschool wheeze patients and 10 asthma patients were discharged on inhaled corticosteroids. Follow-up care provided to 52 patients with GP, 17 with paediatricians, and 8 with asthma nurse.
Conclusions: The checklists facilitate 148xamination148 assessment, management, and documentation for children with wheeze. Key areas for improvement include reducing the number of mild preschool wheeze patients receiving oral steroids and improving documentation of ICS use in asthma cases. A monthly bulletin will inform medical staff about improvement areas. We plan to continue the audit cycle for the next five months and are exploring the feasibility of an electronic checklist system, though this is challenging as there is no electronic medical record in CUH.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 100
Medical/Education Management

PUT YOUR THINKING CAPS ON: NCHD AND ANP PERCEPTIONS OF AND ATTITUDES TOWARDS WEEKLY TEACHING IN A TERTIARY NEONATAL DEPARTMENT

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Aims:
To establish satisfaction rates with current teaching practices in the Neonatal Department of Cork University Maternity Hospital among Non-Consultant Hospital Doctors (NCHDs) and Advanced Nurse Practitioners (ANPs), in addition to uncovering barriers to attending teaching and obtaining feedback on teaching delivered.
Methods:
A 16-item questionnaire was circulated to 19 NCHDs and ANPs requesting feedback on weekly departmental teaching delivered from January 2024 – July 2024. A combination of five-point Likert scales and open-ended questions were 149xaminat.
Results:
A total of 16 responses were received, comprising 7 (43.8%) Specialist Registrars (SpRs), 1 registrar, 1 research registrar, 6 (37.5%) Senior House Officers (SHOs) and 1 ANP. 13 respondents (81.3%) reported being 'very satisfied' or 'satisfied' with the variety of subject matter, whilst 12 respondents (75%) reported being 'very satisfied' or 'satisfied' with the frequency of teaching. 3 respondents (16.7%) reported being very familiar with subject material prior to attending teaching sessions whilst 8 respondents (44.4%) reported the same after attending. The majority (n=10, 62.5%) were able to attend teaching twice per month. The most commonly cited reasons for missing teaching sessions were on-call commitments (n=7, 43.8%) and clinical duties (n=7, 43.7%). Respondents reported the most valuable aspect of the sessions to be relevance to clinical practice (n=6, 37.5%) and group discussions (n=4, 25%). Suggestions offered from respondents to enhance sessions included protection of teaching time, remote online accessibility, retrospective access to materials and a change in scheduling. 6 respondents (37.5%) expressed a desire to include more practical or resuscitation-based sessions, whilst 2 (12.5%) sought further guidance on ventilation. All respondents (n=16, 100%) were happy with the duration of sessions delivered and all (n=16, 100%) felt that the sessions benefitted their clinical practice.
Conclusions:
Analysis of attitudes towards and identification of barriers to attendance of teaching sessions is crucial in achieving better engagement among NCHDs and ANPs.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 101
Neonatal

IRISH PAEDIATRIC TRAINEE EXPERIENCE USING LARYNGEAL MASK AIRWAY (LMA) DURING NEONATAL RESUSCITATION

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Aims: Little is known about paediatric trainees' experience and confidence regarding Laryngeal Mask (LMA) use during neonatal resuscitation. Aim: to describe the current clinical experiences of Irish paediatric trainees and confidence in the use of LMA during neonatal resuscitation.
Methods: We surveyed paediatric trainees working in CHI Crumlin and CHI Temple St Hospitals during the July 2023-January 2024 rotation. A Google forms survey was disseminated via respective Whatsapp Trainee groups. The survey included questions regarding training, experience, and confidence. Confidence was assessed using a 5-point Likert scale. Participation was voluntary, and data 150xaminatio at source. Primary outcome was previous use of and confidence with LMA use neonatal resuscitation. Local ethics approval ref: REC-433-24
Results: Responses were received from 42 trainees, including 10 SHOs, 16 Registrars, and 16 SpRs. Thirty-five (83%) report practical training in use of LMA in Neonates. Six (14%) have successfully placed an LMA, and 29 (69%) have successfully placed an endotracheal tube (ETT). Thirteen (31%) have witnessed LMA being successfully placed.
Overall, mean(SD) confidence scores for insertion of LMA in a neonate was 2.8(1.15). Reported confidence according to trainee grade is similar: SHO, Mean 2.7(1.42); Registrars, Mean 3.1(0.93); SpRs, Mean 2.7(1.19), respectively.
Mean (SD) confidence score according to clinical exposure to LMA and experience with LMA and ETT are as follows:

- witnessed LMA insertion, has placed LMA (n=6): 4.3 (0.82)
- witnessed LMA, never placed LMA (n=6): 3.1 (0.81)
- never witnessed nor placed LMA (n=28): 2.4 (0.98)
- witness LMA, placed ETT (n=10): 3.5 (1.04)
- never witnessed LMA, has placed ETT (n=18): 2.7 (1.03)
- never witnessed LMA nor placed ETT, (n=11): 2.1 (0.83)

Conclusions: Paediatric trainee experience and confidence in the use of LMA is limited. Increased training and use in clinical practice may improve use by trainees during neonatal resuscitation.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 102
Neonatal

CLINICAL UTILITY OF PLACENTAL HISTOLOGY IN TERM LOW BIRTH WEIGHT INFANTS

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Aims: This study aimed to evaluate the clinical relevance of placental histology in term low birth weight (LBW) infants, focusing on the frequency of histology requests, common pathological findings, and the impact on diagnosis, treatment, and parental counseling.
Methods: A retrospective review was conducted using Power Charts on MN-CMS, including term infants (37-41 weeks gestation) with a birth weight of 1-2.5 kg. The study included 70 infants, assessing histopathology findings and their clinical implications.
Results:
Gestational Age: 64% of infants were born at 37 weeks, 29% at 38 weeks, and 6% at 39 weeks.
Birth Weight: 57% of infants weighed 2.1-2.5 kg.
Placental Histology: Requested in 97% of cases, with pathology found in 64%. Common findings included small placenta with maternal/fetal vascular malperfusion (53%), intervillous hemorrhage (50%), and membrane green staining (34%).
Impact on Diagnosis: Histopathology led to a change in diagnosis in 6% of cases, notably identifying placental causes of intrauterine growth restriction (IUGR).
Influence on Treatment: Histology results did not influence treatment strategies in any of the cases, as no changes in treatment were made based on the finding.
Parental Counseling: Placental histology results were documented as discussed with parents in only 20% of cases.

Diagnosis on NICU Admission: Common diagnoses included LBW (20 cases), LBW with DCDA twin (16 cases), and small for gestational age (7 cases).

Conclusion: Placental histopathology is crucial for understanding the etiology of term LBW and IUGR. Although its direct influence on treatment decisions is limited, histological insights enhance clinical understanding and future management of such cases. Improved integration of histopathology into clinical practice, along with increased training and awareness, could enhance its utility in neonatal care. Further research is necessary to refine prevention and treatment strategies.

Placental Histological Features and Neurodevelopmental Outcomes at Two Years in Very-Low-Birth-Weight Infants – PubMed (nih.gov) Guidelines on Placental Histology 151xamination NMH Holles street

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 103
Neonatal

A DENTED PING PONG BALL IN A SPECIAL CARE BABY UNIT

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Aims:
This case report describes a rare instance of neonatal depressed skull fracture (DSF) following emergency cesarean section (Em-LSCS) without instrumental delivery. It aims to highlight the clinical course, diagnosis, management, and prognosis of DSF in neonates.

Methods:
A female neonate was born at 37 weeks via Em-LSCS due to non-reassuring cardiotocography (nrCTG). Clinical assessments included Apgar scores, postnatal examination, and blood gas analysis. Imaging studies, including MRI, evaluated the skull depression and possible injuries. The neonate, managed conservatively in the special care baby unit (SCBU) with respiratory support, underwent neurosurgical consultation.

Results:
The neonate presented with a 5x5 cm right occipito-parietal skull depression and no neurological deficits. MRI confirmed a 17 mm skull depression with subcutaneous fluid and possible subarachnoid hemorrhage. She required 12 hours of CPAP support for mild respiratory distress. Over a 7-day SCBU stay, no abnormal neurological signs appeared, and the infant tolerated full enteral feeds. The neurosurgical team recommended conservative management, with no surgical intervention required.

Conclusion:
Neonatal DSF, though often associated with instrumental deliveries, can occur spontaneously. Conservative management was effective in this case due to the absence of significant neurological impairment. This case emphasizes the importance of postnatal screening and imaging in managing DSF, which typically resolves without long-term neurological consequences.

Brittain C, Muthukumar P, Job S, Sanka S. 'Ping pong' fracture in a term infant. BMJ Case Rep. 2012 Mar 27;2012:bcr0120125631. Doi: 10.1136/bcr.01.2012.5631. PMID: 22605800; PMCID: PMC3316809. Flannigan C, O'Neill C. Faulty fetal packing. BMJ Case Rep. 2011 Mar 10;2011:bcr0220113802. Doi: 10.1136/bcr.02.2011.3802. PMID: 22701068; PMCID: PMC3063268. Zalatimo O, Ranasinghe M, Dias M, Iantosca M. Treatment of depressed skull fractures in neonates using percutaneous microscrew elevation. J Neurosurg Pediatr. 2012 Jun;9(6):676-9. Doi: 10.3171/2012.2.PEDS11304. PMID: 22656262. Sorar M, Fesli R, Gürer B, Kertmen H, Sekerci Z: Spontaneous Elevation of a Ping-Pong Fracture: Case Report and Review of the Literature. Pediatr Neurosurg 2012;48:324-326. Doi: 10.1159/000351412 Preston D, Jackson S, Gandhi S ,Non-traumatic depressed skull fracture in a neonate or 'ping pong' fracture.Case Reports 2015;2015:bcr2014207077.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 104
Neonatal

Title: THE MYSTERY BEHIND RECURRENT EXTUABTION FAILURE IN A NEWBORN

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Abstract

Aims: Present the case of respiratory failure in a neonate born at 38 weeks gestation with suspected perinatal asphyxia and possible meconium aspiration, emphasizing the reasons for repeated extubation failures despite fulfilling the criteria.
Methods: A baby girl who was born with gestational age 38 weeks via emergency caesarean section for the NRCTG with known history of right sided aortic arch antenatally, requiring full resuscitation with CPR. Therapeutic hypothermia (TH) was initiated for hypoxic-ischemic encephalopathy (HIE), along with difficult ventilation and covered with antibiotics for suspected sepsis. Through the NICU course remained ventilator-dependent with multiple unsuccesful extubations. Investigations included chest X-rays, echocardiography, cranial ultrasound, and MRI brain with later CT thorax to exclude vascular ring.
Results: Successfully treated with TH for HIE and MRI brain reported as no abnormality detected. However, continued to experience high pressure support on the ventilator despite interventions. Two extubation attempts were unsuccessful due to recurrent apnoea and immediate respiratory failure. Cardiovascular evaluation confirmed right sided aortic arch with no other CHD evidence and showed moderate pulmonary hypertension, which resolved gradually over the intensive care course. Noted presence of the meconium in the endotracheal tube and confirmed by appearance on the CXR. The CT thorax confirmed the presence of a double aortic arch forming a complete vascular ring, which was contributing to airway compression. Surgical intervention was performed to correct the vascular ring, involving a left muscle-sparing thoracotomy with ligation and division of the ductus arteriosus and the left aortic arch.
Conclusion: The HIE/collapse was secondary to the airway issue caused by tracheal compression resulting in vascular ring, which was compressing the trachea. The surgical correction of the vascular ring successfully alleviated the tracheal compression, leading to significant respiratory improvement postoperatively.

Matsumoto, Y., Kamada, M., Nakagawa, N., & Ishiguchi, Y. (Year). Double vascular ring: A case report of double aortic arch and concurrent pulmonary artery sling. Backer CL, Mavroudis C, Rigsby CK, Holinger LD.. Trends in vascular ring surgery. J Thorac Cardiovasc Surg 2005;129:1339–1347.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 105
Neonatal

TRACHEOESOPHAGEAL FISTULA: DIAGNOSIS, MANAGEMENT, AND OUTCOMES

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[5]Neurodisability,, Children's Health Ireland (CHI) at Tallaght,, Dublin,, Ireland
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BACKGROUND AND AIMS
Tracheoesophageal fistulae (TEF) have a wide spectrum of presentation, and often linked to the VACTERL association, increasing the potential for serious morbidity. The review aims to guide clinicians to offer strategies for early diagnosis, multidisciplinary management and explore outcomes.
METHODS
A search of PubMed and Embase was conducted using the search string “(Tracheoesophageal fistula OR tef) AND diagnosis AND management AND outcomes”. Papers were screened according to PRISMA guidelines and categorized by diagnosis, management or outcomes. Exclusion criteria included papers on acquired TEFs, non-English papers, and those with inaccessible full texts.
RESULTS
Gross’s classification system is the most commonly cited to categorize various types of TEFs. The literature revealed the importance of having a high index of suspicion when a newborn presents with the symptomatic triad of respiratory distress during feeding, regurgitation, and continuous frothy salivation. TEF can be diagnosed prenatally by ultrasound however, studies report varying sensitivities and specificities. Surgical intervention either via thoracoscopic or open repair remains the mainstay of treatment with the evidence also necessitating the discontinuation of oral feeds and administration of intravenous fluids as immediate pre-operative measures. Around 60% of patients are readmitted with the reason being evenly attributed to either respiratory or gastrointestinal comorbidities. There was considerable heterogeneity in the literature on surgical outcomes.

CONCLUSION
TEF necessitates a number of pre and post-operative considerations to ensure the best outcome. There is a role for further incorporation of more holistic management approaches to TEF, and for the standardization of patient care especially peri-operatively across hospitals.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 106
Neonatal

ANTIBIOTICS IN NEONATAL SEPSIS: NECESSITY BUT USE WITH CAUTION

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Aims
Sepsis is a major contributor to neonatal mortality worldwide. This narrative review examines the incidence of early- and late-onset neonatal sepsis, the benefits and risks of antibiotic treatment strategies, and explores antimicrobial resistance and stewardship in neonatal care.
Methods
We screened abstracts and full texts of 545 papers from PubMed and Cochrane Library, narrowing down to 155 relevant papers (2004–2023). Data extraction and trend analysis were performed, with papers categorised as "Positive," "Negative," or "Both" based on their stance on antibiotic use. Additional labels, including "Resistance," "Stewardship," and "Guidelines," were assigned. A review incorporating publication trends and guidelines was conducted to assess evolving perspectives on antimicrobial use and stewardship in neonatal sepsis management.
Results
A global analysis revealed an incidence of 180 cases per 1,000 live births, highlighting the burden of neonatal sepsis. While early-onset sepsis (EOS) has decreased in term neonates through screening and antibiotic use, late-onset sepsis (LOS) remains challenging, especially amongst preterm infants. We also observed a surge in publications exploring the benefits and risks of antibiotic use, resistance, stewardship and management guidelines.
Antibiotics offer anti-infective, neuroprotective and anti-inflammatory effects to help combat sepsis. Yet, their indiscriminate use raises concerns about microbiome alterations, resistance and side effects. Guidelines from the World Health Organisation (WHO), the National Institute for health and Care Excellence (NICE) and American Academy of Paediatrics (AAP) stress timely and appropriate antibiotic administration, and the critical role of antimicrobial stewardship to balance efficacy and resistance concerns.
Conclusion
More recent publications have concentrated on the adverse effects of antibiotics with a less balanced recognition of the detrimental impact of neonatal sepsis on mortality and morbidity. Improved strategies, global collaboration, enhanced risk stratification, and effective stewardship programs are essential to enhance neonatal care and reduce the burden of sepsis.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 107
Neonatal

Supplementation of breastfeeding with forumla in infants with mild-moderate jaundice

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BACKGROUND: According to the American Breastfeeding Medicine guidelines (2017), the best supplement in treating a breastfed newborn with jaundice is maternal milk, followed by donor milk, and finally by formula if neither avail. Similarly, the NICE guidelines (2015) recommended that breastfed babies should not be routinely supplemented for treating jaundice. This audit aimed to determine the incidence of supplementation of breastfeeding with high-intermediate-risk and treatment-level jaundice.

METHODS: We conducted a retrospective review of 41 breastfed infants in postnatal wards of the Rotunda whose bilirubin levels were reviewed after transcutaneous readings on high-intermediate risk zone, and also reviewed feeding patterns including any additional supplemental feed.

RESULTS: 26 out of 41 breastfed babies (63%) received top-ups and six (14%) were supplemented for each feed. 11 (26%) had documented reasons, most commonly suggested by lactation support (64%) followed by maternal request (27%). Early breastfeeding within the first hour is important for success, however 38 (92%) did not have reported initiation. The median age of babies with clinically identifiable jaundice was 45 hours of life. 81% of patients did not require phototherapy, while 12% received phototherapy on the ward, and 7% were admitted to the neonatal unit. 44% were reviewed in the outpatients department within 24 hours of discharge, while 36% were followed up 48 hours later. 20% did not require any follow up. 19 patients (46%) were still supplemented with formula upon discharge.

CONCLUSION: Nearly two-thirds of breastfed babies, on the high-intermediate risk zone for transcutaneous jaundice readings, received formula top-ups alongside breastfeeding despite best practice guidelines, and continued so on discharge. Most infants did not have an identifiable cause for their jaundice and no clear indication for supplementation. Increased staff awareness that uncomplicated jaundice is not an indication for formula supplementation may reduce unnecessary interruption of the natural establishment of breastfeeding.

Flaherman V.J. & Maisel, M.J. (2017). ABM Clinical Protocol #22: Guidelines for Management of Jaundice in the Breastfeeding Infant 35 Weeks or More of Gestation. Volume 12, Number 5. Mary Ann Liebert, Inc., 201710.1089/bfm.2017.29042.vjf National Collaborating Centre for Women's and Children's Health guideline of Postnatal Care. Neonatal Jaundice (2010). Postnatal Care retrieved from http://www.nice.org.uk/CG37

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 108
Neonatal

Neonatal Abstinence Syndrome Outcomes in Cannabis use

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Aims

Neonatal abstinence syndrome (NAS) occurs following prolonged in utero exposure of an infants to illicit drugs or certain medications.[1] Infants are monitored on the postnatal ward for 5 days to assess for clinical signs of withdrawal using Finnegan scoring. Data would suggest that cannabis use does not result in significant withdrawal symptoms.
The aim of this audit was to review the adherence to the neonatal abstinence syndrome guideline in cannabinoid only abuse and assess outcomes of this population

Methods

Retrospective electronic chart review of all mothers who were referred to the DOVE clinic for cannabis abuse only in 2023. Patients were excluded if urine toxicology was positive for other illicit substances. Data was collected and collated in an excel spreadsheet and descriptive statistics were used to analyse the data.

Results

25 babies were included in this review, of these, 9 mothers had no urine toxicology performed, 2 had negative samples, 1 positive for use cannabis and prescribed alprazolam and the remaining 13 were positive for only cannabis.
Only 5 of 25 (19%) of infants had urine toxicologies sent, all of which were negative.
13 of 26 (52%) infants underwent Finnegan scoring with an average maximum Finnegan score of 2 (0-7). No infants required treatment for NAS.
2 infants were admitted the NICU however, these were for reasons unrelated to NAS, 1 for vomiting and 1 for dusky episodes.
Average length of stay of all infants was 3.5 days, ranging from 1-7.

Conclusion

In conclusion, mothers with a history of sole cannabis use and their infants have suboptimal collection of urine toxicology and monitoring for Finnegan scores however importantly no infants required treatment for NAS.

Based on the results of this audit, a larger sample size would be helpful to confirm our findings. It may be reasonable to discontinue Finnegan monitoring on all infants who have confirmed cannabis only use during their pregnancy.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 109
Neonatal

Developmental Dysplasia of the Hip: An Audit of the Ultrasound Screening Programme at Portiuncula University Hospital

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AIMS:
Developmental Dysplasia of the Hip (DDH) describes a continuum of hip disorders affecting infants and young children. It affects 1-2: 1000 infants at birth.
The Irish National DDH Ultrasound Screening Programme advises that DDH should be identified before the age of three months.
This Programme is based on clinical examination and risk factors. The recommendation is to perform screening hip ultrasound scans at 6-8 weeks of age.This audit examines the DDH Ultrasound Screening Programme during a four month period at Portiuncula University Hospital and the outcomes of imaging and intervention undertaken.
METHODS:
We looked at DDH Ultrasound Screening referrals for infants born at Portiuncula University Hospital between the months of October 2021- January 2022 retrospectively. A total of 50 infants were referred for DDH screening Ultrasound. 72 % (36/50) were referred by the Paediatric NCHDs based on examination on day two of life as well as in the Paediatric Outpatient Departmental Clinics and 28 % (14/50) were GP referrals from the community.
Information from the patient's chart for indication of DDH Ultrasound scan and imaging results from PACS Mediweb were used to collect data and generate an Excel spreadsheet for data analysis.
RESULTS:
Only 4 infants were positive for screening on USG but another 3 were further evaluated via X-ray Hip based on high index of clinical suspicion, all 7 were managed conservatively for DDH by Pavlik harness or bracing and none warranted any surgical intervention later in life.
CONCLUSION:
The DDH Ultrasound Screening Programme at Portiuncula University Hospital is beneficial for early diagnosis and intervention of patients with DDH. However, it is important to highlight, that despite having a normal ultrasound hip scan, three patients had an abnormality on the x-ray. This demonstrated a false negative of 6% (3/50). Thus, x-ray hip may be booked if there is a high index of clinical suspicion for DDH.

- Developmental Dysplasia of the Hip (DDH). Crumlin. Children's Health Ireland at Crumlin. Access at [https://www.olchc.ie/services/departments-a-z/department-of-paediatric-orthopaedic-surgery/conditions-we-treat/developmental-dysplasia-of-the-hip-ddh-/] -Olga Gallagher. Developmental Hip Dysplasia A Guide for Parents. Orthopaedic Department. Our Lady's Hospital Crumlin. February 2004. – A., Tarrant, C.M, Mohan, H., McDonald, J., Murphy, J., O'Beirne, & G., Turner. National Selective Ultrasound Screening Programme for Developmental Dysplasia of the Hip in Infants Implementation Pack. Integrated Care Programme for Children. July 2017

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 110
Neonatal
SEVERE FETAL ANAEMIA RESULTING FROM IDIOPATHIC FETOMATERNAL HAEMORRHAGE

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AIM
To present a case of severe fetal anaemia resulting from fetomaternal haemorrhage (FMH) that was identified by a positive Kleihauer-Betke test, where the neonate was born with a haemoglobin level of 5 g/dL and required multiple blood transfusions.
METHOD
A full-term neonate was delivered via emergency caesarean section due to non-reassuring fetal heart tones. Upon birth, the neonate was noted to be pale, lethargic, and APGAR score of 9 and 9 at 1 and 5th min of life. He has episodes of apnea and desaturation in SCBU which were self-resolved. Initial laboratory evaluation revealed a haemoglobin level of 5 g/dL. No evidence of haemolysis and blood loss. A Kleihauer test was performed on the mother's blood, which confirmed the presence of significant fetomaternal haemorrhage. The neonate received two packed red blood cell transfusions in the SCBU (special care baby unit) to correct the severe anaemia. His cranial ultrasound was normal. The placenta was normal in location and appearance.
RESULT
Following the transfusions, the neonate's haemoglobin levels stabilized, and clinical symptoms improved significantly. The positive Kleihauer-Betke test in the mother indicated a substantial transfer of fetal blood into the maternal circulation, which was the likely cause of the severe fetal anemia.
CONCLUSION
This case highlights the critical importance of considering fetomaternal haemorrhage as a differential diagnosis in cases of unexplained severe neonatal anaemia. Early recognition and intervention are crucial for optimal neonatal outcomes. The Kleihauer Betke test is an essential diagnostic tool in identifying FMH and guiding appropriate management.

