

## Poster Presentation

### **Kidney Failure in a Child with Pierpont Syndrome Expanding the Phenotype Spectrum and Implications for Kindey Replacement Therapy**

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**Background:** Pierpont syndrome is a rare autosomal dominant disorder caused by pathogenic variants in *TBL1XR1* gene, characterised by distinctive craniofacial features, plantar lipomatosis, and neurodevelopmental disorders. Urological malformations were described, but significant kidney function impairment has never been described in previous cases.

**Method:** We reviewed electronic medical record for identification of patients with Pierpont Syndrome.

**Finding:** We report an 8-year-old girl with genetically confirmed Pierpont syndrome who developed bilateral dysplastic kidneys and progressed to kidney failure, requiring peritoneal dialysis from age four. Her course was complicated by recurrent inguinal hernia, peritoneal dialysate leakage, and respiratory compromise related to central and obstructive apnoea. She has been enlisted for kidney transplantation.

**Conclusion:** Although causality cannot be established, the concurrence of bilateral dysplastic kidneys and kidney failure in this rare genetic disorder raises important clinical questions. The case also highlights the importance of multidisciplinary care in dialysis and transplant planning. Further studies are required to clarify the potential role of *TBL1XR1* gene in kidney development and long-term outcomes in Pierpont syndrome.

### **A Single-Centre Retrospective Comparison of External Versus Internal Jugular Vein Central Venous Cannulation in a Paediatric Cohort: Efficacy, Safety, and Long-Term Outcomes**

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**Background:** Secured long-term vascular access in children remains clinically significant. While image-guided central venous catheter (CVC) insertion is gaining popularity, traditional surgical cut-down is well established to be safe and effective, especially in children with lower body weight. The internal jugular vein (IJV) and external jugular vein (EJV) are two common sites. Current literature reports similar short-term safety but lacks robust data on long-term outcomes. This study aims to compare the efficacy, safety, and six-month outcomes of EJV versus IJV CVC insertions in children aged 18 and below.

**Methods:** We retrospectively reviewed the operation records for all CVC insertions performed by paediatric surgeons at Hong Kong Children's Hospital between April 1, 2024, and March 31, 2025. Exclusion criteria included CVC insertion not performed as the sole surgical procedure. Patient demographics, procedural details, operative time, and postoperative outcomes were collected. Their clinical courses were reviewed at six months post-insertion, and the reasons for pre-mature CVC removal were reviewed.

**Results:** Of the 73 procedures, 51 (70%) were via the EJV and 22 (30%) via the IJV. The median patient weight was higher in the EJV group (EJV 18.4kg vs. IJV 13.25kg,  $p < 0.05$ ). Fifty-four cases were done on virgin necks (80% of EJV vs. 59% of IJV cases,  $p = 0.08$ ). The median operative time was slightly shorter for EJV insertions (EJV 51 vs. IJV 58 minutes,  $p < 0.05$ ). Guidewire use was similar (EJV 47% vs. IJV 32%,  $p = 0.3$ ). First-attempt success was high in both groups (EJV 94% vs. IJV 100%,  $p = 0.5$ ), with five cases where IJV was used as a salvage site after failed EJV insertion. There were no significant intra-operative or short-term post-operative major complications, including pneumothorax, cardiac arrhythmia and carotid injury. At six months, there were 16 premature unplanned line removals (EJV 22% vs. IJV 23%,  $p > 0.1$ ). Reasons included line infection (EJV 7.8% vs. IJV 4.5%,  $p > 0.1$ ) and catheter dislodgement (EJV 14% vs. IJV 18%,  $p > 0.1$ ).

**Conclusion:** Both EJV and IJV cannulations were safe, with comparable long-term complication-related removal rates. IJV is inevitably applied more in smaller children/infants due to smaller EJV. Due to the retrospective nature of this review, we cannot identify the precise deciding factors in influence the surgeon's choice of vein. Moreover, dislodgement / migrations involving cuff or tip are both common, it is speculated to be confounded by patient weight and age where cuff migrations could be most common in toddlers who pull and scratch, but this relationship is uncertain without logistic regression, and could be investigated in future studies.

### Use of Ambulatory Blood Pressure for Diagnosis and Monitoring of Paediatric Hypertension

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**Introduction:** This study aimed to review the characteristics of paediatric hypertension, identify factors that differentiate primary from secondary hypertension, and evaluate the usefulness of 24-hour ambulatory blood pressure monitoring as a tool for managing hypertensive patients.

**Methods:** We conducted a retrospective study of paediatric patients ( $\leq 18$  years old) who underwent 24-hour ambulatory blood pressure monitoring (ABPM) at Queen Elizabeth Hospital between 2022 and 2023. Our study compared the characteristics of hypertensive versus non-hypertensive and primary versus secondary hypertension patients.

**Results:** A total of 126 patients (Median age: 15 years) were included in our analysis, of whom 110 (87%) underwent 24-hour ABPM for diagnostic purposes. Thirty-four cases (31%) were diagnosed with hypertension, with the majority ( $n=22$ , 65%) having primary hypertension. We found that 41% had white coat hypertension, 24% had true hypertension, 7% had masked hypertension, and 28% had no hypertension. Compared to primary hypertension, patients with secondary hypertension were significantly younger (14 vs. 16 years,  $p=0.013$ ), had known renal disease (58.3% vs. 4.5%,  $p<0.010$ ) and abnormal ultrasound kidney results (60% vs. 0%,  $p=0.003$ ). Thirty-three percent of patients with secondary hypertension were obese, which is comparable to the proportion of obesity in

primary hypertension patients. The use of ABPM in the monitoring group has facilitated a change in management in 50% of patients.

**Conclusion:** Younger age, renal diseases and abnormal kidney ultrasound results were associated with secondary hypertension. One-third of patients with secondary hypertension were obese, indicating that evaluation for secondary causes of hypertension may still be necessary in obese individuals.

