Right Place, Right Time, Right Team

A review of the quality of the care provided to children and young people needing emergency surgery

NCEPOD

Improving the quality of healthcare

RIGHT PLACE, RIGHT TIME, RIGHT TEAM

A review of good practice and remediable factors in the delivery of care provided to children and young people under 18 years old undergoing emergency (non-elective) surgery under anaesthetic or sedation.

A report published by the National Confidential Enquiry into Patient Outcome and Death (2025)

The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) is an independent body to which a corporate commitment has been made by the medical and surgical royal colleges, associations and faculties related to its area of activity. **NCEPOD** is a company, limited by guarantee (3019382) and a registered charity (1075588).

The report has been compiled by:
Antony Michalski MRCP PhD FRCPCH - Clinical Co-ordinator
Great Ormond Street Hospital for Children NHS Trust
Alexander Goodwin FRCA FFICM - Clinical Co-ordinator
Royal United Hospitals Bath NHS Foundation Trust
Martin Sinclair MB ChB FRCS - Clinical Co-ordinator
East Suffolk and North Essex NHS Foundation Trust
Heather Freeth MSc - Senior Clinical Researcher, NCEPOD
Nicholas Mahoney BA (Hons) - Researcher, NCEPOD
Rachael Gomez - Senior Administrative Officer, NCEPOD
Marisa Mason PhD - Chief Executive, NCEPOD

The authors and trustees of NCEPOD would like to thank the NCEPOD staff for their work in collecting, importing, analysing and reviewing the data for this report: Peyman Aleboyeh, Donna Ellis, Holly Hamilton, D'Marieanne Koomson, Eva Nwosu, Karen Protopapa, Leah Shahzad, Hannah Shotton, Neil Smith and Anisa Warsame.

Study proposers: Dr Christopher Kelly and Dr Rebecca Sutton, Royal Manchester Children's Hospital, Manchester University NHS Foundation Trust.

This report should be cited as: The National Confidential Enquiry into Patient Outcome and Death. 'Right Place, Right Time, Right Team' 2025. London

Cohort: All children and young people who underwent an emergency (non-elective) procedure between: Monday 17th June 00:00 to Sunday 30th June 23:59 2024 and Monday 12th February 00:00 to Sunday 25th February 23:59 2024.

The Child Health Clinical Outcome Review Programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and funded by NHS England and the governments of Wales, Northern Ireland, and Jersey as part of the National Clinical Audit and Patient Outcomes Programme.

ISBN: 978-1-917218-01-6

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This report relates to patients undergoing non-elective procedures, including emergency, urgent and expedited procedures. For ease of reading, we refer to all three as emergency procedures as the category did not affect the findings.

INTRODUCTION FROM OUR CHAIR

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Since NCEPOD last reviewed children's surgery in 2011, the quality of care provided has improved despite increased demand.[1-3] This review highlights much good practice but there is still room for improvement, in both district general hospitals and specialist centres. Many of the findings appear reassuring – there was no delay in arrival at the admitting hospital in over 92% of cases; 84% of hospitals are part of networks for non-elective procedures; and up to 90% of surgeons and anaesthetists in non-specialist hospitals feel supported by their local paediatric centres for the acceptance of referrals and provision of advice. However, this means that around 10% of hospitals/surgeons/anaesthetists, are not utilising networks or feeling supported, which could translate into thousands of patients potentially affected. We found that increased centralisation of elective surgical services for children has resulted in some healthcare staff in non-specialist units feeling less confident about providing emergency surgical care for critically ill children.

To improve this relevant training and the development of regional networks are essential so that children can be admitted or transferred to hospitals where staff have appropriate expertise. Pathways of care should be established for different conditions and age groups, with clinical networks available for advice when required. Transfer should only happen when necessary to minimise delays, with many conditions being most appropriately managed locally.

Once admitted to hospital, it is vital that children have timely access to operating theatre lists. The appointment of an emergency theatre co-ordinator has been shown to improve care and reduce delays but only half the hospitals reviewed had this role, despite it being recommended in existing guidance. Making this role a requirement would ensure that breaches are identified and escalated to avoid prolonged delays.

Pre-surgery fasting policies are often not applied to children, resulting in 18% of children fasting for longer than is necessary. All efforts should be made to minimise fasting, for example by developing and following fasting protocols and avoiding delays to surgery where possible.

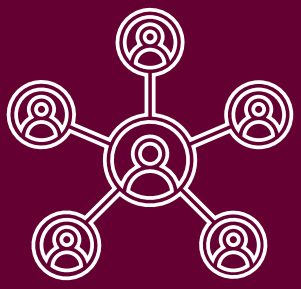
Alongside updating local networks and policies, audits should be carried out regularly to assess compliance and identify further areas for improvement. Good practice should be shared to continue to improve care for children and young people.

With many thanks to all involved at every stage of the production of this report, particularly the local clinicians, members of the study advisory group, clinical coordinators, NCEPOD staff and trustees.

Dr Suzy Lishman CBE, NCEPOD Chair

TO IMPROVE THE CARE PROVIDED TO CHILDREN AND YOUNG PEOPLE UNDERGOING NON-ELECTIVE SURGERY

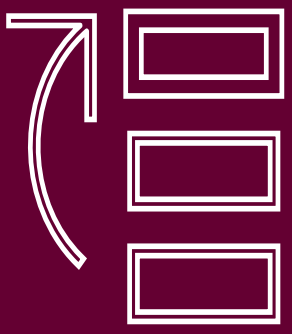
NCEPOD reviewed the care of children and young people who underwent an emergency (non-elective) procedure between two time frames to account for seasonal variation (17th June to 30th June 2024 and 12th February to 25th February 2024). Care was reviewed using 853 sets of case notes, 679 surgical questionnaires, 760 anaesthetic questionnaires, and 143 organisational questionnaires, as well as >600 survey responses.