1-Bianchi DW, Romero R. Biological implications of bi-directional fetomaternal cell traffic: a summary of a National Institute of Child Health and Human Development-sponsored conference. J Matern Fetal Neona. 2003;14(2):123–9. 2-Singh P, Swanson T. Acute and chronic fetal anemia as a result of fetomaternal hemorrhage. Case Rep Obstet Gynecol. 2014;2014:296463. 3- Kosasa TS, Ebesugawa I, Nakayama RT, Hale RW. Massive fetomaternal hemorrhage preceded by decreased fetal movement and a nonreactive fetal heart rate pattern. Obstet Gynecol 1993. Oct;82(4 Pt 2)(Suppl):711-714

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 111
Neonatal

SCBU MOM (Sourcing 160olostrum for babies in the unit using mother's own milk)

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Background: The World Health Organization (WHO) recommends initiating breastfeeding within one hour of birth, but breastfeeding rates in Ireland remain low due to challenges such as inadequate support. Preterm infants, in particular, benefit significantly from early colostrum feeding, which supports gastrointestinal (GI) development and strengthens immune function. This audit focuses on the administration of breast milk to infants admitted to the Special Care Baby Unit (SCBU) at Wexford General Hospital (WGH), particularly assessing the use of the mother's own milk (MOM) among those whose mothers chose to breastfeed. **Method:** Data were prospectively collected from November 2023 to February 2024 on infants admitted to the SCBU within one hour of delivery. The study included infants whose mothers opted to breastfeed. A quality improvement project introduced a breastfeeding checklist and an expressing log to encourage timely breast milk administration.
Results: Of the 85 admissions during the study period, 32 met the inclusion criteria. Findings showed that 46.8% of infants received breast milk, with only 13.3% receiving it within 1–2 hours of admission. None of the short-stay infants received breast milk, and no significant differences were found between preterm and term infants or by mode of delivery. However, a significant difference was identified between short-stay and fulladmission infants, with short-stay infants less likely to receive breast milk ($p = 0.006$). Following the quality improvement intervention, a re-audit revealed substantial progress: 85.7% of infants received breast milk, 28.5% within 1–2 hours, and 75% of short-stay infants received breast milk.
Conclusions: Challenges such as staffing shortages and limited lactation support were identified as barriers to timely breast milk administration. The audit recommends enhancing breastfeeding support through increased staffing and antenatal colostrum expression programs. Additionally, re-evaluating the availability of donor expressed breast milk (DEBM) for high-risk infants could further improve outcomes

WHO int/healthtopics/breastfeeding 2. WHO/UNICEF. Implementation guidelines: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. The revised baby-friendly hospital initiative. Geneva, Switzerland: WHO, 2018 3. R Schneider, A Sant'Anna; Canadian Paediatric society, Nutrition and Gastroenterology committee: Using probiotics in paediatric pateints. Paediatrics and child health, 2022, Volume 27, No 8 doi: 10.1093/pch/pxac087 4. Canny M et al 2017. The HSE Breastfeeding Action Plan 2016 – 2021. International journal of integrated care, 17(5): A272, pp 1-8 doi: 10.5334/ijic.3583 5. Breastfeeding support in Ireland – initial findings from a national study; 10/10/22. Authors: Bainne Beatha and Dr Liz O' Sullivan, Technological University Dublin 6. Healthy Ireland Breastfeeding Policy 7. National Infant feeding policy for maternity and neonatal units, 2022

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 112
Neonatal

CLINICAL AUDIT OF CRANIAL ULTRASOUNDS PERFORMED AT UGH ON PREMATURE NEONATES UNDER 32 WEEKS GESTATION OR LESS THAN 1500g

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Aims: To investigate the use of cranial ultrasound (CRUS) in premature infants at a Level 2 centre, assessing adherence to current international guidelines[1,2]. CRUS is crucial for detecting neurological issues in neonates[3], as preterm infants are at higher risk for conditions such as intraventricular haemorrhage[4] and periventricular leukomalacia[5].
Methods: An audit of CRUS performed on patients admitted to University Hospital Galway's Neonatal Intensive Care Unit from 1st January 2018 to 31st May 2024. Initially, 257 patients meet the CRUS criteria (under 32 weeks gestation or under 35 weeks and less than 1500g). After exclusions, the number was reduced to 191.
Results
Demographics: Mean gestation 30+2 weeks, 101 males and 90 females, mean birth weight 1423g.
First CRUS*:* 181 patients (95%) received their first CRUS, average day of life (DOL) 6.85, aligning with guideline targets. 133 patients (73%) had normal findings with 72% scanned on time.
Second CRUS: 109 patients (73%) underwent a second CRUS, average DOL 49. 82 patients (75%) had normal findings, 34% were scanned on time, with 25% showing resolution from their previous scan.
Third CRUS: 38 patients (32%) had a third CRUS, average DOL 67. 25 patients (66%) scanned had a normal CRUS, 22% scanned on time, with 9% showing resolution from previous scan.
Fourth CRUS: 11 patients (10%) received a fourth CRUS, average DOL 93. 4 patients (36%) had a normal CRUS, 36% were scanned on time, and 9% showed resolution from previous.
Conclusion: Results showed after initial scan showed reduced adherence to international CRUS guidelines for further scans of premature infants; and that follow-up scans were later than recommended. At all times there was a considerable number of abnormal findings in scanned patients. These results underscore the need for dedicated paediatric radiology support to improve compliance with international guidelines on screening of this vulnerable population.

Inder TE, de Vries LS, Ferriero DM, Grant PE, Ment LR, Miller SP, Volpe JJ. Neuroimaging of the Preterm Brain: Review and Recommendations. J Pediatr. 2021 Oct;237:276-287.e4. doi: 10.1016/j.jpeds.2021.06.014. Epub 2021 Jun 17. PMID: 34146549. 2) Guillot M, Chau V, Lemyre B. Routine imaging of the preterm neonatal brain. Paediatr Child Health. 2020 Jun;25(4):249-262. Doi: 10.1093/pch/pxaa033. Epub 2020 Jun 10. Erratum in: Paediatr Child Health. 2021 May 24;26(4):259. Doi: 10.1093/pch/pxaa126. PMID: 32549742; PMCID: PMC7286736. 3) Meijler G, Steggerda SJ. Neonatal cranial ultrasonography. Springer Berlin Heidelberg; 2012 Jan 25. 4) Özek E, Kersin SG. Intraventricular hemorrhage in preterm babies. Turk Pediatri Ars. 2020 Sep 23;55(3):215-221. Doi: 10.14744/TurkPediatriArs.2020.66742. PMID: 33061747; PMCID: PMC7536465. 5) Kinney HC, Volpe JJ. Encephalopathy of prematurity: neuropathology. InVolpe's Neurology of the Newborn 2018 Jan 1 (pp. 389-404). Elsevier.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 113
Neonatal

A REVIEW OF FOLLOW UP AND MANAGEMENT OF NEONATAL CORD ACIDOSIS IN A TERITIARY NEONATAL CENTRE.

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Aims

Perinatal asphyxia can be predicated by fetal acidosis, determined by umbilical cord pH at birth[1] . Multiple studies show this analysis, combined with other neonatal factors, can help identify infants at risk for neonatal encephalopathy[2]. Current practice in our unit states cord PH less than 7.25 requires paediatric review. The aim of our review was to assess adherence to this practice and determine current clinical management.

Methods

A retrospective chart review examined all infants born in January 2023 with a venous and/or arterial PH of <7.25. Data collected included paediatrics contact,repeat gas value/timing,NICU admission, and the need for therapeutic hypothermia. Ethical approval was obtained via local research committee.

Results

125 infants were included. In infants with a venous/arterial PH <7.25 , 21% (n=27) were born via SVD, 50% (n=62) via operative vaginal delivery, 25% (n=31) via emergency LSCS and 4% via elective LSCS (N=5). In 33% of cases (n=41) paediatrics were not contacted to review. 64% (n=80) of infants with a cord PH value < 7.25 did not have a gas repeated including 21% of PH values < 7.15 (n=17) not being repeated and 4% (n=3) of gases with PH <7.1 were not repeated. Average time to repeat the cord gas for all groups was 101.8 minutes. Overall, 11.2% (n=14) of infants were admitted to NICU, of those infants 11 had a cord pH <7.2 and 5 pH<7.1. No infants in this cohort underwent therapeutic hypothermia.

Conclusions

This study highlights a need to strengthen communication with paediatric staff and to standardise management following cord acidosis. Early identification of infants with neonatal acidosis can lead to appropriate implementation of neuroprotective strategies[3].There is no universally agreed cord PH or lactate threshold for repeating a blood gas however many centres agree that a gas should be repeated within an hour if the PH value is <7.1 combined with a clinical review.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 114
Neonatal

Every baby Matters: Staff and Parents perspectives on early relationship support in a paediatric setting

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Aims: Infant Mental health (IMH) refers to a baby's social and emotional wellbeing: how they experience and express their emotions, form close relationships, and explore their environment. Hospitalisation and illness bring many challenges to families with new babies, with over 1,800 infants admitted to Children's Health Ireland (CHI) every year. The aim of this study is to understand the perspectives on infant mental health and developmental care at CHI.

Methods: A cross sectional questionnaire survey explored perceptions and experiences of infant mental health such as sleep protection, feeding and relationship building between infant and parent/caregiver. A mixed methods approach integrating both quantitative and qualitative approaches were used to generate themes from the anonymous surveys.

Results; staff and parents highlighted both positive developmental care support alongside suggestions to enhance current service provision at CHI. Themes included the importance of communication, family integrated care approaches and collaborative approaches with families to keep the baby in mind.

Conclusion. This study provides valuable insights into the strengths of current service delivery, the needs of infants and parents and has implications for practice to better support the holistic needs of families.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 115
Neonatal

ROUTINE 24-HOUR UREA AND ELECTROLYTE MEASUREMENTS IN NEONATAL INTENSIVE CARE: AN AUDIT OF CLINICAL UTILITY

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Aims:
This audit aimed to assess adherence to the routine practice of performing 24-hour urea and electrolyte measurements in neonates receiving intravenous fluids in the neonatal intensive care unit. Additionally, it sought to evaluate whether measurements influenced clinical management and to compare U&E sodium levels with those from concurrent blood gas analysis.

Methods:
A retrospective audit was conducted on 91 neonates. The study included all babies admitted to the NICU with a gestational age >32 weeks and a birth weight >1500g over a 2-month period.9 babies were excluded (3 on parenteral nutrition,6 transferred out). 82 infants were analysed. Data collected included U&E and blood gas results, management changes and the presence of documented care plans. Correlation between serum and gas sodium levels was analysed. Descriptive statistics were used to summarize the findings.

Results:
Of the 82 infants,the median birth weight was 3.3kg (IQR 2.8–3.8kg) and median gestational age was 37.6 weeks (IQR 36–39 weeks). The most common diagnoses were TTN/RDS, accounting for 40% of admissions. 61(73%) infants received IV fluids, with a median duration of 24 hours (IQR 3–55 hours), of whom 38(62%) underwent 24-hour U&E testing. 69 infants (84%) started on enteral feeds within the first 24 hours of life. The predominant indication for U&E was routine 24-hour monitoring (81%). Potassium levels were haemolysed in 28(74%) of U&E samples. Only 4 infants (5%) had their clinical management altered based on U&E results. Serum and gas sodium levels were strongly correlated (r=0.951), with 88% of paired measurements within ±2mmol/L and all within ±4mmol/L. Only 52% of U&E results were accompanied by a documented clinical impression.

Conclusion:
Routine 24-hour U&E testing had limited impact on clinical management, with only 5% of cases leading to an alteration in the management plan. The inconsistent documentation of care plans highlights the need to reconsider this practice. A more individualized approach to testing may reduce unnecessary interventions and improve clinical outcomes.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 116
Neonatal

AUDIT OF THE INCIDENCE, SEVERITY, RISK FACTORS AND PROTOCOL COMPLIANCE OF SUBGALEAL HAEMORRHAGES IN A 48-PATIENT SAMPLE OF NEONATES 2020-2023

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Aims
Neonatal subgaleal haemorrhage (SGH) is a condition which can lead to significant morbidity and mortality if unrecognised[1].
Incidence is increasing with more vacuum deliveries [1]. Up to 33% of cases have been described as severe, with mortality up to 25% in state guidelines [2].
We noted significant numbers of SGH in the neonates in our general public hospital in suburban Perth, Western Australia. We audited incidence, risk factors and protocol compliance with state guidelines for SGH to identify areas for quality improvement.

Methods
We retrospectively audited all cases neonatal SGH from 2020 - October 2023 (48 cases) in our general public hospital. Data was obtained from maternal and neonatal medical notes with ethical approval. Clinical and radiological diagnoses were included.

Results
50% of cases were ultrasound confirmed. SGH incidence per vacuum delivery was 39/1000. 13% of cases were severe, 31% were moderate and 56% were mild. Mortality was 0%. 13 of the 48 cases occurred in 2023 by October.
Significant risk factors for incidence included vacuum use 94%, nulliparity 77%, male 69%, delay in second stage 77%, forceps use 33%.
Main additional factors in severe cases (6) were coagulopathy 83%, >6 hours to diagnose 66%, 3-4 vacuum pulls 66% and failed vacuum delivery 50%.
Median time to diagnosis was 1.25 hours. Protocol compliance reduced from 89% in 2020 - 2022 to 62% in 2023. Issues included inappropriate level of head observations recommended and unclear documentation.

Conclusions
Incidence of SGH per vacuum delivery was almost 9 times above the incidence cited in Australian guidelines [1]. Cases were mostly of milder severity than previously described.
There were modifiable risks for incidence and severity noted including time to diagnosis and obstetric risk factors. Protocol compliance and communication between obstetrics, paediatrics and midwifery could be improved by a checklist, subsequently introduced.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 117
Neonatal

NECROTISING ENTEROCOLITIS: A SYSTEMATIC REVIEW

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BACKGROUND: This systematic review aimed to assess the diagnostic utility of potential biomarkers associated with necrotizing enterocolitis (NEC).
METHODS: An electronic search of PubMed, Embase, and Cochrane databases was conducted using relevant terms. Studies reporting diagnostic accuracy of biomarkers for NEC were included, restricted to full-text articles in English until September 2021. The Quality Assessment of Diagnostic Accuracy Studies 2 (QUADAS-2) tool was used to assess the risk of bias.
RESULTS: A total of 211 studies were screened, yielding 70 for analysis. Most studies evaluated biomarkers for differentiating Bell's stage ≥II NEC from controls and Bell's stage II from stage III.
Pre-diagnostic Performance: **Calgranulin-C (S100A12)** (AUC 0.77, sensitivity 96%), **Absolute Monocyte Count (AMC)** (AUC 0.81), and **Neutrophil CD64+** (sensitivity 89%, specificity 98%) showed promising performance. **I-FABP** had the highest accuracy (AUC 0.9, sensitivity 76.7%, specificity 87.5%). Among non-specific markers, **Hept-2-enal** showed high sensitivity (78%) but low specificity (68%).
Diagnostic Performance at Initial Presentation: **Calprotectin** and **Endocan** exhibited excellent performance (AUC 0.99–1.0, sensitivity 100%). Panels like **A2ML1, CST3, PEDF, RET4, VASN** (AUC 0.997) and **Tyrosine, Arginine, Riboflavin** (AUC 0.963) showed strong potential. **DSNLT** (AUC 0.947) and **Resistivity Index** (AUC 0.93) also performed well.
Post-Diagnostic Prognostic Utility: **IL-33** maintained high accuracy (AUC 0.991, sensitivity 100%). Combining **CRP** with miRNA improved utility (sensitivity 83%, specificity 96%). **Endocan** and **Urinary Caveolin-1** also showed strong potential.
Differentiating Bell's Stage II from III: **I-FABPu** (AUC 0.864, sensitivity 100%) and **Procalcitonin (PCT)** (AUC 0.919, sensitivity 88.6%) distinguished well between stages.
DISCUSSION: Calprotectin, CST3, PEDF, RET4, and DSNLT are valuable in early NEC diagnosis, while **IL-33** and **I-FABPu** aid in staging. Further validation is needed to ensure clinical applicability.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 118
Neonatal

Evidence-based strategies to mitigate adverse outcome in a complex neonate: a case report and literature review.

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AIM- To describe the clinical course of a complex preterm neonate admitted to CHI Crumlin and review the evidence-based strategies employed in their care to improve long-term clinical outcomes.

Methods-A preterm neonate born at 32+2 weeks was found to have an upper airway mass during intubation performed for worsening respiratory distress. The decision was made to transfer to CHI Crumlin for ENT review and multidisciplinary team input. Imaging after transfer suggested the presence of a vascular mass and this was successfully resected with histology later revealing the presence of a choristoma. The child had a complex perioperative course and remained an inpatient in CHI for 14 weeks. During this period the child showed early signs of hypertonia with MRI brain suggesting extensive periventricular leukomalacia.
Several strategies were employed throughout this child's inpatient stay in order to optimise their later clinical outcome and we provide a brief overview of the evidence base for the strategies employed including: the benefit of rescue surfactant,[1] early introduction of feeds[2] and early developmental intervention programmes.[3]

Results- This baby discharged home at 6 weeks corrected gestational age self-ventilating on room air with an NG tube in place for enteral feeding support. Given the complex medical background and neuroimaging findings there is high risk of later medical and neurodevelopmental difficulties. A combination of medical, nursing and multidisciplinary team interventions were enacted to optimise this child's clinical outcome.

Conclusion – We report a case of a medically complex neonate at high risk of adverse developmental outcome and review the evidence-based care they received aimed at improving later clinical outcome.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 119
Neonatal

BY THE BOOK: A CLINICAL AUDIT EVALUATING VANCOMYCIN THERAPEUTIC DRUG MONITORING IN NEONATES

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Background:
Vancomycin is a commonly prescribed antibiotic in the neonatal intensive care unit for treating serious infections like coagulase-negative staphylococci (CONS) sepsis, especially in preterm neonates who are highly susceptible to these infections. Given the variability in pharmacokinetics among neonates, therapeutic drug monitoring is essential to balance efficacy and safety. Recent studies have emphasized the importance of dosing adjustments based on serum vancomycin levels to avoid sub-therapeutic exposure and toxicity.
Aim of the Audit:
To evaluate compliance with local guidelines at the Coombe hospital for vancomycin dosing adjustments in neonates.
Standards:
If vancomycin level is <10 µg/mL, the dose frequency should be increased.
If vancomycin level is >20 µg/mL, one dose should be held, the levels rechecked before the next dose, and the dose frequency decreased.
Methodology:
A retrospective review of medical charts and lab reports from October 2023 to March 2024. Data collected included gestational age at birth, sex, serum vancomycin trough levels and Vancomycin dosing regimens.
Results:
Thirty-one patients and 90 vancomycin levels tests were included for analysis. 20/31 patients (65%) were male, and the mean gestational age was 26 weeks (range 23 – 40 weeks). Of the 90 tests performed, 41 were within the therapeutic range (10-20 µg/mL), while 49 were not. Among these, 44 tests (90%) showed sub-therapeutic levels (<10 µg/mL). Furthermore, 62% (20/32) of the first vancomycin levels measured across the cohort were below the target range (<10 µg/mL). In the cases where dose adjustment was necessary 47/49 (96%) were made according to appropriate guidance, including cases where antibiotics were stopped.
Recommendations:
1. Reinforce the importance of adhering to vancomycin dosing guidelines through staff training
2. Regular reminders during the daily ward rounds about patients treated with Vancomycin and their corresponding levels.
3. Review the dosing guidelines based on the latest evidence and feedback from clinical staff.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 120
Neonatal

ASSESSMENT OF DELAYED CORD CLAMPING PROVISION FOR PRETERM INFANTS AT ROTUNDA HOSPITAL, JANUARY TO MAY 2024

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Background:
Delayed cord clamping (DCC) allows physiological placental transfusion, significantly improving neonatal outcomes. Evidence from numerous studies highlights benefits such as reduced mortality, lower rates of intraventricular hemorrhage (IVH), improved neurodevelopment, decreased incidence of necrotizing enterocolitis (NEC), and reduced need for blood transfusions. The World Health Organization (WHO) and the Neonatal Resuscitation Program (NRP) recommend DCC for at least one minute for stable infants to promote better neonatal health.

Methods:
A re-audit was conducted from January 1 to May 30, 2024, assessing DCC practice and documentation in 95 preterm infants born between 26 and 34 weeks' gestation. The data was collected through the Maternal and Newborn Clinical Management System (MN-CMS). Following a Quality Improvement (QI) initiative that introduced the LifeStart trolley for DCC and implemented a DCC documentation graph in MN-CMS, compliance with DCC practices was analyzed to measure alignment with NRP 7th and 8th edition guidelines.

Results:
This re-audit showed strong compliance with DCC documentation, reaching 97.9% (93 out of 95 cases). Among documented cases, 73.1% (68 out of 93) of infants received delayed cord clamping (DCC). Following the Quality Improvement (QI) initiative, DCC documentation improved substantially from 51% to 97.9%, with the proportion of preterm infants receiving DCC increasing from 49% to 73.1%. These results reflect a significant enhancement in adherence to DCC practices, supporting compliance with WHO and NRP guidelines effectively.

Conclusions:
To ensure sustained benefits of delayed cord clamping (DCC), annual compliance audits are recommended, alongside the continuation of the Quality Improvement (QI) measures, including the LifeStart trolley and documentation tools. Promoting DCC for all newborns is essential, and efforts should focus on expanding this successful initiative from the Rotunda Hospital to a national standard.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 121
Neonatal

AN AUDIT OF POST-DUCTAL PULSE OXIMETRY SCREENING OF CONGENITAL HEART DISEASE (CHD) IN THE COOMBE HOSPITAL

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Aims:

Post-ductal pulse oximetry has been shown to improve early diagnosis of CHD (1). In 2021, it was noted that discharge paperwork requested “pre-ductal SpO2” instead of “post-ductal SpO2”. We hypothesised this documentation error resulted in inadequate CHD screening. Objectives were to investigate adherence to guidelines, correct the documentation and re-audit whether correct documentation would improve practice.