### A SWOT Analysis of Adolescent Gender Dysphoria (AGD) Amongst High School / University Students

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**Background:** There is presently no single formal, peer-reviewed "SWOT Analysis of Adolescent Gender Dysphoria".

**Methods:** Based on literature data from 2024 and 2025, we performed a SWOT Analysis of AGD in secondary/high school and university settings.

#### Findings:

**Strengths:** Self-Report Rates: 2025 data indicated 3.3% of U.S. youth (aged 13-17) and 2.72% of young adults (aged 18-24) identified as transgender. Strong Support Networks: adolescents in supportive environments (family, peers, and schools) showed lower rates of depression, anxiety, and suicidal ideation. Identity Exploration Tools: "identity-based resources" help nonbinary and questioning students navigate their social-structural location. **Weaknesses:** High Psychiatric Comorbidity: Over 70% diagnosed with AGD have at least one other psychiatric diagnosis, commonly depression, anxiety, or ADHD. Mental Health Vulnerability: Transgender and nonbinary students faced higher rates of self-harm (nearly 80%) and suicide attempts (up to 48%-53%) compared to cisgender peers. Low Diagnostic Instability: only 36.4% retain a GD diagnosis after five years, with persistence rates as low as 27.3% for females aged 15-19. **Opportunities:** Improved Clinical Standards: relevant professional/societies should update best practices for paediatric GD treatment with clearer pathways for care. Health Centres: some shifted terminology from "disorder" to "mismatch," focusing on gender-affirming models that reduce stigma. Early Intervention: access to gender-affirming care (GAC),

including social transition and puberty suppression. *Threats:* Legislative Bans: many localities prohibit transgender youth from sports and restrict bathroom access. Mandatory Disclosure: some mandate school officials disclose a student's transgender identity to parents, potentially removing "secondary space" for exploring identity. Care Accessibility: geographic isolation and insurance barriers were major obstacles; many were unable to find experienced providers.

**Conclusion:** *Debated Prevalence Trends:* 2025 reports suggested either a "sharp decline" (from 6.8-3.6%) or a "net increase" (from 2-9%) in nonbinary identification, creating public and academic polarisation over nature of AGD as a "social trend" versus a stable identity.

### Acute Appendicitis in Neutropenic Children: A Children Hospital's Case Series

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**Introduction:** Acute appendicitis in children with haematological malignancy is uncommon. Some present atypically leading to delayed diagnosis while others may have higher surgical risks, making diagnosis and management challenging. This case series aimed to describe the presentation, management, and outcome of children with haematological malignancies and acute appendicitis.

**Methods:** A retrospective study was performed on all patients managed in our institution from 2019 to 2025 for acute appendicitis and haematological malignancies.

**Results:** Out of nine patients with haematological malignancies and acute appendicitis, six had acute myeloid leukaemia, and three had lymphosarcoma, lymphoma, and nodular lymphoma respectively. All were neutropenic at the time of diagnosis. Children with abdominal pain were diagnosed earlier than those with neutropenic fever only (average 1.7 days from symptom onset vs 7.7 days). All had computerised-tomogram findings suggestive of appendicitis. Three were treated conservatively with intravenous antibiotics; six had surgery (4 laparoscopic-appendicectomy, 1 laparoscopic-appendicectomy converted open, and 1 laparotomy). Histology found acute appendicitis in one, invasive fungal appendicitis in two, and no evidence of appendicitis in three. Those treated conservatively recovered well without interval or delayed

appendicectomy. Children who had undergone operation recovered uneventfully except for two with invasive fungal infection, who succumbed within 30-days postoperatively.

**Conclusion:** Diagnosis with the choice of appropriate and timely management are challenging in neutropenic children with appendicitis. Conservative treatment remains viable in cases of simple appendicitis. However, surgery can still be performed in neutropenic children with good recovery and no wound complications. Furthermore, invasive fungal infections in neutropenic children may predict mortality.

### Longitudinal Changes in Body Mass Index Following Kidney Transplantation in Children: A Territory Wide Study

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**Background:** This study evaluates the incidence and trajectory of weight gain after paediatric kidney transplantation in Hong Kong.

**Purpose:** To evaluate the incidence and trajectory of weight gain after kidney transplantation in Chinese children.

**Methods:** A retrospective cohort study was carried out in the Paediatric Nephrology Centre in Hong Kong, including all Chinese children who had received a kidney-only transplantation from 2013-2023. Body mass index standard deviation score was used as a proxy for adiposity.

**Findings:** 53 Chinese children (58.5% male, mean age at transplant 13±5 years) were followed for 5.5±3 years. The most common primary kidney disease was congenital anomalies of the kidney and urinary tract (34.6%). Most patients had deceased-donor kidney transplantation (88.7%) with the mean waiting time from kidney replacement therapy initiation to transplant being 2.67 years. Pre-transplantation, 13.2% of patients were classified as overweight or obese, which increased to a maximum of 30.2% at 1-year post-transplant (p=0.05) and remained elevated at 23.3% at the end of follow up. Rapid weight gain within the first-year post-transplant was

observed in 64.2% of patients. Family history of obesity ( $p=0.03$ ) and pre-existing obesity ( $p=0.02$ ) were predictors of weight gain post-transplant. Overweight or obesity was not associated with short-term metabolic and kidney graft outcomes.

**Conclusions:** Significant weight gain is common following kidney transplantation. Early intervention is worthwhile to halt further progression.

## Effective Screening Tool for Identification of Maternal Substance Abuse for Early Intervention to Reduce Adverse Impact on Our Next Generation

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**Background:** Comprehensive Child Development Service (CCDS), a tertiary-wide program for early identification and intervention for high-risk pregnant women and their infants, has been proved to improve the health and developmental outcome of infants born by substance-abusing mothers. Early identification of substance abusing mothers during antenatal period using history and risk-factors-based newborn urine test for drug-of-abuse (DOA) have effectively identified those pregnant women with substance use disorder (SUD) so that antenatal and postnatal interventions were provided to the babies and families to improve their outcomes. However, the current screening methods for maternal SUD are not applicable to cases with no antenatal visit. While asking pregnant women for history of substance abuse is not reliable, universal newborn urine test for DOA is not cost effective.

