Association of Anaesthetists
Great Britain & Ireland

APAGBI

Little updates: Paediatric anaesthesia

AAGBI Winter Scientific Meeting
15th January 2026

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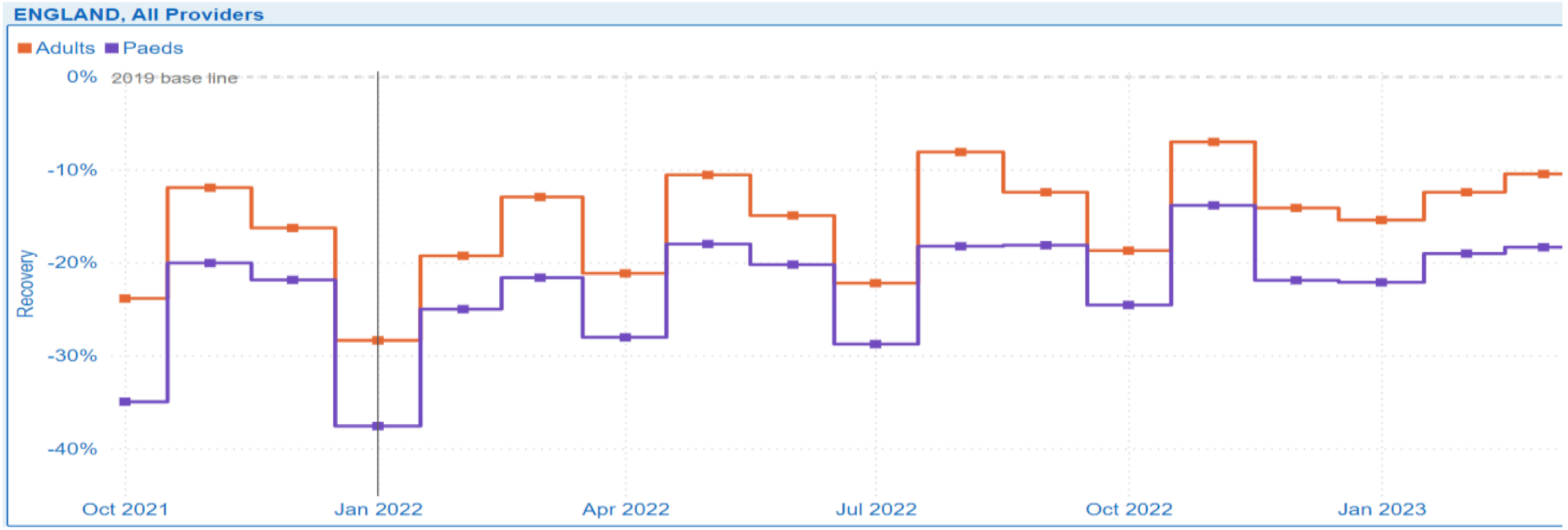
With many thanks to:

Simon Courtman
Vimmi Oshan
Annabel Pearson
Sam Black
All APAGBI Council members

Overview

- Elective recovery and health inequalities
- NAP 7: paediatric cardiac arrest
- Recent papers
    - Neonatal and infant airways
    - Perioperative respiratory adverse events
- National pathways
    - Button batteries
    - Testicular torsion
    - Daycase adenotonsillectomy
- Current controversies
- Resources

Elective recovery - The recovery gap

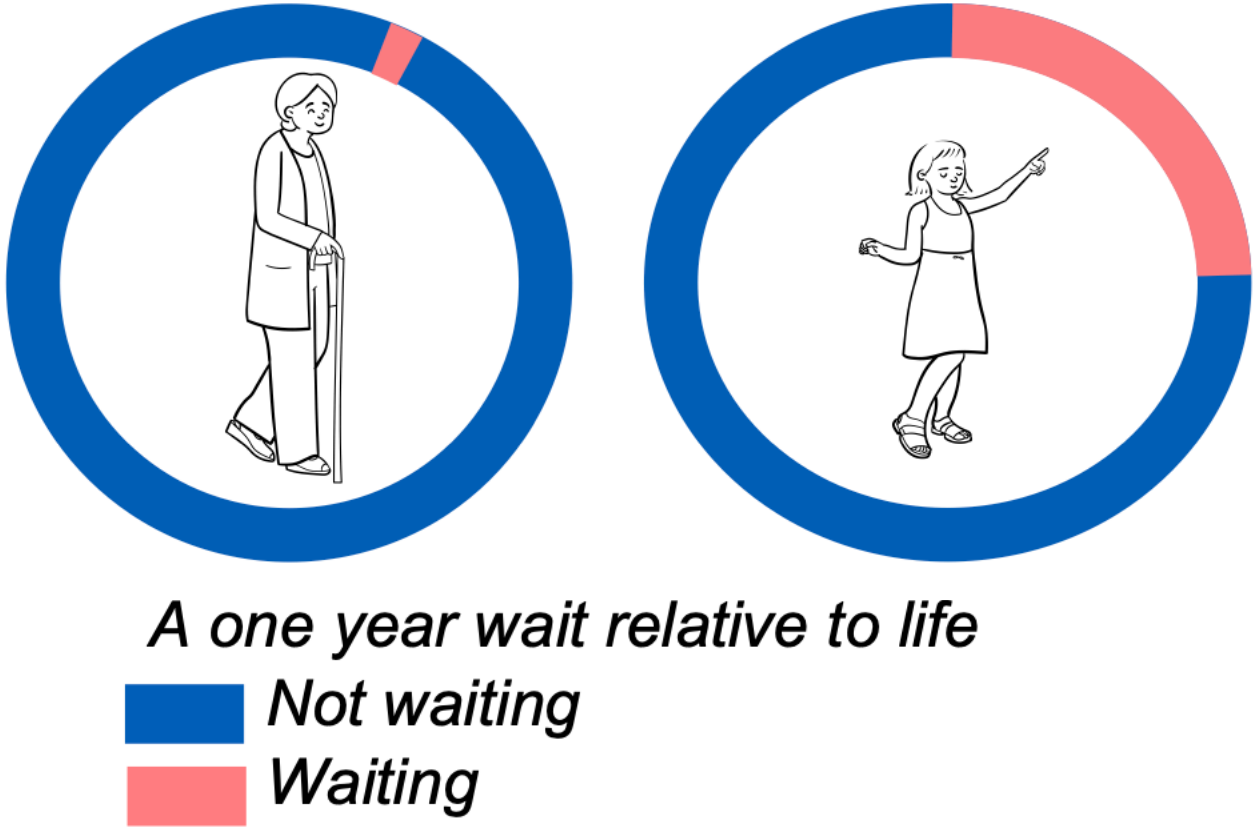


- Children don’t have a voice and continue to lag behind adults
- Competition for resources in joint adult / paediatric hospitals

Elective recovery - The recovery gap

- The impact on children's health outcomes is likely to be hidden
- Hence there is poor visibility of children's elective recovery data
- Mixed waiting lists: The majority of children waiting for surgery are held on mixed waiting lists, hidden within adult data
- Specialties with the highest numbers of children and young people waiting, and where recovery has been most challenged, are: ENT, Dental, Ophthalmology, Urology, Trauma & orthopaedics, including spinal

The problem for children…



Long waits for elective care impact on the development of children

and

can have life-long consequences on their health outcomes.

A one year wait relative to life is critical to consider – this has a far greater impact upon children, especially <2 year olds. Children have surgery for conditions that have a **lifelong impact** on their development, not for comorbidities like adults. Certain conditions have to be treated by a certain age, within a **specific developmental window**

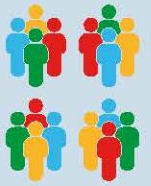
REDUCING HEALTHCARE INEQUALITIES FOR CHILDREN AND YOUNG PEOPLE

NHS

CORE20
The most deprived **20%** of the national population as identified by the Index of Multiple Deprivation

The **Core20PLUS5** approach is designed to support Integrated Care Systems to drive targeted action in healthcare inequalities improvement

PLUS
ICS-chosen population groups experiencing poorer-than-average health access, experience and/or outcomes, who may not be captured within the Core20 alone and would benefit from a tailored healthcare approach e.g. inclusion health groups

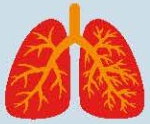


Target population

CORE20 PLUS 5

Key clinical areas of health inequalities

1



ASTHMA
Address over reliance on reliever medications and decrease the number of asthma attacks

2

DIABETES
Increase access to Real-time Continuous Glucose Monitors and insulin pumps in the most deprived quintiles and from ethnic minority backgrounds & increase proportion of children and young people with Type 2 diabetes receiving annual health checks

3

EPILEPSY
Increase access to epilepsy specialist nurses and ensure access in the first year of care for those with a learning disability or autism

4

ORAL HEALTH
Address the backlog for tooth extractions in hospital for under 10s

5

MENTAL HEALTH
Improve access rates to children and young people's mental health services for 0-17 year olds, for certain ethnic groups, age, gender and deprivation

Health Inequalities in Children (HIC) Priority Tool

HEALTH EQUALITY	IDACI 1-2	2 points
	IDACI 3	1 point
IMPACT	Index condition impacting on daily activity (eg school/nursery attendance)	1 point
	Index condition causing sadness/anxiety for child	1 point
ADDITIONAL NEEDS	Learning difficulties, neurodivergent (autism, ADHD etc)	1 point
	Looked after child	1 point
WAITING	Has attended GP/ED 3 or more times in last year (for index condition)	1 point
	Aged 2 years or less	1 point

An example of a tool developed in Plymouth which attempts to address health inequalities by using a scoring system to adjust waiting lists.

3 points or more P score modified - P4 to P3

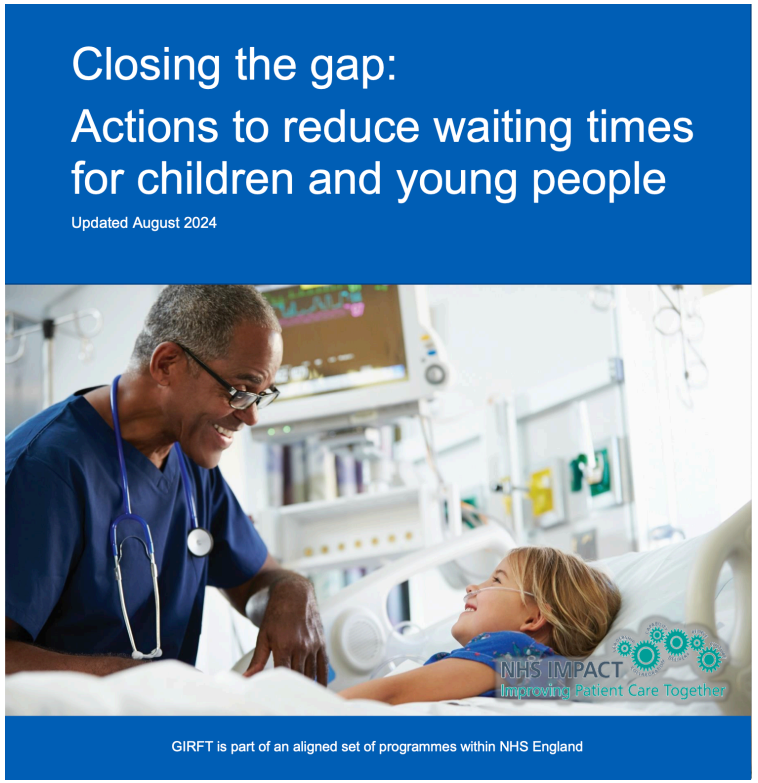
Closing the gap initiatives

- GIRFT Further Faster document aims to support trusts to reduce 52 week waits, and now 40-52 week waits whilst maintaining and improving quality and outcomes
- Strategies include……