1. Provide prompt access to emergency surgical and anaesthetic care by specialists with the relevant training and experience in providing care to children and young people.

THIS IS BECAUSE WE FOUND THAT

Networks were not always in place and there was an absence of structured pathways or procedures to transfer patients when needed, despite transfers being common.	There were 19/143 (13.3%) hospitals not part of a network of care for non-elective procedures in children and young people. Most hospitals reported transferring patients out for surgery (133/143; 93.0%).	Only 287/629 (45.6%) patients were commenced on a dedicated pathway for emergency surgery in children and young people. Many of the patients who were not, should have been (83/255; 32.5%).



2. One or more emergency surgery co-ordinators should be in place to ensure that children and young people needing emergency surgery can access a theatre.

THIS IS BECAUSE WE FOUND THAT

Care was shown to be better in centres where an emergency surgery co-ordinator was available, but there was not always someone in this role and furthermore, theatre booking systems rarely highlighted breaches.	Reviewers reported that while the majority of patients had their procedures booked without delays, 131 out of 853 patients (15.4%) experienced delays due to delays with/in the surgical team.	Theatre co-ordinating managers or clinicians were only available in 60/143 (42.0%) hospitals. Only 52/143 (36.4) hospitals had a clinician responsible for assessing capacity in theatres on a daily basis.

3. Prevent children and young people who are waiting for emergency surgery from being fasted for any longer than necessary.

THIS IS BECAUSE WE FOUND THAT

Fasting was infrequently recorded in hospital policies for emergency procedures for children and young people, with many patients being fasted for too long prior to surgery.	In the opinion of the reviewers, 125/718 (17.4%) patients were fasted for too long, with those who underwent an expedited procedure most likely to be in this category.	Pre-procedure preparation was adequate for most patients (798/853; 93.6%), however, fasting (10/55) was the most common area for optimisation.

RECOMMENDATIONS

These recommendations have been formed by a consensus exercise involving all those listed in the acknowledgements. The recommendations have been independently edited by medical editors experienced in developing recommendations for healthcare audiences to act on.

The recommendations in this report support those made previously by other organisations, and for added value should be read alongside the guidance listed with the recommendation:

1	Provide prompt access to emergency surgical and anaesthetic care by specialists with the relevant training and experience in providing care to children and young people by: ▪ Formalising organisational networks[i] to define where children and young people are assessed and/or undergo an emergency procedure[ii], and to agree pathways of care based on age and condition. ▪ Formalising clinical specialist networks for advice as needed. i *Utilising existing operational delivery networks or equivalent where possible.* ii *For example, whether the procedure can be undertaken locally or whether the patient needs to be transferred to a specialist centre. This will require local and regional networks working together to ensure co-ordination of services.*
RATIONALE FOR THE RECOMMENDATION	Networks were not always in place and there was an absence of structured pathways or procedures to transfer patients when needed, despite transfers being common. Non-specialist surgeons and anaesthetists reported a lack of confidence in treating patients in the non-specialist centres but had no formal transfer option. Joined-up care is important in the recognition of the deteriorating patient and the escalation of care.
FOR ACTION BY	Operational delivery networks or equivalent, commissioners and integrated care boards working with trusts/health boards.
ADDITIONAL STAKEHOLDERS	Hospital trusts/health boards, ambulance trusts, transport teams, Getting it Right First Time, British Association of Paediatric Surgeons, Association of Paediatric Anaesthetists of Great Britain and Ireland, Royal College of Surgeons of England, Royal College of Anaesthetists, Association of Surgeons of Great Britain and Ireland, Association of Anaesthetists, Royal College of General Practitioners, Royal College of Paediatrics and Child Health, Royal College of Nursing, Royal College of Emergency Medicine, Association of Paediatric Emergency Medicine, Royal College of Radiologists, British Society of Paediatric Radiology, College of Paramedics, Joint Royal Colleges Ambulance Liaison Committee, Association of Ambulance Chief Executives, British Society of Neurosurgeons, British Paediatric Neurology Association, British Association of Oral and Maxillofacial Surgeons, British Orthopaedic Association, British Society for Children's Orthopaedic Surgery, British Association of Urological Surgeons, British Association of Paediatric Urologists, British Association for Paediatric Otorhinolaryngology, ENT UK, Royal College of Obstetricians and Gynaecologists, British Association of Plastic, Reconstructive and Aesthetic Surgeons.
ASSOCIATED GUIDANCE	▪ Royal College of Anaesthetists, 2025. Guidelines for the provision of Anaesthetic Services. Chapter 10, Guidelines for the provision of Paediatric Anaesthesia Services.