**Method:** Since 2021, Princess Margaret Hospital implemented a policy of urine test for DOA for every newborn delivered in the hospital by mothers having no antenatal visit. We calculated the positive detection rate of maternal SUD by rate of newborn urine positive for DOA in all urine tests using 'no AN' as the only risk-factors-based criteria for newborn urine toxicology test.

**Results:** Newborn urine positivity rate was 64.7%, 57.1% and 66.7% in years 2022, 2023 and 2024 respectively.

**Conclusions:** Use of 'no AN' as criteria for testing of newborn urine for DOA is a sensitive and cost-effective method to identify mothers with SUD for early intervention and child protection service to reduce the adverse impact of maternal substance abuse on our next generations.

## Genetic Results of a Tertiary Surgical Neonatal Intensive Care Unit in Hong Kong

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**Introduction:** The Neonatal Intensive Care Unit (NICU) of Hong Kong Children's Hospital (HKCH) is a unique centre that caters for neonatal surgical, cardiac, metabolic and other subspecialised cases in Hong Kong. Genetic testing is often performed in infants with congenital anomalies or critical illness with suspected genetic aetiology.

**Purpose:** To evaluate the diagnostic yield and clinical utility of genetic testing for NICU patients of HKCH.

**Methods:** Retrospective review of all NICU patients with Clinical Genetic consultations between July 2022 and September 2025 was performed. Data collection included patients' antenatal history, presenting symptoms, indication for referral, subspecialties involved and the genetic tests results.

**Findings:** This study included 228 patients in total. Six out of 37 cases with antenatal testing had genetic diagnosis made. Postnatal testing in 84 patients yielded 25 genetic diagnoses (30.8%), 40 normal results (49.4%), 14 variants of uncertain significance (17.3%) and 2 incidental findings (2.5%). Seventy-five percent of patients with clinically suspected syndromal disorders had genetic diagnosis made. The diagnostic yield was higher in those with 3 or more systems involved compared to those with 1 to 2 systems involved (60% vs 22%).

**Conclusions:** The diagnostic yield from genetic testing in our centre is comparable to international benchmark data. This study emphasises the importance of pre-test assessment, patient selection, genetic counselling and post-testing management with multidisciplinary team input to maximise the diagnostic yield and clinical utility of genetic service in NICU patients.

## Early Diagnosis of Childhood Onset Takayasu Arteritis by PET-CT Scan: A Paediatric Case Report

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**Background:** Traditional Takayasu arteritis (TA) criteria focus on vascular signs like hypertension and pulse deficits. The 2022 ACR/EULAR classification emphasizes early symptoms and the key role of noninvasive imaging. Patients may first present with constitutional symptoms before vascular damage appears, early imaging is crucial for prompt diagnosis and treatment to prevent vascular injury.

**Case Report:** A 14-year-old girl was admitted in January 2025 with intermittent low-grade fever, malaise, decreased appetite, poor sleep and general discomfort for weeks. She had a kick of fever initially then no more documented fever occurred during hospitalisation. Initially labeled as URTI with somatic complaints, her CRP was elevated at 133 mg/L and fell to 63.6 mg/L by discharge. Fever recurred two months later. The physical exam was unremarkable with normal pulses and blood pressure; no fever was documented. CRP was high and ESR was >120 mm/hr, blood cultures were negative. ANA was 1:80 (speckled), anti-dsDNA negative; Complements C3, C4 and Anti-ENA, ANCA were negative. An early PET-CT identified peri-aortitis involving the descending aorta at T8-L1. No involvement of renal or superficial temporal arteries was noted. Subsequent MRA confirmed acute aortitis at T8-L1 with mild periaortic inflammation and mild fusiform dilatation, without stenosis or dissection. There are also acute vasculitis involving the proximal aspect of the celiac trunk, superior mesenteric and bilateral renal arteries and mild stenosis of the origin of the celiac trunk is suspected. Treatment started in May 2025 with IV methylprednisolone (500 mg × 3 days), followed by high-dose oral prednisolone (60 mg daily) and methotrexate. Prednisolone was tapered gradually after 2 weeks. CRP and ESR normalised within 1 month, with follow-up PET-CT showing reduced aortic inflammation. MRA reassessment in October 2025 showed significant improvement in aortitis and the vasculitis changes involving proximal celiac trunk, superior mesenteric and bilateral renal arteries have resolved.

**Discussion:** Diagnosis of (TA) is often delayed because early symptoms are nonspecific and vascular signs appear late. PET-CT enabled early diagnosis by detecting

inflammation despite vague symptoms. PET-CT precisely localises inflammation in ambiguous cases, while MRA demonstrated better sensitivity in identifying vasculitis in other vessels. The patient showed good response after starting immunosuppressive therapy.

## The Mysterious Lemierre Syndrome in Children

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**Background:** Lemierre syndrome is a rare but potentially fatal condition. It is an oropharyngeal infection complicated by internal jugular vein (IJV) thrombosis and septic embolic events. The commonest microorganism is *Fusobacterium necrophorum*. This disease typically affects young adults but can also rarely involve young infants. The initial presentation of Lemierre syndrome can be non-specific, whereas its potential complications can involve multiple systems.

**Case:** A 5-month-old infant was admitted for fever and mild diarrhoea. He developed left facial and neck swelling several days afterwards. Ultrasound neck showed thrombosed left internal jugular vein and left submandibular abscess. He was treated with total 8 weeks of antibiotics and anticoagulation. He recovered well without need of surgical intervention. There were no neurological deficits. However, his follow up magnetic resonance venogram (MRV) of head and neck showed persistent thrombosis of left upper IJV.