Methods:

100 neonatal charts were retrospectively reviewed. Data collected included SpO2 readings recorded, site of measurement (pre-/post-ductal), abnormal readings and performance of 4 limb BPs. Following the initial audit, discharge paperwork was corrected to request post-ductal saturations be recorded as screening for CHD and staff were re-educated around the guidelines. 100 baby charts were audited following these changes.

Results:

Initially, 11% of neonates had no documented SpO2 reading. 0% of neonates were documented to have had post-ductal pulse oximetry for screening of CHD. 64% were documented to have undergone pre-ductal pulse oximetry and 24% had pulse oximetry documented at an unspecified site. 1 neonate underwent pre- and post-ductal pulse oximetry and 4 limb BPs as part of a murmur work up.

Following documentation correction and staff education, 96% of neonates had an SpO2 reading documented. 77% of neonates were documented to have had post-ductal pulse oximetry for screening of CHD. A further 19% of neonates had pulse oximetry documented at an unspecified site. No neonates in the study were diagnosed with CHD either before or after documentation correction.

Conclusion:

A discharge documentation error resulted in inadequate screening of CHD for babies born in The Coombe. Correction of this error led to an improvement of post-ductal pulse oximetry screening of CHD from 0% to 77%. CHD screening guidelines were updated and re-circulated. Future recommendations include further educational sessions and regular repeat audits.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 122
Neonatal

THE BURDEN OF NEONATAL LATE-ONSET SEPSIS: A RETROSPECTIVE REVIEW

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Aims
Neonatal late-onset sepsis (LOS) causes significant morbidity and mortality, particularly amongst preterm infants. Clinical signs are varied, often mimicking normal preterm physiology making early diagnosis challenging. The aims of this study were to describe predisposing risk factors, presenting signs and clinical course of affected infants within a tertiary neonatal unit.
Methods
This was a retrospective chart review of 37 infants admitted to the neonatal intensive care unit of a tertiary maternity hospital, excluding admissions from home, with confirmed bloodstream or cerebrospinal infection (excluding coagulase-negative staphylococci) over a 46-month period.
Results
The median gestation was 26.1 weeks and the median birth weight was 715g. The median age at onset of LOS was day 8 of life. Sepsis resulted in 49% mortality, highest amongst infants under 29 weeks' gestation. Gram-negative bacilli accounted for 70.4% of cases, with 73.6% of pathogens demonstrating antimicrobial resistance.

Choice of antimicrobial therapy varied, with 35% of clinicians prescribing in accordance with local hospital policy, whilst broader spectrum agents were preferentially selected for the majority. Antimicrobial therapy was escalated in 29 patients (78%), with the majority of changes (21.6%) occurring 6-12 hours after the initial septic work-up.

Desaturations and/or bradycardia were the most common presenting signs (29.7%). Fevers, tachycardia and hypotension occurred infrequently. Further deterioration occurred in 70.3% infants. 53% developed new respiratory signs. 77% with a new inotropic requirement died. Chorioamnionitis did not increase the likelihood of LOS, however pathogenic growth on placental or maternal swabs may predict LOS.
There was an increased need for mechanical ventilation and inotropic support following sepsis, in addition to higher rates of meningitis, grade IV intraventricular haemorrhage and necrotising enterocolitis.

Conclusion
The burden of LOS is high among infants in a neonatal unit. Awareness of the common presenting and deteriorating signs and risk factors may aid earlier diagnosis and treatment.

Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 123
Neonatal

BENEFICIAL USAGE OF BILIBLANKETS FOR NEONATAL JAUNDICE

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AIM: The aim of this study was to assess the utility of an additional phototherapy source (Biliblanket) in reducing neonatal jaundice levels and readmissions following discharge in neonates receiving treatment for jaundice in a postnatal ward setting.

METHOD: Retrospective analysis of 28 neonates with non-haemolytic jaundice on the postnatal ward at the National Maternity Hospital. The outcome was measured by comparing pre-treatment and post-treatment serum bilirubin (SBR) levels in neonates following either overhead phototherapy (n=20, June-July 2024) or overhead and Biliblanket (Dual) phototherapy (n=8, July 2024). Data was analysed using SPSS (v29).

RESULTS: Average age at phototherapy was 2.8 vs 2.5 days (overhead vs dual therapy), average gestational age at birth was 37 weeks for both groups. The mean reduction in SBR (µmol/l/hr) was 1.8 vs 3.7 (overhead vs dual therapy). 5/20 babies were readmitted for treatment of jaundice following discharge home in the overhead compared to 1/8 in the dual therapy group.

CONCLUSION: Although Biliblankets are in routine use in our neonatal unit, postnatal wards were not using them. Staff on the ward reported prior to the study that they did not feel there was any benefit from increasing the phototherapy. However, babies with jaundice requiring phototherapy, particularly those moderately preterm at birth, formed a large percentage of our readmissions from home to the neonatal unit. We wanted to optimize phototherapy on the postnatal ward to avoid separating babies from parents. This small study demonstrated that the use of Biliblanket phototherapy could reduce jaundice levels more effectively. Staff also reported that the Biliblankets were easy to use, and overall staff satisfaction led to frequent use during the trial period. Based on this study and a favourable staff rating these devices are now standard of care on the postnatal ward.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 124
Neonatal

CORD PH PROTOCOL IN CLINICALLY WELL NEONATES: A QUALITY IMPROVEMENT PROJECT

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Aims: Umbilical cord pH is a measure of foetal hypoxic stress, and may predict risk of neonatal mortality, hypoxic ischaemic encephalopathy, seizures, intraventricular haemorrhage, cerebral palsy and delayed development (1,2). A protocol on cord gas analysis and follow-up for clinically well neonates was developed in Wexford General Hospital from protocols in other maternity hospitals in Ireland (3,4). It specifies follow-up blood tests at time intervals based on cord pH. We evaluated adherence to the new protocol and compared practice of cord gas documentation and follow up pre and post implementation. Secondary objectives were to assess whether indications for cord pH measurement were present and to identify further areas for improvement.

Methods: Medical records of all neonates in the maternity ward were reviewed on 16 random days over five months. The new protocol was disseminated halfway through the audit. Reviews occurred frequently to maximise staff participation. Records were checked for documented cord pH values, indications and follow-up plans.

Results: 144 deliveries were reviewed. Cord gas had been analysed in 38 cases (26.4%), 20 prior to protocol introduction and 18 after. Prior to introduction, 90% of cases had documented pH values with appropriate follow-up. Afterwards, compliance increased to 100%. Indications for cord gas analysis included non-reassuring cardiotocograms (31.4%), instrumental deliveries (40%), emergency caesarean sections for failure to progress (8.6%), and clinical concern after delivery (20%). But, in 7.9% of cases, there was no documented indication. There were no neonates in whom cord gas measurement was inappropriately omitted during the audit period.

Conclusion: Cord pH can identify babies at risk from asphyxia who require immediate management. The audit demonstrated a high pre-existing level of compliance with the protocol - with an improvement in follow-up after the protocol was implemented. Continued improvement is essential to continue to achieve 100% compliance and ensure optimum care.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 125
Neonatal

RESUSCITATION SCRIBE SHEET ACCURCY

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Background & Aim:
This audit measured the accuracy of the resuscitation record sheet within maternity and neonatal department.
It is a communication and legal tool for resuscitation events and completing it correctly is mandatory.

Methodology:
A questionnaire assessed adherence to the record sheet guidelines.
Babies needed resuscitation at birth, had low Apgar scores and admitted to the neonatal unit.
Between September and November 2023.
Retrospective study.
Total number was 10.

Results:
Efficiency in documenting start time of resus, signing and patient labels is 90%, however our target is 100%.
2222 being called was 'not applicable' in 60% of cases as the whole team was there already.
Apgar score was documented 80%.
Evidence of MRSOPA 70% recorded.
CPAP and PPV was 70% and 50% was recorded inaccurately and needs further education.
Education is ongoing since data collection twice weekly at skill and drills sessions.

Conclusion:
Education for staff in maternity and neonatal unit on how to accurately complete the resus record sheet.

Reference:
CLN-LW0040 Resuscitation of newborn, see appendix 5 for resuscitation record (Galway guidelines).

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 126
Neonatal

AUDIT OF ADHERENCE TO BEST PRACTISE GUIDELINES FOR CHILDREN BORN WITH DOWN SYNDROME

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Aim: To determine adherence to the Down Syndrome Medical Interest Group (DSMIG) Neonatal Best Practice Guideline in a tertiary neonatal unit over a 5-year period. Our secondary objective was to describe patterns in the demographics, admissions and clinical course.

Methods: A retrospective audit of infants with a diagnosis of DS between 2018 and 2022 in Cork University Maternity Hospital (CUMH). Ethical approval was obtained prior to data collection. Demographics and clinical data were obtained from the electronic health records (EHR). Data was collated and analysed using a password encrypted Microsoft excel dataset. Continuous data was reported as mean or median. Categorical data was outlined as counts. Dichotomous variables were summarised as proportions. A Chi Squared Test and Fishers exact test were used to assess dichotomous variables.

Results: 73 patients were included, 51% female. Median gestation was 38 3/7, median birth-weight was 3100g. 82.2% required admission to NICU, 58.3% admitted immediately from birth. Median hospital stay was 10 days. 11% had growth parameters documented. 42.8% required respiratory support. 4.1% required circulatory support. 90% of patients had an echo (95.4% abnormal). Abnormal investigations include: chest x-ray (91.6%), FBC (14.4%), bilirubin levels (56.4%), TFTs (15.4%). 26% were exclusively breastfeeding, 9.7% required feeding support on discharge. Referrals include audiology (82.2%), ophthalmology (23.3%), community follow up (93.2%).

Conclusion: This audit shows good adherence to the DSMIG guideline in areas of cardiovascular and haematological monitoring, but indicates a need for improvement in other categories.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 127
Neonatal

TONGUE TIE ASSESSMENT CLINIC AT THE COOMBE HOSPITAL

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Ankyloglossia 'tongue tie' is asymptomatic in most infants however can result in breastfeeding difficulties in 12-44% of infants whom have it. The Coombe Tongue Tie Assessment clinic (TTAC) has been providing a public service for the past 5 years. Frenotomies are performed according to a local guideline and the clinic is a multidisciplinary service staffed by doctors, a midwife and IBCLC.

Aim- To perform audit of referrals to TCH TTAC Mar-August 2023. To collect parent experience and outcome data from all mothers who infants had a frenotomy performed Jan-June 2024.

Methods - Data on all patients who attended the TTAC from Mar-Aug 2023 was collected regarding source of referral, time from referral to appointment, risk factors, clinical examination and outcome. Audit information was compiled from our TTAC excel database.
Parent feedback was collected via survey monkey questionnaire from parents who attended the clinic from Jan-Jun 2024.

Results-
Between March-August 2023 the TTAC received 114 referrals total.73% of mothers were contacted within 4 days of referral and median time to clinic visit was 5 days. 79% of infants referred required a frenotomy.80% of mothers who's infant had a frenotomy reported a positive immediate effect.

All mothers whose baby had a frenotomy were contacted to complete the follow up questionnaire. <ins cite="mailto:Becki%20O'Sullivan" datetime="2024-10-02T16:49">The response rate was 69%.</ins>89.47% of respondents resoundingly reported the frenotomy improved their babies feeding.100% of those surveyed reported no complications post procedure.36% were still exclusively breastfeeding at follow up, further 30.2% combination Feeding<ins cite="mailto:Becki%20O'Sullivan" datetime="2024-10-02T16:52">, 30% bottle feeding with formula</ins>. Notably 59% of those surveyed did not have continued support from a lactation consultant.

Conclusion
Tongue tie is not a binary 'diagnosis. Frenotomy is best provided as part of an MDT with ongoing breastfeeding support, however IBCLC follow up was less than we anticipated. When frenotomy is performed it is successful procedure with few complications and high resultant breastfeeding rates at follow up.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 128
Neonatal

aEEG and neonatal seizures. A must have in all levels of Neonatal unit in UK and Ireland?

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Introduction:
A high seizure burden in neonatal period contributes independently to higher mortality and morbidity[1]. Seizures are more common in this period than any other time across childhood[2].

Aim:
To assess the suitability and evidence for recommending aEEG in all levels 1,2 and 3 neonatal units in UK and Ireland as a bedside clinical aid in the recognition and management of neonatal seizure and Neonatal encephalopathy(NE).

Method:
Scoping review of neonatal seizure and EEG in PubMed in May 2024 yielded over 1600 papers. PubMed and Cochrane PICO search terms refined to neonates, aeeg, clinical seizures, eeg yielded 137 studies with 13 suitable for narrative review.

Result:
The observational studies has shown that clinical seizure recognition vs electrographic seizure is poor: 1/3rd of electrographic seizures recognition in Murray's study. Poor subtle seizure recognition range 20.4–49.6%, poor inter-observer agreement(kappa) between doctors and other healthcare professional of 0.21 and 0.29 in Malone et al. The cohort study of Varine-et-al although conducted for a low and medium income country has an internal validity and could be replicated in our population which favours aEEG screening for seizures. The RCT of Van Rooij favours aEEG and while Hunt RCT has not shown a statistical difference between neuro-disability and death at 2 years of age, it does not disagree that EEG are better at seizure recognition. The Systemic reviews have mixed population, varied methodologies, bias risk and not fit for Meta-Analysis. The disease burden of neonatal seizure outweighs the marginal cost of acquiring the less expensive CFM for aEEG compared to cEEG. aEEG improves seizure recognition compared to clinical assessment alone as a bedside clinical aid in the management of neonatal seizure and NE.

Conclusion:
- aEEG is better than clinical neonatal seizure recognition and should be introduced in every neonatal unit in Ireland and UK for neonatal seizure screening and monitoring using the 2 channel aEEG with raw trace.
- Education and training provision to reduce the inter-operator variability and false negative reports.
-

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Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 129
Neonatal

"ENTERAL TUBE FEEDING IN PARTNERSHIP" INTRODUCING THE FAMILY INTEGRATED CARE MODEL IN THE NEONATAL UNITS AT CHILDRENS HEALTH IRELAND (CHI)

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Background: Family Integrated Care (FiCare) is a model of neonatal care, which fosters partnership between the family and the neonatal team. It is associated with positive outcomes including an increase in infant weight gain, increased rate of exclusive breastfeeding at discharge, and decreased parental stress and anxiety.

Smart Aim: By June 2024, 80% of neonates who require tube feeding will receive their feeds from their parents during their hospital stay, following effective education and training, in partnership with the healthcare team using the FiCare model.

Methods: A survey of parents identified a lack of parental involvement when an infant is fed via an enteral tube. Baseline data of parents assisting with tube feeding pre and post FiCare interventions from January to June 2024 was collected. The 4 pillars of FiCare provided the scaffolding and framework on which to build this quality improvement.

Results: There has been a positive increase (from a median of 8% to 47%) in the number of parents assisting with tube feeds from January to June 2024.

Financial implications: FiCare research shows that empowering parents to be more involved in the care of their infant will lead to earlier hospital discharge. Fewer days in hospital will have significant cost savings. We have yet to analyse lengths of stay.

Equity and Sustainability: Recruiting FiCare champions will help to keep staff motivated to implement change. Discussing FiCare at our bimonthly meetings will aid staff motivation.

Conclusions: While our specific goal was not achieved, this project has been successful in introducing the FiCare concept to the neonatal units.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 130
Neonatal

AN INFANT WITH ABNORMAL OSSIFICATION OF THE SKULL AT BIRTH: A CASE REPORT

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Background: We present an interesting case encountered at our service. This case may represent delayed membranous cranial ossification, a rare, genetic primary bone dysplasia,[1] of which there are 2 previously published case reports.[2,3]
Case report: A female infant was born at 36+5 weeks gestation by elective caesarean section for maternal pre-eclampsia; no resuscitation was required at birth. She was admitted to special care due to birth weight of 2.45kg. It was noted that there was an area of abnormal ossification of the skull, a defect of approximately 4cm X 5cm at the right mastoid fontanelle. The infant had some soft dysmorphic features. Systemic examination was otherwise unremarkable and the infant was clinically well. She was the first child born to non-consanguineous Irish parents.
As per recommendation from our consultant radiologist, a CT brain was organised on DOL1 which showed poor and irregular ossification of the calvarial bones, with a differential diagnosis of skeletal dysplasia or osteogenesis imperfecta. A skeletal survey was performed on DOL2 which did not show abnormal ossification of other bones. An MDT was held by the consultant paediatrician along with endocrinology, radiology and clinical genetics, with no further investigations recommended. An endocrine and metabolic workup was performed, results of which were negative, microarray was normal. The bony defect in the skull improved clinically on DOL4.
The infant has been referred to neurosurgery, who will review at 2 months of age, and the clinical genetics team.
Conclusion: The clinical improvement of the abnormality, along with normal investigations to date provided some reassurance. However, the final diagnosis remains unknown while awaiting review by clinical genetics. Upon review of the literature, in one case report a balanced reciprocal translocation between chromosomes 2 and 3 was identified in a case of DMCO.[2] There is also specific gene panel testing available for same.[4]

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 131
Neonatal

CRANIAL ULTRASOUND ABNORMALITIES IN INTRAUTERINE GROWTH RESTRICTED INFANTS

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Background

Intrauterine growth restriction (IUGR) describes a foetus that does not meet its growth potential in utero. Unlike constitutional small size (SGA), IUGR is secondary to a pathological process. IUGR infants are at a higher risk of neurodevelopmental morbidity compared with infants born with appropriate weight for gestational age[1].

Neonatal cranial ultrasound (CRUSS) is considered the gold standard bedside screening modality for the detection of major brain injury such as IVH and cystic periventricular leukomalacia[2].

Very few studies have been performed looking at the benefits of CRUSS screening in IUGR infants. Those that do, focus on preterm infants or do not differentiate from SGA infants. Of the available research, a number of studies found an increased risk of CRUSS abnormalities in IUGR infants compared with matched controls[3], whilst others have shown no increased risk[4]. No studies to date subcategorize IUGR infants by growth centiles.

Aims

At present, most IUGR infants undergo CRUSS, which translates to up to 10% of neonates. Evidence suggests that it may be more appropriate to narrow the investigated cohort to IUGR infants <5th centile. This audit aims to establish incidence of abnormal CRUSS results for IUGR infants and guide current clinical practice.

Methods

We performed a retrospective chart review of term infants (>37-weeks' gestation) born in 2023 in the Rotunda, analysing data using Microsoft Excel.

Results

337 term infants with an occipitofrontal circumference (OFC) measurement of <10th centile were reviewed. 71 were tested for urine CMV and 36 underwent CRUSS. No infants were CMV positive, while 9 patients had abnormal CRUSS findings. Of these infants, all infants' OFCs measured <5th centile, with mean OFC 1.4th centile.

Conclusion

All infants with abnormal CRUSS results had OFC measurement <5th centile. Therefore, it may be beneficial to narrow our current clinical practice to perform this investigation on such infants, in order to save unnecessary investigations.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 132
Neonatal

IS NEEDLE THORACOCENTESIS A PRACTICAL REVOLUTION IN NEONATAL PNEUMOTHORACES MANAGEMENT: A 2 YEAR AUDIT AT MRHP

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Background: At MRHP annually 1500-2000 babies are born. The incidence of neonatal pneumothorax is reported as between 0.69% to 2%. Needle thoracocentesis is recommended as the initial method of draining radiologically confirmed pneumothorax in symptomatic infants. It has reduced the hospitalization rate and has shortened the hospital stay of neonates having pneumothorax.
Methodology: Our Standard was the British Thoracic Society recommendation of Needle thoracocentesis as initial step in management of neonatal pneomothoraces. The data was collected Retrospectively from July 2021 till July 2022 for the 1st cycle of the audit. Cases of Neonatal Pneumothoraces were identified in this time and their subsequent management were audited before the establishment of local guidelines. Analysed variables included gestation age, 1st intervention, subsequent chest drain insertion and endotracheal intubation. Reaudit was done after the introduction of the new guidelines, the management of PT cases were re-audited against the guidelines and data was analysed with similar variables
Results: Seven cases of neonatal pneomotharaces were identified from July 2021 till July 2022. Needle thoracocentesis as 1st step was done in 42% of cases. In total, 28% required chest drain insertion by the neonatal transport team. In total, 42% cases required endotracheal intubation at some stage. Four cases were transferred out to tertiary care unit. 28% cases were management conservatively without intervention. Our Re-Audit Result showed that there were seven cases of pneumothorax from July 2022 to December 2023. Needle thoracocentesis was performed in 85% cases; one case was managed conservatively and 14% required chest drain insertion.
Conclusion: As first step, there was increase in NT for pneumothorax management from **42% to 85%**. There was a 50% decrease in chest drain insertion. Needle aspiration has reduced the rate of CD insertion in symptomatic newborns with pneumothorax

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 133
Neonatal

AN AUDIT CORRELATING THE GESTATIONAL AGE AT TIME OF ELECTIVE CAESAREAN SECTION AND ADMISSION TO THE NEONATAL UNIT (SCBU).

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Aim: The aim of this audit is to determine whether babies delivered via elective caesarean section in early term had a greater need for admission rate into the special care baby unit when compared to full term babies in St Luke's Kilkenny hospital from January 2024 to June 2024.

Background: There has been a rise in elective caesarean sections done as a form of delivery in the recent few years. The question that presents itself is: 'When would be the most ideal time to perform the elective caesarean section?' The gestation of a neonate can be broken down to early term which is between 37 and 38+6 week and then term from 39 weeks. There are numerous studies that show the risk of neonatal complications if delivered in early term compared to later gestations. We reviewed the data in our own hospital to see if we can conclude those findings to bring about a change and reduce the risk of complications in the future.

Method: The idea was to collect data to compare our practices of elective caesarean sections to what studies are showing would be most beneficial to the neonatal outcome. Data was obtained from the delivery register, revealing which mothers underwent a caesarean section, whether it elective or emergency, at which gestations it occurred and whether the baby was admitted to the special care baby unit (SCBU). Data was also collected from the special care baby unit admissions register which showed the duration of stay in the unit. Exclusion criteria was babies admitted for social reasons and inclusions were babies admitted within the first 24 hours of life. We did not break down the indications for admission to SCBU. The collection of data took three weeks. We reviewed 289 woman who underwent a caesarean section but focused on the 164 elective caesarean sections done and determined which were early term deliveries and which were term, and the outcomes of the neonates delivered.

Results: The audit revealed that majority of the caesarean sections in the early term group were elective caesarean sections. It also revealed that of the elective caesarean sections done from 37 weeks, 51% were in the early term group. The data most significant and correlated to the studies found was that 65% of the elective caesarean section done at early term needed admission whereas 35% of the elective caesarean sections done at term were admitted. This revealed a higher risk of complications and subsequently admissions in the neonates delivered between 37 and 38+6 weeks of gestation. Further data collected reflected there was only a minor increase in the days spent in the unit in the early term when compared to the term infants.