	▪ Royal College of Paediatrics and Child Health, 2025. 5th Ed. Facing the Future: Standards for acute general paediatric services. ▪ Royal College of Surgeons, 2015. Standards for non-specialist emergency surgical care of children. ▪ GIRFT, 2021. Paediatric General Surgery and Urology ▪ GIRFT, 2022. Paediatric Trauma and Orthopaedic Surgery ▪ The Regulation and Quality Improvement Authority, 2019. Review of General Paediatric Surgery in Northern Ireland ▪ National Confidential Enquiry into Patient Outcome and Death, 2024. Twist and Shout ▪ NHSE, 2019 Paediatric Critical Care and Surgery in Children Review ▪ North East and North Cumbria Paediatric Critical Care and Surgery in Children Operational Delivery Network ▪ North West Surgery in Children Operational Delivery Network Guidelines ▪ East Midlands Surgery in Children Operational Delivery Network ▪ West Midlands Children's Network ▪ East of England Surgery in Children Operational Delivery Network Guidelines ▪ North Thames Paediatric Network Surgery in Children ▪ South Thames Paediatric Network Guidelines and resources ▪ South West Surgery in Children Operational Delivery Network Tools and resources ▪ Yorkshire and Humber Surgery in Children Network ▪ Thames Valley and Wessex – no website
IMPLEMENTATION SUGGESTIONS: CLICK HERE	

2	One or more co-ordinators should be in place to ensure that: ▪ Children and young people needing emergency surgery have timely access* to a theatre **NCEPOD classification of intervention* ▪ Patients who were not operated on within their prioritisation period are highlighted and the issue escalated to senior management with responsibility for patient safety/governance* **If there are regular breaches for urgent and expedited patients due to emergency operating demands exceeding available resources, then alternative ways of dealing with this should be considered (e.g. planned urgent lists (hotlists) to prevent recurrence of future delays).*
RATIONALE FOR THE RECOMMENDATION	Care was shown to be better in centres where there was a co-ordinator. Anaesthetic guidelines recommend having theatre co-ordinating managers or clinicians. Theatre booking systems did not highlight breaches.
FOR ACTION BY	Commissioners and integrated care boards working with their trusts/health boards.
ADDITIONAL STAKEHOLDERS	Hospital trusts/health boards, NHS England (urgent and emergency care), Getting it Right First Time (perioperative care and paediatric surgery) British Association of Paediatric Surgeons, Association of Paediatric Anaesthetists of Great Britain and Ireland, Royal College of Surgeons of England, Royal College of Anaesthetists, Association of Surgeons of Great Britain and Ireland, Association of Anaesthetists, College of Operating Department Practitioners, Association for Perioperative Practice, British Society of Neurosurgeons, British Paediatric Neurology Association, British Association of Oral and Maxillofacial Surgeons, British Orthopaedic

	Association, British Society for Children's Orthopaedic Surgery, British Association of Urological Surgeons, British Association of Paediatric Urologists, British Association for Paediatric Otorhinolaryngology, ENT UK, Royal College of Obstetricians and Gynaecologists, British Association of Plastic, Reconstructive and Aesthetic Surgeons.
ASSOCIATED GUIDANCE	▪ Royal College of Anaesthetists, 2025. Guidelines for the Provision of Anaesthetic Services. Chapter 5, Guidelines for the provision of Emergency Anaesthesia Services. ▪ Royal College of Anaesthetists, 2025. Anaesthesia Clinical Services Accreditation standards ▪ NHS England. Urgent and Emergency Care ▪ GIRFT, 2021. Paediatric General Surgery and Urology ▪ GIRFT, 2022. Paediatric Trauma and Orthopaedic Surgery ▪ GIRFT. Perioperative Care
IMPLEMENTATION SUGGESTIONS: CLICK HERE	

3	Prevent children and young people who are waiting for emergency surgery from being fasted for any longer than necessary. *In the absence of likely gastric stasis, 'Sip til Send' could be considered but note that this was not developed for emergency procedures nor in children and young people. There is new evidence around fasting in paediatric care e.g. the EUROFAST study.*
RATIONALE FOR THE RECOMMENDATION	Children and young people were often fasted for too long and fasting was infrequently recorded in hospital policies for emergency procedures for children and young people.
FOR ACTION BY	Commissioners and integrated care boards in discussion with their hospital trusts/health boards.
ADDITIONAL STAKEHOLDERS	Members of the Centre for Perioperative Care in addition to the Association of Paediatric Anaesthetists of Great Britain and Ireland, British Association of Paediatric Surgeons, and Association of Surgeons of Great Britain and Ireland, Royal College of Surgeons of England, Royal College of Anaesthetists and Association of Anaesthetists, Royal College of Nursing, British Society of Neurosurgeons, British Paediatric Neurology Association, British Association of Oral and Maxillofacial Surgeons, British Orthopaedic Association, British Society for Children's Orthopaedic Surgery, British Association of Urological Surgeons, British Association of Paediatric Urologists, British Association for Paediatric Otorhinolaryngology, ENT UK, Royal College of Obstetricians and Gynaecologists, British Association of Plastic, Reconstructive and Aesthetic Surgeons.
ASSOCIATED GUIDANCE	▪ Centre for Perioperative Care: 'Sip til Send' ▪ EUROFAST study
IMPLEMENTATION SUGGESTIONS: CLICK HERE	

SUGGESTION FOR FUTURE RESEARCH

A UK consensus needs to be developed on fasting children needing surgery.

1 METHODS

DETAILED FINDINGS ABOUT THE METHODS ARE AVAILABLE HERE

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Study advisory group

A multidisciplinary group of clinicians was convened to steer the study from design to completion, define the objectives of the study and advise on the key questions. The group comprised lay and parent carer representatives along with healthcare professionals in paediatric and adult surgery (generalists and specialists), anaesthetics (generalists and specialists), neonatology, intensive care, radiology, nursing and allied healthcare.

Study aims and objectives

To identify good practice and remediable factors in the care provided to children and young people under the age of 18 years who underwent emergency (non-elective) procedures under anaesthetic or sedation.

