



British
Society of
Interventional
Radiology



BSIR Paediatric IR UK Meeting

Monday 19th May 2025
Austin Court, Birmingham, B1 2NP

Welcome

We will be discussing hot topics such as hepatobiliary intervention, interventional oncology and vascular access. This year we have a dedicated session for allied health professionals - come and hear about the challenges and regards of working in PIR as a nurse or radiographer.

Our afternoon session highlights the many routes into PIR for radiologists and what a career in PIR can mean.

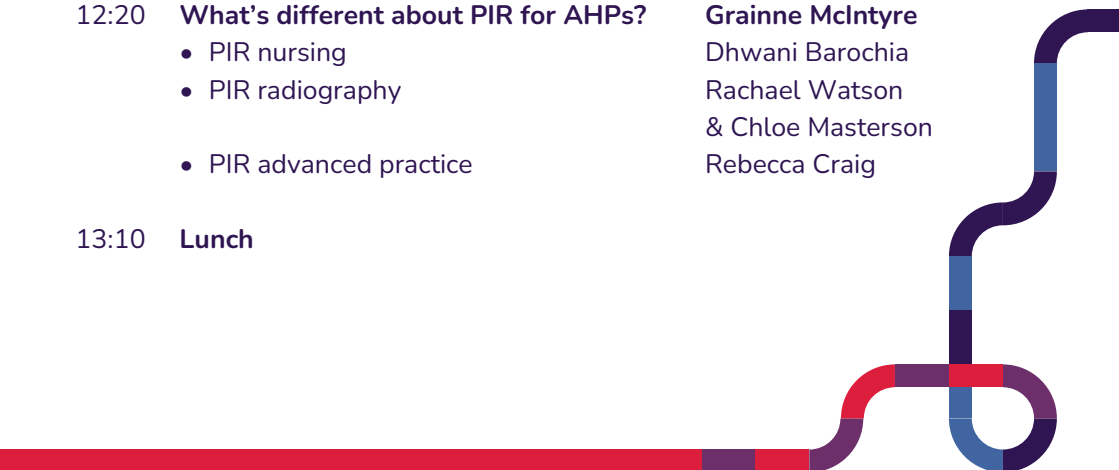
We finish with our ever-popular rapid-fire session with lessons shared by PIRs at the coal face around the UK.



BSIR Paediatric IR UK Meeting Programme

Monday 19th May 2025

- 08:30 **Registration**
- 09:15 **Welcome and introductions** **Sam Byott & Premal Patel**
- 09:25 **PIR: simple & complex** **Andy Healy**
- HPB intervention: a primer
 - Advanced HPB intervention
 - Vascular access: a primer
 - Advanced vascular access
- Ian McCafferty
Nasim Tahir
James Bennett
Kishore Minhas
- 10:30 **Coffee**
- 11:00 **Paediatric IO** **Alex Barnacle**
- An A-Z of IO
 - Access to IO for children
 - Palliative IO in paediatrics
 - My experience: the patient's perspective
- Premal Patel
Simon McGuirk
Fernando Gómez Muñoz
Kimberley Hattersley-Barton
& Alex Barnacle
- 12:20 **What's different about PIR for AHPs?** **Grainne McIntyre**
- PIR nursing
 - PIR radiography
 - PIR advanced practice
- Dhwani Barochia
Rachael Watson
& Chloe Masterson
Rebecca Craig
- 13:10 **Lunch**



BSIR Paediatric IR UK Meeting Programme

Monday 19th May 2025

14:00 **Industry spotlight & Poster session**

- Posters

Premal Patel,
Sabrina Memeriam
& Mayoreshan Anandarajah

14:50 **Finding my niche in PIR**

- From an adult IR perspective
- From a paediatric radiology perspective
- PIR service development

Narayan Karunanithy
Nimesh Shah
John Adu
Imran Kasli

15:40 **Lessons from the coalface**

- Lesson 1
- Lesson 2
- Lesson 3
- Lesson 4
- Lesson 5

Siobhan Hoare
Linda Watkins
Sam Byott
Jeremy Jones
Graham Collin
Fergus Robertson

