Royal College of Surgeons

ADVANCING SURGICAL CARE

Standards for non-specialist emergency surgical care of children

Endorsed by

Faculty of Dental Surgery

Scottish Colleges Committee on Children's Surgical Services

The Association of Paediatric Anaesthetists of Great Britain and Ireland

The Association of Surgeons in Great Britain and Ireland

The Association of Surgeons in Training

The British Association of Oral and Maxillofacial Surgeons

The British Association of Paediatric Otorhinolaryngology

The British Association of Paediatric Surgeons

The British Association of Paediatric Urologists

The British Association of Plastic, Reconstructive and Aesthetic Surgery

The British Association of Urological Surgeons

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The Royal College of Pathologists

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The Children's Surgical Forum

The Children's Surgical Forum is a committee of the Royal College of Surgeons. Membership comprises representatives of all specialties involved in the delivery of surgery for children and young people, including other colleges, specialist associations outside of surgery, and lay representatives.

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Foreword

When children require emergency surgery, they should receive a high-quality service in their local area. Services must ensure that, where treatment or facilities are not available locally, referral and transfer to other services is managed safely and quickly and does not jeopardise the patient's outcome or experience. Clear communication and information to support patients and their families is an essential part of the treatment of children.

Given the large geographical and demographic variations around the country, local solutions must be agreed through networks made up of secondary and tertiary services. Alongside these networks, we need better collaboration between specialist and general commissioning for children's surgical services.

Specialist commissioning must recognise the vital role tertiary specialist services play in supporting surgery within district general hospitals. They must ensure that paediatric surgical networks are able to provide regional continued professional development and training opportunities for adult surgeons within district general hospitals. Commissioners must also ensure that hospital contracts identify and include the local provision of elective and emergency general paediatric surgery.

I hope that children's surgical services and networks will use these standards – which are such an important step forward, and have my full support – to review the quality of care and identify key priorities for improvements that encompass the whole patient pathway.

Dr Jacqueline Cornish OBE FRCP(Lond) Hon FRCPCH DSc(Hon)

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Definitions

Infant
The term 'infant' within this document refers to those aged 0 to 12 months.

Children
The term 'children' within this document refers to those aged 0 to 18 years (from birth up to their 18th birthday).

Young people
This term refers to those aged 16 to 18 who may sometimes be cared for in adult facilities, depending on their preference.

Parent
The term 'parent' within this document is used to include mothers, fathers, carers and other adults with legal responsibility for caring for a child or young person.

Emergency surgery
The term 'emergency surgery' within this document is used to define patients who receive surgery for an acute presentation that has not involved a planned admission.

Levels of paediatric critical care[50]
Level 1 critical care describes activities that should be delivered in any hospital that admits acutely ill children.
Level 2 critical care describes more complex care that is required for a child with a higher level of critical illness that requires supervision by competent medical and nursing staff who have had additional training.
Level 3 critical care describes care of children within Paediatric Intensive Care Units.

Critically ill[99]
These are children and young people who require or potentially require paediatric critical care, whether medical, surgical or trauma-related.
'Critically ill' is used throughout the document to refer to 'critically ill or critically injured'.

Managed clinical networks (MCNs)
An MCN is an interconnected system of service providers that allows collaborative working and the development of standards of care, routes of communication and agreed thresholds for patient transfer for elective and emergency surgery.[2]

This term has now been superseded by the terms 'operational delivery networks' and 'strategic clinical networks' within England. It remains the term for networks setting standards in Scotland (http://www.nsd.scot.nhs.uk/services/nmcn).

Strategic clinical networks (SCNs)
SCNs were formed to support the implementation of large-scale change across complex pathways of care involving many professional groups and organisations within England. Their purpose is to plan and deliver services using a coordinated, combined improvement approach to overcome healthcare challenges that have not responded previously to other improvement efforts. The initial networks covered four main areas: cancer; cardiovascular; maternity and children; and mental health, dementia and neurological conditions. Their role is to define evidence-based best practice pathways and to maintain and improve quality and outcomes.[73,74,75]
The paediatric surgical networks set up within England since 2013 have been managed by the SCNs.

Operational delivery networks (ODNs)
ODNs are centrally funded networks that were established in England in 2013 to coordinate patient pathways between providers over a wide area to ensure access to specialist resources and expertise. To date, ODNs have typically covered areas such as adult critical care, neonatal critical care and paediatric trauma and burns.[74]

Minor injury units (MIUs) or urgent care centres (UCCs)
MICs or UCCs are emergency care facilities that primarily treat injuries or illnesses that require immediate care, but are not serious enough to require an emergency department (ED) visit. They are distinguished from similar walk-in centres by the scope of conditions treated and the available facilities on-site. MIUs or UCCs may be co-located with EDs or can be lone-standing units. They are usually run by nurse practitioners.