  - Extra sessions
  - “Super days” for children’s surgery
  - Share capacity across systems
  - Elective surgical hubs

  - Ensure clinically necessary
  - Universal preoperative assessment
  - Provide “waiting well” resources

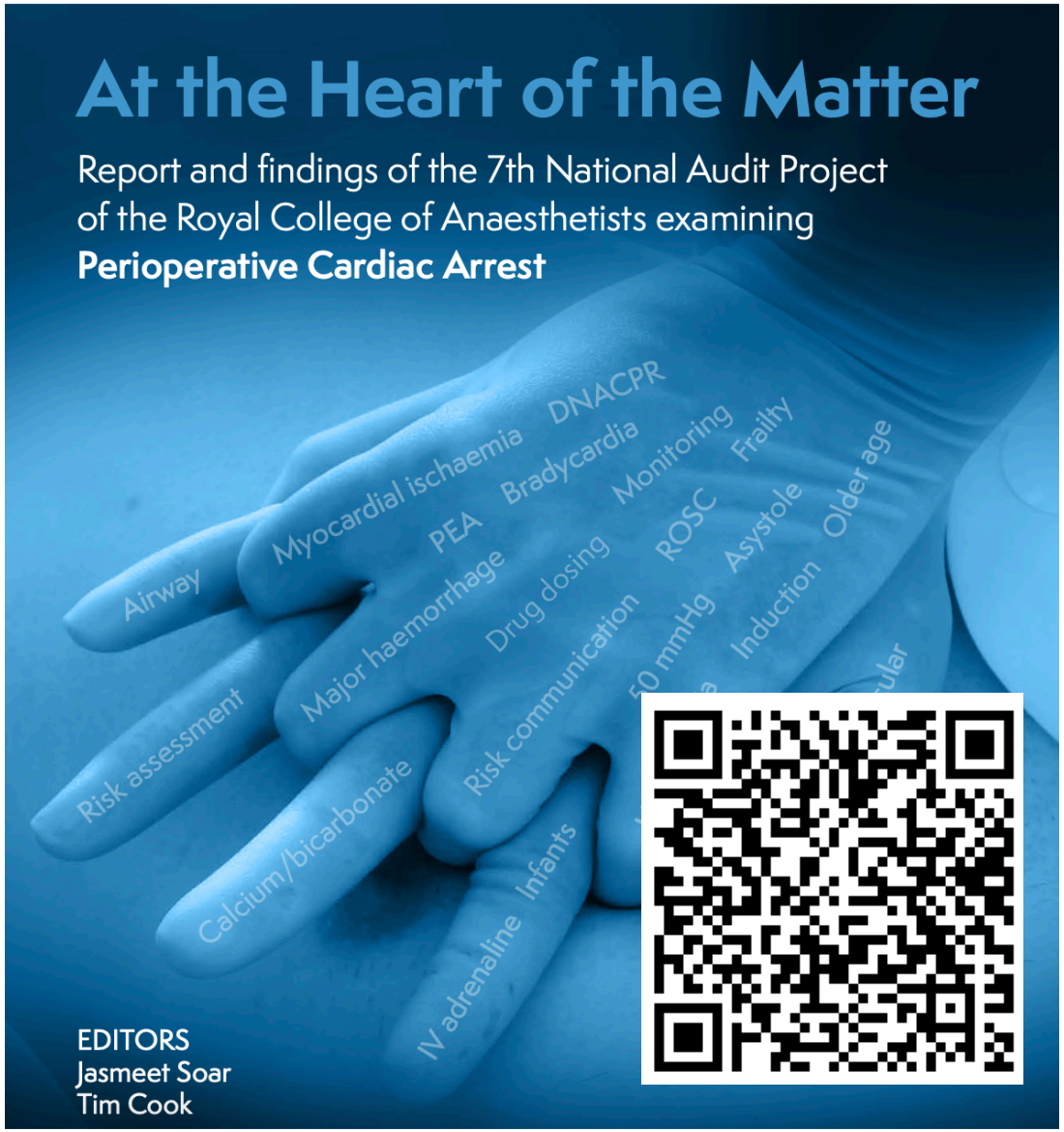
GETTING IT RIGHT FIRST TIME



NAP 7:
Paediatric cardiac arrest

"Children receiving ≥5 chest compressions under care of anaesthetist"

- Incidence
- At risk groups
- Recommendations



Paediatric anaesthetic activity

NAP7
Perioperative Cardiac Arrest

RCoA
Royal College of Anaesthetists

Since NAP6 paediatric anaesthetic activity has
↑ in volume
↑ in complexity
↑ BMI of children

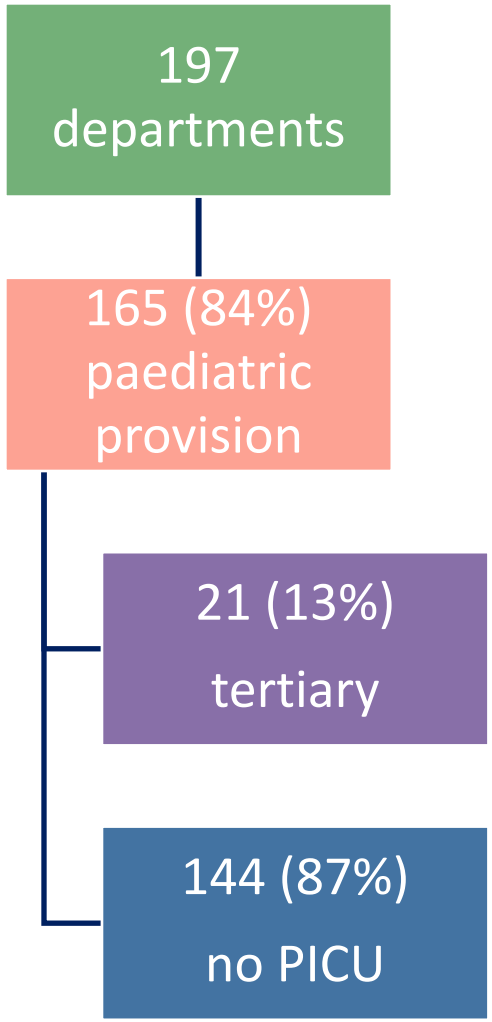
3455 in
4 days

390,000
per year

Accounts for 14% of all anaesthetic cases

Paediatric anaesthesia and preparedness

NAP7
Perioperative Cardiac Arrest



15% had no paediatric difficult airway equipment where children anaesthetised – remote locations were the worst

7% had managed a cardiac arrest in a child in the last 2 years (50% in an adult)

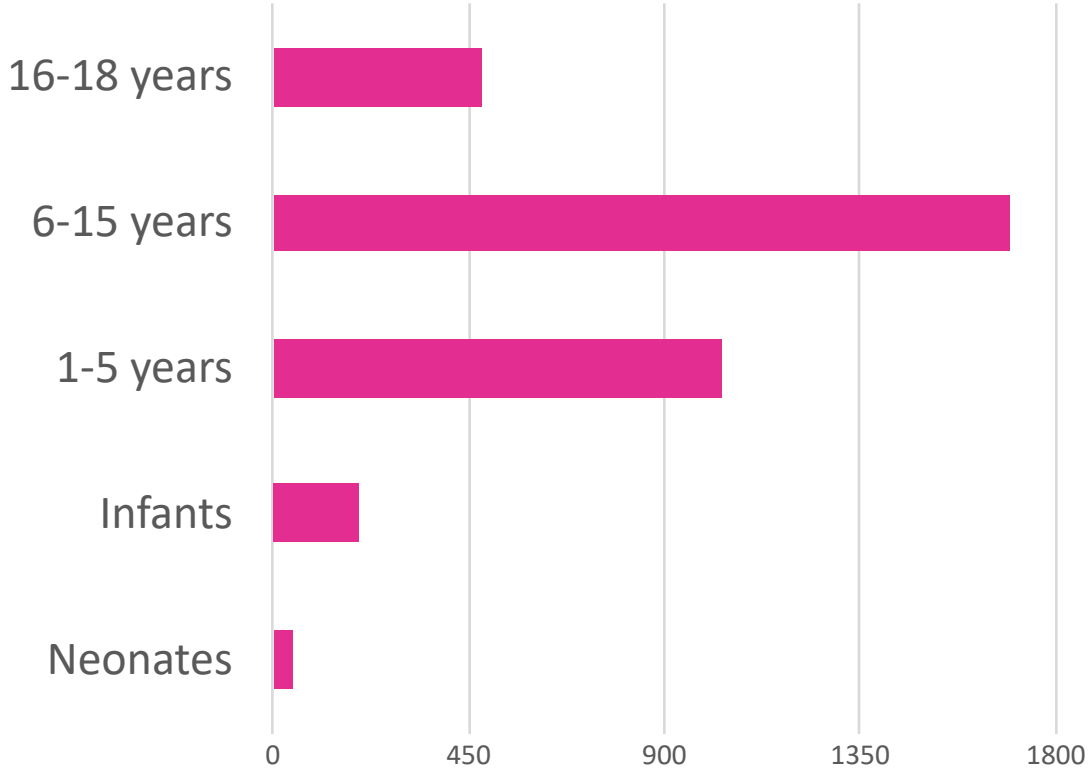
33% not up to date with paediatric ALS

11% have never had paediatric ALS training

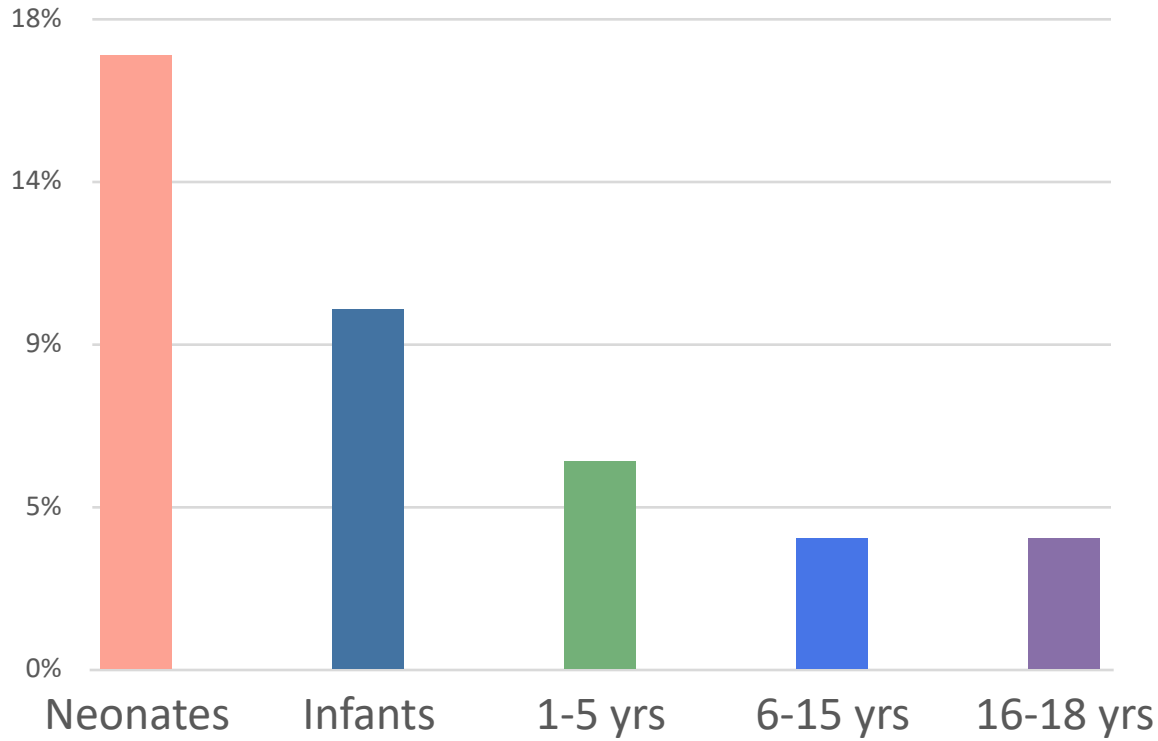
Activity and complication rate by age

NAP7 Perioperative Cardiac Arrest

Frequency



Complications



Children < 18 years accounted for 14.3% of cases
Of the overall paediatric activity:- Neonates accounted for 1.4% and infants < 1 year accounted for 5.7%
Complications rates were highest in neonates with 17% of cases reporting at least 1 complications
Laryngospasm was the most common complication (20%)

ABC – airway, breathing, children!