**Conclusion:** Lemierre syndrome is a rare complication of oropharyngeal infection. Timely use of broad-spectrum antibiotics is key in management, while the use of anticoagulation remains controversial. In our review of paediatric cases with Lemierre syndrome, 7 out of 9 patients were treated with anti-coagulation. However, currently there is no consensus on the optimal management in IJV thrombosis in Lemierre syndrome. In our case, follow up MRV showed persistent thrombosis of left upper IJV, but its clinical significance remained undetermined.

## Paediatric Multidrug-Resistant *Mycobacterium Abscessus* Otomastoiditis with Intracranial Extension: Success with Multidrug Treatment and Adjunctive Therapies

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**Background:** *Mycobacterium abscessus* otomastoiditis is an uncommon but serious paediatric infection, often complicated by osteomyelitis, intracranial extension, and venous thrombosis. Multidrug resistance and inducible macrolide resistance severely restrict treatment options and prolong disease course.

**Case Report:** We report a previously healthy 9-year-old girl who developed progressive left otomastoiditis after ear device retention. Over two years, she presented with persistent otalgia, fever, and a growing postauricular mass. Imaging showed extensive temporal bone osteomyelitis, epidural abscess, and left sigmoid sinus thrombosis. Repeated cultures yielded *M. abscessus* resistant to macrolides (inducible), fluoroquinolones, tetracyclines, and cefoxitin. Despite prolonged combination therapy with amikacin, imipenem/cilastatin, linezolid, cotrimoxazole, tigecycline, rifabutin, ceftazidime, and clofazimine, along with multiple mastoidectomies and craniectomy for abscess drainage, disease progression persisted. Treatment was complicated by drug-induced hepatotoxicity and cranial nerve palsies. Whole exome sequencing identified a heterozygous TYK2 variant of uncertain significance, raising the possibility of underlying immune dysregulation. Adjunctive interferon- $\gamma$  and hyperbaric oxygen therapy (HBOT) were subsequently instituted, producing radiological and clinical improvement, with gradual resolution of abscesses and stable neurological deficits.

**Conclusions:** This case underscores the formidable therapeutic challenges of refractory *M. abscessus* otomastoiditis in children. Multidrug resistance mandates prolonged parenteral therapy guided by susceptibility, while surgical source control remains essential but insufficient alone. HBOT may augment antibiotic effect in avascular osteomyelitis, and immunomodulatory therapy can be considered in suspected host immune defects. Multidisciplinary management and individualised adjunctive strategies are vital for optimising outcomes in these complex infections.

## Paediatric GAD65 Antibody-Associated Encephalitis Presenting with Thyroid Storm and Refractory Epilepsy: The Diagnostic Challenge

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**Background:** Glutamic acid decarboxylase 65 (GAD65) antibody-associated encephalitis is a rare autoimmune disorder that can manifest with acute seizures and evolve into chronic treatment-resistant epilepsy.

**Clinical Case:** A 13-year-old female presented with seizures and altered mental status following a viral prodrome. Initial cerebrospinal fluid (CSF) infection analysis, autoimmune encephalitis panels, MRI and EEG were unrevealing. Subsequent evaluation revealed thyrotoxicosis (FT4 >100 pmol/L), TRAb 22.3 IU/L with Burch-Wartofsky score of 65 (febrile, tachycardia 120-129 bpm and seizures), supporting Graves' disease with thyroid storm. Her neurological symptoms were initially attributed to thyrotoxic encephalopathy, and improved transiently with levetiracetam and thyrotoxicosis under control. Despite resolution of thyrotoxicosis, she developed psychosis and treatment-refractory temporal lobe seizures (déjà vu, palpitation and dyspnoea) despite dual anti-seizure medication regimen with levetiracetam and lamotrigine. Further evaluation in Shenzhen revealed high-titre anti-GAD65 in serum and CSF, confirming the diagnosis of anti-GAD65 autoimmune epilepsy. She demonstrated clinical improvement following immunotherapy with steroids, intravenous immunoglobulin, and rituximab. Her psychotic symptoms were stabilised with infrequent seizures, Graves' disease was in remission at the latest follow-up.

**Conclusion:** This case illustrates a diagnostic challenge in autoimmune encephalitis syndromes (AESs). Anti-GAD65 associated encephalitis characteristically manifests as temporal lobe epilepsy and often has a less robust response to immune therapies. The case highlights the necessity of re-evaluating refractory neuropsychiatric symptoms and maintaining a high index of suspicion in AESs, and testing for specific autoantibodies like anti-GAD65 especially in temporal lobe seizures, which is not included in our local routine autoimmune encephalitis panel.

## Premature Thelarche Treated by Dietary Intervention

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**Introduction:** Dietary intervention has been shown to be effective in the management of some Paediatric problems, including lactation failure and early childhood obesity. It may also be useful in treating premature thelarche as shown below.

**Case Presentation:** A girl of 7.3 years complained of bilateral breast tenderness for 2 weeks. Examination showed that both of her breasts had enlarged (2 cm in diameter) with tenderness. A thorough assessment of her growth had shown that she had been growing along her own genetic potential over the last 4 years and there was no advanced bone age, suggesting a diagnosis of premature thelarche. A simple dietary assessment revealed that she like cow milk, beef and meat ball, dislike vegetables and tofu. A 45 minutes of dietary counselling was given to the mother using educational tools which include the Harvard Food Pyramid, Food portions providing 7 g protein, Dietary recommendations from World Cancer Research Fund and a recipe booklet of plant-based diet for the family (available on request). Follow up showed a disappearance of tenderness within 7 days and regression of breast enlargement within 3 months.

**Conclusion:** Plant-based diet has been proven to be effective in preventing and reversing some chronic diseases. Education on such dietary habit through Paediatricians when interviewing infants and children is worthwhile to prevent many problems, including childhood obesity which is getting more and more prevalent in Hong Kong.