16:35 **Closing remarks**

Poster Prize Presentation

Nasim Tahir
& Alex Barnacle



BSIR Paediatric IR UK Meeting

Learning Objectives

PIR: simple & complex:

This session is aimed at adult IR consultants, trainees and AHPs who may be interested in doing some PIR or who are occasionally asked to take on paediatric cases, and those already doing PIR who are keen to learn from complex cases and pick up some tips and tricks. The primer talks focus on what's different about this topic in paediatric practice and where adult IRs can flex their existing IR skills treat a child. The advanced talks focus on more complex cases.

Paediatric IO:

Interventional oncology (IO) has been slow to develop for children but is highly relevant to paediatric practice. The first talk gives a brief overview of IO for those who are new to the subject. The session then examines the inequalities and challenges in trying to offer IO for children. Finally, we are joined by Kimberley Hattersley-Barton who will share with us her experiences around decision making and getting through procedures as a young oncology patient as well as living with the late effects of her childhood cancer treatments.

What's different about PIR for AHPs?

This session, delivered by allied health professionals (AHPs) working in PIR, gives insights into the challenges and rewards of working in PIR. It also aims to inspire IR teams to support their AHPs in developing their PIR practice. The talks focus on what is different about the various AHP roles when treating children and where AHPs can make a critical difference within the team.

Finding my niche in PIR:

The career pathways into PIR are not always obvious and are more varied than you may think. This session aims to encourage those from either an adult IR or a paediatric diagnostic radiology background to explore PIR. The speakers will share their experiences of widening their radiology practice, the rewards and challenges that PIR brings and how their role makes a difference in their hospitals.

BSIR Paediatric IR UK Meeting

Learning Objectives

Lessons from the coalface:

Ever popular, this rapid fire session gives PIRs from around the UK a few minutes at the mic to highlight something about their practice that they'd like to share with others in this specialty. It's an opportunity to pick up top tips from the experts, such as clinical insights, novel ways to use a piece of kit or useful bail-out techniques. This session often includes reflections on complications, team working tactics or management and leadership strategies. Join us to reflect on how you might nuance your practice when working with children.



BSIR Paediatric IR UK Meeting

Faculty List

Sam Byott	Manchester Children's Hospital
Premal Patel	Great Ormond Street Hospital for Children, London
Andy Healy	Alder Hey Children's Hospital, Liverpool
Ian McCafferty	Birmingham Children's Hospital
Nasim Tahir	Leeds Children's Hospital
James Bennett	Birmingham Children's Hospital
Kishore Minhas	GOSH, London
Alex Barnacle	GOSH, London
Simon McGuirk	Birmingham Children's Hospital
Fernando Gómez Muñoz	Hospital La Fe, Valencia, Spain
Kimberley Hattersley-Barton	
Dhwani Barochia	GOSH, London
Rachael Watson	Birmingham Children's Hospital
Chloe Masterson	Birmingham Children's Hospital
Rebecca Craig	GOSH, London
Sabrina Memeriam	St Marys's Hospital, London
Mayooreshan Anandarajah	Royal Liverpool University Hospitals FT
Narayan Karunanithy	Evelina Children's Hospital, London
Nimesh Shah	Royal London Hospital, London
John Adu	St George's Hospital, London
Imran Kasli	Leeds Children's Hospital
Siobhan Hoare	Children's Health Ireland
Linda Watkins	Glasgow Children's Hospital
Jeremy Jones	Edinburgh Children's Hospital
Graham Collin	Bristol Children's Hospital
Fergus Robertson	GOSH, London

BSIR Paediatric IR UK Meeting

Accepted Abstracts

TRANSCATHETER EMBOLIZATION FOR PAEDIATRIC VISCERAL ARTERY ANEURYSMS: SAFETY, EFFICACY, AND LONG-TERM OUTCOMES

Author: Subham Roy

Aims: This study aims to evaluate the efficacy, safety, and long-term outcomes of transcatheter embolization in managing paediatric visceral artery aneurysms (VAAs). Given the rarity and high-risk nature of VAAs in children, the study compares embolization outcomes with traditional surgery to determine its viability as a first-line treatment.