NAP7 Perioperative Cardiac Arrest

Table 27.3 Raw complication rate by type and age per 10,000 cases

Complications	Age (years)								
	< 28 d	28 d to < 1	1–5	6–15	16–18	19–25	26–35	36–45	46–55
Airway	444.4	456.9	338.5	182.8	175.1	218.2	220.2	269.5	214.6
Breathing	1555.6	355.3	183.8	[illegible]	0.0	104.4	166.3	144.1	158.1
Circulation	1333.3	253.8	106.4	82.5	109.4	208.7	215.3	218.4	308.7
Neurological	222.2	0.0	0.0	5.9	43.8	47.4	0.0	18.6	41.4
Metabolic	666.7	253.8	67.7	59.0	65.6	104.4	117.4	102.2	97.9
Other	444.4	203.0	67.7	35.4	43.8	85.4	53.8	27.9	37.7

16%

4.5%

1-2%

Most complications were Airway and Breathing in neonates and under 1 year olds
Complication rates were similar to adults in patients over 5 years old

RCoA Royal College of Anaesthetists

Paediatric cardiac arrests

NAP7 Perioperative Cardiac Arrest

RCoA Royal College of Anaesthetists

12% of all perioperative cardiac arrests

85% in tertiary paediatric centres

74% Survival rate

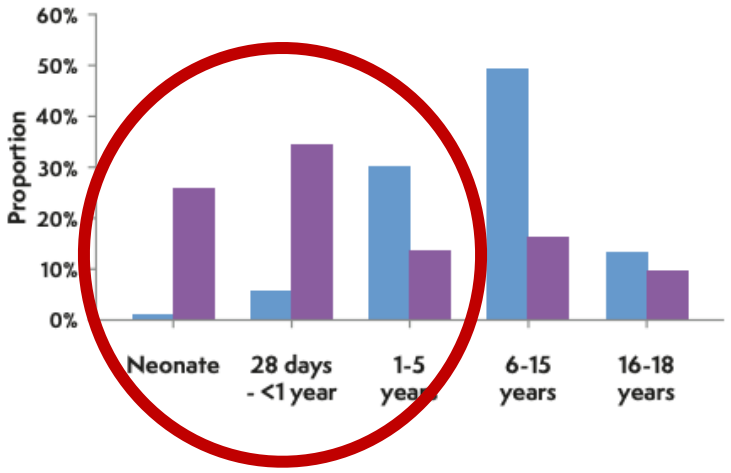
Neonates	0.5%	**1/200**
Infants	0.2%	**1/500**
All Children	0.03%	**1/3333**

NAP 7 Paeds

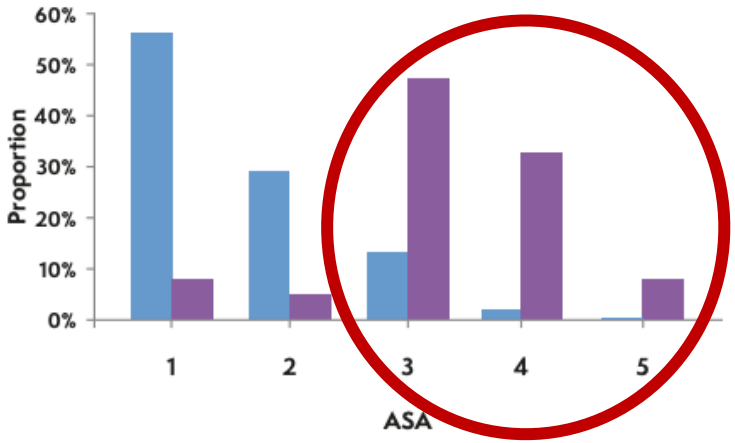
Paediatric cardiac arrests: Risk factors

NAP7 Perioperative Cardiac Arrest

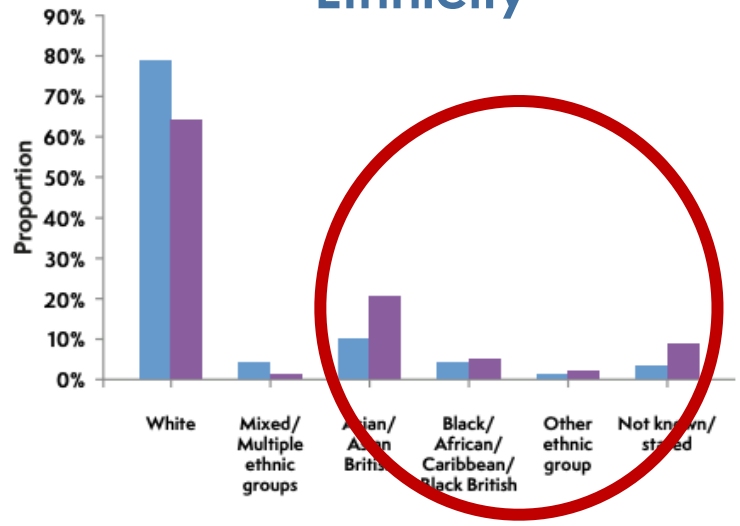
Age



ASA



Ethnicity



NAP7 Paediatric Cohort NAP7 Paediatric Arrests

Risk factors
- Neonates
- Higher ASA
- Non-white ethnicity
- Cardiac history (52%)

Most common precipitants
- Non-cardiac surgery
  - Severe hypoxaemia, Bradyarrhythmias, Haemorrhage
- Cardiac surgery or cardiac procedures

NAP 7 themes

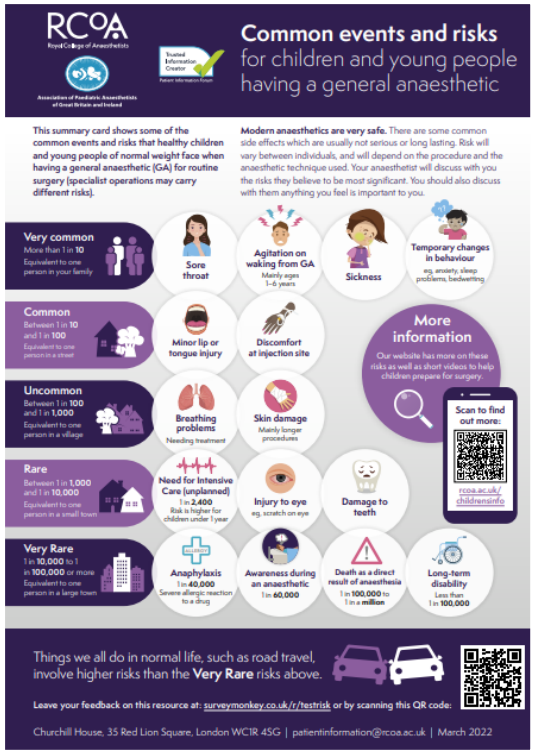
Risk

- ASA underscoring noted in 5.8% leading to failed prediction of risk
- Communication of risk and shared decision making

"As part of early preoperative information provision, patients should be provided with a realistic assessment of likely outcomes of their treatment. The information provided should routinely include important risks, including the **risk of death** during anaesthesia and surgery".

Inappropriate use of drugs

- Propofol and high inspired volatile in haemodynamically unstable patients
- Combined manual and TIVA pump propofol boluses
- Remifentanil for intubation
- Atropine instead of adrenaline in bradycardic cardiac arrest



NAP 7 themes

NAP7 Perioperative Cardiac Arrest

RCoA Royal College of Anaesthetists

Personnel

- Some high risk cases judged to be “Two consultant” cases
- Increased access to local CPD opportunities

RCoA GPAS Guidelines 2023:
“Consultant anaesthetists who care for children in DGHs should have the opportunity to undertake regular supernumerary attachments to operating lists or secondments to specialist tertiary paediatric lists for CPD purposes”

Monitoring

- Continuous with minimal interruption including during transfers
- Monitoring to match risk - especially IABP monitoring

NAP 7 Paeds

Neonatal and infant airways

EJA

Eur J Anaesthesiol 2024; **41**:3–23

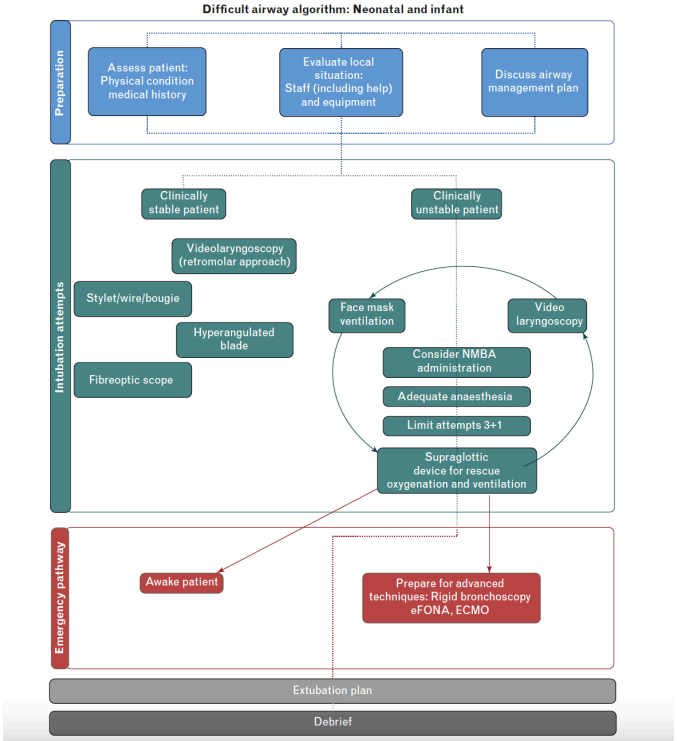
OPEN

GUIDELINES

Airway management in neonates and infants

European Society of Anaesthesiology and Intensive Care and British Journal of Anaesthesia joint guidelines

Nicola Disma, Takashi Asai, Evelien Cools, Alexandria Cronin, Thomas Engelhardt, John Fiadjoe, Alexander Fuchs, Annery Garcia-Marcinkiewicz, Walid Habre, Chloe Heath, Mathias Johansen, Jost Kaufmann, Maren Kleine-Brueggeney, Pete G. Kovatsis, Peter Kranke, Andrea C. Lusardi, Clyde Matava, James Peyton, Thomas Riva, Carolina S. Romero, Britta von Ungern-Sternberg, Francis Veyckemans and Arash Afshari, and airway guidelines groups of the European Society of Anaesthesiology and Intensive Care (ESAIC) and the *British Journal of Anaesthesia* (BJA)