## Paediatric Home Care Team Service Through the Decade: A 10-Year Retrospective

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**Introduction:** Advancements in medical technology and treatment modalities have markedly improved survival rates for young infants and children afflicted with life-threatening diseases. Many of these patients depend on complex medical technologies, including tracheostomy,

invasive ventilator support, gastrostomy, and parenteral nutrition. To address the unique challenges faced by these families and to meet the increasing demand for services, a multidisciplinary Paediatric Home Care Team (PHCT) was established at Queen Elizabeth Hospital in October 2013. This paper aims to review the outcomes of the PHCT over the past decade.

**Paediatric Home Care Team (PHCT):** The PHCT comprises specialised sub-teams, including those focusing on respiratory, gastroenterology, nephrology, and endocrinology. Each sub-team is led by experienced paediatric nurses who collaborate closely with attending specialist paediatricians. Upon referral, the home care team conducts a thorough assessment of family support systems and the feasibility of providing home care. A case manager collaborates with the paediatrician to identify appropriate support and training options. Subsequently, a comprehensive care plan is developed that outlines the required training, as well as the sourcing of consumables and equipment. To ensure that parents are adequately equipped to provide care, their knowledge and skills are assessed using standardised checklists. This evaluation process guarantees the maintenance of high standards of care. Following discharge, the specialist in charge arranges ward follow-ups if needed. A dedicated hotline is also available for inquiries, with specialists available for additional follow-up actions.

**Results:** From October 2013 to October 2024, the PHCT received a total of 654 referrals. The range of home care services provided includes: Home Oxygen Therapy, Tracheostomy Care, Non-invasive Ventilator Support, Home Mechanical Ventilator Support (HMV), Gastrostomy/Jejunostomy Feeding, Nasogastric Tube/Nasojejunostomy Feeding, Home Parenteral Nutrition, Diabetes Management and Monitoring, Subcutaneous Injection (SC) of medications, including growth hormone and biologics, Central Venous Catheter (CVC) Care. It is noteworthy that some patients require training across multiple categories, reflecting the complexity of their healthcare needs.

**Conclusion:** The Paediatric Home Care Team has substantially enhanced the quality of life for children with special healthcare needs. By empowering parents and technology-dependent patients to transition from acute hospital care to home settings, the PHCT plays a pivotal role in facilitating improved quality of life for these children and their families.

## Quality Improvement Program: Implementation of Early Lactation Consultation Sessions for the Mothers of Preterm Infants in NICU

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**Background/Introduction:** Lactation service is essential to enhance the breastfeeding outcomes in Neonatal Intensive Care Unit (NICU). However, studies showed that the prevalence and duration of breastmilk feeding were usually lower in the preterm group. To promote breastfeeding, Lactation consultation (LC) sessions commenced in Prince of Wales Hospital NICU from May 2024. The service provides early access of breastfeeding support to the mothers and increases breastmilk feeding in preterm infants.

### Purpose:

- To provide early lactation consultation sessions to the mothers of preterm infants.
- To increase the availability and sustainability of breastmilk feeding for the preterm infants.

**Methods:** The intervention included providing an early lactation consultation session within 5 days of NICU admission to the mothers of below 32-week gestation preterm infants. Two follow-up LC sessions at 1 week after the first visit and 1-month old of the infant were performed. Content included breastfeeding counselling, educating the benefits of breastmilk feeding, hand expression and safe milk storage. Retrospective data for the pre-intervention and post-intervention were collected to investigate the effectiveness of program.

**Findings:** Results showed an increased breastmilk feeding of <32-week gestation preterm infants. For the pre-intervention group, breastmilk feeding at 1 month and at discharge were 76.1 % and 32.8% respectively. For the post-intervention group, breastmilk feeding at 1 month and at discharge increased to 86.7% and 68.9% respectively. Mothers showed high satisfaction and overall rating reached 4.87 out of 5.

**Conclusions:** The program was successfully implemented, resulting in increased breastmilk feeding in preterm infants. Based on these positive outcomes, we would promote and sustain the program in our unit.

## Post Discharge PICU Follow-Up Service: A New Initiative and Paradigm Shift

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**Background/Introduction:** Most children admitted to a paediatric intensive care unit (PICU) now survive because of advancement in intervention and care. PICU discharge is a challenging procedure with risks and complications for patients. The importance of follow-up for patients newly discharged from PICU is being increasingly recognised.

**Purpose:** To enhance smooth transition to general ward so as to streamline continuity of care; provide support to general ward staff; improve communication between PICU & general ward staff; and provide education to parents if necessary.

**Method:** This follow-up service initiated in March 2022. All cases discharged from PICU to paediatric general wards at the Queen Elizabeth Hospital were included. Cases admitted to PICU for procedures only, such as bronchoscopy and renal biopsy, as well as cases discharged to the general beds attached to PICU were excluded. All eligible cases were reviewed by the Nurse Consultant (NC) or Associate Nurse Consultant (ANC) of PICU in person at 3 time points.

**Findings:** From March 2022 to July 2025, 344 cases newly discharged from PICU joined the follow-up services and reviewed at 3 time points. 66.2%, 37.2% and 63.9% of cases were reviewed at upon discharge from PICU; 24 hours after discharge from PICU; and 48 ~ 96 hours after discharge from PICU respectively. Seven periodic PICU discharge case meetings were carried out by the PICU medical and nursing team for case discussion.

**Conclusion:** We successfully developed and implemented a follow-up service for patients newly discharge from PICU. This service may help to improve the standard of care after PICU admission.

## Quality Improvement Project in Preventing Medical Adhesive-Related Skin Injuries (MARS) in Neonatal Intensive Care Unit

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**Background:** Neonates in the Neonatal Intensive Care Unit (NICU), especially during their first two weeks of life, are at risk of developing medical adhesive-related skin injuries (MARS). This is highly related to gestational age, birth weight, medical conditions, length of hospitalisation and the awareness of MARS prevention in clinical setting. MARS negatively impact the health outcomes of neonates, which requires attention to the issue.