Conclusion/recommendation: We recommend that the elective delivery via caesarean section be done from 39 weeks gestation to reduce the risk of complications in the neonate and reduce the need of admission.

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3344-3349. doi:10.1080/14767058.2019.1684467

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 134
Neonatal

REVIEW MANAGEMENT OF PRETERM BABIES BORN IN CAVAN AND MONAGHAN HOSPITAL

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AIMS:
To assess compliance with the National guideline for aspects of care for the pre-term infants born in CMH, including access to dietetics, radiology and external ophthalmology. To identify any obstacles to full compliance and measure patient outcomes in our unit.
METHODS:
This is a single centre retrospective chart review of infants born between 1stJanuary 2021 and 30th September 2023 at a gestational age of less than 32 weeks. Variables collected and compared to the national guidelines included; gestational age, mode of delivery, transfer out of our hospital, reasons for transfer, time of Dietetics input, radiological studies and the number of external retinopathy screen attendances.
RESULTS:
All Infants (n=3) born <30 weeks gestation and infants with medical complications (n=3) were transferred to tertiary care as per national Guidelines. Infants born >30/40 and <32/40 (n=19) were analysed. Twenty four percent of infants required CRUSS in first 3 days of life (n=3; compliance 100%) 44% had a second CrUSS while only 13% (n=1) underwent a 3rd scan as required. Most 50% (n=4)of babies had 1 check while 13% (n=1) infants required three trips for eye checks. None of the babies failed to be scheduled for the eye Checks. All babies seen by the Dietitians prior to discharge.
CONSLUSIONS:
Care of premature infants in a primary unit presents some challenges: Limited access to paediatric radiology, Dietetics and speciality services. Currently, 0.5 WTE Dietetics. Plan in place to raise this to 1 WTE.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 135
Neonatal

POSTNATAL BIOMARKERS OF OUTCOME IN CONGENITAL DIAPHRAGMATIC HERNIA: A SYSTEMATIC REVIEW

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Aims: Infants born with congenital diaphragmatic hernia (CDH) require coordinated multidisciplinary care for optimal outcomes to minimise the high risks of mortality and morbidity. This review explores
radiological, molecular, clinical, and neurodevelopmental biomarkers to evaluate their prognostic value in predicting outcomes of CDH.

Methods: A systematic search of Embase, PubMed and Cochrane Library databases was conducted in adherence to PRISMA guidelines. A 3-phase screening process was carried out using Covidence to complete final selection and extraction in PICO format.

Results: The initial search yielded 2,640 papers, of which 111 papers were included following removal of duplicates, title and abstract screening and full text analysis, and were categorised into 4 separate sections. These studies were categorised into four sections: radiological biomarkers (25 papers), postnatal molecular biomarkers (40 papers), clinical biomarkers (38 papers), and postnatal biomarkers for neurodevelopmental outcomes (17 papers). Various biomarkers, including blood gas indicators (OI, OSI) for mortality prediction and radiological markers such as pulmonary hypertension,
impact CDH outcomes. Cardiac biomarkers (BNP, NT-proBNP) reflect stress and forecast adverse events. Genetic factors, especially syndromic CDH, influence prognosis, aiding risk stratification through early identification. Additional insights come from biomarkers like blood pH, serum creatinine,
microRNAs, and promising radiological markers such as CRTA. Clinical indicators like Apgar scores and birth weights offer rapid prognostication. Ventilation duration, ECMO use, hernia location, hearing
loss, and neuroimaging predict long-term neurodevelopmental outcomes.

Conclusion: The significant lifelong morbidity and mortality of congenital diaphragmatic hernia warrants valid and reliable prognostic models to determine outcomes and guide management. From our review, oxygenation index, birth weight, ventricular-vascular parameters and pulmonary hypertension severity emerged as the most promising biomarkers. Furthermore, ECMO and ventilation duration were the most significant biomarkers in determining poorer neurodevelopmental
outcomes.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 136
Neonatal

AUDIT OF ADHERENCE TO NICE GUIDELINES REGARDING INFORMATION AND SUPPORT GIVEN TO PARENTS AND CARERS OF NEONATES ON PARENTERAL NUTRITION

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Aims:
This audit aimed to evaluate the adherence to guideline-directed information and support for parents of neonates on parenteral nutrition (TPN).

Methods:
The setting of this audit was at the quaternary neonatal referral service at Children's Health Ireland (CHI), Crumlin over a 3-month period in 2024.
Following ethical approval, parents were invited to answer 14 questions on a questionnaire that was based on National Institute for Clinical Excellence (NICE) recommendations for information sharing and support for parents whose infants are on TPN.

Results:
20 questionnaires were completed. 60% of parent respondents spoke English as their first language. The included neonates on TPN age ranged from 1 week to 26 weeks. Tracheoesophageal fistula and congenital diaphragmatic hernia were the most common clinical diagnoses in included neonates, 15% (n=3 each), followed by prematurity and bowel atresia accounting for 10% (n=2 each).
100% of parents responded yes to 7 of the questions, with answers demonstrating positive information sharing regarding their neonates need for TPN and their understanding of TPN.
100% responded no when asked if the information provided was in both written and spoken format.
30% responded no when asked if they were informed of any risks related to TPN administration.

Conclusion:
This audit provides an insight into the adherence to information sharing and support guidelines for parents of neonates on TPN. It demonstrates the need for providing information in both verbal and written format, and highlights language barriers being a reason for failure of communication.
A multi-disciplinary education strategy is underway as a Quality Improvement initiative going forward before reauditing.

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2. Embleton, N. D., Morgan, C. & King, C. Balancing the risks and benefits of parenteral nutrition for preterm infants: can we define the optimal composition? Arch. Dis. Child. - Fetal Neonatal Ed. 100, F72–F75 (2015). 3. Halsey, Mary; Hodgson, Kate; Russell, Rachel; Campion, Anna; Machado, Catarina; Beattie, Robert M.; Batra, Akshay. Emotional Wellbeing in Parents of Children on Home Parenteral Nutrition. Journal of Pediatric Gastroenterology and Nutrition 71(4):p 557-562, October 2020. | DOI: 10.1097/MPG.0000000000002771 4. Neonatal parenteral nutrition. NICE guideline NG154 (2020), recommendations 1.10.2 and 1.10.4 5. Optimal practice in neonatal parenteral nutrition. https://www.efcni.org/wp-content/uploads/2019/09/2019_09_16_EFCNI_Parenteral-Nutrition_Positionspapier_web.pdf

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 137
Neonatal

PREDICTORS OF HISTOLOGICAL CHORIOAMNIONITIS: ROLE OF CYTOKINES IN PRE-TERM NEONATES

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Aims: Pre-term neonates are at increased risk of sepsis. A key player in their innate immune response is cytokines - small proteins secreted by immune cells. Cytokines have a range of pro- and anti-inflammatory actions. Due to their ability to regulate inflammation, cytokines have been recognised as crucial determinants of the initial response to sepsis.
Histological chorioamnionitis (HCA) is associated with preterm birth, late-onset sepsis, and both poorer short and long term outcomes in the preterm population. Therefore, we aimed to evaluate the levels of the cytokines IL-6, IL-8, and IL-10 in preterm neonates and assess if they are useful predictors of HCA.

Methods:Preterm neonates (< 32 weeks gestation and/or less than 1500g) were recruited over the years 2017-2020. Whole blood samples were processed for cytokine levels, IL-6, IL-8, and IL-10, by multiplex enzyme-linked immunosorbent assay (ELISA). Placental histology reports of recruited patients were obtained from the hospital-based lab system.
Data were collated anonymously and analysed retrospectively using Microsoft Excel; descriptive statistics were used to summarise the data and one-way ANOVA test was used to assess for statistical significance. Ethical approval was obtained.

Results: Thirty pre-term neonates were recruited; 60% (n=18/30) were male; the mean gestational age was 28.5 weeks (± 0.82), mean birth weight was 1.14 kg (±245 grams). The most common delivery mode was c-section (66.7%; n=20/30). Indications for delivery included: spontaneous pre-term labour (30%, n=9/30), IUGR (20%, n=6/30), suspicion regarding chorioamnionitis (16.7%, n=5/30), and others (n=10/30).Six patients (20%, n=6/30) had confirmed chorioamnionitis (n=3 grade 1, n=3 grade 2).

There was no statistical difference in the IL-8, IL-6, or IL-10 levels (p= 0.945, p= 0.270, p=0.826 respectively) between the chorioamnionitis and the non-chorioamnionitis group.

Conclusion: Ongoing research is recruiting larger numbers of patients, correlating cytokines with the severity of chorioamnionitis as per the Redline criteria, and correlating other pro and anti-inflammatory cytokines with HCA and short and long-term clinical outcomes.

Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 138
Neonatal

DEFINITIONS OF NEONATAL NECROTISING ENTEROCOLITIS (NEC) IN RANDOMISED CONTROLLED TRIALS: A SYSTEMATIC REVIEW

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Backgrounds and Aims: Necrotising Enterocolitis (NEC) is a significant cause of morbidity and mortality for preterm neonates. Although Bell's criteria are frequently used there are concerns that since its inception in 1978 the survival of babies at earlier gestations requires an updated NEC definition. This systematic review aimed to evaluate the diagnostic definitions of NEC in randomised clinical control trials.

Methods: This systematic review was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines. A search was conducted through PubMed to identify Randomised Control Trials (RCTs) in the last 20 years which used NEC in the study title and in either the primary outcome or the inclusion criterion.

Results: The initial search identified fifty-six RCTs. Thirty-seven RCTs were included for full text analysis. Thirty-four trials used Bell's criteria or Modified Bell's criteria to define NEC and three RCTs used original definitions. Though other credible classification systems exist to define NEC, none were used in the papers included here.

Conclusions: There is good consistency in the use of Bell's criteria definition of necrotising enterocolitis in RCTs. However, international consensus on further modification of the definition will greatly contribute to both research and clinical practice relating to NEC.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 139
Neonatal

UNUSUAL PRESENTATIONS OF MACROCEPHALY IN CHILDREN: A CASE SERIES

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Aims:
Macrocephaly in the paediatric population is common and usually, has a benign cause. However, there are some rare and more complex pathologies[1]. This series identifies three paediatric patients who were born in, and attended, Galway University Hospital (GUH), Ireland, and the contrasting approaches required in investigating and managing the various presentations. Each child had macrocephaly associated with uncommon conditions.
Methods:
A case series and retrospective review of each patient chart was performed.
Results:
Three patients, each with a distinct neonatal course, born in GUH between 2020 and 2024 were reviewed. Patient 1 is a 7-month-old female with Smith-Kingsmore syndrome (SKS), found to have a de novo MTOR protein gene mutation. This infant had ventriculomegaly identified antenatally and was admitted to the NICU for moderate prematurity. Patient 2 is a 2-year-old female with KPTN gene homozygous intellectual disorder no. 41 born at 25 weeks' gestation. Patient 3 is a 3-year-old male with antenatal ventriculomegaly and pseudo deficiency of GALC gene of, potentially, little to no significance that may also have just familial macrocephaly.
Conclusion:
In our report of these paediatric patients, although the causes of these cases of macrocephaly are unusual, it is imperative to always have a broad differential and investigate if presented with macrocephalic infants with no clear cause but have other significant findings. With the appropriate measures put in place early to ensure early establishment of care if necessary.
1. Accogli, A. et al. (2022) 'Diagnostic approach to macrocephaly in children,' Frontiers in Pediatrics, 9. https://doi.org/10.3389/fped.2021.794069.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 140
Neonatal

HETEROGENEITY IN THE DIAGNOSIS AND TREATMENT OF NECROTISING ENTEROCOLITIS

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Introduction: Necrotizing enterocolitis (NEC) is one of the most common gastrointestinal emergencies affecting newborns, occurring in 2-5% of all premature infants, and nearly 10% of preterm infants with very low birth weight (VLBW <1500 grams). The clinical presentation of NEC varies from subtle to severe, and its definition has evolved over time. The VON criteria for NEC are based on clinical and radiographic features, with treatment typically involving the administration of broad-spectrum antibiotics for 10-14 days and withholding enteral feeds while providing parenteral nutrition.[1] Analgesia is also recommended to alleviate pain associated with this inflammatory condition.[2]

Aims: The aim of this audit was to assess adherence to VON criteria in diagnosing NEC in our practice and to evaluate whether our management of NEC aligns with current guideline recommendations.

Methods: We conducted a retrospective analysis of electronic chart records from patients diagnosed with NEC between 2018 and 2023. Demographic variables, clinical and radiographic criteria of NEC, analgesia, antibiotic treatment, and antibiotic duration were collected from the charts.

Results: During the study period, 62 infants were diagnosed with NEC. The median gestational age of our patient cohort was 26 weeks. NEC was typically diagnosed at a median postnatal age of 8 days. Among them, 70.5% met the VON criteria for NEC diagnosis. Of those, 90.5% received either metronidazole or meropenem as the antibiotic of choice, but only 47.4% of them received treatment for ≥10-14 days. Analgesia was prescribed in only 71.4% of patients diagnosed with NEC based on VON criteria.

Conclusion: Our analysis revealed poor adherence to international guidelines for diagnosing NEC. Implementing a local guideline that aligns with international evidence is crucial to improving NEC management practices.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 141
Neonatal

ASSESSMENT AND TREATMENT OF NEWBORNS WITH JAUNDICE ADMITTED FROM HOME

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Aims: This audit aimed to evaluate adherence to local guidelines for the assessment and treatment of neonatal jaundice in newborns admitted from home, and to identify additional risk factors associated with neonatal jaundice.
Methods: A retrospective chart review was conducted over one year (January 2021 to December 2021). Data from 33 neonates admitted with jaundice were analysed, focusing on gestational age, mode of delivery, feeding type, serum bilirubin (SBR) measurement, and treatment.
Results: Among the 33 neonates, 45% (n=15) were term and 54% (n=18) were preterm. The majority (55%) were males, and 40% received a combined feed at discharge. Most neonates were discharged by day of life (DOL) 2 and readmitted by DOL 5, with two-thirds presenting with jaundice and one-third with poor feeding. BHUTANI risk stratification at discharge showed that 36% of babies were in the high intermediate risk (HIR) category, and 3% in the high-risk (HR) group, yet SBR was measured in only 33% of HIR and none of the HR neonates. All readmitted babies required phototherapy, with 36% receiving top-up feeds.
Conclusion: The assessment of jaundice in newborns aligned with local guidelines, and risk factors were well documented. However, there is a need for improved SBR measurement in HIR and HR infants, and a more cautious discharge strategy for neonates at higher risk of jaundice to reduce readmission rates.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 142
Neonatal

Audit and re-audit on delayed cord clamping practices in caesarean sections at St Luke's General Hospital

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Background: While attending the elective and emergency c-sections at the hospital it was noted that the evidence based practice of delayed cord clamping was not being done despite the neonates being vigorous, term and not requiring resuscitation. Delayed cord clamping has multiple benefits for term and preterm infants and should be standard practice.

Methods: A list was kept by the paediatric NCHDs attending c-sections over a period of one month, without the knowledge of the midwifery team or the obstetricians. This list kept record of the indication for c-section, APGARS, date, whether delyaed cord clamping of 30 seconds was done and if resuscitation was required. This was used for the reaudit with the difference of no blinding between the departments.

Results: In the first audit a total of 20 caesarian sections were captured of 45 of the time period. 19 of these documented to be born vigorous. All had APGARS of 9+10. None required resuscitation. 8 were emergency c-sections, one unknown and the rest elective. Delayed cord clamping was performed in 3.
Reaudit A total of 19 cases were recorded. 16 were recorded to be vigorous at birth, 3 undocumented. 1 required resuscitation, 3 undocumented. 4 emergency c-sections, one unknown the rest elective. 12 had delayed cord clamping, 3 unknown. One had an APGAR of 6 and 8, 3 unknown, the rest had APGARS of 8/9 and 10.

Conclusions: delayed cord clamping was not being practiced during c-sections be they elective/emergency even though most of the neonates would have qualified. Once the data was presented and interventions implemented practices started to improve.

American Academy of Pediatrics . (2022). Textbook of Neonatal Resuscitation . United states of America : American Heart Association . Purish, S. E. (2019). Effect of delayed vs immediate umbilical cord clamping on maternal blood loss in term caesarian delivery. A Randomized clinical trial. JAMA, 1869-1876.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 143
Neonatal

SEE THE LIGHT, SEE THE DANGER: A CASE STUDY OF AN IATROGENIC BURN ARISING FROM A COLD LIGHT TRANSILLUMINATOR

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Aims:
To highlight the dangers of defective medical equipment by describing the case of a premature infant who sustained an iatrogenic burn from a cold-light transilluminator whilst undergoing intravenous cannulation.

Methods:
Description of case presentation, management and literature review.

Results:
A male infant was delivered at 32^{+0}/40 in a tertiary maternity hospital following spontaneous onset of labour. He was admitted to the neonatal unit in view of prematurity and low birth weight (1.72kg). He briefly required Continuous Positive Airway Pressure for management of Respiratory Distress Syndrome. An incidental discovery of an abnormal calcium on blood gas monitoring of bilirubin prompted serial bloods to be taken for analysis. On day of life (DOL) 21, intravenous cannulation was undertaken with the assistance of a cold-light transilluminator. The transilluminator probe remained in contact with the surface of the right palm for approximately 60 seconds. Upon its removal, a small erythematous area on the skin surface was noted with associated blistering. This was in keeping with a superficial partial-thickness burn (approximately 0.4% Total Surface Body Area). The wound was treated with cool running water for 10 minutes and dressed. Appropriate analgesia was administered and plastic surgery contacted for review. The probe of the transilluminator was tested by Clinical Engineering and found to reach a temperature of 80°C. All such devices were immediately removed for testing and the manufacturer contacted. The baby was discharged home on DOL 22 and followed up in outpatient clinic, and has since made a good recovery. There are reports of burns occurring in such a manner in the published literature, however these are rare[1, 2, 3].

Conclusions:
Transilluminator devices are a useful adjunct in paediatric and neonatal settings[4]. Recognition of the potential for such devices to be faulty and the necessity for regular testing of equipment used in a clinical setting is essential for patient safety.

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 144
Neonatal

Re Audit Of MRI Timings In Cooled Infants With Hypoxia Ischemic Encephalopathy

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Background
Perinatal asphyxia, leading to hypoxic-ischemic encephalopathy (HIE), is a significant cause of neonatal brain injury. Therapeutic hypothermia (TH) is the standard treatment, but determining the optimal timing for MRI post-TH is crucial for accurate diagnosis and prognosis. This audit aimed to evaluate current MRI timing practices in our department and compare them to established guidelines and a previous audit conducted in 2015/16.

Methods
A retrospective audit was performed at Rotunda Hospital, reviewing infants with HIE treated with TH between January 1st, 2022, and June 30th, 2023. Seventeen cases were identified from the neonatal neurology database. Clinical case notes were examined using the hospital's electronic chart system (MNCMS), including MRI reports. The audit compared MRI timing practices with guidelines from the British Association of Perinatal Medicine (BAPM) and the Newborn Brain Society, and results were compared to the 2015/16 audit. Data were analyzed using Microsoft Excel.

Results
Out of the 17 neonates with suspected HIE, 14 underwent therapeutic hypothermia and had MRI brain imaging. Two babies were excluded due to contraindications to TH, and two died before MRI could be performed. MRI timing ranged from day 5 to day 16, with a median of day 7 and a mean of 6.5 days. Seventy-one percent (10/14) had MRI between days 5-7, while 21% (3/14) were scanned on days 8-9. One baby underwent MRI on day 16 due to clinical instability. Compared to the previous audit, adherence to the recommended MRI timing improved from 60% to 78.5%, though 21% of scans were delayed due to logistical challenges, such as limited MRI scanner availability and lack of weekend services.

Conclusion
The audit showed improved MRI timing adherence in our department, but logistical factors continue to contribute to suboptimal timing in some cases. Addressing these barriers could further enhance diagnostic accuracy and clinical outcomes in HIE management.

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Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 145
Neonatal

CONGENITAL BOUTONNIERE DEFORMITY, SYNDACTYLY, AND FACIAL DYSMORPHISM IN A NEONATE WITH INTRAUTERINE GROWTH RESTRICTION: A CASE REPORT

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Introduction: Boutonniere deformity, characterized by flexion of the proximal interphalangeal (PIP) joints and hyperextension of the distal interphalangeal (DIP) joints, is rarely seen in neonates, especially with other congenital anomalies. This case report describes a newborn male with bilateral boutonniere deformities, syndactyly of the second and third toes, facial dysmorphism, intrauterine growth restriction (IUGR), failure to thrive, and developmental delay.

Case Report: The infant was born at 37 weeks gestation via emergency C-section due to a non-reassuring cardiotocography (CTG). The mother, aged 36, had a pregnancy complicated by IUGR. The baby weighed 2.1 kg (<10th percentile). Physical examination revealed bilateral boutonniere deformities in the hands and syndactyly of the second and third toes. Additionally, the infant showed facial dysmorphism, including micrognathia and a triangular face. No other anomalies were noted, though the mother had syndactyly of the second and third toes. There was no family history of other congenital deformities.

Postnatal investigations, including cranial ultrasound, MRI, metabolic workup, baseline blood tests, and genetic microarray, were normal with no syndromic or metabolic conditions identified. The infant was referred to orthopedic, plastic surgery, and genetic specialists for evaluation.

Management and Outcome: Conservative management with physiotherapy was initiated. Hand function improved with early intervention, and follow-up at six months showed progress in joint mobility. Potential surgical correction for toe syndactyly was considered for a later stage.

Conclusion: This case demonstrates a rare presentation of congenital boutonniere deformity and syndactyly in a neonate with IUGR and facial dysmorphism. Early multidisciplinary intervention is essential for optimizing functional outcomes and improving quality of life.

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 146
Neonatal

EXTREME PREMATURITY COMPLICATED BY LIFE-THREATENING ENTEROBACTER CLOACAE PNEUMONIA IN A 25+5 WEEKS INFANT: A CASE REPORT

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Introduction: This case report describes a premature infant born at 25+5 weeks gestation, weighing 790 grams, who developed life-threatening pneumonia shortly after birth. The baby was delivered via emergency C-section due to threatened preterm labor, chorioamnionitis, placenta previa, and breech presentation.

Case Report: The infant was born to a healthy mother with a complicated pregnancy, including placenta previa and chorioamnionitis. The baby was delivered at 25+5 weeks gestation and weighed 790 grams at birth. The newborn was intubated in the delivery room and received one dose of surfactant before being extubated to continuous positive airway pressure (CPAP) at 17 hours of life.

On day 3 of life, the infant developed life-threatening pneumonia caused by Enterobacter cloacae, a pathogen sensitive to meropenem. The baby was started on broad-spectrum antibiotics, including meropenem, and required high-frequency oscillatory ventilation (HFOV) with inhaled nitric oxide (iNO) support. Additionally, a Dexamethasone Respiratory Therapy (DART) regimen was initiated to manage severe respiratory distress.