- The paper outlines joint guidelines by ESAIC and the BJA on airway management in neonates and infants up to 1 year old
- It provides evidence based recommendations to improve safety and outcomes during airway management in this vulnerable population
- Recommendations based on GRADE methodology with strong and weak recommendations categorised by quality of evidence

Key practice recommendations

Airway factor	Recommendations
Preoperative assessment	Medical history and physical examination to predict difficult airway (1C) Physical risk factors: micrognathia, limited mouth opening, facial asymmetry
Pharmacological treatment and preparation	Neuromuscular blockers should be used before intubation when spontaneous breathing is not necessary (1C)
Techniques for tracheal intubation	VL with an age-adapted standard blade first choice for intubation (1B) Stylet to reinforce and preshape tracheal tubes when a hyperangulated blade is used or when the larynx is anatomically anterior (1C)
Apnoeic oxygenation	Recommend apnoeic oxygenation during tracheal intubation in neonates (1B).
Cuffed vs. uncuffed ETT	Cuffed and uncuffed tubes can both be safely used (cuffed in children >3 kg) (1C)
Supraglottic airway in difficult airway / emergency	Use a supraglottic airway device for rescue oxygenation and ventilation when tracheal intubation has failed or if face mask ventilation is inadequate (1B)
ETT position confirmation	Immediate verification of successful intubation with both clinical assessment and end-tidal carbon dioxide with sustained ETCO2 waveforms

Perioperative adverse respiratory events (PRAE)

BJA

British Journal of Anaesthesia, 133 (6): 1212–1221 (2024)

doi: 10.1016/j.bja.2024.07.035

Advance Access Publication Date: 2 October 2024

Review Article

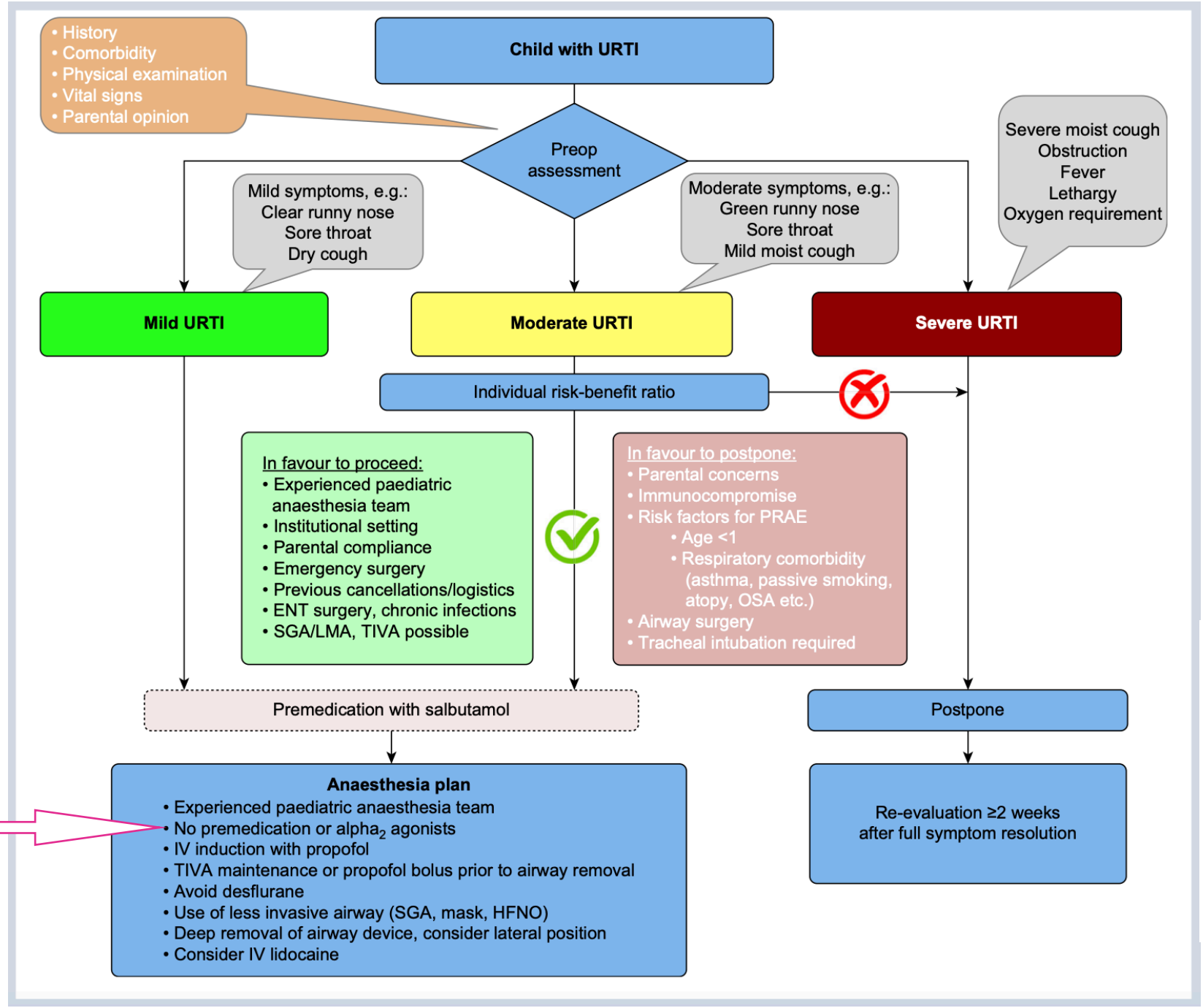
PAEDIATRIC ANAESTHESIA

Preoperative preparation of children with upper respiratory tract infection: a focussed narrative review

Bojana Stepanovic[1,2], Adrian Regli[3,4,5], Karin Becke-Jakob[6,7] and Britta S. von Ungern-Sternberg[1,2,8,9,*]

PRAE BJA 2025

- A child with a recent URTI has a 2-3 fold increased risk of a perioperative respiratory adverse event e.g. laryngospasm, bronchospasm
- It is often difficult to decide whether to proceed with anaesthesia or not
- This paper summarises the current evidence for the periop preparation and anaesthetic management of children with URTIs



Consider Dexmedetomidine or clonidine premed rather than benzodiazepines

PRAE BJA 2025

PRAE risk factors

Prematurity

Age <3, but especially <1 year

ASA 3 and above (including obesity)

URTI within 2 weeks

Asthma, OSA, smoke exposure

Anaesthetist experience

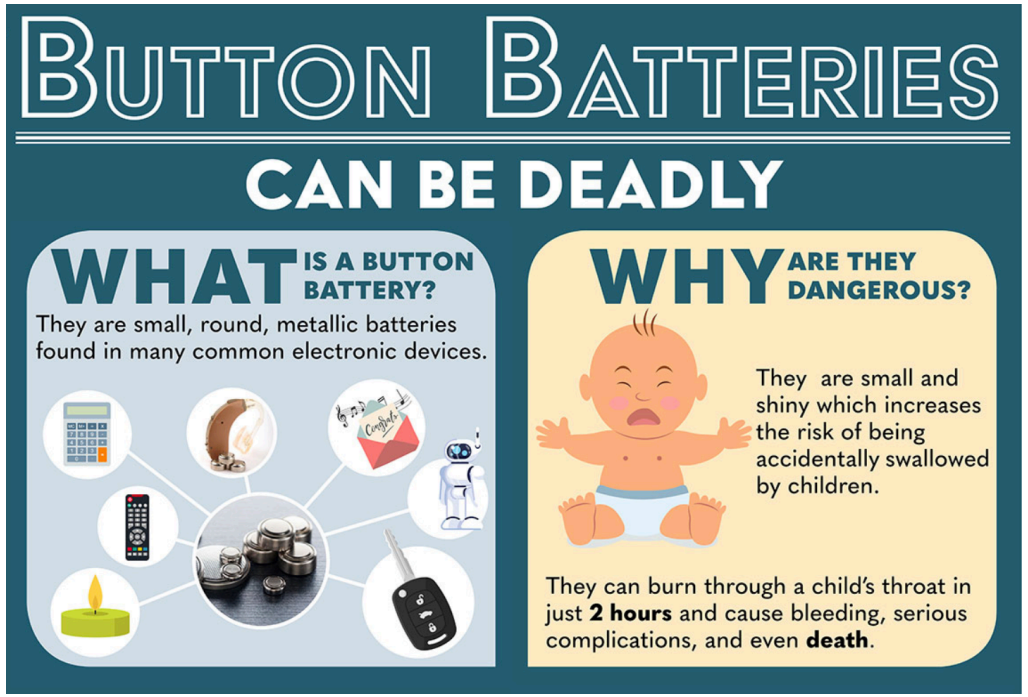
Airway: Mask < LMA < ETT

Airway surgery

Table 1 Risk factors associated with increased risk of perioperative respiratory adverse events.[7,25,30]

Patient factors	• General risk factors ◦ History of prematurity, particularly with presence of bronchopulmonary dysplasia ◦ Age ≤3 yr, particularly age <1 yr • ASA physical status 3 or above including: ◦ Congenital and acquired abnormalities, e.g. trisomy 21, cystic fibrosis, bronchiectasis ◦ Neuromuscular disorders (muscular dystrophy, cerebral palsy) ◦ Significant pre-existing cardiac disorder ◦ Obesity • Respiratory tract infection currently or within 2 weeks before, including COVID-19 • Respiratory risk factors: ◦ Asthma (particularly if uncontrolled), wheezing, nocturnal dry cough, sleep disordered breathing (including obstructive sleep apnoea, OSA), exposure to tobacco smoke
Anaesthesia factors	• Experience level of anaesthetist • Airway device used: mask only < supraglottic airway < tracheal tube • Contextual factors: case/airway invasiveness and hospital setting
Surgical factors	• Airway surgery ◦ e.g. cleft palate, rigid bronchoscopy ◦ Anaesthesia for surgical cases (higher risk) *vs* radiological procedures (lower risk)