Study population and case ascertainment

Inclusion criteria

All children and young people aged 0–18th birthday who underwent an emergency (non-elective) procedure under anaesthetic or sedation were identified between 00:00 Monday 17th June to 23:59 Sunday 30th June 2024 and from 00:00 Monday 12th February to 23:59 Sunday 25th February 2024. Patients were identified across two-time frames to account for seasonal variation.

Exclusion criteria

Children and young people who died prior to arrival in theatre/the procedure area.

Identification of a sample population

Two pre-set spreadsheets were provided to every local reporter to identify all patients meeting the study criteria during the two defined time frames, from which a maximum of seven patients from each hospital were randomly sampled for inclusion.

Data collection

An organisational questionnaire collected hospital-level data on the organisation of emergency and surgical services.

Surgical (operator) and anaesthetic questionnaires collected data on the procedure.

A transfer questionnaire was sent to the clinician caring for the patient prior to transfer.

A real-time clinician survey gathered data on delays to surgery during the initial sample period

An anonymous online clinician survey collected data on how confident and competent clinicians felt about providing emergency intervention for children and young people.

Case notes were requested for the included admission of each patient for peer review.

Data analysis rules

- Small numbers have been suppressed if they risk identifying an individual (usually <5)
- Any percentage under 1% has been presented in the report as <1%
- Percentages were not calculated if the denominator was less than 100 so as not to inflate the findings, unless to compare groups within the same analysis
- There will be variation in the denominator for different data sources and for each individual question as it is based on the number of answers given.

2 DATA RETURNED AND THE STUDY POPULATION

DETAILED FINDINGS IN THE STUDY POPULATION ARE AVAILABLE HERE

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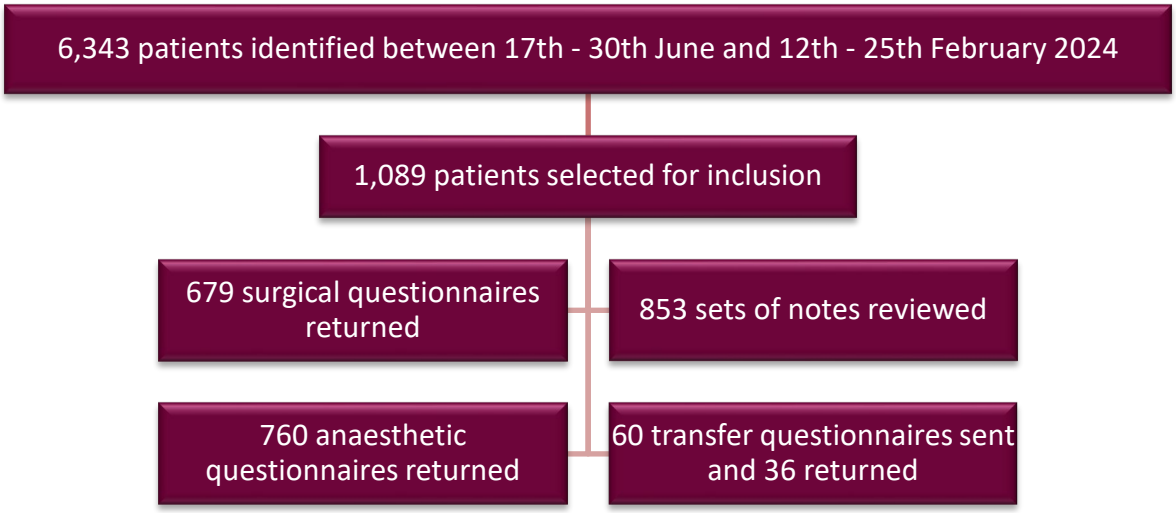
Data returned



Organisational data

Organisational questionnaires were returned from 143/222 (64.4%) hospitals.

Survey data

Clinician survey (confidence and competency) – 564 responses.

Clinician survey (on the day) – 991 responses.

- The average age of all patients identified during the two sampling periods was 8.6 years, and the average age of patients included in the small sample for review was 9.8 years (F2.1).
- In total, 565/853 (66.2%) patients included in the sampled study population were male and 288/853 (33.8%) patients were female. This was representative of the total patients identified in the wider dataset (F2.2).
- The most commonly performed procedures were the manipulation/fixation of joints (T2.1), and this was similar to the sampled population (T2.2) with only slight variation in in some of the procedures included (T2.2) *(see Appendix 1 for a complete list of procedures undertaken).*
- Ethnicity data were available in the case notes for 670/853 (78.5%) patients. The majority of patients sampled for inclusion in the study were White British or White other (555/670; 82.8%) which is consistent with the general population (T2.3).
- Within the group of patients sampled for inclusion, 192/838 (22.9%) had an additional health condition (comorbidity); 124/838 (14.8%) patients had one comorbidity reported and 70/838 (8.4%) had two or more reported. The most common were asthma (51/838; 6.1%), autism (37/838; 4.4%) and attention deficit hyperactivity disorder (ADHD) (23/838; 2.7%) (unknown for 15).
- Within the group of patients sampled for inclusion in this study, reviewers found evidence of at least one characteristic associated with healthcare inequality or bias and this negatively impacted the care provided to 12/853 (1.4%) patients. The most common reasons given were learning/cognitive disability (5/12) and geographic deprivation/travel time to hospital (3/12).

3 ARRIVAL AT THE HOSPITAL

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CASE STUDY – GOOD CARE

A patient was admitted to an emergency department with fatigue. A diagnosis of leukaemia was made. The team at the local hospital referred the patient to the tertiary oncology centre, where a bone marrow biopsy and insertion of central venous access were pre-planned so that they could be performed within eight hours of arrival. This allowed treatment to start within 36 hours of presentation.