Serial cranial ultrasounds showed no signs of intraventricular hemorrhage or periventricular leukomalacia. A small patent ductus arteriosus (PDA) was noted on an echocardiogram, but it resolved without requiring intervention. The baby's respiratory status improved, and the infant was weaned back to CPAP with the addition of a budesonide inhalation course followed by a diuretic course to support pulmonary function.

Outcome: The infant's condition stabilized following intensive respiratory and antibiotic therapy. The pneumonia resolved, and the baby was able to maintain respiratory stability on CPAP. The small PDA closed spontaneously, and the infant continued to grow and develop appropriately for gestational age.

Conclusion: This case illustrates the challenges of managing extreme prematurity complicated by life-threatening pneumonia. Early, aggressive intervention with broad-spectrum antibiotics and respiratory support is critical for survival in these fragile infants.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 147
Sub-Specialty

MOVEMENT DISORDERS IN AUTOIMMUNE DISEASES: A CASE SERIES

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AIMS:
This case series aims to highlight the occurrence of movement disorders as manifestations of autoimmune diseases in paediatric patients, emphasizing the need for awareness and timely diagnosis.
METHODS:
We present two cases of adolescent girls who exhibited distinct movement disorders associated with underlying autoimmune conditions. Case 1 involves a 13 year old girl with chorea, diagnosed with antiphospholipid syndrome and possible Sjogren's syndrome. Case 2 features a 15 year old girl presenting with a generalized tremor, generalized tonic-clonic seizures and behavioural changes, ultimately diagnosed with Steroid-responsive encephalopathy associated with autoimmune thyroiditis (SREAT), also known as Hashimoto's encephalopathy.
RESULTS:
In the first case the patient tested positive for cardiolipin Antibodies, B2 glycoprotein I antibodies and Anti-Ro antibodies. Furthermore, her connective tissue screen and lupus anticoagulant were positive. This confirmed the diagnosis of antiphospholipid syndrome and possible Sjogren's syndrome. Following therapy with immunosuppressants the patient's choreiform movements drastically reduced and her functional status vastly improved. No further neurological deterioration was seen during follow up. In the second case the patient became encephalopathic with autoimmune dysfunction, she responded well to high dose intravenous methylprednisolone. Her thyroid peroxidase antibodies were significantly elevated and thyroid nodules were noted on imaging. All her symptoms resolved on thyroxine and steroids. These cases illustrate the diverse presentations of movement disorders in the context of autoimmune diseases.
CONCLUSION:
Movement disorders such as chorea and tremors can occur in children with autoimmune conditions. Recognizing these associations is crucial for effective management and treatment. Clinicians should consider autoimmune aetiologies in paediatric patients presenting with movement disorders to ensure timely and appropriate intervention.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 148
Sub-Specialty

FREQUENCY, DETECTION AND MANAGEMENT OF SCOLIOSIS IN CHILDREN WITH PRADER WILLI SYNDROME

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Prader Willi Syndrome (PWS) is a rare genetic neurodevelopmental condition typically associated with hyperphagia, weight gain and premature mortality largely due to extreme obesity. Scoliosis is a recognised feature of Prader Willi Syndrome noted to occur in over 40%, independent of growth hormone therapy treatment.

Aims:
To audit the frequency of scoliosis in a cohort of children with PWS. To explore the methods assessment and onward referral to orthopaedics where appropriate.

Methods:
Detailed retrospective chart review of patients attending a specialist paediatric PWS service was undertaken in September- October 2024. Clinical and radiological examination for scoliosis was assessed, as were age, sex, growth hormone status, timing of assessments and scoliosis management. Findings were compared against the 2024 PWS UK & Ireland consensus Scoliosis recommendations.

Results:
All 49 patients currently attending the service, aged 0.5 -14years (50% male), were evaluated. Scoliosis was detected in 33 patients (67%) which was clinically evident in 24 (72%) and confirmed radiologically. The remaining 9 (27%) were detected on radiological screening. Referral for orthopaedicassessment was completed for all 33 children, of whom 11 (33%) were awaiting review; 12 (36%) were undergoing active orthopaedic monitoring and a further 10 (30%) had undergone orthopaedic interventions including casting, bracing, or surgery (growing rods or posterior spinal fusion).

In 36 patients (73%), there was full compliance with the recommendations. In 8 cases less frequent radiological screening was undertaken and 4 (8.3%) had more frequent radiology than recommended. This was, due to monitoring of a mild spinal curvature prior to referral to orthopaedics when the Cobb angle had exceeded 10 degrees.

Conclusion:
Scoliosis is a common in children with PWS. Regular spinal examination coupled with radiological assessment is important for detection and subsequent management of scoliosis. However, the question arises as to whether the referral criteria may be refined given the number of cases which did not require orthopaedic intervention.

Shaikh, M.G. et al. (2024) 'Prader–willi syndrome: Guidance for children and transition into adulthood', Endocrine Connections, 13(8). doi:10.1530/ec-24-0091.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 149
Sub-Specialty

FREQUENCY, DETECTION AND MANAGEMENT OF SCOLIOSIS IN CHILDREN WITH PRADER WILLI SYNDROME

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Scoliosis is a common in children with PWS. Regular spinal examination coupled with radiological assessment is important for detection and subsequent management of scoliosis. However, the question arises as to whether the referral criteria may be refined given the number of cases which did not require orthopaedic intervention.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 150
Sub-Specialty

LITERATURE REVIEW OF PAPERS PUBLISHED BETWEEN 2014-2024 ON THE SAFETY AND EFFICACY OF SSRI'S FOR PAEDIATRIC AND ADOLESCENT PATIENTS WITH MAJOR DEPRESSIVE DISORDER

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Objective: To review literature published between 2014 and 2024 on the efficacy, safety and adverse effects of selective serotonin reuptake inhibitors (SSRI's) for the treatment of paediatric and adolescent major depressive disorder (MDD)

Background: SSRI's are in 2nd most common prescribed medication in the Irish Child and Adolescent mental health services and the first line pharmacotherapy for MDD (CAMHS, 2023). Despite this, there is significant controversy around their efficacy and safety. Between 2003 and 2005, the pharmacological safety and regulatory authorities put out warnings regarding the potential for increased suicidal thinking and behaviour on these drugs (Kondro, 2004).

Methods: A number of data bases including Glucksmann library database, PubMed, Science direct, Embase and Cochrane library were searched for studies using the terms ' Selective serotonin reuptake inhibitor / SSRI, Paediatric Or adolescent, Depression Or Major depressive disorder/ MDD'. Papers were also found by searching the references of other reviews and studies on the topic. Opinion pieces, descriptive articles, non- human studies and other literature reviews or systemic reviews were excluded. Studies were not excluded if they included adults over, as long as there was specific independent data relating to children and adolescents aged 0-20 years. New analysis of previously collected data published in the past 10 years was also included.

Inclusion criteria: Peer reviewed, English language, human studies and reports published between 2014 and 2024 on the efficacy or adverse effects of SSRI's on patients with primary MDD between the ages of 0- 20.

Exclusion criteria*:* Opinion pieces, descriptive articles, non- human studies, secondary depression, comorbid serious psychiatric illness (bipolar disorder, schizophrenia, personality disorders).

Results:

The efficacy of SSRI's was established 20 years ago with the landmark TORIDA and TADS studies. In the past 10 years, 2 new studies have taken place and this data has been re-examined using baysein hierarchical analysis, confirming these findings, and establishing SSRI's + CBT as the gold standard of treatment. These findings are being built on by new studies into the genetic and biological factors which identify how these drugs are effective, and what causes a good response in some patients and no response in others. Areas of research include the CYP2C19 gene as studies by (Aldrich , et al., 2019) , TPH2 poly morphisms as described by Gasso, et al., 2017 and the impact of cytokine levels to depression as examined by (Amitai, et al., 2016) (Amitai , et al., 2020). Despite their wide spread use, controversy surrounds SSRI's in paediatric patients due to the black-box warnings for increased risk of suicidality issued in the early 2000's. This author found conflicting studies on this. Lagerberg, et al., 2021 found that suicidal thoughts behaviour peaked in the month before intitiating SSRI's and decreased following initiation. Other studies confirmed the presence of suicidality in some paediatric patients following initiation of SSRI's, but causality could not be established due to a lack of control patients and control of environmental factors (Cooper , et al., 2014) (Thomas , et al., 2024) (Dubrall , et al., 2023). The highest risk appear to be adolescent males (Pagan Colon, et al., 2022). Finally this review examined the physical side effects of SSRI's including weight gain, decreased bone density and change in serum lipid, glucose and cholesterol levels (Calarge , et al., 2017) (Calarge , et al., 2018) (Schapir, et al., 2018) (Feuer , et al., 2015). The studies reviewed found a positive correlation between BMI and SSRI use and a negative correlation between Bone density, height and SSRI use. In conclusion, SSRI's have potential to improve MDD in paediatric and adolescent patients and exciting advances are happening in terms of treatment individualisation.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 151
Sub-Specialty

Asesing the utility of an extended-hours Child Life Therapy programme in the Paediatric Emergency Department.

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Aims
Child life therapists (CLT) are valued healthcare professionals who support children in hospital by engaging, educating, and empowering [1] them on their healthcare journey. Within our centre, CLT has previously been used for scheduled and inpatient care but their role in the emergency department (ED) is less established [2]. In 2024, Royal Children's Hospital ED commenced an extended hours CLT service to support the care needs of children attending the hospital for unscheduled care. This project aims to examine the utility of this service by capturing clinician and consumer opinion surveys and referral demographics captured through the electronic medical record (EMR).

Methods
Referral were captured through the EMR over a six-month period. Consumer and clinician surveys were anonymously collected using RedCap ™ survey tool.

Results
150 consumer surveys were completed and 57 clinician surveys. Demographics revealed that preschool and primary-school-aged children were most referred to CLT. 13.5% of those referred to CLT were diagnosed with one or more of ADHD/ASD/intellectual disability. 67.75% of referrals made were for procedural support.

69.33% of those surveyed reported their child experienced 'much less distress' than they previously experienced in hospital or than was anticipated. 70% reported 'much less worry' experienced by their child with the support of CLT.

Of interest, 56% of clinicians responded that the involvement of CLT ensured their patient 'avoided sedation completely' for the planned procedure. 15.7% stated that sedation was 'decreased/reduced' with the presence of CLT, compared to what had been planned for the patient prior to CLT intervention.

Conclusion
CLT has greatly benefitted children in ED from a psychosocial perspective and in reducing sedation requirements for procedures. Clinicians reported procedures were quicker with the support of CLT. Further study is needed into the cost-benefit of CLT and the potential to improved workflow and reduction in pharmacological sedation given their support.

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Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 152
Sub-Specialty

MUSIC THERAPY PROVIDES FAMILY-CENTRED CARE TO ENHANCE QUALITY OF LIFE FOR PAEDIATRIC PALLIATIVE CARE PATIENTS. A SERVICE EVALUATION

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Background: Music therapy can help alleviate symptoms of palliative care patients, provide comfort and support to the client, their family, and friends, and lastly, provide dignity to face their end-of-life process (Ramesh, 2024). Informed by family-centred and strengths/resource-oriented theoretical frameworks, music therapy enhances quality of life (QOL) in the acute hospital setting.

Aims : To evaluate parent/ caregiver and staff feedback on the application of music therapy as care for palliative patients and their caregivers.

Methods : An anonymous mixed-methods questionnaire about the experience and effect of the Music Therapy session was distributed post sessions to parents/caregivers and staff members who observed or participated in music therapy sessions. Data was analysed using Microsoft excel.

Results: From nineteen parent/caregiver responses, 95% strongly agreed, 6% agreed that their child responded positively to music therapy. 94% strongly agreed, 6% agreed that music therapy helped their child when they were in hospital. “The sessions are a wonderful sensory experience for my baby. It is a huge comfort to me that he gets these sessions. They have supported his development and normalised the hospital experience”.

From thirty-one staff responses, 94% strongly agreed, 6% agreed that music therapy is a uniquely appropriate therapy for QOL in palliative care “The break from the clinical aspect of care is worth its weight in gold” “Seeing the benefit for the family unit and promoting involvement of the family in a fun activity to do together and making memories”

Conclusion: Parents, caregivers and staff members of paediatric palliative care patients agree that music therapy enhances quality of life and the hospital experience for children and their families.

Ramesh B. Role of Music Therapy in Palliative Care—Methods and Techniques. Journal of Palliative Care. 2024 Feb 25:08258597241235110

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May 29th, 2025

Poster No. 153
Sub-Specialty

EXPLORING THE IMPACT OF INSULIN PUMP THERAPY ON BODY MASS INDEX AND GLYCEMIC CONTROL IN CHILDREN WITH TYPE 1 DIABETES

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Aim:This retrospective study aimed to evaluate changes in body mass index (BMI) and haemoglobin A1c (HbA1c) levels among children and adolescents with type 1 diabetes Mellitus (T1DM) who transitioned from multiple daily injections (MDI) to insulin pump therapy over one year.
Methods: Data were collected from 33 T1DM patients attending University Hospital Waterford OPD, with BMI z-scores calculated using WHO charts. HbA1c levels were recorded at pump initiation, 6 months, and 1 year thereafter. HbA1c and BMI changes were evaluated using paired t-tests for BMI z-scores and HbA1c levels.

Results:Mean HbA1c at pump start was 7.81% (7.49-8.12). HbA1c levels significantly improved at both 6 months 7.41% (7.13 – 7.68), p=0.0068 and 1 year 7.42% (7.128-7.72), p=0.009 compared to baseline.
BMI z-score at pump start was 0.65 (0.24 - 1.06). While a trend towards weight gain was noted at 6 months (BMI Z-score 0.76, 95% CI 0.451-1.264) p=0.097; no significant difference in BMI was noted 12 months post pump start (BMI Z-score 0.73, CI 0.34 - 1.12), p=0.377.

Conclusion: Insulin pump therapy significantly improved glycaemic control within 6 months and maintained this improvement at 1-year post-initiation. However, there was no significant change in BMI z-scores over the same period. These findings underscore the effectiveness of insulin pumps in managing glycaemic levels in young patients with T1DM, despite no observed impact on BMI after one year.

Keywords: Body mass index; haemoglobin A1c; insulin pump; type 1 diabetes mellitus
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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 154
Sub-Specialty

AN AUDIT ON RATES OF TIMELY PRE-PROCEDURAL BLOOD TESTING AND VARICEAL LIGATION IN PATIENTS UNDERGOING OESOPHAGOGASTRODUODENOSCOPY FOR VARICEAL SURVEILLANCE

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Aims

Children with portal hypertension undergo elective oesophagogastroduodenoscopy (OGD) with endoscopic variceal ligation (EVL) as primary or secondary prevention of oesophageal variceal bleeding [1,2,3]. As EVL carries a risk of bleeding [4], full blood count (FBC), coagulation studies and Group&Hold (G&H) must be sent pre-procedure [3]. Patients are admitted as inpatients the night before. Anecdotally, our service were noticing that many patients did not have blood results available by theatre start time. In addition, pressure on inpatient beds resulted in frequent cancellation of patients scheduled for OGD ± EVL.
Our primary objective was to assess what proportion of children admitted as inpatients for OGD ± EVL have had the appropriate investigations done before 7 am on the day of the procedure. The secondary objective was to assess how many of these patients underwent EVL, thus requiring inpatient admission that night for observation.

Methods

Data was collected retrospectively using the Gastroenterology Endoscopy Book to identify patients admitted electively for OGD ± EVL from November 2022 to October 2023. The WardEnquiry and iPMS systems were used for timing of blood collection, and to record overnight admissions.

Results

28 OGD ± EVL were performed during the 12-month period. The rates of timely blood testing were: FBC 20/28 (71.4%), coagulation studies 19/28 (67.9%), and G&H 13/28 (46.4%). 6 patients had EVL, thus requiring overnight admission; 22/28 patients were discharged on day of OGD.

Conclusion

A majority of patients have not had all pre-procedure blood tests by 7 am, despite being admitted the previous evening. Only 6/28 (21.4%) cases underwent EVL. Based on this, in agreement with Patient Flow, patients are now being admitted as day cases with bloods performed on the morning of procedure. We will re-audit our findings to identify theatre delays and number of patients requiring inpatient admission.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 155
Sub-Specialty

CATCHING WAVES - A RETROSPECTIVE REVIEW OF PAEDIATRIC ECG REFERRALS

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BACKGROUND / INTRODUCTION

Electrocardiography (ECG) remains a key investigation in the acute cardiac assessment of paediatric patients. Despite the implementation of a standardised proforma, interpretation skills remain variable amongst paediatricians. Consequentially, a substantial volume of referrals is generated for specialist interpretation.

AIMS / OBJECTIVES

To review ECG referrals made to the tertiary paediatric cardiology centre in the Republic of Ireland.

METHODS

We performed a full review of the ECG referral email database, over a 6-week period, between the 8th of July and 18th of August 2024. Variables of interest included the referring centre, patient demographics, completion of proforma, indication for ECG, suspected abnormality and referral outcome.

RESULTS

130 ECG referrals were identified. Neonates comprised the most frequently referred group at 12.3% (16/130). 89/130 (68.5%) of referred ECGs were within normal limits. In 40/130 (30.7%) of cases, the referral did not reference the suspected ECG abnormality. Of the 41/130 (31.5%) abnormal cases, the most frequently identified abnormalities included prolonged QT interval (n=4, 3%), left ventricular hypertrophy (n=4, 3%) and premature ventricular complexes (n=4, 3%). As many of the findings represented transient neonatal findings, outpatient cardiology reviews were required in only 12/130 (9.2%) and 2 children (1.5%) required inpatient transfers. The lowest number of referrals came from centres where there is a Paediatrician with Expertise in Cardiology (PEC) in the department. A large proportion of referrals had missing quality indicators such as patient contact details and referrer contact details, making feedback regarding normal and abnormal cases challenging.

CONCLUSION

Paediatric ECG interpretation remains inconsistent across centres, however, in just under one third of cases, there was an abnormality detected that required, at minimum, a follow up ECG. Formal training in paediatric ECG analysis and support from PEC physicians would ameliorate this issue.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 156
Sub-Specialty

EXAMINING STAFF EXPERIENCES IN PEDIATRIC CRITICAL CARE USING THE “MAD-SAD-GLAD” WELL-BEING INTERVENTION: A SINGLE-CENTER’SEXPERICE OF A NATIONAL COLLABORATION.

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Aims:Healthcare staff working in Paediatric Critical Care Units (PCCUs) are frequently exposed to emotionally and physically demanding situations, including high patient mortality and stress from limited resources. This study aimed to assess the effectiveness of the "Mad-Sad-Glad" (MSG) reflective wellbeing intervention in providing an outlet for staff to share their emotional experiences, promote team cohesion, and identify recurring workplace issues that impact staff wellbeing.

Methods:The MSG wellbeing intervention was implemented, as part of the SWell national collaborative project, in a single centre in Glasgow over six months. A total of seven MSG sessions were conducted with 42 participants from various healthcare professions. During each session, participants reflected on recent events that made them feel "mad," "sad," or "glad," and their responses were categorised thematically. Participant engagement was also graded, and recurring themes wereidentified to address potential areas for intervention. Descriptive analysis was applied to summarise participation rates and thematic content.

Results:Staffing shortages and lack of resources were the most frequent themes in the "mad" category, noted across all seven sessions. Issues of professional respect and communication difficulties also emerged repeatedly. "Sad" responses frequently focused on difficult patient and family interactions, as well as a lack of professional support and training opportunities. Conversely, "glad" responses were dominated by positive reflections on teamwork, job satisfaction, and patient recovery. The "glad" category produced the highest number of responses, demonstrating the importance of camaraderie in boosting morale.

Conclusion:The MSG interventionprovided valuable insights into the emotional wellbeing of PCCU staff, highlighting recurrent concerns that couldbenefit from targeted interventions. This studydemonstrates the potential for structured reflective practices to foster emotional resilience, improve team dynamics, andidentify workplace issues in critical care settings.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 157
Sub-Specialty

REVIEWING THE DIAGNOSIS OF VON WILLEBRAND DISEASE USING NEW LABORATORY TESTS AND RECENT CONSENSUS GUIDELINES IN PAEDIATRIC PATIENTS ATTENDING THE PAEDIATRIC COAGULATION CENTRE AT CHI CRUMLIN

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Introduction: Von Willebrand disease (VWD) is a common bleeding disorder. Recent guidelines for the diagnosis of VWD recommend the use of newer assays to measure the platelet binding activity of VWF (VWF: GP1b assay) (1). The VWF: RCo assay has lower reproducibility and increased false positive rates in comparison to the VWF: GP1b assay (2). The D1472H polymorphism in the *VWF* gene can be associated with artificially low VWF: RCo results.
This audit aims to re- assess the diagnosis and classification of paediatric patients with low VWF in line with recent guidelines using the VWF: GP1b assay and genetic tests for D1472H polymorphism, identifying patients who would benefit from use of these tests.
Methodology: All patients registered with low VWF were identified and analysed using the national haematology register/electronic patient record (nhl.indici.ie) and the laboratory results portal. Data collected included age, gender, reason for referral, FVIII, VWF: Ag, VWF: RCo, VWF: CB, VWF: GP1bM and *VWF* gene D1472H polymorphism. Patients with VWF: RCo/VWF: Ag ratio <0.7 and/or those with an isolated low VWF: RCo were identified for further assessment.
Results: 403 patients were identified as having low VWF. 139 patients had a VWF: RCo/VWF: Ag ratio of <0.7. Amongst the remaining patients, 82 had an isolated low VWF: RCo result. This audit identified 221 patients who would benefit from further analysis to confirm or change their diagnosis. Of 47 patients who have currently received further testing, 25 have been discharged, with 13 patients retaining the diagnosis of low VWF. 8 patients have changed thier diagnosis to possible beleding diosrder or blleding disorder of unknown aetiology.
Discussion/ Conclusion: This audit has identified a large group of patients needing reassessment of their diagnosis. This will result in many patients being discharged or receiving a change in diagnosis. This significantly impacts patient quality of life and reduces the workload of the haematology service.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 158
Sub-Specialty

SMITH-KINGSMORE SYNDROME: CASE SERIES OF THREE *MTOR* VARIANTS AND EXPANSION OF THE PHENOTYPE INCLUDING STROKE

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Smith-Kingsmore syndrome (SKS) is an ultrarare genetic disorder caused by pathogenic gain-of-function heterozygous variants in the *MTOR* gene. SKS is characterised by macrocephaly, epilepsy, developmental delay, dysmorphic craniofacial and skeletal abnormalities.

We describe 3 unrelated females with SKS due to *de novo MTOR* variants, and unusual novel features.
Individual 1 presented with pre-natal cardiomegaly, macrosomia and macrocephaly. By early childhood, she was profoundly delayed and had characteristic clinical features of SKS (frontal bossing, hypertelorism, café-au-lait spots, intermittent breakthrough seizures and ventriculomegaly (mild) on MRI. Trio exome identified novel *MTOR* variant p.Ser2215Thr.