Materials and Methods: A multicentre retrospective review was conducted on paediatric patients (≤ 18 years) who underwent transcatheter embolization for VAAs between 2014 and 2024. Data included patient demographics, aneurysm characteristics, embolic agents (coils, liquid embolics, vascular plugs), technical success rates, complications, and long-term imaging outcomes. An age-matched surgical cohort was analyzed for hospital stay, morbidity, and recurrence rates.

Results: A total of 63 paediatric patients underwent embolization, achieving a primary technical success rate of 92.1%. Complete aneurysm exclusion was confirmed on follow-up imaging in 89.7% over a mean follow-up period of 3.8 years. Coil embolization (46%) and liquid embolics (32%) were most frequently employed, with vascular plugs (22%) reserved for larger vessels. Minor complications, including post-embolization syndrome, occurred in 14.3%, while major complications such as non-target embolization occurred in 4.8%. Compared to the surgical cohort ($n=35$), embolization resulted in significantly shorter hospital stays (4.2 vs. 9.1 days, $p<0.001$) and lower morbidity (6.3% vs. 17.1%, $p=0.03$).

Conclusion: Transcatheter embolization represents a safe, effective, and minimally invasive approach to paediatric VAAs, demonstrating faster recovery and reduced morbidity compared to surgery. Advances in embolic materials and imaging precision support its growing role in paediatric vascular intervention. Multidisciplinary collaboration remains essential to optimize patient selection, procedural planning, and long-term surveillance strategies.

BSIR Paediatric IR UK Meeting

Accepted Abstracts

THE ROLE OF IMAGE-GUIDED PERCUTANEOUS DRAINAGE IN THE MANAGEMENT OF PAEDIATRIC INTRA-ABDOMINAL ABSCESSES: A COMPARATIVE ANALYSIS WITH SURGICAL DRAINAGE

Author: Subham Roy

Aims: This study aims to evaluate the efficacy, safety, and clinical outcomes of image-guided percutaneous drainage (IGPD) in the management of paediatric intra-abdominal abscesses, comparing it to surgical drainage. The study also aims to assess procedural complications, hospital stay duration, and long-term outcomes to determine IGPD's role as a first-line intervention.

Materials and Methods: A retrospective cohort analysis was conducted on paediatric patients (≤ 16 years) who underwent IGPD or surgical drainage for intra-abdominal abscesses (2015- 2024) across three tertiary paediatric centres. Data collected included demographics, aetiology, abscess characteristics, procedural details, complications, length of hospital stay, and recurrence rates. Statistical analysis involved chi-squared tests for categorical variables and t-tests for continuous variables, with significance threshold of $p < 0.05$.

Results: A total of 152 children were included (IGPD: $n=87$, surgical drainage: $n=65$). The IGPD group demonstrated significantly shorter mean hospital stay (6.4 ± 1.8 days vs. 9.1 ± 2.3 days, $p < 0.001$) and fewer major complications (3.4% vs. 10.7%, $p=0.02$). Clinical success, defined as complete resolution without surgical conversion, was achieved in 81.6% of IGPD cases. Recurrence rates were comparable between IGPD and surgical groups (6.9% vs. 7.7%, $p=0.78$). Procedure-related complications in IGPD were primarily minor (e.g., catheter dislodgement, managed conservatively).

Conclusion: IGPD is a safe and effective first-line intervention for paediatric intra-abdominal abscesses, demonstrating shorter hospital stays and fewer complications compared to surgical drainage. Given its minimally invasive nature and comparable clinical success rates, IGPD should be considered the preferred approach warranting further prospective studies to refine patient selection criteria and optimise procedural techniques.