Button batteries

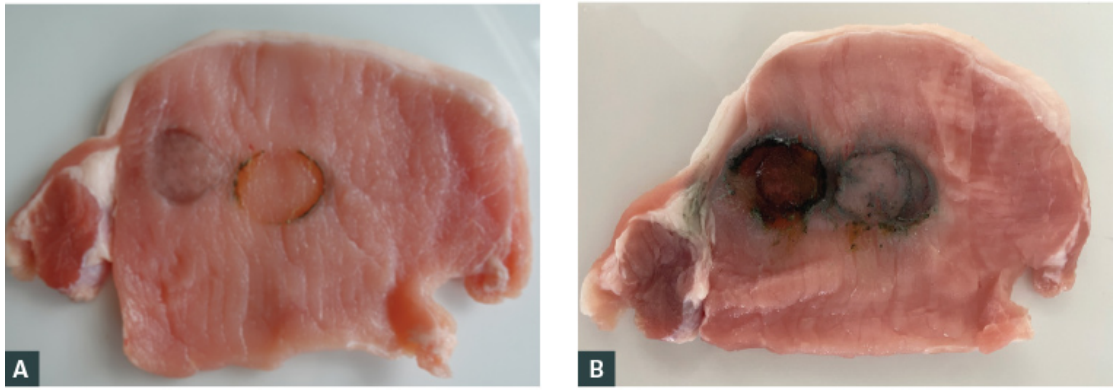


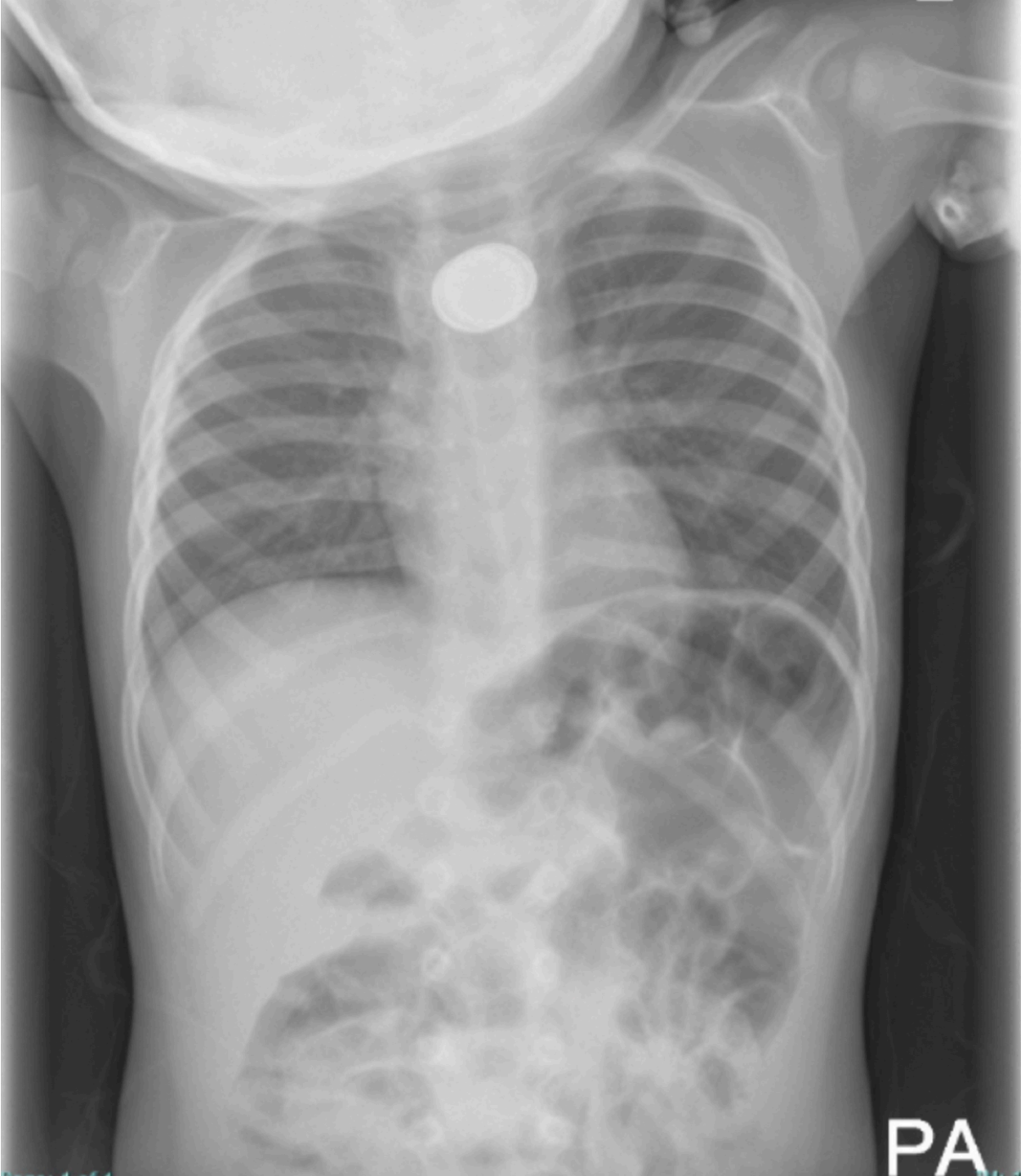
Lithium batteries

Water ionised to hydroxide ions → Liquefactive necrosis

Necrosis starts within 15 minutes

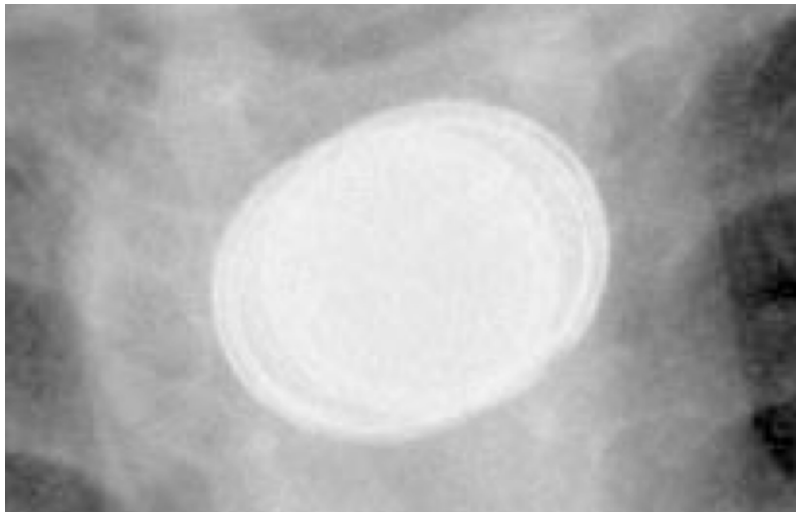
Oesophageal perforation at 2 hours





CASE STUDY

- 16m boy playing with toys Day 1
- Attended ED with choking episode →sent home
- Day 2 → GP, total dysphagia
- Day 3 → ED, CXR, theatre
- BBs removed, T/F to thoracic centre
- Day 6 → CT thorax, major surgery



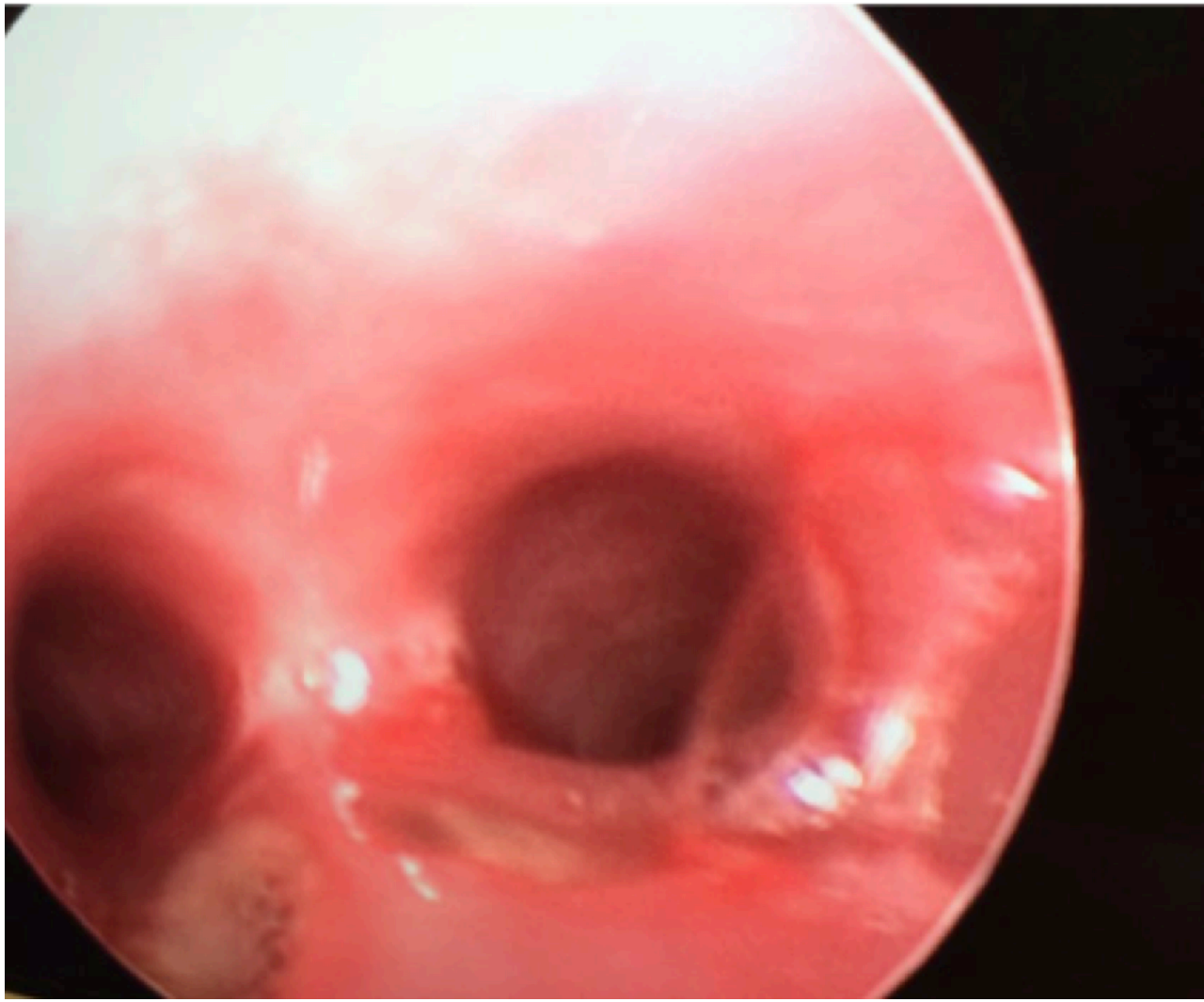
Intra-op findings

Airway - erosion of posterior tracheal mucosa at carina

Oesophageal/Vascular - impending aorta-oesophageal fistula

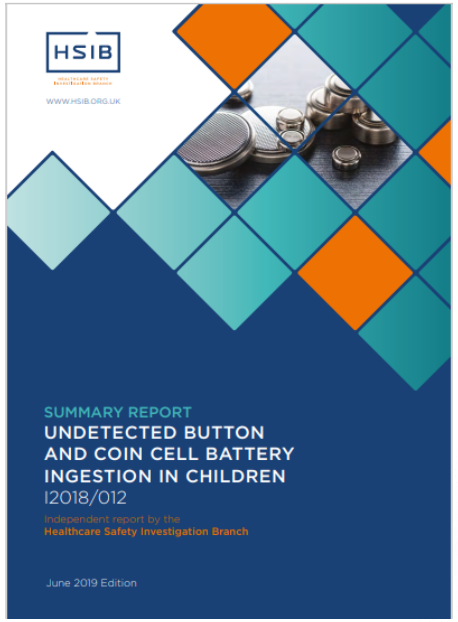
Post-op transfer to GOSH tracheal surgical team

Complicated recovery, now doing well



National working group

- Publish pathway for local adaptation by Surgery in Children Operational Delivery Networks (SIC ODNs)
- Emphasis on ensuring local guideline are in place (especially in secondary care centres)
- Midwives to educate parents
- Safety initiative with business leaders to improve safety