Individual 2 was born at 34+5 weeks gestation, with congenital macrocephaly. She required supplemental respiratory support from birth. On day 2, she developed neonatal seizures treated. MRI brain showed acute left MCA infarct, managed conservatively. MRI also showed posterior callosal dysgenesis, ventriculomegaly and right frontal cortical malformation in keeping with SKS. She developed hyperinsulinemic hypoglycaemia requiring diazoxide. VSD, ASD and respiratory complications (supplemental oxygen until 7 weeks, OSA and laryngomalacia) were noted. Trio exome revealed *MTOR* variant pGlu2419Lys.

Individual 3, born at 35 weeks gestation presented with macrosomia, macrocephaly, ventriculomegaly, partial callosal agenesis and cardiac anomalies. Overgrowth gene panel revealed *MTOR* variant p.Thr1977Ile. At age 2 years she developed status epilepticus and ventilator dependence, and was found to have diffuse alveolar haemorrhages, multifocal cerebral infarcts (MRI) and cerebral vasculitis [proximal narrowing of ACAs, MCAs, PCAs) and labs positive for c-ANCA (1:80), ANA (1:640), anti-Histone (11.7), anti-dsDNA, and ENA]. She was treated with steroids, rituximab, and sirolimus (mTOR inhibitor). Sirolimus is continued indefinitely for activating *MTOR* variant, with excellent seizure control.

This case series describes unusual novel features of SKS including stroke, diffuse and CNS vasculitis, while also adding to its molecular spectrum. It raises interesting questions about disease pathways involved in *MTOR*-related SKS, and empiric use of precision therapy.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 159
Sub-Specialty

Management of Congenital Thoracic Malformations at Children's Health Ireland Crumlin: An audit of 2017 guidelines.

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Aim: To assess management of asymptomatic Congenital thoracic malformations at Children's Health Ireland (CHI) Crumlin since the introduction of National guidelines in 2017.
Congenital Thoracic Malformations (CTM) are rare with Congenital pulmonary airway malformation (CPAM) being the most common type. Other malformations include pulmonary sequestration (PS), bronchogenic cysts and congenital lobar emphysema (CLE). CTMs are increasingly detected antenatally with enhancements in antenatal screening.[1, 2] The management of symptomatic neonates is predominantly surgical. There is insufficient evidence as to the optimal management of asymptomatic CTMs. [3] A guideline was established in CHI in 2017 to standardise management of asymptomatic cardiothoracic malformations based on best available research.

Methods: Patients were identified from the CHI Crumlin Cardiothoracic and Respiratory database from January 2017 to December 2023. Study entry required an antenatal imaging diagnosis or postnatal imaging diagnosis of CTM. Follow-up was reviewed up to July 2024 or to discharge from services.
Results: 66 patients were suitable for inclusion born after 2016. 57 (86%) had an antenatal diagnosis on foetal MRI or ultrasound. 18 (27%) of patients had surgical resection with no malignancy identified on histology. One patient died of sudden infant death syndrome with the remaining 47 (71%) managed on the conservative pathway.
65 (97%) patients obtained a contrast CT and one patient's parents declined further imaging or follow-up. All patients had discussion at multi-disciplinary meeting (MDM) to review imaging and determine ongoing management.
Conclusion: There remains a variation in clinical approach to management of asymptomatic congenital thoracic malformations both nationally and internationally.
The implementation this guideline has assisted with the standardisation of management and follow-up at CHI Crumlin for patients diagnosed with asymptomatic CTM. Research into the optimal management of CTMs is required to support and implement a robust evidence based approach.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 160
Sub-Specialty

HOW READABLE ARE THE "PATIENT INFORMATION LEAFLETS" PROVIDED TO CARERS OF PAEDIATRIC PATIENTS IN ACUTE CARE?

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Introduction

The delivery of safe acute care requires effective and sustained transfer of medical information. “Patient information leaflets (PILs)” are ubiquitous in the clinical setting. PILs help bridge the gap, ensuring that carers and sometimes paediatric patients have a clear understanding of their treatments. This information must be considerate of the varying degrees of literacy. We assessed the readability of PILs in the Children’s Health Ireland (CHI) Department of Paediatric Emergency Medicine.

Methods

Four online readability tools were utilised to score 65 PILs. An average score of readability was obtained for each PIL, where a “readability score” corresponds to the number of years of education required to understand the information. A “Flesch Reading Ease"(FRE) expresses ease of reading as a percentage, whereby higher scores indicate greater ease. A readability score of less than 6 is classified as “easy” and corresponds to primary education level of reading, 6 to 10 is considered moderate and corresponds to an education level equivalent to junior certificate and greater than10 is considered difficult corresponding to leaving certificate level education.

Results

65 PILs were analysed. The mean (±SD) number of words was 20975 (±13750) with a mean of 709 (±524) sentences. The mean number of words per sentence was 9.9 (±5.5). The mean readability score was 6.99 years (±2.2 years) with a mean FRE of 69.85% (±10.4%). Of these PILs, 22 (34%) were easy, 30 (46%) were moderate and 13 (20%) were difficult. The PILs classified as easy demonstrated a higher lexical density and lower average number of words per sentence.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 161
Sub-Specialty

A CLINICAL AUDIT TO IMPROVE REASSESSMENTS OF PAEDIATRIC PATIENTS IN REMOTE TELEMEDICINE SATELLITE CENTRES THROUGH TELEMEDICINE DEPARTMENTS OF CHILDLIFE FOUNDATION

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Aims and Objectives:
The objective of this clinical audit was to improve the reassessments after intervention and make sure 100% of patients that needed a second review were revaluated by doctors.

Method and Sample:
The study is designed by measuring the number of reassessments from October 2022 to January 2023 and improve the reassessments after intervention from February 2023 to May 2023. Admitted patients that were included in the audit are described in these two categories.
P1: Abnormality in Primary Assessment per PALS needing immediate intervention (appearance, breathing, or color).
P2: No immediate intervention but abnormal vitals or clinical condition needing reassessment or observation by Telemedicine physician.
Multiple physician and staff educational sessions with verbal presentation and bi weekly reminders were used.
The data of these variables was collected by staff nurses and added into an online SharePoint link shared by telemedicine physicians.

Results:
First Audit Cycle: October 2022 to January 2023: A total of 9,958 patients of category P1 and P2 were admitted. Only 50 patients were reassessed i.e. 0.51%.
Second Audit Cycle: February 2023 to May 2023: A total of 16,155 patients were in category P1 and P2 were admitted. This time 552 were reassessed i.e. 3.42%.
This is approximately a 7-fold rise in the number of admitted patients reassessed, thus improving the care of a greater number of patients and eventually leading to better prognosis and outcome.

Conclusion:
This clinical audit can improve patient care by re-auditing the same topic and developing quality improvement plans. It can serve as a pilot project for telemedicine care, leading to local guidelines on reassessment that could be replicated in other hospitals. Ultimately, a universal guideline on reassessment timing via telemedicine could be created after comprehensive literature research.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 162
Sub-Specialty

An audit of CHI Cervical Lymphadenopathy Guideline in Crumlin Emergency Department

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Aim:
The aim of this study was to evaluate the appropriateness and completion rates of blood tests and imaging studies in patients presenting with cervical lymphadenopathy. The objective was to assess compliance with current clinical guidelines and to identify potential areas for improvement in diagnostic efficiency and patient care.

Methods:
A retrospective analysis was conducted on patients presenting with cervical lymphadenopathy over a 6-month period at Pediatric Emergency of Children's Health Ireland Crumlin . Patient records were reviewed for demographic data, clinical presentation, and diagnostic tests performed. The appropriateness of blood tests (e.g. FBC, CRP LFT CMV EBV) and imaging studies (e.g., ultrasound, CXR) was assessed based on established clinical guidelines. Data on the completion rate of the blood tests and Ultrasound was collected.

Results:
Out of 40 patients with cervical lymphadenopathy, 20 met the criteria for Blood tests and 14 needed Ultrasound based on CHI clinical guidelines.
Serology For EBV and CMV was not performed in 65% of the cases where it was indicated. Ultrasound was not performed in 57% of cases where there was indication of imaging based on red flags. 2 patients had blood tests without indication, while 5 patients needed blood tests but were not performed

Conclusion:
The audit reveals suboptimal adherence to CHI clinical guidelines in the evaluation of cervical lymphadenopathy. These discrepancies highlight the need for targeted interventions, including clinician education, workflow optimization, and potential system-based changes to ensure that guideline-directed investigations are consistently followed. Addressing these gaps is crucial to improving diagnostic accuracy and patient care in cervical lymphadenopathy cases.We plan to present these audit findings at our departmental teaching and re-audit our practice in 6 months.

https://media.childrenshealthireland.ie/documents/Cervical-Lymphadenopathy.pdf

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 163
Sub-Specialty

SOCIOECONOMIC STATUS AND DIABETES CONTROL, MANAGEMENT AND COMPLICATIONS. THE EXPERIENCE OF THE UNIVERSITY HOSPITAL LIMERICK PAEDIATRIC DIABETES SERVICE

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Aims: To examine the association between multiple components of diabetes control and socio economic group in children and adolescents with diabetes in a single centre.
Method: Data is extracted from chart and admission record review of all patients currently under the active care of UHL paediatric diabetes service in 2024. Patient addresses were cross referenced with the 2022 Pobal HP Deprivation Index. A cohort analysis of diabetic ketoacidosis admissions, severe hypoglcyaemia, inclusion on the Hospital At Risk Program (HARP) list, type of treatment regimen was performed in addition to a panel analysis of HbA1c control and Glycaemic Time in Range (TIR)
Results: Data was assessed for 252 patients. The majority of patients (N=158 [62.6%]) were from below average socioeconomic areas. Those from below average areas had a relative risk of 2.52 (p=0.07 not significant) of a DKA in the last 12 months. A composite measure of complications (DKA, severe hypoglycaemia or HARP listing) showed a higher risk of complications in those from less affluent areas RR=1.35 (p=0.034). Patients from affluent areas had a marginally higher rate of insulin pump usage (44.2% v 52.7%) which was not statistically significant. Panel data regression did not show significant differences in HbA1c with socioeconomic status. Insulin pump therapy was associated with a 1.1% decrease in HbA1c ($p<0.001$) and a 20.7% increase in TIR metric ($p<0.001$). Continuous glucose monitoring was not associated with an improved HbA1c, though significant differences in TIR between models of CGMs were found.
Conclusions: Measures of average glycaemic control did not show a significant difference with socioeconomic status. Composite measured complication rates were higher for those from lower socioeconomic areas. Insulin pump therapy, independent of socioeconomic status, is associated improved HbA1c as well as time in range. This study will be extended to assess changes over time of control and complications.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 164
Sub-Specialty

BARRIERS TO SUCCESSFUL HOME PULSE OXIMETRY IN A PAEDIATRIC RESPIRATORY CENTRE: A PATIENT SURVEY

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Aim: Home pulse oximetry is typically the first line investigation for sleep disordered breathing (SDB) in children. These home-based studies are reliant on parents correctly applying a sensor beginning the study, potentially contributing to technically inadequate, non-diagnostic studies. A previous study has shown high rates of technically inadequate studies in addition to non-attendance. The aim of this study is to qualitatively assess the factors contributing to non-diagnostic studies.
Methods: A sample of non-diagnostic studies and non-arrivals were selected from February to June 2024 at UHL. Parents/guardians were contacted with a structured survey. Questions focused on non-attendance, subjective issues with the process and sought opinions on proposed improvements including instructional videos,
Results: Thirty two patients from the 'failed study' cohort and 16 from the 'DNA cohort' were contacted. Of the latter, 3 had a previous failed study and responded to both surveys. The response rate was 27 of 48 surveyed (56%). Non-attendance was attributed to non-receipt of an appointment letter for 60% (6/10). For failed studies, issues included sensors either falling off/loosening 35% (7/20) or being difficult to secure 30% (6/20). 30% (6/20) also felt uncertain if the pulse oximeter was even working due to the lack of real-time feedback. Of proposed changes, 80% (16/20) identified the provision of an instructional video or troubleshooting guide would be useful.
Conclusions: This survey of parents/guardians highlighted challenges contributing to failed studies, with equipment issues prevalent. There is scope to improve study success rates by addressing technical difficulties with securing sensors and provision of additional parental information. This study will inform further adjustments to policies in the provision of home pulse oximetry with the aim to improve diagnostic study rates and reduce waiting times.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 165
Sub-Specialty

A RARE CASE OF INFANT BOTULISM IN A 2-MONTH OLD: PUBLIC HEALTH RESPONSE

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Background

In September 2024, Department of Public Health Area C (Dublin & South East) were notified out-of-hours by a paediatrician in CHI Crumlin of a suspected case of infant botulism in a 9-week-old ex-term breastfed baby girl. She was being cared for by the neurology and infectious disease teams. The baby was given botulism antitoxin in PICU and specific immunoglobulin (BabyBIG) was urgently sourced from the Infant Botulism Treatment and Prevention Program, California, USA. BabyBIG arrived after three days and was administered. Neurotoxin B was isolated in a faecal sample confirming the diagnosis.

Methods

Two incident management team meetings were held to discuss the case. In conjunction with environmental health officers, Food Safety Authority of Ireland and the Health Products Regulatory Authority, *Clostridium botulinum* testing was carried out on honey (consumed by family members) and gripewater, probiotic and a soother dip (consumed by the baby) in Colindale Lab, UK. There was no history of animal exposure. One family member worked on a construction site.

Results

No samples have tested positive to date. One possible theory is that clothes from the construction site were contaminated with *C. botulinum* spores which were then accidentally ingested by the infant, leading to botulism infection. The baby responded very well to treatment and is expected to make a full recovery.

Conclusion

Due to infant botulism's rarity, there lacked clear guidance for on-call public health response, including method of sourcing BabyBIG from California. A summary document was developed following this case as an aide-mémoire for future episodes. A recommendation was made to Child Health Public Health to include information about risk of construction site clothing and infant illness on www.my-child.ie.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 166
Sub-Specialty

PHYSICAL ACTIVITY PROMOTION FOR YOUNG PEOPLE WITH TYE 1 DIABETES: A PILOT COMMUNITY BASED INITIATIVE

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Aim: The aim of this project was to provide support for children and familieswith Type I Diabetes (T1D) to participate in an established community-based fun run.

Methods: Eligible families were asked to complete a survey exploring their experiences and beliefs about physical activity participation. Prior to the fun run, families were provided with information about safe participation, diabetes management and nutrition. On the day of the fun run, a hypoglycaemia treatment stand was available. Additionally, medically trained chaperones were present to run with and support the young people before, during and after the run.

Results: 20 families with children with T1D participated in the event. The median age was 9 years (range 6-18 years). In response to the pre-participation survey, 70% (n=14) of participants reported fear of hypoglycemia as a barrier to participation in large scale activity events. 55% (n=11) reported co-participants or organisers not being aware of hypoglycemia signs as a barrier to taking part. 75% (n =15) of parents reported lack of facilities to support diabetes management

Conclusion: This initiative allowed young people to safely engage in PA through addressing some of the known barriers to participation (e.g. fear of hypoglycemia, lack of supervision, lack of diabetes management awareness).it is hoped that the experience of participating in the run will encourage further PA participation and empower families living with T1D to participate in community-based PA events.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 167
Sub-Specialty

INSIGHTS FROM CONTINUOUS GLUCOSE MONITORING ON PAEDIATRIC TYPE 1 DIABETES CONTROL AND COMPLICATIONS

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Aims: The widespread use of continuous glucose monitoring has seen the information available and obtained in the paediatric diabetes change markedly in the last few years. Studies outside of Ireland suggest that continuous glucose monitoring (CGM) facilitates improved rates of glycaemic control and reduced complication rates. The purpose of this study is to assess to what extent time in range (TIR) is associated with other measures of control and complications.
Method: Data from the most recent diabetes clinic proforma for 252 patients was assessed to determine CGM time in range (TIR), HbA1c, previous DKAs, episodes of severe hypoglycaemia. The type of CGM was recorded in addition to those who do not use CGM and instead primarily monitor using finger prick testing.
Results: HbA1c was significantly related to HbA1c with the model of best fit being an linear-log model (R^2=0.47) where a doubling of TIR (e.g. from 20% to 40% or 30% to 60%) leads to a drop in HbA1c of 1.09% ($p<0.0001$). Univariate Logistic regression predicts that a 10% rise in TIR is associated with a 27% drop in probability of DKA in the previous 12 months (p=0.03). There is no significant relationship between TIR and severe hypoglycaemia (p=0.96) potentially due to low reported numbers.
Conclusions: The overall data suggests that time in range is strongly related to HbA1c, the model best fit indicates diminishing (but still positive) improvements as TIR approaches 100%. Rates of DKA were negatively related to the time in range. Severe hypoglycaemia was so rare that no significant relationship could be found. This initial study will guide further data analysis using TIR on a time series as well as cross sectional basis to assess how TIR evolves over time, how it relates to overall control and complications.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 168
Sub-Specialty

NAVIGATING PAEDIATRIC NEPHROLOGY CONSULTS: ANALYZING REFERRAL PATTERNS AND CLINICAL DATA GAPS

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Aims: To analyze the presenting complaints and nephrology-related queries documented in a retrospectively collected database of non-consultant hospital doctor (NCHD) consultation using a previously developed consult proforma.

Method: As part of an ongoing audit, data were extracted from 50 proformas completed for internal and external consultations to the Children's Health Ireland (CHI) Crumlin Nephrology service over a 3-month period (July to September 2024). Information collected included referral source, presenting complaint, specific nephrology-related queries, availability of relevant clinical data and subsequent follow up. This study does not include consultant to consultant discussions.

Results: The most common reasons for consultation were elevated creatinine, haematuria, Haemolytic Uraemic Syndrome (HUS) and Urinary Tract Infections (UTI), each N=5 ([10%]). In total, 4(8%) required transfer to CHI Crumlin for further management. Of these HUS was the most common N=2 (50%). Three consults (6%) had to be redirected to other specialties e.g. urology for bladder stones or local microbiology for antibiotic advice. Regarding source of consult, N=23 (46%) was from within the CHI network (Crumlin and Tallaght). Regarding available relevant clinical information 38 (76%) had blood pressure measurement available at consultation and 36 (72%) had urine analysis results available,29(58%) had imaging performed prior to consultation.

Conclusions: This analysis highlights opportunities to optimize referral processes and develop targeted guidelines to support clinicians involved in the care of paediatric patients with renal conditions. Improving the availability of key initial data – such as blood pressure measurement, urine analysis results and renal imaging – can enhance the quality and timeliness of tertiary level consultations, ultimately contributing to better patient outcomes and streamlined management pathways.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 169
Sub-Specialty

A case of Mycoplasma-pnuemoniae induced rash (MIRM)

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Introduction: Mycoplasma pneumoniae is a significant cause of paediatric respiratory tract infections. One of the extra-pulmonary manifestations includes mucocutaneous eruptions like erythema multiforme, Steven-Johnson syndrome, and toxic epidermal necrolysis. [3,4]

Case A 14 ½ year old boy reported developing coryzal symptoms, which progressed to a cough and high grade temperature, along with diarrhea. 4 days later, his lips began to swell and blister, making it difficult to eat or drink. He eventually presented to hospital after a failed course of amoxicillin-clavulanate and worsening oral pain. On examination, his lips appeared raw with black discoloration, and dried blood surrounding mouth and nares. He also had a small papular rash at his right elbow, and a wet cough with poor inspiratory effort. He was given antibiotics and supportive therapy. He was reviewed by infectious diseases, dermatology, ophthalmology and dental teams. He was advised paraffin and mouthwash to facilitate healing. His symptoms gradually improved and he required a 6-day hospital stay. No long-term complications developed.

Results Viral work up was negative. Serological investigations revealed positive anti-M.pnuemoniae IgM and IgG, confirming the suspicion of MIRM. CXR showed opacification of the right middle lobe with opacification of the right heart border.

Discussion: Extra-pulmonary mycoplasma can present with prominent mucositis with minimal/absent cutaneous involvement, referred to as M.pnuemoniae-induced rash (MIRM), a specific term that was introduced by Canavan et al in 2015. [1,3] Having an awareness of MIRM cases will narrow down treatment options, as infection will be recognised as a causative factor rather than a drug-reaction. The term reactive infectious mucocutaneous eruption (RIME) is also being used to include other infective entities which cause similar findings.[3]

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 170
Sub-Specialty

TO ASCERTAIN THE INCIDENCE AND FEATURES OF HYPOCALCAEMIA IN HIGH INTENSITY TERTIARY CARE SETTING IN NEONATES

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AIMS
Investigation and management of hypocalcaemia is often heterogenous based on setting, severity and underlying pathology. We aim to review the presentation and outcomes of neonates with biochemically defined hypocalcaemia less than 4 weeks of age admitted to the heart centre or neonatal unit in CHI Crumlin.

METHODS
A retrospective review was undertaken of neonates who developed hypocalcaemia (serum calcium <2.15mmol/L) while admitted to CHI Crumlin between January 2022 and December 2023. Eligible patients were identified via HIPE and data was sourced from the paper healthcare records(HCR) and computerised laboratory results. Biochemical markers included renal and bone profile, parathyroid hormone (PTH), 25- hydroxyvitamin D (25-(OH)D) and paired spot urine calcium, phosphate and creatinine which were matched to demographics, radiology and genetics.

RESULTS
Twelve neonates with biochemical hypocalcaemia were identified but one was excluded due to insufficient data. Mean gestation and birth weight were 37.7 weeks and 2.9 kg respectively. Mean time to initial hypocalcaemia was 3.2 days postnatally (mean calcium 1.91mmol/L). PTH and 25(OH)D were collected on average 12 days post initial hypocalcaemia. Paired spot urine calcium and creatinine was only collected in 36.36%. Oral calcium (82%), one alpha (36%), vitamin D (72%) and IV calcium gluconate (63%) were all used to correct the hypocalcaemia. No side effects of treatment were reported. Only 1 neonate had a sufficient Vitamin D level (5 insufficient, 4 deficient, 1 not checked). Two thirds had an underlying genetic mutation most commonly DiGeorge syndrome. The average duration of hypocalcaemia was 13.3days.