**Purpose:** This quality improvement project aimed to reduce the incidence rate of MARS in NICU by implementing a program, which standardised the nursing practice on application and removal of medical adhesives and enhanced nurses' awareness to MARS prevention.

**Methods:** The Plan-Do-Study-Act (PDSA) cycle was adopted to guide the preparation, implementation and evaluation phase of the project. Sixty-one NICU nurses were recruited for the program, which was delivered in small groups. The program provided education on MARS, introduced Neonatal Skin Condition Score (NSCS) for skin assessment, and guided nurses on selecting, applying, and removing medical adhesives. Video tutorials were included for effective learning.

**Findings:** Pre- and post- intervention data analysis showed a significant reduction in the incidence rate of MARS from 17.4% to 0%. In addition, nurses' knowledge level of nurses regarding MARS increased from 35% to 97%.

**Conclusions:** The program on MARS prevention had successfully minimised the incidence of MARS in NICU, improved the awareness and knowledge level of nurses. Sustaining the good practice will be essential to promote a healthier and better quality of life for the neonates.

## I See Finally! Family Board Game Session to Enhance Understanding and Tailor Psychosocial Support to Relieve Carers' Stress in Managing Teens with ADHD and Comorbidities

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**Introduction:** Parenting a child with attention deficit hyperactivity disorder (ADHD) is challenging; parenting a teenager with ADHD and additional comorbidities can be even more demanding. Studies have shown that families of children with ADHD experience higher psychological distress, reduced parenting self-efficacy and consistency, more stressful life events, poorer family quality of life, and greater parenting anger. To address these challenges, an innovative family board game session was introduced at the Adolescent Medical Centre, Department of Paediatrics, Queen Elizabeth Hospital. This intervention aimed to enhance carers' understanding and provide tailored psychosocial support to relieve stress in managing adolescents with ADHD and comorbidities.

**Method:** The tile-based board game Rummikub, played with modified rules, was used as the intervention tool. Assessment: A one-off initial dynamic assessment was conducted with the adolescent and their parents/caregivers. Intervention: Follow-up sessions (2-3) were held at 1-2 month intervals. Each session lasted 45-90 minutes. Facilitation: The boardgame facilitator also served as the assessor, providing debriefing after each dynamic assessment. Outcome Measures: Evaluation was conducted using (i) A structured checklist and rating scale; (ii) Self-reported progress by the adolescent; (iii) Self-reported progress by parents/caregivers; (iv) Academic performance at school.

**Results:** The experiential board game process enabled families to step into their children's shoes and better understand their "lived experiences" of difficulties with selective, focused, limited, alternating, or sustained attention, as well as distractibility, impulsivity, and hyperactivity. Families reported immediate stress relief, greater empathy and acceptance, a clearer sense of direction in treatment, provide practical solutions to support daily functioning and academic studies.

**Conclusion:** This innovative approach demonstrates how a simple, interactive board game can serve as a powerful psychosocial tool to enhance family understanding and reduce caregiver stress in managing adolescents with ADHD and comorbidities.

## The Modification and Improvement of Endotracheal Tube Securement in PWH PICU

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**Background:** In PWH PICU, endotracheal tube (ETT) was commonly secured by doctor-led stitches method using adhesive tape and stitches. This provided a low unplanned extubation rate, but the following risks were also observed, including frequent restrapping, risk of needle stick injury, and difficulty in oral and skin care. In fact, nurse-led non-stitches methods were suggested to be beneficial to the reduction of above risk.

**Objectives:** This project aimed to implement a nurse-led non-stitches ETT securement in PICU and determine the impact in reducing the identified risk.

**Methodology:** The non-stitches ETT securement method was separated into adhesive tape (Phase 1: Transpore Clear with H-technique, Phase 2: Zinc oxide with H-technique) for ETT<5 mm and securement device for ETT>5 mm. The primary outcomes were frequent restrapping rate, oral assessment scale and pressure injury rate. The secondary outcome was nurses' compliance, evaluated by knowledge level, quality of practice and confidence level.

**Finding:** Under nurse-led non-stitches ETT securement, oral assessment scale and pressure injury rate maintained a high quality of performance. The rate of frequent restrapping was statistically significantly reduced (OR 0.096, P=0.049). In the nurses' compliance, the targeted knowledge level and quality of practice were achieved. The confidence level in new role allocation, applying device, and aftercare were also satisfactory, but that in strapping material and strapping technique were below target.

**Conclusion:** Nurse-led non-stitches method could provide an effective ETT securement by eliminating the risk of needle-stick injury and reducing restrapping rate. However, extensive study and education in nurse-led practice about adhesive tape and strapping technique are necessary.

## Implementation of Quiet Time Programme for Preterm Infants in Neonatal Intensive Care Unit

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**Introduction:** Preterm infants in Neonatal Intensive Care Units (NICU) are exposed to excessive sensory stimuli, potentially impacting their development. Quiet time reduces controllable light and sound while minimising infant handling. Studies show benefits including stabilised heart and respiratory rates, improved sleep quality, reduced stress, and better development outcomes.

**Purpose:** This programme aimed to implement and evaluate a quiet time period in the NICU at Prince of Wales Hospital by implementing a structured quiet time programme; enhancing nurses' knowledge; and raising staff awareness about maintaining a quiet environment.

**Methods:** A daily 60-minute quiet time period (12:45-13:45) was implemented for infants born before 37 weeks gestation. The intervention encompassed noise reduction (<65 dB), light control (<50 Lux), and minimal handling. Staff education was conducted through group training sessions. Data collection occurred over 2 months (August-October, 2024), measuring vital signs, activity levels, and environmental parameters before, during, and after the quiet time period.

**Findings:** Environmental modifications achieved sound reduction of 1-9 dB and light reduction to 0 Lux. While physiological parameters remained stable, increased sleep was observed during quiet time periods. Staff knowledge improved from 45% to 98% post-educational, with high compliance rates (90-100%).

**Conclusions:** The Quiet Time programme effectively reduced environmental stimuli and increased staff knowledge and awareness. Continued implementation and refinement of the programme is recommended.