Reviewers stated that this was an excellent example of use of an established network of care, with transfer arrangements and pre-planning of surgery before the transfer had been completed.

CASE STUDY – ROOM FOR IMPROVEMENT

A patient presented to an emergency department with septic arthritis. The local hospital lacked orthopaedic services on site for joint drainage, and the local orthopaedic hospital had no paediatric anaesthetic cover and could not perform the surgery. After multiple telephone calls the patient was transferred to the regional tertiary paediatric unit for surgery but this was over two hours away.

Reviewers felt that this was an example of poor pathway planning and showed the importance of clinical networks for specialist paediatric surgery to allow children to be treated closer to home.

- Before the admission to hospital that resulted in surgery, 331/853 (38.8%) patients sought medical advice. This was most commonly from another hospital (97/331; 29.3%), with 80 patients subsequently transferred to another hospital.
- Self-referral to the emergency department of the hospital in which the procedure was undertaken (556/813; 68.4%) was the most common mode of admission (T3.1).
- The reviewers considered that there was a delay in arrival at the admitting hospital for 53/772 (6.9%) patients. The most common mode of admission for patients who had a delay in arrival was self-referral (36) followed by GP referral (6) and hospital transfer (6).
- There were 19/143 (13.3%) hospitals not part of a network of care for non-elective procedures in children and young people. Most hospitals reported transferring patients out for surgery (133/143; 93.0%). Data from the clinician survey showed that 313/564 (55.5%) clinicians transferred patients depending on hospital expertise. Fewer anaesthetists than surgeons stated that they would transfer children requiring emergency surgery due to age (140/257; 54.5% vs 157/272; 57.7%) (T3.2).
- As the reported hospital specialisation increased, the number of survey respondents willing to transfer children who required emergency procedures decreased (T3.3).
- Respondents to the clinician survey who worked outside of tertiary paediatric centres were asked about the levels of support they received from those centres. Anaesthetists reported feeling more supported than surgeons in the acceptance of referrals (123/135; 91.1% vs 126/153; 82.4%) (T3.4). However, this meant that 8.9% and 17.6% of anaesthetists and surgeons did not feel supported.
- Similar proportions of support from the tertiary centre was found regarding the provision of advice (surgeons: 137/161; 85.1% vs. anaesthetists: 141/155; 91.0%) (T3.5). The most common reasons for not feeling supported were a lack of clear referral pathway and lack of beds in the receiving centre.
- There were 713/853 (83.6%) patients who underwent their procedure in the hospital to which they first presented. There were 100/853 (11.7%) patients who were transferred from another hospital. The most common reasons for the transfer was that there was no surgeon comfortable to undertake the procedure in 61 instances (T3.6).

4 ASSESSMENT AND INVESTIGATION

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CASE STUDY – GOOD CARE

A patient sustained a closed displaced radial fracture after a fall in a playground. They were seen in an emergency department by the orthopaedic team within an hour. Following liaison with the theatre co-ordinator, time at the end of a routine list was identified. The patient was immediately reviewed by the on-call anaesthetic team and handed over to the consultant covering the elective list. The patient had a successful operation that afternoon and went home later in the evening.

Reviewers stated that the quick decision-making, and planning led to good patient care.

CASE STUDY – ROOM FOR IMPROVEMENT

A patient was seen in an emergency department with an eyebrow laceration after a cycling accident. The patient and parents were told that they would receive a telephone call the following day with a time slot for an admission to suture the laceration. The patient fasted at home, but the hospital did not call that day. After their mother phoned the hospital, an appointment was made for the following day.

Reviewers felt that this was an example of poor communication and follow-up resulting in a child fasting unnecessarily.

- Just under half of the patients were first assessed by an emergency medicine specialist (307/679; 45.2%), with trauma and orthopaedics as the next most common (106/679; 15.6%), which would be expected for this group of patients (T4.1).
- The grade of clinician responsible for undertaking the first assessment in the operating hospital did not appear to affect the overall quality of care, or a delay in treatment (F4.1 and T4.2). However, the reviewers considered that the initial assessment was not performed by the most appropriate grade of clinician for 229/853 (26.8%) patients.
- Fracture and appendicitis were the most common diagnoses (T4.3) *(see Appendix 2 for the full list of diagnoses)*. The reviewers stated that an incorrect diagnosis contributed to delays for 33/776 (4.3%) patients (T4.4), and the most common missed diagnosis was appendicitis (12/33) (T4.5).
- Only 190/512 (37.1%) patients were under the joint care of a paediatrician and surgeon (T4.6). This is particularly important in hospitals with no paediatric surgical specialists on site. The provision of joint care was unrelated to the operation performed and hospital type.
- Five to nine year olds were more likely to be under the joint care of a paediatrician and a surgeon, with this less likely in the 15 to 17 year old age group (F4.2).
- The National Paediatric Early Warning System (NPEWS) was not used pre-operatively for 129/532 (24.2%) patients in our study; it was unknown whether they were used for 228/760 (30.0%) patients (F4.3). However, NPEWS has not yet been adopted by all hospitals.
- Assessment of the use of NPEWS in different operation groups (F4.3) and for different urgencies of procedures (T4.7) showed usage was higher where the patient was under the joint care of a paediatrician and a surgeon (T4.8).
- The majority of patients had a management plan written following their initial assessment (624/760; 82.1%) and while it was noted that fasting was commonly recorded, it was not part of the plan for 174/599 (29.0%) patients (T4.9).
- In the opinion of the reviewers, 125/718 (17.4%) patients were fasted for too long, with those who underwent an expedited procedure most likely to be in this category (T4.10).