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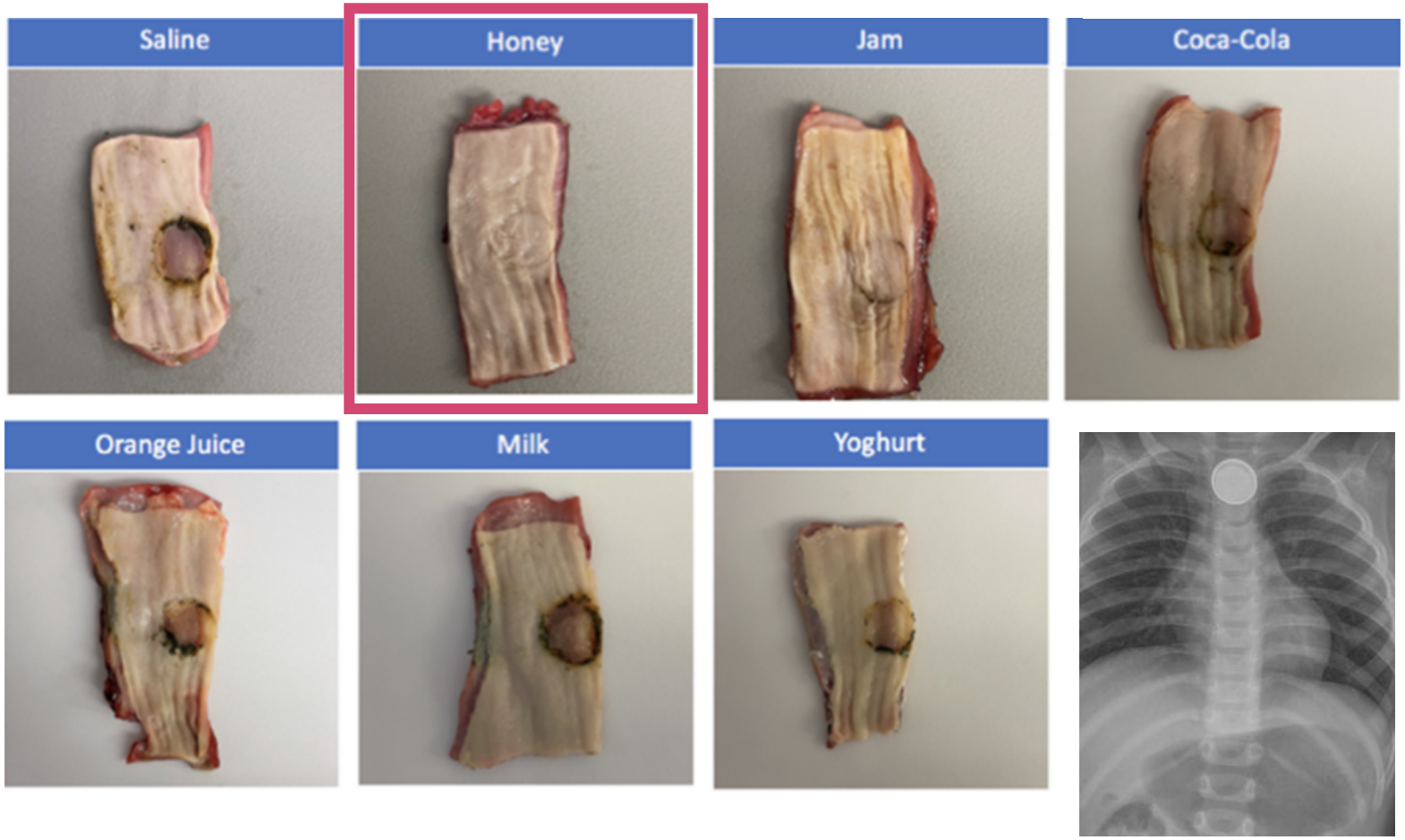
Annals of Emergency Medicine
Volume 83, Issue 4, April 2024, Pages 351-359

Toxicology/original research

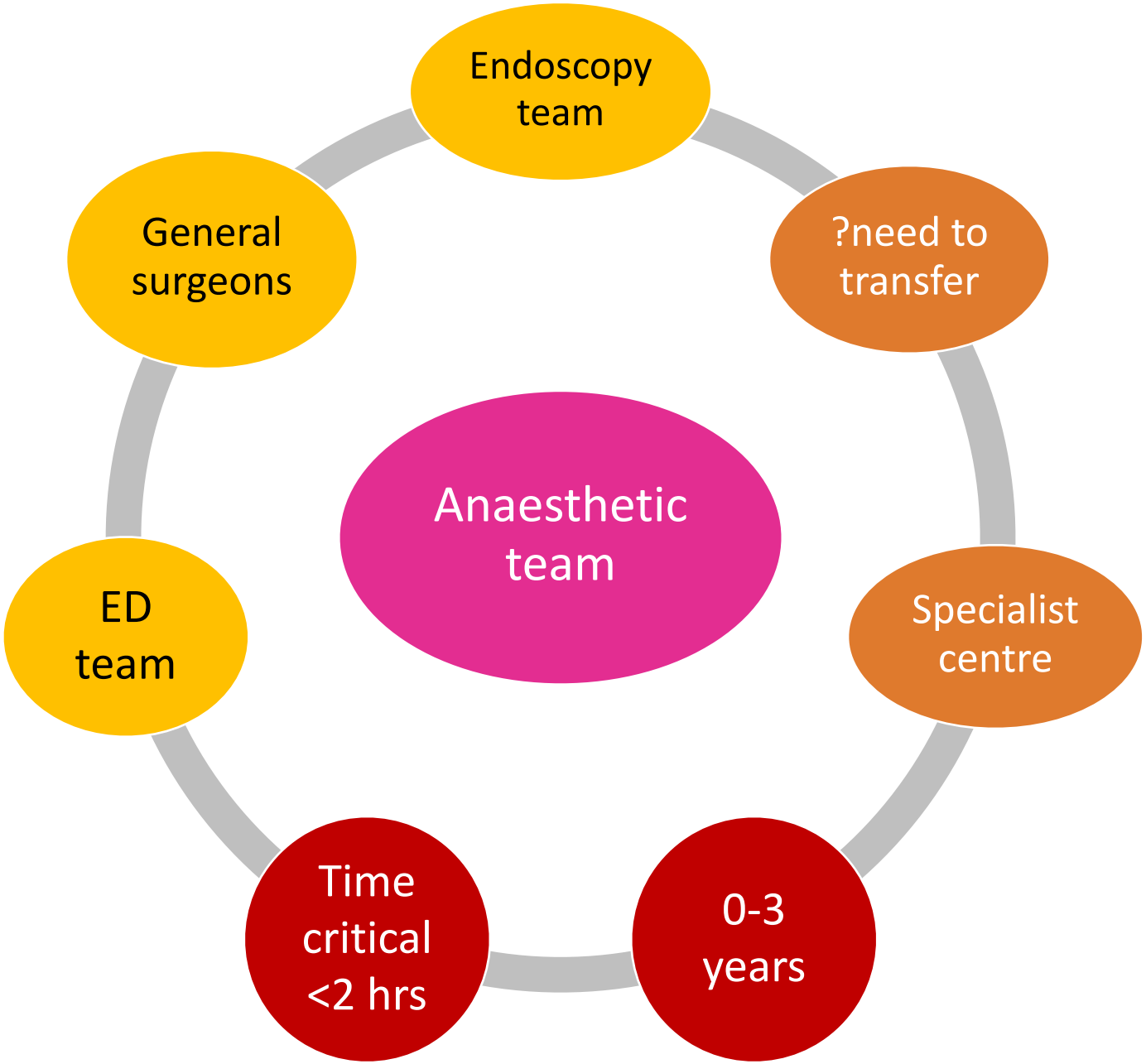
Home Therapies to Neutralize Button Battery Injury in a Porcine Esophageal Model

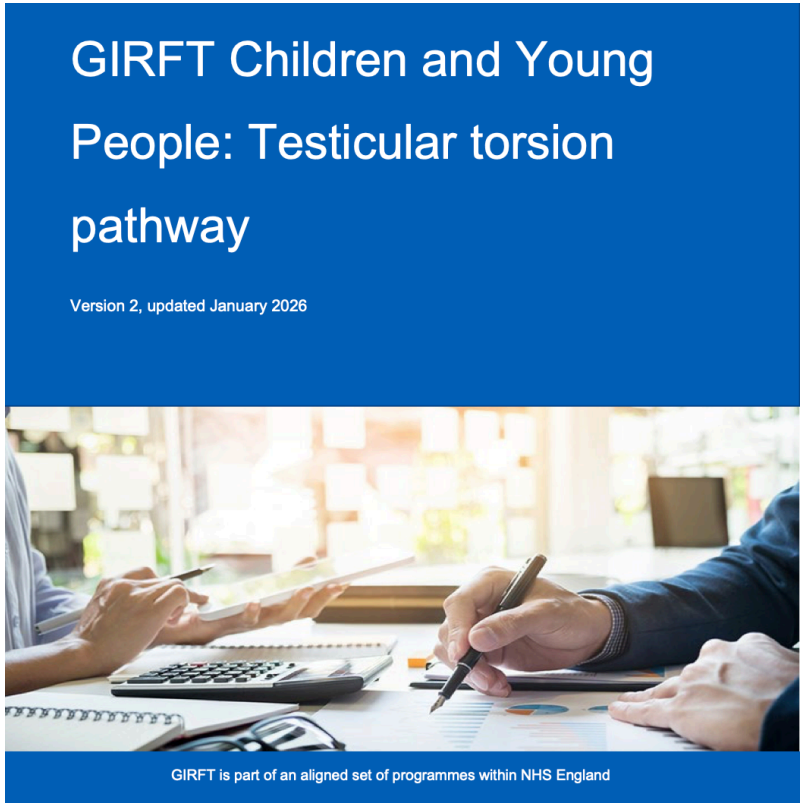
Angela L. Chiew BSci (Med), MBBS, PhD [a b], Calvin S. Lin [b], Dan T. Nguyen MBBS [c], Felicity A.W. Sinclair MChD, BMedSc (Hons) [c], Betty S. Chan PhD [a b], Annalisa Solinas MBBS, FRCPA [c]



Challenges

- Extraction = time critical
- Goal to remove in <2 hrs
- Unfasted status
- Staffing, equipment
- Assess bleeding risk
- Prepare for instability and blood loss
- Post-op: inpatient monitoring and repeat procedures





Testicular torsion

- Testicular torsion is a medical emergency that commonly affects boys aged 12 -18
- Success rates of salvaging testes drop rapidly after 6 hours
- GIRFT document produced to improve outcomes and times to surgery in conjunction with public health and social media campaigns

Duration of pain before surgery	Proportion of testes salvaged
<6 hours	92%
6-12 hours	72%
12-24 hours	51%
24-48 hours	20%

Testicular torsion

Children with suspected torsion should be:

- operated upon within 1h of decision for surgery if onset of pain <48hrs
- >24 hours of pain – may be appropriate to wait until fasted to operate

Children <2 years should be:

assessed in a paediatric surgical specialist centre

where transfer distances are significant, operated upon in a local hospital equipped to safely care for infants requiring scrotal exploration

Daycase adenotonsillectomy

british association for paediatric otorhinolaryngology

British Association for Paediatric Otorhinolaryngology

Day Case Paediatric Adenotonsillectomy Consensus Guideline

February 2024

Appendix 4

BAPO Day Case Tonsil Surgery Guidelines

BAPO Day Case Tonsil Surgery Guidelines

Referral

ENT Day Unit Criteria
- Age ≥ 3
- Weight ≥ 14 Kg
- Weight < 98th centile
- Minimal comorbidities

YES

NO

Level 2 and 3 Centres
- Can consider age ≥ 2 and weight ≥ 12kg for Day Case Surgery