BSIR Paediatric IR UK Meeting

Accepted Abstracts

UNUSUAL MANIFESTATIONS IN A LACERATED SPLEEN

Authors: Amrin Israrahmed & Graham Collin

Learning Points:

- Most splenic artery pseudoaneurysms and traumatic arterio-venous fistulas are conservatively managed in hemodynamically stable children, as they tend to show spontaneous thrombosis/ resolution.
- Splenic vein thrombosis with the AVF outflow towards the short gastric veins and associated sequential enlargement of gastric varices poses a potential threat of variceal rupture.
- It is important to recognise that splenic trauma can show delayed manifestations and poor clinical improvement of the child should prompt re-imaging to assess the interval changes, so that appropriate treatment is not delayed.

Background: To discuss an interesting clinical scenario wherein splenic embolisation becomes more relevant rather than conservative management. A 15-year-old boy presented to the emergency department following a mountain bike accident with blunt abdominal trauma and a hemoglobin fall of 120g/L to 75g/L over a period of 72 hours.

Description of Findings/Procedure: Computed tomography (CTA) angiogram revealed a large volume hemoperitoneum, grade 5 shattered splenic and grade 2 renal injury with no pseudoaneurysm or extravasation. Hence, he was managed conservatively. Lack of clinical improvement prompted a repeat CTA which showed progression of splenic infarcts, splenic artery pseudoaneurysm, and a traumatic arteriovenous fistula (AVF) with hyper-enhancing gastric fundal varices. Endovascular embolisation was performed, and angiograms confirmed the splenic pseudoaneurysm, AVF with occluded splenic vein and outflow towards gastric varices. Super-selective coil embolisation was done with good hemostasis. The child was discharged in stable condition and a 6-month follow-up ultrasound showed small volume splenic infarct with preserved residual parenchyma.

Conclusion: The key takeaway is that often splenic trauma may not immediately demonstrate the underlying vascular injuries & they may become apparent in the subacute phases. As AVF's outflow was directed towards the gastric varices, they became engorged and dilated, increasing the risk of variceal rupture. Splenic artery embolisation not only prevented this potential complication but also preserved a significant portion of the spleen. Although literature encourages conservative management of stable splenic pseudoaneurysms in children, recognising the flow dynamics, as in this case, necessitated tailored management.

BSIR Paediatric IR UK Meeting

Accepted Abstracts

LOCAL DIAGNOSTIC DOSE REFERENCE LEVEL FOR PERIPHERALLY INSERTED CENTRAL CATHETER (PICC) IN A TERTIARY PAEDIATRIC HOSPITAL

Authors: Chris Grieco, Adson Ka-ho Leung, Allan Yuk-lam Lee, MPhil,
& Kevin Kin-fen Fung MBBS, FRCR, FHKCR, EBIR

Learning points: Local DRLs for PICC Placement – A diagnostic reference level (75th percentile of DAP) was established for different paediatric weight groups in a tertiary hospital. Higher Radiation Exposure in Smaller Patients – Patients weighing $\leq 15\text{kg}$ had higher DAPs compared to published DRLs, likely due to the more frequent use of digital subtraction venography. Potential Optimisation Strategies – Reducing frame rates, implementing spectral filtration, and minimising the use of venography could help lower radiation doses without compromising procedural success.

Background: PICC is one of the most commonly performed interventions to secure central venous access in children. Fluoroscopy, and sometimes digital subtraction venography, is required for safe and successful PICC placement. We aim to establish a local diagnostic reference level (DRL) to aid optimisation of radiation exposure during PICC placement.

Materials and Methods:

Retrospective analysis of patient demographics, procedural details and dose-area products (DAP) of PICC insertion in a single tertiary paediatric hospital from 2020 – 2022 was performed. DAPs were analysed and correlated with demographic data and stratified across five weight groups. Local DRL (75th percentile) was established and compared to reported DRLs in the literature. Institutional review board waiver was obtained.