5 DECISION-MAKING

DETAILED FINDINGS ABOUT THIS AREA OF CARE ARE AVAILABLE HERE

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CASE STUDY – GOOD CARE

A patient who had trapped their finger in a door was seen in an emergency department by the surgical team. They received a rapid assessment and an X-ray and were diagnosed with an underlying fracture. The patient was sent home with pain relief with a plan for readmission in time to be first on the operating list the following morning. They had a night in their own home and arrived fasted ready for anaesthesia. The fracture was reduced and the patient discharged home with full documentation and advice by 12:30.

Reviewers reported that this approach – admission on an urgent (hot) list rather than an emergency list – allowed the child to be at home overnight rather than in hospital with less stress for the family and good management of hospital bed resources.

CASE STUDY – ROOM FOR IMPROVEMENT

A patient sustained a deep laceration to their lip following a fall. The injury needed to be repaired under general anaesthetic. The emergency (CEPOD) theatre was busy, so the patient was booked for surgery the following day and arrived fasted at 07:30. The emergency theatre was again busy, resulting in the patient fasting with no food or fluids for almost 20 hours by the time the procedure was undertaken.

Reviewers felt that this case underscored the importance of prioritisation of young children and flexible use of operating theatre space. The patient could have had access to clear fluids but ended up fasting for a very long time.

- Most patients (617/641; 96.3%) were seen by a senior decision-maker (ST3+ or equivalent) (T5.1) but there was a delay in assessment in 64/570 (11.2%) patients (T5.2).
- Most patients were seen by a consultant (427/597; 71.5%) although poor documentation meant that reviewers could not identify this in many patients (256/853; 30.0%). Where it could be assessed, the reviewers identified a delay in consultant assessment in 34/427 (8.0%) patients. When seen by a consultant, 139/187 (74.3%) were seen by a consultant within 14 hours of admission (F5.1). Patients who were reviewed promptly by a consultant were more likely to receive good care (F5.2).
- A senior clinician made the decision to perform the procedure for 399/575 (69.4%) (unknown for 278) (T5.3). Reviewers noted there was a delay in decision-making in 64/853 (7.5%) patients, and this had a negative impact on patient care in 32/60 patients due to the delayed surgery.
- Delays in the decision to perform the procedure appeared to be more likely if the decision was made by more senior staff (F5.3), but this likely reflects the fact that more complex procedures will require consultant input and additional investigations, and that more consultants were the decision-makers. There was no apparent delay in consultant decision-making reported out-of-hours (F5.4).
- Reviewers noted that there was an inappropriate delay in treatment for 77/853 (9.0%) patients and this impacted negatively on the care of 43/68 patients.
- Reviewers reported that while the majority of patients had their procedures booked without delays, 131/853 (15.4%) patients experienced delays due to delays with/in the surgical team.
- Where grade could be determined, the fact that some patients were booked by less experienced staff did not appear to affect delays in booking procedures (T5.4). However, patients undergoing less urgent procedures were more likely to wait longer from the decision to operate to the time of

theatre booking (F5.5) suggesting these patients could be treated more effectively on non-urgent lists.

- Pre-procedure preparation was adequate for most patients (798/853; 93.6%). However, fasting (10/55) was the most common response to the question about what should have been optimised.
- Following anaesthetic review most patients (369/407; 90.7%) had their anaesthetic commenced within six hours (F5.6). Reviewers reported that many patients in the less urgent categories could have had surgery in a more planned manner rather than on a 'CEPOD' list (F5.7).
- Reviewers noted that consultants and senior residents were involved in anaesthetising most patients (F5.8). They considered the grade of the operator to be appropriate for 719/722 (99.6%) patients, and the grade of the anaesthetist to be appropriate for 681/690 (98.7%) patients.
- Younger patients were more likely to be anaesthetised by a consultant (F5.9). However, some patients under four years of age and patients undergoing immediate surgery had anaesthetic performed by CT1 and CCT2 or equivalent.
- Reviewers noted that only 287/629 (45.6%) patients were commenced on a dedicated pathway for emergency surgery in children and young people (T5.5) and that many of those who were not (83/255; 32.5%) should have been (T5.6). Reviewers also noted that the pathways for treating patients as a planned urgent procedure demonstrated good practice.
- It was reported that 92/143 (64.3%) hospitals had a specific protocol for the children and young people who may require emergency procedures under anaesthetic, but with variability in the content (F5.10). Notably, many did not include fasting requirements for surgery and importantly, arrangements around theatre access and escalation were often not included in protocols.

6 ACCESS TO THEATRES

DETAILED FINDINGS ABOUT THIS AREA OF CARE ARE AVAILABLE HERE

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CASE STUDY – GOOD CARE

A patient with a chin laceration presented to the emergency department of their local hospital. They were reviewed by the plastic surgeons who gave initial care and took consent for surgery the following day. The patient was discharged home and fasted overnight. They returned the next morning, underwent surgery early on the list, and were discharged home later that afternoon.

Reviewers felt that this demonstrated excellent use of a pathway for expedited procedures, was a good use of bed space, and made things easier for the patient and their family.

CASE STUDY – ROOM FOR IMPROVEMENT

A boy attended an emergency department with a short history of right testicular pain. He was seen by the emergency medicine team, followed by general surgery and then urology, who could not secure a place in theatre until four hours later, when under exploration a non-viable torted testicle was identified. An orchidectomy was performed.

The reviewers stated that the lack of a clear emergency pathway and escalation to open an additional theatre resulted in an unnecessary delay in treatment.