NOT SUITABLE FOR DAY CASE SURGERY
Refer To Inpatient Facility

Assessment

Day Case Tonsillectomy
- Have local pathway for unplanned admission*
- Lives (or can stay) within 45 mins of ED with ENT cover (unless superseded by local ODN guidance)
- Local pathway for emergency admission
- Consider home circumstances when assessing suitability for same day discharge

YES

NO

NOT SUITABLE FOR DAY CASE SURGERY
Refer To Inpatient Facility

Observation

Post-Op Observations
- Routine observations for a minimum of 3 hours after surgery
- Monitor oral intake
- Monitor for signs of bleeding

YES

NO

Unsatisfactory Monitoring
- Poor oral intake
- Poorly controlled pain
- Bleeding concern
- Persisting oxygen requirement at 6 hours

UNPLANNED ADMISSION

Discharge

Satisfactory Monitoring
- Well controlled pain
- Satisfactory oral intake
- PEWS 0
- Mobilised
- No bleeding
- No oxygen requirement

YES

Day Case Discharge
- Individualised weight-based analgesia regimen according to local policy
- Post-op instructions to attend ED if bleeding or uncontrolled pain or poor oral intake

**This may be under paediatrics if there is ENT on call cover or nearby center with ENT beds*

Daycase adenotonsillectomy: key points

Preassessment essential

- Age ≥2 years and weight ≥12kg may be suitable for day case
- Obesity: children > 98th centile, admit for observation

Sleep studies

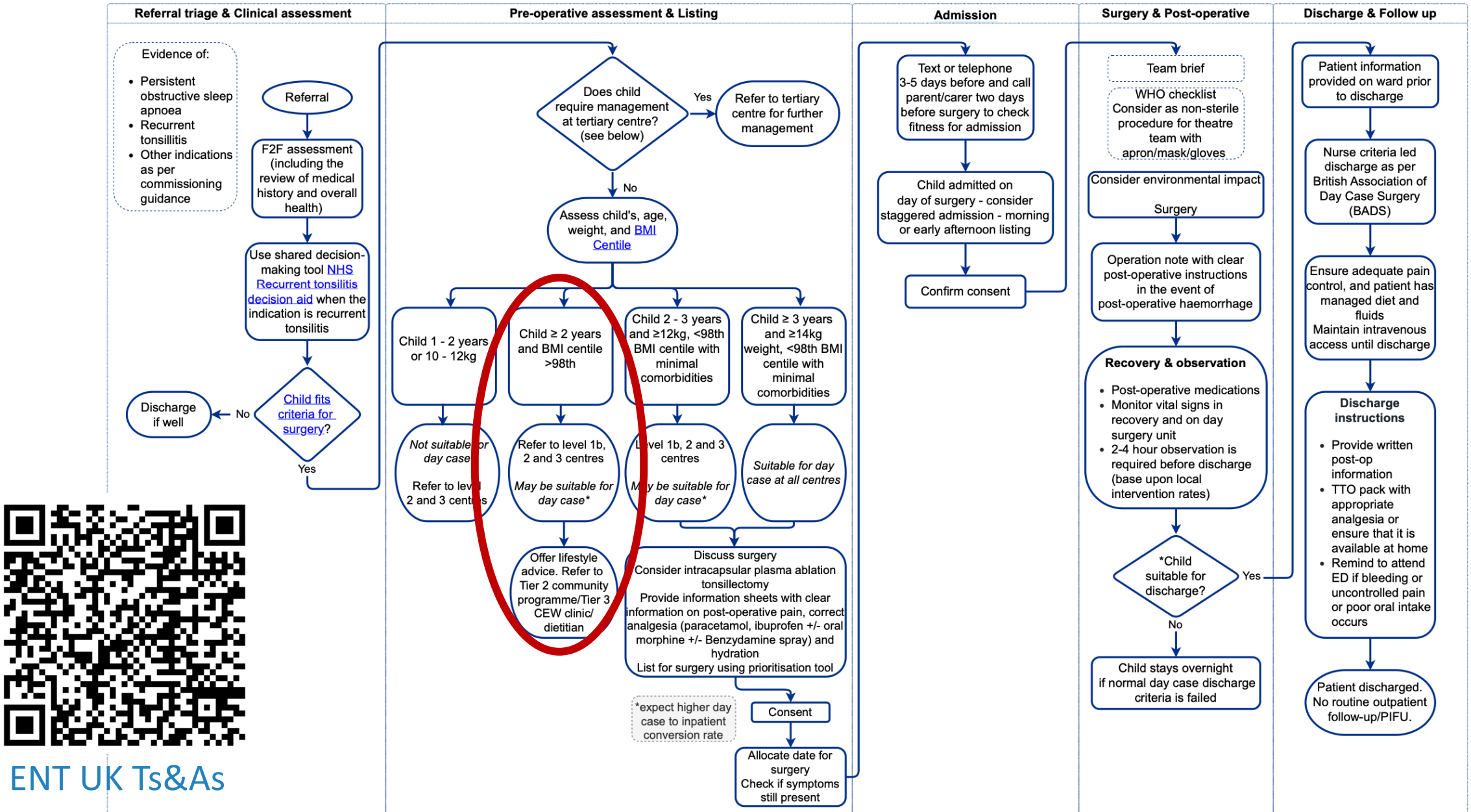
- OSA severity not a predictor of complications
- Main predictors: comorbidities, extremes of weight, young age

Discharge

- Observe for 3 hours (2 hours in coblation surgery)
- Must live within 45 minutes of a hospital with the ability to return to an ENT theatre

Day Case Paediatric Adenotonsillectomy
ENT - April 2025

To be read in conjunction with GIRFT Ear, Nose and Throat Surgery National Report and BAPO Day Case Tonsillectomy Guidance



ENT UK Ts&As

Preoperative fasting guidance

BJA

British Journal of Anaesthesia, 135 (1): 141–147 (2025)

doi: 10.1016/j.bja.2025.03.031
Advance Access Publication Date: 26 May 2025
Clinical Investigation

PAEDIATRIC ANAESTHESIA

Impact of liberal preoperative clear fluid fasting regimens on the risk of pulmonary aspiration in children (EUROFAST): an international prospective cohort study

Peter Frykholm[1,2,*], Ali-Reza Modiri[1,2], Anna Klaucane[1], Christiane E. Beck[3], Lionel Bouvet[4], Rebecca S. Isserman[5], Vimmi Oshan[6], Paul A. Stricker[5], Vinícius C. Quintão[7], Robert Frithiof[1,2], and the EUROFAST Collaborative Group[†]

EUROFAST study

Both sip-til-send and ≥ 1 hour clear fluid fasting regime were statistically non-inferior to ≥ 2 hour clear fluid fasting regime with respect to confirmed aspiration, transient regurgitation and regurgitation leading to escalation of care or intensive care.

Sip Til Send Hot Topic

APAGBI

HOT TOPIC

Should paediatric patients be allowed to 'sip til send' prior to elective surgery?

November 2025

This article is dedicated to Mark Thomas, Consultant in Paediatric Anaesthesia at Great Ormond Street Hospital and former President of the Association of Paediatric Anaesthetists of Great Britain and Ireland. Mark was instrumental in advancing the shift from a conventional two-hour clear fluid fasting policy to a more progressive one-hour approach. He was driven by a clear vision to ameliorate the burden of unnecessary prolonged preoperative fasting in children and to embed more evidence-informed, child-centred fasting practices into paediatric anaesthesia. This Hot Topic builds on the trajectory he established, by evaluating the current evidence base and implementation considerations for allowing children to drink clear fluids up until call to theatre.

SUMMARY OF KEY POINTS & RECOMMENDATIONS:

KEY POINTS	RECOMMENDATIONS
'Sip Til Send' (STS) refers to the practice of *permitting* clear fluids up until the child is *called to theatre*.	Permit clear fluids at 3 mL/kg/hour up to a maximum of 150 mL/hour until call to theatre
Pulmonary *aspiration* is very *rare* in children; incidence of 0.02% to 0.04% (2–4 cases per 10,000 anaesthetics)	STS is safe for healthy children undergoing elective surgery
> 90% of *paediatric aspiration* events resolve *without* lasting *harm*, or intensive care admission	STS should be implemented via structured pathways with staff training and local governance
STS has been shown to be *non-inferior* to conventional two-hour clear fluid fasting in terms of aspiration risk.	Review institutional fasting guidelines regularly to reflect emerging evidence
STS improves *patient and parent satisfaction*, and is associated with more *favourable* physiological and metabolic parameters	**Individualised assessment:** for children with delayed gastric emptying (including those receiving GLP-1 agonists), significant gastro-oesophageal reflux, severe obesity, neurological impairment, or undergoing emergency surgery may not be suitable for STS and require tailored fasting plans
Individualised assessment remains essential ââ	

December 2025 | Should paediatric patients be allowed to 'sip til send' prior to elective surgery?

Result: Some great engagement with this STS Hot-Topic. Great to see so many promoting hydration in children, and many advocating liberal fluid regimes

No - I am concerned about aspiration

4% 12 Votes

Yes - Volume according to weight

63% 167 Votes

Yes - Liberally

33% 87 Votes

267 VOTES TOTAL

APAGBI

APAGBI Hot Topic

NOVEMBER 2025

FASTING GUIDELINES BEFORE A GENERAL ANAESTHETIC

APAGBI
Association of Paediatric Anaesthetists of Great Britain & Ireland

FOOD & FORMULA MILK

and other non-clear fluids

UP TO 6 HOURS BEFORE SURGERY

BREAST MILK

UP TO 3 HOURS BEFORE SURGERY

CLEAR FLUIDS

Water
Clear diluted squash
Dilute electrolyte solutions

SIP TIL SEND TO THEATRE

Rate: 3 ml/kg/hr
Max: 150 ml/hr

EXCEPTIONS TO THE RECOMMENDATIONS THAT REQUIRE INDIVIDUAL EVALUATION

- Structural or motility disorder of the gastrointestinal tract e.g. GORD
- Significant neuro disability or conditions that impair airway reflexes
- Emergency or urgent surgery
- Anticipated difficult airway
- Severe Obesity: BMI > 99.6th percentile
- Current treatment with GLP-1 receptor agonists
- Extreme anxiety

RECOMMENDATIONS

Permit clear fluids at 3 mL/kg/hour up to a maximum of 150 mL/hour until call to theatre
STS is safe for healthy children undergoing elective surgery
STS should be implemented via structured pathways with staff training and local governance
Review institutional fasting guidelines regularly to reflect emerging evidence
Individualised assessment: for children with delayed gastric emptying (including those receiving GLP-1 agonists), significant gastro-oesophageal reflux, severe obesity, neurological impairment, or undergoing emergency surgery may not be suitable for STS and require tailored fasting plans

APAGBI

Statement on caudal anaesthesia and NRFit™

RAUK REGIONAL ANAESTHESIA UNITED KINGDOM

APAGBI Association of Paediatric Anaesthetists of Great Britain & Ireland

The use of NRFit™ needles for caudal anaesthesia

Caudal anaesthesia is the injection of local anaesthetic drugs into the epidural space via the caudal canal to provide pain relief after a range of common surgical procedures in younger children. Approximately 20,000 children per year undergo caudal anaesthesia for pain relief in the United Kingdom[1].