CONCLUSION
Delayed completion of investigation from initial hypocalcaemia and variability in workup is challenging and may negatively impact patient management and outcome. An evidence-based local protocol is proposed to provide consistency and reduce time to diagnosis and length of treatment for patients.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 171
Sub-Specialty

A SIX MONTH REVIEW OF CASES PRESENTED AT A CLINICAL GENETICS MULTIDISCIPLINARY MEETING

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Background
Genomics multidisciplinary team meetings have been reported to improve collaboration between sub-specialists and genetic services, to facilitate genetic testing and support mainstreaming1. The Clinical Genetics Dysmorphology Meeting at CHI Crumlin is a weekly multidisciplinary meeting which was established for non-geneticist clinicians to present urgent patient cases for advice about genetic testing from consultant clinical geneticists. Cases are accepted from wide ranging medical subspecialties.
Aims:
• To investigate the number and origin of referrals to the Clinical Genetics Dysmorphology (D-MDT) meeting.
• To review the outcomes of the cases presented at the meeting.
• To evaluate the impact of the D-MDT meeting on patient diagnosis.
• To identify any aspects of the process which could be improved.
Methods
A Retrospective review of cases from the meeting over a six-month period from September 2023 to February 2024 was carried out. Reviewed data included case demographics, genetic testing advice and results, and patient pathway after presentation at the meeting. Data was analysed using descriptive statistics.
Results
Forty-two patient cases were presented during the 6 months (mean = 2 cases per meeting; range = 0–4 cases). Cases were presented by 9 medical subspecialties. Sixty-seven percent of cases were presented by neonatology (n=28), 17% were presented by general paediatrics (n=7). A single genetic test was advised in 76% of cases (n=32), with more than one genetic test advised for 12% (n=5). Over one third (37%) of cases presented by paediatric specialities at the D-MDT meeting obtain a molecular diagnosis on advised testing.
Conclusion
The results indicate that the meeting assists non-geneticist clinicians with the selection and ordering of appropriate genetic testing resulting in a more efficient and timely diagnosis for over a third of cases presented.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 172
Sub-Specialty

A QUALITY INITIATIVE TO SURVEY THE EXPERIENCES OF PARENTS OF CHILDREN WITH HAEMOPHILIA A, RECENTLY COMMENCED ON EMICIZUMAB

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Aims: Emicizumab was approved in Europe in 2018 as the first ever subcutaneous prophylactic treatment in adults and children with haemophilia A with or without inhibitors. A survey was conducted with parents to elicit feedback on their experiences with this treatment. The aim of the survey was to identify any issues and use this information to inform service planning and delivery.

Methods:A survey was developed asking participants to rate and comment on their experiences with Emicizumab its' benefits and challenges. 66 patients were identified for inclusion and their parents were invited to participate. The data was collated, comments were transcribed and a thematic analysis conducted to identify themes.

Results: There was a 50% response rate. Patients' ages ranged from infancy to adolescence. 64% (N=21) of participants rated using Emicizumab as easy, 27% (N=9) reported some difficulty and 9% (N= 3) reported moderate difficulty. All (N=33) participants rated Emicizumab between moderately and very beneficial. Thematic analysis of comments identified benefits and challenges with using Emicizumab. Reported benefits were; fewer injections, reduction in bleeds, reduction in frequency of treatment, reduction of hospital visits, subcutaneous (instead of intravenous) administration, positive impact for parents, ease of use, quicker to administer, life changing, less medicine when travelling. Reported challenges were; adjustment to treatment, child procedural distress, difficulties with dose administration, parent- child distress and stinging.

Conclusion: Despite reporting some challenges, all participants (N=33) regarded treatment with Emicizumab between moderately and very beneficial. Clinical implications include the development of supports for parents and children in relation to dose administration and procedural distress.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 173
Sub-Specialty

PERSISTENT DYSREGULATED INFLAMMATION IN CEREBRAL PALSY: A SYSTEMATIC REVIEW

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Background: Systemic inflammation in utero and in the neonatal period have been associated with CNS damage and the development of cerebral palsy (CP). Recent studies have demonstrated that this inflammatory state persists beyond the neonatal period and into childhood.

Aim: Our aim was to perform a systematic review assessing sustained inflammation in individuals with CP.
Methods: This systematic review was conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Studies published at the time of selection (February 2024) were extracted from databases: PUBMED, COCHRANE LIBRARY, EMBASE, SCIENCE DIRECT JoN, and OVID. The key words used were “cerebral palsy”, “persistent”, “long term”, “chronic”, “inflammation”, “immunity” and “innate”. The quality of evidence in each study was assessed using the Newcastle-Ottawa Scale (NOS).

Results: One thousand and sixty four studies were yielded using our search strategy and citation searching. Seventeen studies were subsequently included. A range of different samples were assessed in these studies, namely plasma, serum, whole blood, peripheral blood mononuclear cells, saliva, skeletal muscle and cerebrospinal fluid. Cytokines including Tumour Necrosis Factor-α, interleukin-1β, interleukin-6 and interleukin-10 were raised in CP when compared to age-matched controls. Children with CP had higher baseline levels of lymphoid cells such as γδ-T-cells, CD4-CD8-T cells and invariant natural killer cells, with lower levels of mucosal-associated invariant T-cells.

Conclusion: Sustained or persistent inflammation is associated with CP. A deeper understanding of the mechanism behind this persistent inflammation may allow development of predictive biomarkers to assess disease severity and new therapies targeting inflammation as a neuroprotection strategy.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 174
Sub-Specialty

NEONATAL RESPIRATORY DISTRESS,LATERALISING DEFECTS,LEFT ATRIAL ISOMERISM AND A DNAH11 VARIANT OF UNKNOWN SIGNIFICANCE,A CASE REPORT OF DIAGNOSTIC CHALLENGES IN PRIMARY CILIARY DYSKINESIA

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Aims:
This case report describes the clinical presentation, genetic findings, and diagnostic challenges of a neonate with respiratory distress and left atrial isomerism. It also highlights the difficulty of applying genetic testing alone in identifying DNAH11 pathogenic mutations, specifically a variant of unknown significance in a patient suspected of having primary ciliary dyskinesia.
Methods:
A full-term female neonate was delivered via elective C-section and developed respiratory distress shortly after birth, requiring mechanical ventilation. Clinical evaluations included echocardiography, imaging, and genetic testing. Nasal brushings were analysed for ciliary ultrastructure using transmission electron microscopy, and high-speed video microscopy was performed to assess ciliary function. Genetic testing was conducted to identify pathogenic mutations associated with primary ciliary dyskinesia.
Results:
Antenatal imaging identified abdominal situs inversus, and confirmed postnatally. Echocardiography revealed left atrial isomerism. Genetic testing identified a likely pathogenic DNAH11 gene mutation (c.13380_13387 duplication) and a variant of unknown significance (c.4096-3T>VUS). Transmission electron microscopy demonstrated normal ciliary ultrastructure, however, high-speed video microscopy revealed abnormal ciliary motion characterized by static and twitching cilia, consistent with a diagnosis of primary ciliary dyskinesia. The patient was referred to a tertiary diagnostic centre for further evaluation. RNA sequencing is pending to provide further diagnostic clarity.
Conclusion:
This case highlights the challenges of diagnosing primary ciliary dyskinesia, particularly in neonates with associated situs abnormalities. Genetic testing was crucial in identifying a compound heterozygous DNAH11 mutation, but confirmation of abnormal ciliary function through high-speed video microscopy was essential for diagnosis. The variant of unknown significance adds complexity and underscores the need for further genetic investigation/clinical correlation. This case emphasizes the importance of a multidisciplinary approach, combining clinical, genetic, and functional assessments to achieve an accurate diagnosis.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 175
Sub-Specialty

"DON'T TAKE MY BREATH AWAY" - A TALE OF SEVERE PRESCHOOL ASTHMA

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Background: Asthma is the most common chronic condition in childhood, affecting 14% of children worldwide. Symptoms typically begin during the preschool years and can lead to significant morbidity.
Case Study: A 2-year-old male was referred to the respiratory service at CHI following his first Peadiatric Intensive Care Unit (PICU) admission for acute severe asthma. The patient had a significant family history of asthma and atopy but no personal history of eczema or food allergies. Despite a stepwise escalation of asthma therapy, including inhaled corticosteroids (fluticasone) combined with a short-acting beta agonist (fluticasone), montelukast, and prophylactic azithromycin, the patient continued to experience recurrent exacerbations requiring hospital admissions. By his fourth PICU admission, his treatment included alternate-day oral steroids. Due to the severity of his condition and limited response to standard therapies, a trial of Dupilumab, an interleukin-4 (IL-4) receptor alpha antagonist, received institutional approval, despite being an unlicensed medication for preschool children.

Discussion: This case highlights the need for prescribing unlicensed asthma medications in severe preschool asthma to prevent life-threatening exacerbations. Given the lack of robust clinical data for this age group, respiratory specialists often rely on off-label prescribing, underscoring the urgent need for clinical trials to guide the safe and effective use of asthma medications in preschool children.
1. DOI: 10.1093/pch/20.7.353

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 176
Sub-Specialty

AN AUDIT OF COMPLIANCE WITH RECOMMENDED SCREENING FOR COMORBIDITIES AND COMPLICATIONS IN PATIENTS WITH TYPE 1 DIABETES MELLITUS (T1DM)

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Aims:
Children with T1DM are at increased risk for comorbid autoimmune conditions and the development of vascular complications. Autoimmune thyroid disease and coeliac disease are the most common autoimmune conditions to occur in this population. For this reason, national practice guidelines suggest biochemical screening for these conditions every two years[1]. Another important aspect of patient monitoring is screening for increased albuminuria, to reflect onset of vascular complications. International guidelines suggest monitoring urine annually from the age of 11 years in patients with 2 years diabetes duration[2]. We aimed to audit our services adherence with national and international recommendations on screening in our population of T1DM.

Methods:
A retrospective review was performed of all patients attending our diabetes service. We recorded whether patients had screening (for thyroid dysfunction, coeliac disease, hyperlipidaemia and microalbuminuria) performed as per age and duration of diabetes recommendations. Data was collected and analysed in Microsoft Excel. We then compared our data to existing guidelines to calculate compliance.

Results:
The records of all 380 patients with T1DM attending our service were reviewed. In our cohort, 96% of patients (n=366) had the recommended phlebotomy investigations (TFTs, IgA and TTG, lipid profile) performed in line with guidelines. However only 69% of eligible patients had two early morning urines for microalbuminuria in line with guidelines.

Conclusions:
We identified excellent compliance with recommended guidelines on screening for thyroid dysfunction, coeliac disease and hyperlipidaemia in patients with T1DM attending our clinic. We identified suboptimal compliance with guidelines for screening for microalbuminuria. The service will now identify the reasons for this gap, institute education where appropriate and re-audit in 2 years time.

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IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 177
Sub-Specialty

INCREASING ATTENDANCE RATES IN THE PAEDIATRIC INCLUSION HEALTH SERVICE AT UNIVERSITY OF LIMERICK HOSPITALS GROUP: A QUALITY IMPROVEMENT PROJECT

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Aims

Children from socially excluded and marginalised groups, such as those experiencing homelessness, or from migrant or minoritised ethnic communities, often face significant barriers in accessing healthcare services[1]. It is the responsibility of healthcare providers to identify these barriers and seek ways to overcome them.[2] A Paediatric Inclusion Health service has recently been established to provide targeted services to such children in the Mid-West. Attendance at scheduled appointments was initially noted to be low. The aim of this project was to increase attendance rates at Paediatric Inclusion Health services using quality improvement methodology.

Methods

This project utilised the Model for Improvement[3] to guide iterative interventions to improve attendance at Paediatric Inclusion Health clinics and day ward services. Attendance rates were monitored prospectively and, where possible, families were contacted to ascertain the reason for missed appointments. Tailored solutions to recurring challenges were designed and implemented in collaboration with stakeholders, including service users, administrative staff, and community outreach workers, and the impact on attendance was monitored. Key interventions included revising appointment letters, considering address and transport options when offering an appointment location, engaging community outreach workers to support families in attending appointments, and the establishment of an inclusion health email address.

Results

Baseline attendance for day ward appointments was 0% in the first two weeks of the service, with attendance at outpatient clinics starting at 29% (Limerick), 40% (Ennis) and 25% (Nenagh). Following the above interventions, the most significant improvements have been seen in Day Ward attendances, which rose to 81% in September. The most recent outpatient clinics had attendances of 50% (Limerick), 67% (Ennis) and 40% (Nenagh).

Conclusion

Iterative improvements informed by stakeholder engagement can be effective in improving patient attendance at Paediatric Inclusion Health services. We will continue to monitor attendance rates and pilot interventions as the service develops.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 178
Sub-Specialty

THE IMPACT OF THE NEW HEAD INJURY PATHWAY ON NUMBER OF CT'S PERFORMED IN A PAEDIATRIC POPULATION.

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Aim: Computed Tomography (CT) is a significant source of radiation inthe pediatric population. A new head injury (HI) pathway was introduced, in 2021, which altered the previous process of HI being jointly admitted with general pediatrics and surgery to admitting these patients under the Emergency Medicine Team. Admitted patients included those with positive CT findings not requiring immediate neurosurgical intervention and those who did not meet current criteria for urgent CT brain as per NICE guidelines but were still symptomatic for prolonged observations.This approach aims to decrease the number of CT scans performed.
This study conducted to assess the variation in CT scanning rates since the change in admitting process.

Method: A retrospective review of patients presenting to CHI PECU with HI over 6-month period (01/01/19-31/05/19) compared to a 6-month period postintroduction of the new pathway (01/06/22-31/12/22). Data was collected from the electronic record databases, symphony and PACS.
Results:
In 2019, there were 869 presentations of HI, among which 32 (3.68%) had CTscans performed. 2 (6.25%) of those scanned had positive findings.
In 2022, there were 1122 HI presentations, with 47 (4.19%) CT scans performed. Positive findings in 5 (10.6%) cases. 57 patients were admitted under the new pathway for observation, with 1 having a CT scan following admission.

Conclusion:
Quantitative lifetime radiation risks for children are not negligible. While there wasno statistically significant reduction in CTs performed amongst HIs presenting to our department a significant group met the criteria for admission under the PECU consultant for prolonged monitoring. There was also a greater proportion of abnormalities on CT scans performed in 2022, demonstrating improved patient selection for imaging. Further data analysis is ongoing to determine if those that were admitted would have previously been scanned under the old pathway.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 179
Sub-Specialty

LITERATURE REVIEW: OPTIMISING EMERGENCY DEPARTMENT ENVIRONMENTS FOR CHILDREN WITH AUTISM: STRATEGIES AND BEST PRACTICES

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Aim: Autism spectrum disorder (ASD) is a neurodevelopmental condition that affects communication, social interaction, and behavior. In Ireland, approximately 1.5% of children are diagnosed with ASD, although the true prevalence is likely higher due to undiagnosed cases. The emergency department (ED) poses significant challenges for children with ASD, who often experience heightened anxiety and sensory sensitivities. This review aims to identify effective strategies for improving the ED experience for these patients and highlight areas for further research.
Method: A literature review was conducted using Cochrane, PubMed, and Google Scholar, with search terms including “autism” and “emergency” or “acute.” Thirteen articles were identified, and five met the inclusion criteria for thematic analysis. Eight papers were excluded due to irrelevance or inadequate quality.
result: Key findings suggest that environmental modifications in EDs, such as reducing sensory stimuli and providing distraction tools like toys and technological aids, can help ease anxiety. For example, private treatment rooms, quieter waiting areas, and noise-cancelling headphones can reduce sensory overload. Implementing a no-wait policy where possible is also recommended to alleviate stress.3,4,5
Effective communication strategies are crucial. Hospital passports, lanyard systems to identify ASD patients, and coping kits containing sensory toys, visual supports, and tablet computers can improve care. Social stories, which visually guide children on what to expect in the ED, are particularly useful in reducing anxiety.3,5
Staff training is essential to address the needs of autistic children in the ED. Training should emphasize calm communication, the use of a "one voice" policy, and quick recognition of distress. Local learning disability teams or specialist nurses can provide this training.3,4,5
Conculsion: Improving the ED experience for autistic children requires a combination of environmental changes, communication tools, and staff education. Further research is needed to develop standardized protocols and explore new technologies.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 180
Sub-Specialty

PAEDIATRIC EMERGENCY CARE FOR CHILDREN WITH AUTISM: CHALLENGES AND OPPORTUNITIES FOR IMPROVEMENT

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Aim: Children with autism spectrum disorder (ASD) face distinct challenges during emergency department (ED) visits, such as longer wait times, heightened distress, and communication barriers. Addressing these challenges is essential to improving their emergency care experience and outcomes.
This audit aimed to assess the experiences of children with autism in acute emergency presentations and identify the difficulties they faced.
Method: A retrospective study was conducted on all children with ASD who presented to the Department of Paediatric Emergency Medicine at CHI at Tallaght over three months (May 1st–July 31st, 2024). Data were collected from the electronic record system (Symphony) and included presenting complaints, diagnoses, interventions, outcomes, waiting times, and documented challenges.
Result: A total of 122 children with autism visited the ED during the study period. Those presenting with psychosocial issues or seizures had significantly longer stays, averaging 8.6 and 6.4 hours, respectively, compared to the general paediatric average of 4.2 hours. Common presenting complaints included unwell children (19), vomiting (14), airway difficulties (14), injuries (28), and head-related issues (12). Leading diagnoses were injuries (35), gastroenteritis (20), and respiratory infections (13). Of the patients, 11% were admitted, 11% were referred to orthopaedic clinics, and 69% were discharged with follow-up. Notably, 13% had no recorded observations, and 13% experienced challenges during interventions like examinations and blood tests. The average waiting time from triage to being seen was 33.6 minutes, with some waits extending to 180 minutes.

Conculsion: The audit highlights significant challenges for children with ASD in the ED, particularly extended stays and communication barriers. Recommendations include specialised staff training, improved communication tools, and autism-friendly environments to reduce distress and improve care.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 181
Sub-Specialty

DEVELOPMENT OF BOTULINUM TOXIN INJECTION SERVICE FOR SIALORRHEA

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Background:
Sialorrhoea (drooling) can cause issues such as; skin irritation, dehydration and aspiration adversely affecting quality of life and leading to social isolation for children and their families[1]. Management strategies include conservative approaches, oral-motor exercises, medication, botulinum toxin A injections, and surgical interventions. Traditionally, stages 4 and 5 treatments in Ireland have been managed by ENT surgeons or interventional radiologists, often requiring general anaesthesia (GA). Recently, we developed a pathway for physician-administered botulinum toxin A injections without GA for children unresponsive to other treatments. We aim to audit our service to assess its effectiveness.

Method:
This study conducted a retrospective chart review of patients receiving injections, examining demographics, referral sources, diagnoses, sedation types, and perceived benefits. It also documented any subsequent injections performed or planned for each patient.

Results:
The audit involved 20 paediatric patients (30% male, 70% female) aged 4 to 17 years, with 40% under 10 and 60% over 12. External referrals from neurology or Neurodisability consultants countrywide counted for 35% of patients. No sedation was used in 55% of patients. All patients had topical anaesthesia prior to injections.
One patient (5%) experienced a focal seizure (known seizure disorder), while 95% had no complications. Families and patients found it effective in 75% of cases. Despite noting efficacy, two patients did not wish for further injections.

Conclusion:

Botulinum toxin A injections for paediatric sialorrhoea showed variable outcomes, with 75% achieving improvement. This underscores the need for individualized assessment and follow-up. Standardised scales should be used routinely to further delineate degrees of change. Further research with larger cohorts and long-term follow-up is necessary to refine patient selection and treatment protocols.

Reference: 1Parr JR, et al. Arch Dis Child 2018;103:371–376. doi:10.1136/archdischild-2017-313763

IMJ
Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 182
Sub-Specialty

AN AUDIT OF MAXILARY CANINE ERUPTION FOLLOWING ALVEOLAR BONE GRAFTING IN A CLEFT LIP AND PALATE PAEDIATRIC POPULATION

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Aims: Alveolar bone grafting (ABG) plays an essential role in the management of cleft lip and palate (CLP) patients with significant alveolar defects. The aims of ABG are to facilitate eruption of maxillary canine, provide bony support and improve aesthetics. Assessment for ABG should be carried out between 7-9 years of age with ABG taking place at 9-11 years of age. This study aimed to identify the timing of ABG, the proportion of patients who had spontaneous eruption of the maxillary canine and the percentage of patients requiring surgical exposure following ABG.

Methods: We retrospectively evaluated the ABGs performed in CHI at Crumlin, Dublin in 2022, and data was collected from patients health records (electronic and paper charts) with respect to: cleft type, whether pre-graft assessment was carried out before age 9, age ABG was performed, if canine erupted spontaneously post ABG, timing between ABG and decision to expose unerupted maxillary canines in cases of un-eruption. The data was analysed using Microsoft excel.

Results: 27 ABG were performed on CLP patients. 3 were excluded - 2 were repeat procedures and one canine was congenitally absent. All patients had been screened for the need for an ABG by age 9. The mean age that patients had ABG completed was 10 years 8 months, 3 patients had not had surgery by 11 years. 14/24 canines erupted spontaneously post ABG. 10 remained unerupted but only 2 of required surgical exposure. The remaining unerupted canines were treated with orthodontics alone to create space. The mean time between ABG and decision to perform an exposure was 24 months.

Conclusion: All patients were assessed for need for ABG within the recommended timeframe and 88% of patients had surgery by 11 years. Only 8% of patients required surgical exposure of maxillary canines following ABG.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 183
Sub-Specialty

Changing Trends of Lupus Anticoagulant in Children

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Background: Lupus anticoagulant (LA) is a type of antiphospholipid antibody that causes prolongation of clotting tests in a manner dependent on phospholipid concentration and is part of workup for prolonged PTT. It has been associated with an increased risk of arterial and venous thrombosis.

Material and methods: This was a retrospective observational study conducted in Ireland, comparing the positivity percentage of Lupus anticoagulant in years 2019, 2021 and 2022. We included patients wih prolong APPT of above 40 seconds and any patient with a known hemophilia or any rhematological condition were excluded from the study. DRVVT and Silica Clotting testing were employed in testing. A Positive case was defined as being positive on either DRVVT or Silica Clotting.

Results: There were 397 patients included in the study with 110 patients in 2019, 105 patients in 2021 and 182 patients in 2022. Overall LA positivity was 23.42%. The positivity percentage was 25% in 2019, 10% in 2021 and 30% in 2022.

Conclusion: There was an initial decline in Lupus Anticoaguant Positivity from 2019 to 2021 followed by a subsequent rise in 2022. Whether this initial deduction of positivity in Covid 19 pandemic followed by a subsequent rise is related to COVID-19 remains uncertain.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 184
Sub-Specialty

SOCIAL DEPRIVATION AMONG CHILDREN WITH INHERITED METABOLIC DISORDERS IN IRELAND

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Aims
There are known associations between socio-economic status and health outcomes, particularly among children (1). The National Centre for Inherited Metabolic Disorders (NCIMD) provides care to all paediatric patients with inherited metabolic disorders (IMDs) in Ireland. There is known to be a large representation of marginalised communities within patients with IMDs, specifically members of Irish Traveller and Roma communities (2, 3). We sought to examine the socio-economic status of the patient population attending the NCIMD, as well as the proportional representation of children from Traveller and Roma communities.
Methods
We collected demographic data for all patients with IMDs admitted to the paediatric metabolic ward at CHI at Temple Street over a three year period (January 2021-December 2023, n=256). Social deprivation was assessed using the Pobal HP Deprivation Index 2022 (4). This index uses information from the national Census to assign a deprivation score to each small geographical area (5).
Results
8.6% of paediatric metabolic patients (n=22) live in very or extremely deprived areas, compared to 3.8% of the total population of Ireland (n=195, 374)(6). 32 patients (12.5%) were members of the Irish Traveller community, who make up less than 1% of the Irish population (6). Three patients (1.2%) were from the Roma community, who make up 0.3% of the population. 13 of the 22 patients (59%) living in very or extremely deprived areas were members of the Traveller community.
Conclusions
The proportion of paediatric metabolic patients living in very or extremely deprived areas was more than twice that of the general population. Children from Traveller and Roma communities were represented in higher proportions compared to that of the general population, with higher rates of deprivation found among Traveller children. An inclusion health approach with adequate social work and community supports would help to ensure better health and wellbeing outcomes of these children and their families.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 185
Sub-Specialty

THE ASSOCIATION BETWEEN ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AND PAEDIATRIC DIABETES OUTCOMES

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AIMS:
This study aims to describe the prevalence of positive ADHD screens (CONNERS 3 short questionnaire) in a large pediatric diabetes clinic. It also seeks to determine if a positive ADHD screen is associated with worse glycemic control, as measured by HbA1c levels and Time In Range (TIR).