- One dedicated emergency (CEPOD) theatre (for all patients) was most common in hospitals that had such theatres (T6.1). It was of note that in ten hospitals emergency procedures were undertaken on children and young people but there was no dedicated emergency theatre (10/137; 7.3%).
- Lack of access to a 24/7 emergency theatre could lead to unnecessary delays in hospitals that provide emergency surgery for children and young people. Elective procedures were undertaken in emergency theatres in 22/119 (18.5%) hospitals. However, this is not their intended purpose and the usage should be reviewed locally. Multidisciplinary emergency theatre handover meetings could facilitate better use of theatres, but these occurred daily in only 90/116 (77.6%) hospitals (F6.1).
- A theatre booking system was available in 135/143 (94.4%) hospitals, although six were unable to comment on this. Only 39/135 (28.9%) of those hospitals were able to confirm that the booking system flagged patients who breached their allocated timeframe to surgery. This indicates that most hospitals are unable to accurately identify when children and young people are waiting too long for surgery, which has implications, such as fasting and risk of deterioration for all patients awaiting emergency surgery.
- Regardless of whether the booking system could flag a breach, only 24/135 (17.8%) hospitals with any booking system audited breaches to allocated booking times for emergency procedures in children and young people.
- Theatre co-ordinating managers or clinicians were only available in 60/143 (42.0%) hospitals despite guidelines recommending this. When present there was still variation by hospital type with regard to the provision of a manager (F6.2). Only 52/143 (36.4%) hospitals had a clinician responsible for assessing capacity in theatres on a daily basis (F6.3).
- Data from the real-time survey highlighted that not all patients had an emergency surgery co-ordinator involved in their care, with only 556/821 (67.7%) patients having one (T6.2).

- Procedures were delayed less often when an emergency co-ordinator was involved (87/440; 19.8%) compared with when they were not involved (69/229; 30.1%) (F6.4).
- The majority of patients in the study sample period were booked as urgent or expedited procedures (718/814; 87.9%) (T6.3). There were 732/897 (81.6%) who needed a procedure in under 24 hours, with 120/897 (13.4%) needing surgery in under one hour (T6.4).
- The booking urgency was appropriate for the majority of patients (865/909; 95.2%) (T6.5).
- Reviewers reported delays from booking a case to the start of the procedure for 82/853 (9.6%) patients. This was more likely to affect patients who were booked for a more urgent procedure than those booked for a less urgent procedure (F6.5) and had an impact on the outcome for 6/82 patients.
- Clinicians reported that emergency procedures often displaced other emergency work and sometimes elective work (T6.6 and T6.7). These observations suggest that lack of organisation of emergency theatre workload often impacted on other patients and in particular patients were not operated on within the expected timeframe nor was there adequate escalation when this did not occur.
- Data from the real-time survey indicated that there was a delay in undertaking the procedure for 201/795 (25.3%) patients (F6.6). These data reflect those seen in the peer review (163/821; 19.9%).
- Facility-related delays were the most common cause of delay, primarily due to the emergency theatre being occupied or a more urgent case taking priority (F6.7).
- Where patient-related delays were identified, both the clinician real-time survey (11/39) and the reviewer assessment (9/30) identified lack of fasting as a cause of the delay to the procedure starting (F6.8 and F6.9).
- Operator-related delays included lack of consent (14/71), essential investigations not being undertaken (12/71), and the surgeon not being available (7/71) (F6.10 and F6.11).
- There were more likely to be delays during the early part of the week compared with later in the week and at weekends, suggesting capacity mismatch at certain times (F6.12).
- Nearly a fifth of patients experienced delays, with 141/163 (86.5%) experiencing multiple delays (T6.8).
- Reviewers rated the overall quality of care as being good for most patients (559/810; 69.0%) (F6.13). *(see Appendix 3 for some additional case studies of good practice.)*
- However, there was room for improvement in 31% of patents, which mainly involved only slight amendments to the existing pathways of care to improve the quality of care provided.
- Reviewers believed that the area where there was greatest room for improvement was in relation to organisational care (F6.14), noting the fact that access to emergency theatres was often limited by the theatre being occupied or more urgent cases taking priority. Reviewers noted that good care was provided when specialties used planned lists for less urgent cases.
- Emergency procedures are the 'stress-test' of a system and can reveal areas where care could be improved. Auditing these procedures can help to ascertain whether the system is working. However, such audits were undertaken in only 45/108 (41.7%) hospitals.

7 TRAINING, CONFIDENCE AND EXPERIENCE

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CASE STUDY – GOOD CARE

A baby with an abscess in their armpit was brought to a district general hospital that did not usually operate on patients under four years old. No specialist unit within a reasonable distance had beds available so the patient was kept at the district general hospital. The next day an anaesthetist and surgeon who were confident in caring for small children were available and the operation was successfully performed.

Reviewers felt that this was a good example of how knowledge of the skill sets of surgeons and anaesthetists allows therapy to be delivered at a district general hospital.

CASE STUDY – ROOM FOR IMPROVEMENT

A neurodivergent patient with learning difficulties presented unwell. The patient was seen by paediatricians and then by surgeons, but the patient had difficulty articulating their symptoms. The absence of support for the patient contributed to a delay in appendicitis being diagnosed. Access to theatre was delayed and the patient's condition deteriorated before they eventually had surgery for a ruptured appendix.

Reviewers felt that this was an example of how communication difficulties can have an impact on the care received. Barriers can exist due to language differences, or as in this example, due to a child being neurodivergent, and highlights the need for staff training and support to prevent future delays.