Walk-in centres (WICs)
These are also known as 'ambulatory care centres' and are usually run by nurse practitioners. As well as management of minor injuries, they may also offer other primary care treatments such as blood pressure checks or contraceptive advice.

Short stay paediatric assessment unit (SSPAU) (also called paediatric assessment unit [PAU])[49]
This describes a facility where children with acute illnesses, injuries or other urgent referrals can be assessed, investigated, observed and treated without admission to an inpatient ward. The facilities may be situated within a hospital alongside an ED or inpatient ward, or be lone-standing units.

Retrieval
Retrieval describes the transfer of patients from one hospital to another for time-critical complex treatment at a specialist centre – for example, children requiring transfer for care at a paediatric intensive care unit (PICU). Children would usually be transported by a retrieval team from the regional PICU or by a separate paediatric retrieval service. Scotland has a nationally organised retrieval service for neonates and children (ScotSTAR) (http://www.snprs.scot.nhs.uk/).

Immediate transfers
Immediate transfer is required when surgery cannot be delivered on-site. A local team must provide the transfer because there is a need for immediate or time-critical surgery. If the child is critically ill then they must be transferred by a senior member of staff, who will also deliver simultaneous resuscitation – eg for acute neurosurgical emergencies.

Urgent transfers
Urgent transfer is required when surgery cannot be delivered on-site but the need for surgery is 'urgent' (as distinct from 'immediate' or 'time-critical'). Despite this urgency, it is appropriate for resuscitation to occur and for a retrieval team to arrive if the child is critically ill. However, if the child is relatively stable then they may be transferred by a local team member with appropriate competencies, eg in the case of acute appendicitis in a younger child.[81]

Clinical transfers
These describe transfers of patients undertaken when the patient's condition is not critical or immediate and does not need a fully equipped Accident and Emergency vehicle. This may also describe transfers of patients with limited mobility, who are monitored and need transport for assessments, appointments and/or medical investigations. These transfers should be undertaken by the hospital patient transport service (PTS) provider. If the statutory ambulance service is used then they will be extra-contractual journeys (therefore chargeable) and will be carried out within four hours.

Non-urgent transfers

These describe transfers between hospitals where the patient does not fall into either the urgent or clinical transfer categories. Where a patient is clinically stable, but requires a transfer to another hospital, the responsible clinician must decide the safest and most timely mode of transfer between hospitals – either through a hospital's transport provider, a private vehicle or public transport.[81]

This type of transfer includes children who present as an emergency at a hospital, but who later require transfer for surgery or other care that cannot be provided in the presenting hospital.[81]

Intra-hospital transfers

These refer to transfers of patients between departments within the same hospital.

Classification of surgical emergency[96]

These definitions of urgency of surgical intervention have been adapted from 2004 NCEPOD adult surgery classifications.

Immediate: Life-saving or limb- or organ-saving intervention. Surgery carried out within minutes of decision to operate and usually at same time as resuscitation, eg severe haemorrhage, airway obstruction, major trauma to abdomen or thorax, fracture with major neurovascular deficit.

Urgent: Acute onset or deterioration of conditions that threaten life, limb or organ survival. Surgery carried out within hours of decision to operate and normally once resuscitation is completed, eg appendicitis, open fracture, torsion of testis.

Expedited or scheduled: Patient requires early treatment where the condition is not an immediate threat to life, limb or organ survival. Surgery normally within days of decision to operate, eg abscess, closed fracture.

Elective: Intervention planned or booked in advance of routine admission to hospital. Timing of surgery is arranged to suit patient, hospital and staff, eg hernia repair, circumcision.

Glossary

ARCP	Annual review of competence progression
CPD	Continuing professional development
CRB	Criminal Records Bureau
DGH	District general hospital
DOH	Department of Health
ED	Emergency department or Accident and Emergency
EPR	Electronic patient record
GPs	General practitioners
ODP	Operating department practitioner
NCEPOD	National Confidential Enquiry into Patient Outcome and Death
NICE	National Institute for Health and Care Excellence
PAU	Paediatric assessment unit
PEWS	Paediatric Early Warning Score
PCC	Paediatric critical care
PTS	Patient transport service
PVG	Protecting vulnerable groups scheme
RCoA	Royal College of Anaesthetists
SEHD	Scottish Executive Health Department
SLA	Service-level agreement
SSPAU	Short stay paediatric assessment unit

Scope of publication

This publication aims to combine in one document the large number of standards and guidance that have been published by all key stakeholder organisations involved in paediatric and children's surgery in the past ten years.

The standards within this document cover all aspects of non-specialist emergency surgical care for children and young people up to the age of 18 years, which should be managed within a local secondary care hospital and working within a paediatric surgery or strategic clinical network. The standards apply to the all services within the UK.