## Inspiratory Muscle Training in Patient with Mixed Connective Tissue Disease: A Case Study

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**Background:** Mixed connective tissue disease (MCTD) is a rare systemic autoimmune disease characterised by overlapping connective tissue disorders. Interstitial lung disease (ILD) is prevalent in MCTD patients and can lead to compromised respiratory function with prolonged hospitalisation. Inspiratory muscle training (IMT), a therapeutic modality, designed to improve respiratory muscle strength by breathing through a device that provides adjustable resistance.

**Purpose:** The effect of IMT on ILD remain underexplored. This case involved a 15-year-old male diagnosed with multisystem MCTD with ILD, requiring prolonged PICU hospitalisation and rehabilitation. IMT was introduced to address his respiratory complications and aimed to reduce hospitalisation sequelae.

**Methods:** The patient was initially presented to PICU with multisystem vasculitis and myositis, resulting in encephalopathy, ILD and generalised muscle atrophy. IMT was prescribed daily, completing 30 repetitions of 30% of maximum inspiratory pressure (MIP). To evaluate inspiratory muscle strength and respiratory function, MIP and forced vital capacity (FVC) was measured.

**Findings:** Initial assessment showed MIP of 17 cmH<sub>2</sub>O, significantly below the normative value of 95 cmH<sub>2</sub>O for boys aged 12-19. Over 3.5 months, MIP increased by 359%, reaching 78 cmH<sub>2</sub>O. FVC improved from 1.45 L to 2.82 L (41% to 82% of predicted value). This improvement was reflected on patient's walking tolerance, progressing from walking 10m under supervision to tolerating outdoor walking for 2 hours, regaining independence in daily activities.

**Conclusions:** IMT effectively improved inspiratory muscle strength, respiratory function and functional ability in patients with MCTD with ILD, and should be recommended as a key component of pulmonary rehabilitation.

## Effects of Non-Pharmacological Interventions on Sleep Quality in Paediatric Oncology Patients and Survivors: A Systematic Review

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**Background:** Sleep disturbances are prevalent among paediatric oncology patients, driven by cancer, treatment side effects, and hospital environments, negatively impacting quality of life. Non-pharmacological interventions offer safe, adaptable solutions, but their efficacy in this population lacks consensus.

**Purpose:** This systematic review evaluates the effectiveness of non-pharmacological interventions in improving sleep quality among paediatric oncology patients (0-21 years) during treatment or survivorship.

**Methods:** PubMed, Scopus, CINAHL, and PsycINFO were searched (2000-2025) for randomised controlled trials and quasi-experimental studies. Keywords included paediatric cancer, non-pharmacological interventions (e.g., cognitive-behavioural therapy, exercise, music therapy), and sleep outcomes (e.g., sleep quality, duration). Pharmacological or respiratory sleep disorder studies were excluded. Data were synthesised narratively; study quality was assessed using Joanna Briggs Institute tools.

**Findings:** Nine studies (n=397) tested music therapy, sleep hygiene education, relaxation (e.g., progressive muscle relaxation), exercise, and massage in leukaemia and solid tumour patients. Music therapy and relaxation-exercise interventions significantly improved sleep quality. Massage and education-relaxation increased sleep duration. Progressive muscle relaxation reduced fatigue in one study. Small samples, short durations, and biases (e.g., unclear randomisation) limited evidence strength. No adverse events occurred.

**Conclusion:** Non-pharmacological interventions, particularly music therapy and relaxation-exercise, show promise for improving sleep in paediatric oncology patients, but methodological weaknesses necessitate larger, standardised trials to establish guidelines.

## A Nurse-Initiated Enhancement Program on Targeted Oxygen Titration for Neonates in NICU

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**Introduction:** Oxygen is the most frequently administered medication in neonatal intensive care units (NICUs); however, individualised oxygen titration is essential to minimise adverse outcomes. Despite its importance, global compliance with target oxygen saturation remains suboptimal. In 2024, our institution achieved only 54.7% compliance with target oxygen saturation. This quality improvement project aimed to enhance compliance through evidence-based interventions.

**Purposes:** (1) To increase the duration of time neonates spent within the target oxygen saturation range by 20% and reduce time spent in hyperoxia; (2) To achieve over 80% accuracy in alarm limit-setting practices.

**Methods:** A pretest–posttest design based on the Plan-Do-Check-Act framework was employed. Neonates requiring oxygen therapy with  $\text{FiO}_2 > 0.21$  were included. Outcome measures were (1) the proportion of time within the target  $\text{SpO}_2$  range, obtained from the Clinical Information System (CIS); and (2) the accuracy of alarm limit settings, assessed through spot audits. Interventions included an evidence-based titration protocol, nurse education, retrospective chart review on the CIS enhancement, and cue card display.

**Findings:** Between April and August 2024, 68 nurses were trained and 62 neonates (gestational age 24–41 weeks) were recruited, generating 4,626 hours of  $\text{SpO}_2$  data. The percentage of time within target range increased by 20% ( $p < 0.001$ ), while hyperoxia decreased from 44.5% to 21.3% ( $p < 0.001$ ). Alarm-setting accuracy reached 88%.

**Conclusion:** The program significantly improved target oxygen titration and reduced hyperoxia, demonstrating the effectiveness of structured protocols and staff engagement in optimising neonatal oxygen therapy.

## Implementation of Premature Infant Oral Motor Intervention (PIOMI) to Promote Early Oral Feeding

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**Background/Introduction:** Premature infants frequently have immature suck-swallow-breathe coordination, leading to delayed oral feeding and prolonged hospitalisation. PIOMI is an evidence-based 8-step oral stimulation protocol that accelerates feeding progression. However, a practice gap existed in the QMH NICU, where only occupational therapists (OTs) were trained in PIOMI. Furthermore, the unit initiated PIOMI at 32 weeks' corrected gestational age (CGA), deviating from the updated protocol that recommends starting at 29 weeks.