Delivering care to children and young people in emergency situations demands knowledge, skill, experience, competence and confidence. The patient population presents across a wide spectrum of ages with associated changes in physiology and patients who present as emergencies can often have significant comorbidities that contribute to their presentation. Furthermore, as for all areas of healthcare, patients or their parents/carers may present with language barriers, may be neurodivergent, or have intellectual/developmental disabilities or difficulties which may make them more vulnerable in the healthcare setting. These communication difficulties may impede the ability for patients to express discomfort, complicating pre-operative assessments and postoperative care. The fast pace and unfamiliarity of an emergency care setting may make the situation more challenging for everyone. With this increased complexity it is vital that staff delivering care have access to suitable training and support.

Clinicians who delivered surgical care to children and young people in tertiary paediatric centres commonly used both internal and external continuing professional development (CPD) opportunities, while those in university teaching hospitals and district general hospitals used them less frequently (F7.1).

Resident doctors in tertiary centres not only had better access to internal CPD, but also to external CPD compared to their colleagues in district general hospitals, indicating that those in district general hospitals had less access to CPD overall. Changes in location of care will result in some units operating on relatively small numbers of patients, underscoring the importance of relevant CPD and refresher training.

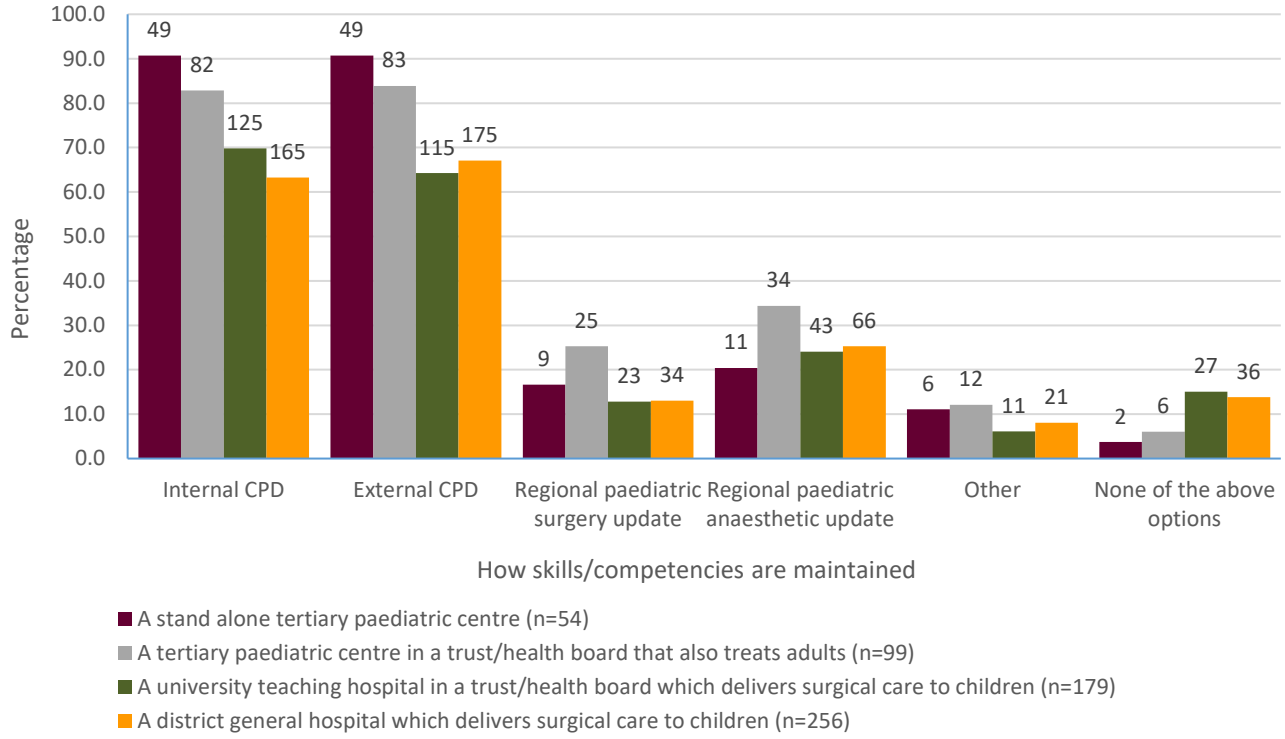

Figure 7.1 How clinicians maintained their skills/competencies in providing care to children and young people undergoing emergency procedures by hospital type

Clinician survey data. Answers may be multiple

Access to training is important, but making the diagnosis, operating and managing the postoperative care of a sufficient number of patients is of equal or even greater importance.[3] The average number of emergency procedures undertaken per annum was 39 for surgeons and 58 for anaesthetists, with a median of 15 and 30 respectively. When asked whether they thought this was enough to maintain competency, 213/254 (83.9%) surgeons and 192/242 (79.3%) anaesthetists thought that it was. Consultants and resident doctors in less specialised hospitals tended to feel less confident about their competence (T7.1).

Table 7.1 Enough surgery undertaken to maintain skill/competency	**A standalone tertiary paediatric centre**		**A tertiary paediatric centre in a trust/health board that also treats adults**		**A university teaching hospital in a trust/health board that delivers surgical care to children**		**A district general hospital that delivers surgical care to children**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Yes	50	94.3	98	99.0	135	81.3	177	75.6
No	3	5.7	1	1.0	31	18.7	57	24.4
Subtotal	**53**		**99**		**166**		**234**	
Unknown	1		3		17		27	
Total	**54**		**102**		**183**		**261**	

Clinician survey data; n=number of responses. Answers may be multiple (hospital type)