Results: 298 PICCs were included for analysis. Local DRLs were determined as $0.65\text{Gy}\cdot\text{cm}^2$ for 0-5kg, $0.37\text{Gy}\cdot\text{cm}^2$ for 5-15kg, $0.32\text{Gy}\cdot\text{cm}^2$ for 15-30kg, $0.39\text{Gy}\cdot\text{cm}^2$ for 30-50 kg and $0.65\text{Gy}\cdot\text{cm}^2$ for 50-80kg. The use of venography was more prevalent in the patients who weighed 15kg or less (26.5% vs 1.8%, $p < 0.001$). Comparing with published DRLs from the Hospital for Sick Children (SickKids), the 75th centile of DAPs in our institution in the 0-5kg (0.65 vs $0.15\text{Gy}\cdot\text{cm}^2$) and 5-15kg were higher (0.32 vs $0.22\text{Gy}\cdot\text{cm}^2$) while the DAPs of the remaining weight groups had lower 75th centile.

Conclusion: Local DRLs for PICC was established. DAPs at 75th centile in patients weighed 15kg or less were higher than the SickKids group, possibly attributable to the more prevalent use of venography, suggesting area for further optimisation, including frame rate reduction and use of spectral filtration.

BSIR Paediatric IR UK Meeting

Accepted Abstracts

BIODEGRADABLE AIRWAY STENTING IN VENTILATOR DEPENDENT PAEDIATRIC PATIENTS

Authors: Geoffrey Ronan, Reece Travis, James Diviney,
Andrew Nyman & Leo Monzon.

Learning Points:

- 1) Utility of biodegradable airway stents in paediatric patients
- 2) Treatment of severe airway obstruction and tracheobronchomalacia in paediatric patients
- 3) Multi-disciplinary team approach to patient care and joint cases in interventional radiology

Background: Tracheobronchomalacia (TBM) is one of the few causes of irreversible airways obstruction in children. Its management is often difficult, necessitating multiple interventions and prolonged respiratory support. Untreated, TBM results in significant morbidity and mortality. Historically, both metallic and silicone stents have been used with limited sustained success owing to the need for removal as the patient grows. Biodegradable airway stents have been adopted into the treatment of paediatric TBM and severe tracheobronchial obstruction within the last 15 years with promising outcomes and a low rate of adverse effects. We describe two cases of airway stent insertion in ventilator dependent children in whom other first line treatments yielded no benefit.

Procedure: Clinical history, laboratory findings, imaging and procedural imaging/notes were reviewed from two patients, aged 5 months and 14 months. Both patients underwent insertion of a custom-made biodegradable airway stent as part of a combined case between interventional radiology, ENT and the paediatric airway team. Both patients had a significant and sustained improvement post-procedure with weaning of support and extubation within days.

Conclusion: Despite its introduction over 15 years ago and promising accompanying data, the use of biodegradable stents in paediatric cohorts remains reserved for complex and multimorbid patients. We present a short case series of the effectiveness of biodegradable airway stents in two ventilator dependent patients with different aetiologies and distribution of disease.

BSIR Paediatric IR UK Meeting

Accepted Abstracts

REVIEW OF 10 YEARS OF PAEDIATRIC INTERVENTION IN A NON-SPECIALIST TERTIARY CENTRE Authors: Laura Chen & Abdel Kader Allouni

Aims: There is an emerging need for more centres to deliver paediatric intervention, as highlighted in the Royal College of Radiologists 2023 review: Improving Paediatric Interventional Radiology services in the UK. We describe the service provided in a non-specialist tertiary centre over the last 10 years.

Materials and Methods: Data on age and type of procedure were collected on all paediatric (0-17 years) interventions performed in a non-specialist tertiary centre between 1 January 2015 and 1 January 2025 using the Computerised radiology information system (CRIS).

Results: A total of 153 procedures were performed across 90 patients. Among these, 66 were performed on patients under the age of 14 years. Procedures were classified into 10 categories, with the most common being feeding tube placement, vascular access, lumbar puncture and embolisation for trauma. Ten consultants including interventional radiologists, interventional neuro-radiologists, paediatric radiologists, and vascular surgeons were involved in these procedures. Of note, nine embolisations for trauma were performed.

Conclusion: A wide variety of paediatric intervention was provided by a non-specialist tertiary centre. This shows promise for other centres to expand their paediatric intervention service. Continued commitment is essential to increase and improve this service across all centres nationwide.



British
Society of
Interventional
Radiology