NHS England (NHSE) has mandated that all relevant NHS-funded organisations must complete the transition to using NRFit™ connectors by 31 January 2025, for all intrathecal and epidural procedures and for delivery of regional blocks[2]; this includes caudal procedures. NRFit™ connectors have been designed to prevent the accidental injection of local anaesthetic agents into intravascular devices, which is a potentially fatal event and considered a "never event" by NHSE.

Similarly, the Guidelines for the Provision of Anaesthetic Services (GPAS) published by the Royal College of Anaesthetists (RCoA) earlier this year, state that regional anaesthesia needles (spinal, epidural and peripheral nerve block) must have yellow colour-coded NRFit™ connections. This is required as a **minimum standard** for the safe delivery of regional anaesthesia[3].

In the United Kingdom, the most practised technique for caudal anaesthesia is to inject local anaesthetic into the caudal canal with a soft cannula-over-needle device, reducing the potential risk of dural puncture with a rigid needle. In a survey of UK paediatric anaesthetists in 2021, 88% of practitioners used such a cannula technique to perform a caudal block[4].

Currently, there are no soft-cannula NRFit™ options available - which therefore precludes the most practised technique in the UK. The only NRFit™ 'caudal' needles that exist on the market are non-cannulated with a blunt 'Crawford bevel' (see appendix 1).

There is significant concern amongst paediatric anaesthetists in the UK that the available NRFit™ equipment does not meet current requirements, and it is evident that this will not become available by the mandated time to use NRFit™ compatible equipment in January 2025.

As a result, we are writing to industry to consider the production of suitable equipment to support current practice. NHSE should investigate an NRFit™ cannula solution for caudals to be developed, in accordance with existing evaluation and approval by medical technology regulatory bodies and this should be made readily available to ensure equitable access of children to the safety benefits offered by the NRFit™ system.

We appreciate that, for many anaesthetists, the use of a blunt tipped non-cannulated needle to perform a caudal would be a significant change in practice. Expecting clinicians to significantly alter a reliable and safe technique by reverting to the use of a needle technique with an unclear profile of complications, may result in the introduction of increased risk to the child which may outweigh the benefits of using an NRFit™ system.

Some anaesthetists may have already adopted an alternative technique using the currently available NRFit™ equipment and we encourage them to continue to share their experience. In particular, the use of real-time ultrasound may help mitigate against some potential complications such as accidental dural puncture when using a needle-based technique.

We recommend the following statements to anaesthetists:

1) Clinicians should be supported in continuing to administer local anaesthetic into the caudal canal using the current well established non-NRFit™ soft cannula-over-needle technique.
2) Individual trusts should risk assess the practice of caudal anaesthesia at a local governance level to ensure all possible mitigations are in place to minimise wrong route injection of local anaesthetic. This should be added to the local risk register. Departments should remain aware of developments in NRFit™ equipment and review their position regularly.
3) This may include the following safe practice points:
    a. promoting the safe practice of a 'stop' moment before regional anaesthesia is commenced
    b. drawing up of the local anaesthetic drug immediately before injection into the caudal space.
    c. Once completed, any remaining local anaesthetic drugs should be discarded immediately.

The priority remains the safety of our paediatric patients and therefore we feel this offers the best mitigation whilst appropriate equipment is developed. We would welcome comment from our members on this statement.

Dr Nat Haslam
President RA-UK

Dr Simon Courtman
President APAGBI

- Target date was January 2025 for complete change to NRFit connectors
- Currently no suitable NRFit equipment for caudals using soft cannula
- Request to industry for more development
- Position statement published by APAGBI and RAUK

SAFE ANAESTHESIA LIAISON GROUP

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Paediatric Anaesthesia Resources

CPAS - SAPC

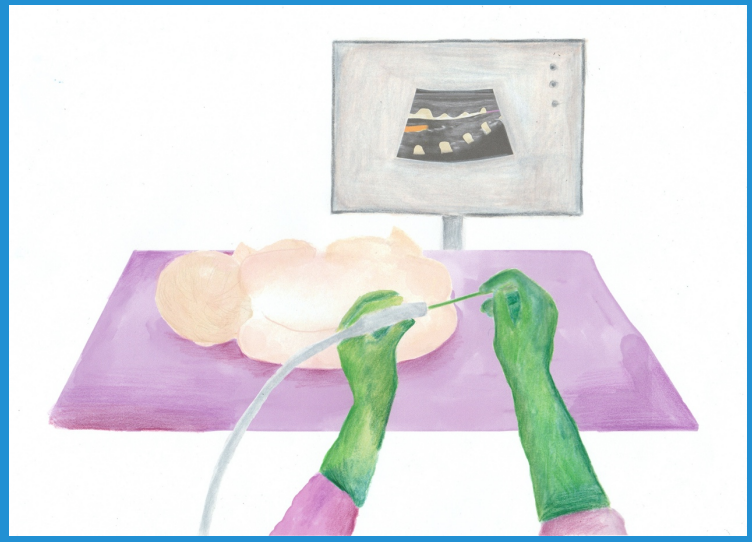
RAUK

ESPA

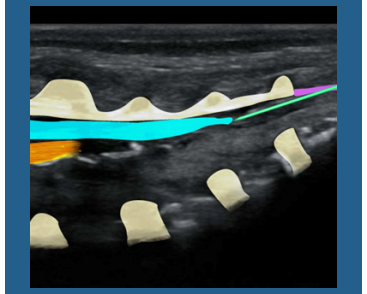
SPANZA

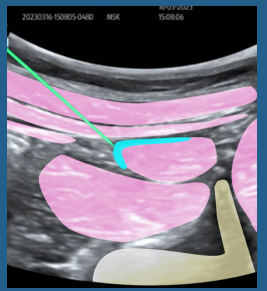
APAGBI

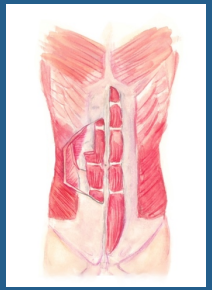
PAEDIATRIC ULTRASOUND-GUIDED REGIONAL ANAESTHESIA



Created by an international group of Paediatric Regional Anaesthesia experts in conjunction with **RA-UK, APAGBI, ESPA, CPAS & SPANZA**







NOW LIVE ON THE RA-UK WEBSITE

Children younger than 7 years old

Stories, videos and activities for younger children.

Children aged 8–11 years old

Fun comics and activities to help older children understand what to expect.

Children and young people from 12 years old

Leaflets, videos and FAQs for older children and teenagers.

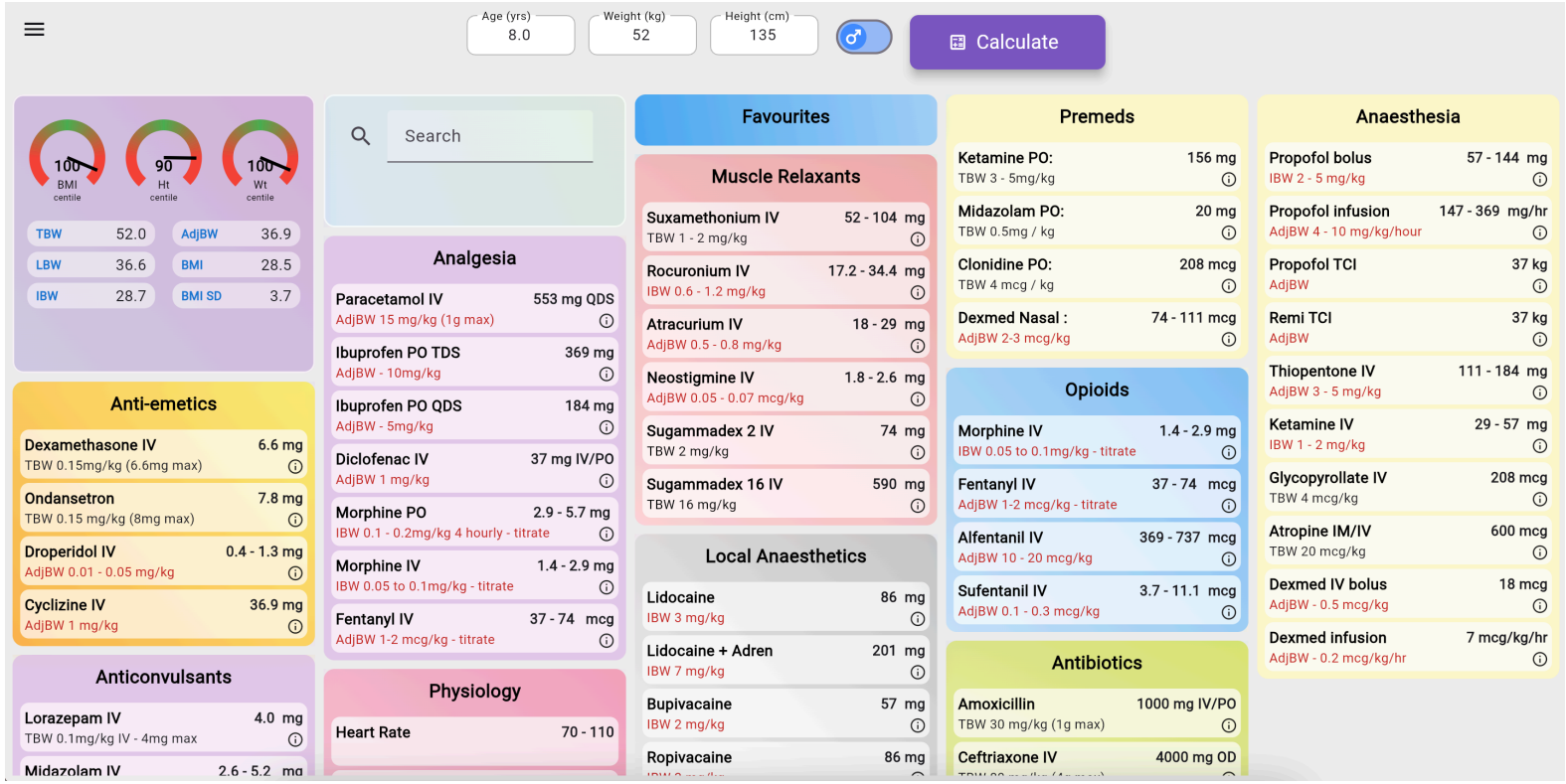
RCOA
Royal College of Anaesthetists

Information for parents and carers

Understand what to expect and what choices you may be able to make together with your child.

https://www.rcoa.ac.uk/patients/patient-information-resources

Obesity drug dosing: www.paedspro.com



PaedsPro.com

SOBAUK
THE SOCIETY FOR OBESITY & BARIATRIC ANAESTHESIA

MHRA
Regulating Medicines and Medical Devices

NPPG
Neonatal & Paediatric Pharmacy Group

APAGBI

Neonatal Anaesthesia Network-UK (NAN-UK)

“To improve outcomes for neonates requiring anaesthesia and surgery by strengthening collaboration, advancing education and training, standardising practice and driving high-quality national research and QI projects in neonatal anaesthesia”

National Neonatal Anaesthesia Activity Survey
National Neonatal Anaesthesia Training Survey
Neonatal Risk Information Resource for parents (Infographic)
Multidisciplinary National Collaboration
National Multicentre Research Programme
Education and training – meeting September 2026 (London)

National representation from anaesthetic departments in all the 24 UK tertiary centres

Key references and resources

APAGBI
Sip til send

Testicular torsion

BJA PRAE 2025

APAGBI

EUROFAST study

NAP7 Paeds

EJA neonatal & infant airway

ENT UK Ts &As