METHODS:
A cross-sectional study with retrospective chart review was conducted. 50 Participants aged 8-17 years with Type 1 Diabetes Mellitus (T1DM) were recruited from a pediatric outpatient clinic. Inclusion criteria were T1DM diagnosis of >/= 1 year, no previous ADHD diagnosis and parental availability to provide consent. Parents completed the questionnaire, and a chart review collected variables such as HbA1c levels, glycemic control, and comorbidities.

RESULTS:
Of 50 participants, 29 (58%) had suboptimal diabetes control (HbA1c ≥ 53 mmol/mol), and 8 (16%) screened positive for ADHD. Those screening positive had higher HbA1c (≥ 53 mmol/mol), lower TIR (time in target glucose range), and more DKA episodes than those screening negative. The group was 52% male, 48% female, with a mean age of 12.98 years (SD = 2.87), and a median T1D duration of 4 years (mean 5.26 years). 70% use insulin pumps, 30% do not. ADHD screening was 84% negative, 16% positive. The negative group had a median A1c of 54.0 mmol/mol (83% use insulin pumps) and a 50% sex split, while the positive group had a median A1c of 73.5 mmol/mol, no pump users, and was 62.5% male. Regression analysis between HbA1c and T-scores showed a highly significant association ($p < 0.001$).

CONCLUSION:
This study identified an association between children who screen positive for possible ADHD with poorer diabetes outcomes. We hypothesize that unidentified ADHD may be contributing to poorly controlled T1D, and this requires further investigation. Children who screened positive for ADHD have been referred for formal ADHD screening.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 186
Sub-Specialty

PAEDIATRIC IBD INCIDENCE IN IRELAND

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Aims:
To establish the incidence of Paediatric Inflammatory bowel Disease within a single national referral centre.

Methods:
All children who were diagnosed beween 1st January 2010 and 31st December 2022 were found using a pre-existent research database and the Gi unit database. Multiple data points were collected including month and year of diagnosis, biologic sex, exact age, type of IBD. Data was input into Stata and analysed.

Results:
There were 1320 children diagnosed with IBD. Mean age of diagnosis was 11.9years (SD 3.1). 59% were male (n=781). 55% had Crohn's Disease, 40% had UC and 5% had IBD-U. To establish incidence, CSO comparative year estimates for sex and age were used. In those >10years of age incidence has dramatically increased. In 2010 incidence for IBD in those aged 10-11 was 8.2/100000. In 2022 it was 25.6/100000. Similarly, in those aged >14 but </= 15 incidence rose from 7.1/100000 in 2010 to 36.8/100000 in 2022. Mean incidence was 12.5/100000. Prevalence was calculated at 0.05% of all children.

Conclusions:
Overall, the worldwide incidence and prevalence of PIBD is increasing. This has been found to be highest in northern Europe with an incidence of 9-10/100000. Our data shows a concerning trend in paediatric IBD with dramatically elevated numbers of Paediatric IBD being diagnosed yearly and a need for extra vigilance in our recognition and management of disease.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 187
Sub-Specialty

COMPLIANCE WITH ANTIMICROBIAL GUIDELINES FOR DOG BITES IN A TERTIARY PAEDIATRIC EMERGENCY DEPARTMENT IN IRELAND

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Aims
Dog bite injuries are a common presentation to emergency departments, with children being overrepresented. Wound infection is the most common complication, occurring in 2-30% of dog bites. Management is primarily focused around wound irrigation, while the use of prophylactic antibiotics is controversial, and only recommended in “high-risk wounds”.
We audited our compliance with local guidelines regarding prophylactic antibiotic use in dog bite injuries in a paediatric population.

Methods
We performed a retrospective review of the electronic medical records of all patients presenting with dog bites to the ED between November 2022 and November 2023. Data was then extracted onto an excel sheet. Only first presentations to this centre were included. Exclusion criteria included those wounds already displaying signs of infection, and referrals that had initial management done in another centre.

Results
Of the 82 patients included in the study, 7 were already showing signs of infection at presentation and so were excluded from analysis on prophylactic antibiotic use. 17.3% (13/75) had unclear documentation regarding signs of infection. 50.7% (38/75) were high-risk, 48% (36/75) were low-risk, and 1.3% (1/75) were unclear from documentation. 80% (60/75) were given prophylactic antibiotics. 66.7% (24/36) were prescribed antibiotics despite not meeting criteria, while 5.3% (2/38) of the high-risk group were not given antibiotics. Of those given prophylaxis, 95% (57/60) were prescribed the correct agent set out by the guideline; amoxicillin/clavulanic acid.

Conclusions
Antimicrobial stewardship is an important issue facing the medical world, and it is imperative that tertiary centres help to set an example by following appropriate, up-to-date guidelines. Our audit revealed that 56.7% (34/60) of prophylactic antibiotic prescriptions in this group were in line with the established local guidelines. Potential issues affecting these results include inconsistent documentation. A staff education session, as well as introduction of a proforma, may help to increase our compliance.

IMJ Official Journal of the Irish Medical Organisation

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 188
Sub-Specialty

Not so "SAVI" after all! - A diagnostic and therapeutic conundrum

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Background: Interferonopathies (IFN's) are a constellation of diseases that cause recurrent pathogenic inflammation, arising primarily through antigen-independent hyperactivation of immune pathways[1]. It is primarily due to abnormal production or signalling of type I IFNs[2]. A disorder of both the innate and adaptive immune system, this condition is relatively new with the term only coined in 2011. Currently there are more than 20 interferonopathies recognized, with new interferonopathies being identified like Sting associated vasculopathy with onset in infancy (SAVI).

Objective: We present a case of a 11-month-old female with a SAVI like phenotype but unsupportive genetics.

Methods: Clinical data was obtained from patient files and collaboration with subspecialities.

Results: Our patient first presented with a severe panniculitis rash, Raynaud's, swelling of her limbs and hepatosplenomegaly at 5 weeks of age. She developed significant respiratory distress requiring non-invasive ventilation. A CT Thorax revealed diffuse groundglass opacification suggestive of interstitial lung disease. She had elevated inflammatory markers (CRP 24 mg/L, ferritin 1448 ng/ml, ESR 88 mm/hr), a transaminitis (ALT 193 U/ml, AST 356 U/L). She had multiple positive auto antibodies Clinically SAVI was suspected as the most likely diagnosis.

Her interferon signature gene assay demonstrated exaggerated IFI 27 and IFI44L levels. A Trio exome sequencing and Inhibitor of nuclear factor kappa B gene (IKBKG) sequencing however have not been indicative of any currently recognised interferonopathy. Further genetic analysis has been requested to explore possible novel pathogenic mutations. A reasonable clinical response was seen with corticosteroid therapy in combination with Jak Inhibition. With worsening of her cutaneous disease and an increasing need for corticosteroid use a trial of anti IL-6 therapy was initiated. This was subsequently discontinued when she presented with severe acute digital ischemia. It was managed with escalating doses of ruxolitinib, pulse high dose corticosteroids and epoprostenol infusion. Currently she is on a novel IFNAR1 antagonist Anifrolumab, showing a tentative improvement. A weaning course of corticosteroids are in place.

Conclusions: This case enhances our current understanding of interferonopathies. Although the phenotype and course of the disease is compatible with SAVI[3], genetic testing is negative to date. Presently there are eleven heterozygous gain-of-function (GoF) variants for SAVI[4]. With JAK inhibition as the most successful therapeutic option to date[5]. Our case possibly represents an as yet unreported genetic variant, further studies are awaited.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 190
Sub-Specialty

UNRAVELLING THE ENIGMA: ANCA-NEGATIVE EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS (EGPA)

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Introduction: Eosinophilic granulomatosis with polyangiitis (EGPA), previously known as Churg-Strauss Syndrome, is a small to medium vessel vasculitis, recognised as one of the anti-neutrophil cytoplasmic antibody (ANCA)–associated vasculitis. It is extremely rare in children and associated with significant morbidity and mortality.

Aim: To report the pulmonary and extrapulmonary clinical manifestations of EGPA in a 13-year-old boy.

Methods: A 13-year-old boy presented to the emergency department with a 2-week history of intermittent vomiting, a dry irritating cough for 1 month and weight loss of 2kg over 2 months. He was haemodynamically stable, has a dry cough and rhinitis. Initial bloods showed significantly elevated peripheral eosinophil counts of 16.94×/L (0.1-0.8) with an ESR of 19 mm/hr (1-13). ANCA was negative. His chest x-ray showed prominent hilar markings which looked vascular in nature. Echocardiogram was normal. He was extensively screened for infections including parasites. Bone marrow showed a degree of eosinophilia. Pulmonary function tests showed a markedly raised FeNo indicative of significant airway inflammation. Subsequently a high-resolution CT showed predominantly peripheral patchy airspace/ground glass changes throughout the periphery of both lungs with small additional nodules and prominent thick-walled bronchi. The patient proceeded to a lung biopsy which showed striking eosinophilia with infiltration and destruction of airways, venulitis and possible capillaritis with patchy eosinophilic consolidation, abundant fresh haemorrhage and no granulomas. A bronchoalveolar lavage contained a striking number of apoptotic cells in addition of viable eosinophils. Oesophageal biopsy confirmed eosinophilic oesophagitis. A nasal biopsy showed mild eosinophilic infiltrate without any granulomas. Based on the clinical, radiological and histopathological features, a diagnosis of eGPA was confirmed.

Results: He received a pulse of intravenous methylprednisolone followed by tapering oral prednisolone. In view of the multi-organ involvement, he was commenced on rituximab and cyclophosphamide.

Conclusion: This case highlights the pulmonary and extrapulmonary manifestations of EGPA. Unexplained peripheral eosinophilia with even mild symptoms of asthma or rhinitis should prompt clinicians to investigate for EGPA. The diagnosis is often challenging and requires a multidisciplinary team approach. Early aggressive immunosuppression is recommended.

Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 191
Sub-Specialty

A RARE CASE OF AN ISOLATED HYPOGLOSSAL NERVE PALSY IN A 15-YEAR-OLD GIRL.

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We present the rare case of a 15-year-old girl who developed isolated hypoglossal nerve palsy due to aberrant vascular anatomy within the posterior circulation detected by magnetic resonance angiography (MRA). The patient initially presented with progressive unilateral tongue atrophy over a 10-month period, accompanied by difficulties in speech and swallowing. Neurological examination confirmed left-sided hypoglossal nerve dysfunction, with no other cranial nerve deficits. The patient underwent extensive investigations to determine the cause of the lesion, which included radiological imaging, haematological studies, immunological testing, genetic analysis, cerebrospinal fluid examination, and neurophysiology investigations. Magnetic resonance imaging (MRI) of the brain and soft tissues of the neck did not demonstrate the cause of the intrinsic tongue wasting which was highly suggestive of denervation on imaging. However, neurophysiology was highly suggestive of a chronic process that most likely had a anatomical cause. Magnetic resonance angiography (MRA) and tracking of the anatomical pathway of the hypoglossal nerve revealed an unusual vascular anomaly affecting the posterior circulation, which was identified as the underlying cause of the nerve compression. MRA demonstrated aberrant anatomy with the anterior inferior cerebellar artery arising from the distal left vertebral artery with impingement of the cisternal portion of the hypoglossal nerve. No other abnormalities were detected. After a thorough multidisciplinary evaluation, conservative management was initiated, given the absence of other neurological symptoms and the chronicity of the presentation. This case underscores the importance of considering vascular anomalies as a potential aetiology in cases of isolated cranial nerve palsy, particularly in young patients. Early recognition and appropriate imaging are crucial for accurate diagnosis and management.

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May 29th, 2025

Poster No. 192
Sub-Specialty

BRIDGING GAPS FOR MAINSTREAMING OF GENETIC TESTING IN PAEDIATRICS IN THE REPUBLIC OF IRELAND

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Introduction

Genetic testing is essential across many medical specialties, including paediatrics. Increasingly, genetic testing is initiated by subspecialty teams without direct involvement from Clinical Genetics—a process known as mainstreaming. Mainstreaming involves three steps: 1) identifying when genetic testing is appropriate, 2) organising the test, and 3) delivering the results.

Aims

This project aims to establish a national, unified approach to paediatric mainstreaming in the Republic of Ireland. Further aims include:

1. Facilitating clinician education on mainstreaming practices
2. Improving equitable access to genetic testing for paediatric patients
3. Reducing diagnostic delays for children with rare diseases

Methods

Rejected genetic test samples from the molecular genetics laboratory at CHI @ Crumlin were audited between January and March 2021, with a planned re-audit in 2024. A comprehensive literature review identified systemic barriers to mainstreaming genetic testing. Based on the audit results and the literature, educational resources were developed to support paediatricians in mainstreaming practices.

Results

The audit revealed widespread barriers to mainstreaming across different hospitals. Common issues included misidentifying appropriate tests for clinical presentations (step 1) and logistical errors in test organisation (step 2). The literature also highlighted a lack of clinician confidence in consenting patients and delivering genetic test results, with inadequate education being a recurrent barrier. In response, 410 paired educational resources (flashcards and booklets) were distributed to HSE sites providing paediatric care at the request of clinicians.

Conclusion

Clinician engagement with this project underscores the need for collaboration between clinical genetics and paediatrics. The educational resources were described as "useful," "clear," and "concise." This project marks the first step in paediatric mainstreaming in Ireland and represents a significant international effort to improve access and outcomes in paediatric genetic testing.

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Haploinsufficiency of A20(HA20) - Unravelling of a suspect autoinflammatory disorder

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Introduction: We present the first Irish case of HA20 in a 16-year-old female.
Objectives: HA20 is a novel autoinflammatory disease that results in the disturbance in the ubiquitination process[1]. HA20 results from mutation in Tumour Necrosis Factor a Induced Protein 3 gene(TNF/AIP3) located on chromosome 6[1-6], that activates the nuclear factor NFkB pathway resulting in increased expression of proinflammatory cytokines and systemic inflammation[1-6].
Methods: Our patient had recurrent bloody diarrhoea from 13 months of age. At 3-years-of age, she had onset of painful mouth, perianal and genital ulcers, abdominal pain and iron deficiency anaemia. At 5-years-9 months, gastroscopy and colonoscopy confirmed Crohn's disease of mouth, colon, terminal ileum and stomach. Sulfasalazine and Benzoate free diet was commenced with her gastrointestinal symptoms resolving within a few months, but painful mouth perianal and genital ulcers were constant over the following 10 years. At 10-years-old, patient was diagnosed with severe atopic conjunctivitis and she reported recurrent arthralgias. At 12 years a colonoscopy showed deep ulceration throughout the colon but biopsy was deferred due to bleeding concerns. A trial of Adalimumab subcutaneously was commenced in addition. Over the course of her illness, she had persistently raised erythrocyte sedimentation rate (ESR), highest faecal calprotectin of 670ug/g, one raised anti-dsDna, and a moderately positive antinuclear antibody. A recent admission with fever, severe headache, ocular pain, painful genital and mouth ulcers and intermittent arthralgia resulted in consultation with our Rheumatology service and autoinflammatory panel (CEGAT)was requested.
Results: Colchicine and a weaning course of Prednisolone were started, and Adalimumab was increased to 80mg. Whole exome sequencing confirmed a TNFAIP3 mutation. On follow up, genital ulceration and fever had resolved, with infrequent mouth ulcers or joint pains.
Conclusion: HA20 should be considered in all cases of early onset chronic mucosal (oral and genital) ulcerations, in particular conditions similar or suspected to be Behcet's disease like in nature.

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May 29th, 2025

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Sub-Specialty

THE NATIONAL ARTHRITIS RESEARCH COALITION (ARC) BIOBANK- THE FIRST 100 PAEDIATRIC PATIENTS TO DATE

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Introduction: Major advances in research have included molecular studies on the pathogenesis of common rheumatic diseases, the discovery and validation of prognostic biomarkers, and clinical studies on novel therapies. These advances have relied on the recruitment of highly characterised patient populations and linked biorepositories of blood and synovial tissue. ARC Biobank was successfully set up in 2016 funded in partnership from charitable sources and Arthritis Ireland and coordinated via the Rheumatology research centre UCD. The Paediatric arm(CHI @Crumlin) is one of 6 disease/patient specific groups enrolled in Ireland's first national biobank for rheumatic diseases.

Objectives: To recruit cohorts of patients with common rheumatic disease and collect biological samples(DNA, RNA, serum) that will underpin clinical research in Rheumatology across Ireland.
Methods: Patients were recruited from Rheumatology clinics. Inclusion criteria: Diagnosis of childhood inflammatory arthritis or childhood onset autoinflammatory disorder(AID).
Participants were assessed at four timepoints: Baseline, visit 2, 3 and 4, when they attended for routine clinic over the course of one-to-three years. (Minimum of two-months between the first three visits and a minimum of five-months between Visit 3 and 4).
Clinical measurements such as history, examination and all medications were obtained and relevant laboratory parameters were documented on each patient at each visit, along with sample collection if there was a clinical indication.
Results: Over 100 children have been successfully recruited as of March 2024. This includes Juvenile Idiopathic Arthritis (JIA=40), Chronic Nonbacterial Osteomyelitis (CNO=24), Down syndrome Associated Arthritis (DA =21), Systemic onset Juvenile Idiopathic Arthritis (SoJIA =10), Behcet's Disease =3, Periodic Fever, Aphthous Stomatitis, Pharyngitis, Adenitis (PFAPA =1) Syndrome and Undifferentiated AID=1.
Conclusion: It is anticipated that the outcomes from this study will help to increase national involvement in clinical trials of novel therapeutic agents by establishing clinical cohorts of patients with common rheumatic diseases. This can advance patient treatment and improve long-term outcomes

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May 29th, 2025

Poster No. 195
Sub-Specialty

DIAGNOSTIC AND TREATMENT DILEMMA OF A SUSPECTED CASE OF PRIMARY ANGIITIS OF THE CENTRAL NERVOUS SYSTEM, IN A PATIENT WITH POST-TRANSPLANT LYMPHOPROLIFERATIVE DISEASE.

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Introduction: We present a case of suspected Primary Angiitis of the Central Nervous system(PACNS), in a patient with Ebstein Barr Virus(EBV) driven Post Transplant Lymphoproliferative Disease(PTLD). We aim to highlight the importance of multi-disciplinary(MDT) approach to diagnosis and management.
Objectives: PACNS is a rare paediatric disease, now better recognised as a cause of cerebrovascular accident in childhood[1-2]. There are no standardised treatment protocols. Reports and studies show a better response with Mycophenolate Mofetil(MMF) maintenance therapy, after an initial cyclophosphamide and glucocorticoid therapy[2,3,4].
Methods: 15-year-old female presented with left-sided limp, facial droop and weakness of left upper limb eight-days post commencement of PTLB treatment. On complex background of renal failure secondary to congenital urogenital malformation, peritoneal dialysis in 2020 and haemodialysis until 2022. First renal transplant in 2021 failed immediately intraoperatively. Second renal transplant was successful in 2022, with MMF and Tacrolimus maintenance. MMF was discontinued in October 2023 due to PTLD diagnosis.
Magnetic Resonance Imaging(MRI) showed multifocal acute infarcts in the right middle cerebral artery territory. Patient was treated with high dose intravenous Methylprednisolone followed by oral Prednisolone. Over two-weeks patient had two more left-sided neurological events. Repeat imaging showed new areas of infarction relying on blood supply from collateral vessels consistent with PACNS, with no evidence of systemic vasculitis. A brain biopsy was deemed too high risk.
Results: Due to increasing concern for further cerebrovascular injury, she underwent cerebral bypass surgery. Six-weeks post-surgery, patient had left-sided hand tremor, with new areas of acute ischaemia on MRI of brain with contrast. She has completed her full treatment of two-doses of Rituximab and six-doses of Cyclophosphamide. Remains on oral Prednisolone. We now face a treatment dilemma, as maintenance options are limited due to the risk of EBV reactivation and PTLB recurrence with additional immunosuppression, especially with MMF.
Conclusion: PACNS is an exceptionally rare condition that can lead to permanent neurological damage and often proves fatal. Patients with co-morbidities pose greater challenges. Prompt diagnosis, aggressive treatment and comprehensive MDT approach is paramount.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

Poster No. 196
Sub-Specialty
Atopic Dermatitis vs Food Allergy, a Cork & Kerry Healthcare Professionals' Perspective

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Background
Atopic dermatitis (AD), also more commonly known as eczema is a chronic, inflammatory skin condition which affects 20-30% of children worldwide(1). In Ireland 20% of infants (<2 years) with moderate/severe AD have a food allergy. Globally conducted studies show that familiarity with AD diagnostic criteria and disease management is inadequate and needs revisiting, to allow for better disease diagnosis, management and improve patient wellbeing (2)(3).

Methods
This is a multi-centre, observational, cross-sectional, data collection study conducted via an online questionnaire, to assess the knowledge of relevant healthcare professionals working in hospitals and clinics in Cork and Kerry, of paediatric atopic dermatitis diagnosis and first line management, with respect to food allergy (n=44).
A majority (77.27%) believe food allergy is a trigger of AD, with 36.11% of this proportion stating it's prevalent in <10% of children, 47.22% stated its in 10-24% of children, 8.33% stated its in 25-50% of children and 8.33% stated it's present in >50% of children with AD.Food allergy was selected as the most important trigger (32.50%) of paediatric AD and it was also selected as the least important trigger (41.18%) of paediatric AD.

Regarding investigation for food allergy/aeroallergen hypersensitivity for paediatric AD management, 34.88% never investigate this. A majority (37.21%) investigate 25% of the time, 18.60% of participants investigate 50% of the time, 4.65% investigate 75% of the time and 4.65% investigate this 100% of the time. 20.93% of participants would give the patient's parents a list of food(s) to avoid as AD triggers with the most common/important being milk followed by eggs and nuts.

Conclusion
Familiarity with the relationship between food allergy and paediatric AD is an area which needs revisiting among healthcare workers in the south of Ireland. Revision and better education in this area would improve patient managemen, well-being and quality's of life.

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Ir Med J; May 2025; Vol 118; No. 5; P86
May 29th, 2025

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