**Purpose:** To integrate PIOMI into routine care in a level III NICU, evaluate its effects on time to full oral feeding and length of stay, and assess nursing knowledge, competency, and satisfaction.

**Methods:** A pretest-posttest design was implemented in the QMH NICU. Pre-intervention infant data (Jan-Apr 2025,  $n=18$ ) were compared with post-implementation data (Jul-Sep 2025,  $n=17$ ), stratified by gestational age. All 69 nurses completed PIOMI training via simulation and return-demonstration, and pre/post knowledge questionnaires.

**Findings:** For infants  $\geq 34$  weeks, the days to full oral feeding decreased significantly from 8.57 to 2.25 days (mean difference  $-6.32$ ,  $p=0.01$ ), while length of stay decreased by 4 days ( $p=0.25$ ). No significant improvements were found in the 32–33+6 week group. Nursing adherence to PIOMI protocol reached 79.1%. Mean knowledge scores increased from 46.2% to 92.3%, and most nurse reported high confidence and satisfaction.

**Conclusions:** Incorporating PIOMI into NICU care is feasible, improves feeding outcomes in infants  $\geq 34$  weeks, and enhances nurses' developmental-care competency. Future studies should incorporate refresher training and parental involvement.

## To Explore the Introduction of Evidence-Based Screening Tools that Can Enhance Nurses' Knowledge, Self-Efficacy, and Attitudes in Handling Patients with Mental Health Problems

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**Background:** In the 2022/23 school year, 3.7% of secondary students in Hong Kong planned suicide, and 1.6% attempted it within the past year. Approximately 5,000 primary and 700 secondary school students require referrals to healthcare institutions, highlighting a critical issue. Currently, there are no standardised assessment tools or training programs for nurses to screen adolescent emotional problems in pediatric wards, leading to potential delays in addressing patients' needs. Paediatric nurses often lack experience in communicating and exploring about family backgrounds and protective factors, which are crucial for providing support.

**Purpose:** A cross-sectional descriptive survey was conducted to assess the knowledge, self-efficacy, and attitudes of 19 registered paediatric nurses in a general hospital in Hong Kong regarding patients with suicidal issues.

**Methods:** A range of training sessions was conducted, including the introduction of screening tools: Patient Health Questionnaire - Adolescent and the Ask Suicide-Screening Questions. Additionally, self-directed learning was facilitated through a one-hour video and an emotional zone PowerPoint presentation, along with a 1.5-hour sharing session organised by the Child & Adolescent Psychiatry Nurse Consultant. Data were gathered using pre-, post-, and three-month follow-up questionnaires to evaluate the long-term impact on nurses.

**Finding:** Nurses' knowledge and self-efficacy improved over time, but there was no correlation between experience or education level and their ability to manage suicidal behaviours.

**Conclusions:** Introducing evidence-based assessment tools for pediatric nurses can enhance early detection and intervention for mental health issues.

## Assessing Knowledge, Attitudes, and Educational Interventions for Pasteurised Donor Breast Milk Acceptance among Mothers in a Hong Kong Neonatal Unit

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**Introduction:** The established Hong Kong Breast Milk Bank (HKBMB) provides Pasteurised Donor Breast Milk (PDBM) as a critical alternative for NICU infants whose mothers have insufficient breast milk supply. However, parental acceptance rate remains low (approximately 20%).

**Purpose:** This study aimed to identify the barriers and facilitators affecting PDBM acceptance and evaluate an educational video's impact on maternal knowledge and attitudes.

**Methods:** Pre- and post-intervention questionnaire study was conducted from July to September 2025 in the NICU/SCBU of Kwong Wah Hospital. Under convenience sampling, 52 mothers of hospitalised infants participated. They completed pre-intervention questionnaires assessing baseline knowledge, and attitudes, watched a standardised educational video on PDBM/HKBMB, and completed post-intervention questionnaires.

**Findings:** Low PDBM acceptance is driven primarily by knowledge gaps and safety concerns, not cultural aversion. Key facilitators included healthcare professional support and peer testimonials, while key barriers included donor ambiguity and safety concerns. The educational video was highly effective in bridging the knowledge deficit and building trust. Post-intervention, knowledge improved. Trust in HKBMB (scale 1-10) shifted higher, with 50% scoring 9 or above post-intervention. Preference for PDBM over formula increased from 79% to 92%.

**Conclusions:** Interactive education should be delivered to increase PDBM acceptance. Future promotion must address safety protocols and transparency to build parental trust, utilising healthcare professionals and multimedia to maximise this vital public health resource's utilisation.

## Quality Improvement Program: Prevention and Management of Diaper Dermatitis

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**Introduction:** Diaper dermatitis (DD) is used to describe inflammatory reactions of the skin in the perineal and perianal areas (diaper area). The rate of babies in the Special Care Baby Unit (SCBU) suffering from diaper dermatitis was 27%. Therefore, we conducted a CQI program to address this issue.

**Purpose:** The program aimed to reduce DD by implementing an evidence-based protocol for buttock care. It also raised awareness and improved knowledge among healthcare professionals and parents to prevent and manage DD effectively.

**Methods:** The PDSA cycle serves as the guiding framework for the CQI program. During the Plan phase, the team focused on formulating strategies to enhance prevention and management of DD. In the Do phase, interventions were standardised, including changing diaper use practices and strengthening skin care. Staff and parents were also educated to raise awareness of DD. The Study phase involved collecting and analysing data on the incidence and severity of DD, while the Act phase incorporated the lessons learned to refine and optimise the interventions.

**Findings:** The prevalence rate of DD in SCBU decreased from 27% to 15% between November 2023 and January 2024. After the program, 97.6% of cases were accurately assessed, with 89% receiving appropriate care, highlighting improved awareness of DD among staff and parents.

**Conclusions:** The developed protocol is effective in reducing diaper dermatitis of babies. This protocol has become the standard of care in our unit when caring for babies.