We have tried to represent the whole patient pathway from pre-admission to discharge, including interactions with specialist services. Pre-hospital care does not fall within the remit of paediatric surgical networks, but is an important aspect of care and therefore a short section has been added to complete the patient pathway.

The standards within this document have been developed through a review of available evidence, discussion among forum members and a formal consultation. Each section has key overall statements of care, under which are listed standards. Alongside the standards are measurement criteria that could be used by services to show compliance.

The majority of statements have references to their original reference source, which are listed at the back of the document. Where a direct reference is not listed, the standard has been developed through consensus between forum members.

This document is intended for use by commissioners, service managers and clinicians to improve and standardise emergency surgical care for children. We anticipate that some services may not comply with all of these standards immediately, but they should be able to provide evidence that they are working towards compliance.

The enclosed standards should be read in conjunction with the Children's Surgical Forum 2013 publication *Standards for Children's Surgery,*[1] which outlines standards for elective surgical care and other relevant standards for the acute care of children and young people in chapters such as 'Facing the future suite of standards'.[46,52]

Further support for the implementation of these standards is planned, including the development of an audit tool. This and other supporting documentation will be available on the CSF webpages in the near future (https://www.rcseng.ac.uk/surgeons/surgical-standards/working-practices/childrens-surgery).

Procedures within the scope of emergency non-specialist surgery for children

Surgical procedures or presentations covered within the scope of this document are listed below. This is not an exclusive list.

Procedures within the scope of emergency non-specialist surgery for children	
General paediatric surgery	Abdominal pain/appendicitis Acute scrotum/torsion of testis Soft-tissue injuries and laceration Abscesses (subcutaneous) Surgery for trauma including haemorrhage
Orthopaedics	Reduction and fixation of fracture Management of acute musculoskeletal infection Removal of foreign bodies
ENT	Removal of foreign body from airway or oesophagus Bleeding from tonsils or adenoids Management of quinsy and or abscess
Plastic surgery	Facial lacerations Other abscess Animal bites Hand injuries Burns Combined plastic and orthopaedic trauma Wound closure Soft-tissue injuries and laceration
Ophthalmic surgery	Removal of foreign body Corneal laceration Eyelid lacerations Examination under anaesthetic
Oral surgery and dentistry	Dental abscess Dental alveolar injuries
Maxillofacial surgery	Dental abscess Dental alveolar injuries Jaw factures Facial fractures Facial lacerations
Gynaecology	Ovarian cysts Pelvic inflammatory disease Surgical management of a miscarriage Ectopic pregnancy
Neurosurgery	Head injury

Executive summary

The following summary should be read in conjunction with the full standards.

These standards cover all aspects of non-specialist emergency surgery for children and young people up to the age of 18 years that should be managed within a local secondary care hospital. The standards do not cover service delivery of elective general surgery of childhood, or specialist surgical care.

Pre-hospital care

Potentially critically ill children require early identification and referral for treatment. Given the small numbers of such patients, it is vital that those within primary care, walk-in centres and ambulance services have the training required to maintain competencies.

Networks

All surgical services for children should aim to work within a regional network made up of specialist and local services. The networks must decide and audit key local service agreements such as transfers, access to specialist advice and investigations, and audit requirements. They must work together and share key decisions with other local networks, such as trauma, neonatal, anaesthetic, paediatric radiology and transfer networks.

It is acknowledged that Scotland and certain areas in England do not have formal children's surgical networks at present but the CSF felt strongly that this model represents best practice.

Locally delivered care

This guidance follows the principle that children presenting with common emergency surgical conditions should be treated locally and not transferred to specialist centres, unless this is necessary for safe treatment. The planning of care should recognise that the needs of the child are paramount and services should ensure that they always act in the best interest of the child.

Collaboration between paediatric and surgical services

Emergency surgical care of children should be managed in children's wards, but there must be access to both senior surgical and paediatric clinicians and registered children's nurses. It should be clear at all times who is the responsible consultant and team, and whether they are surgical or paediatric. This should be communicated to the patient and parents.

Transfers

Each hospital must have clear policies on the requirements for transfer of children between hospitals, according to the severity of illness or injury of the child. These policies should be agreed at a network level and held accountable at hospital board level.

The skills required by staff whom accompany critically ill children during transfers have not been clearly defined and there is a paucity of training available. This is an area that needs development.

Education and training

All staff caring for children must have key paediatric competencies in recognition and resuscitation of a critically ill or deteriorating child, as well as up-to-date training in safeguarding and pain management.

Surgeons and anaesthetists managing children must ensure that their paediatric caseload and related outcomes are included within annual appraisal and that their CPD activities are reflective of their whole practice.

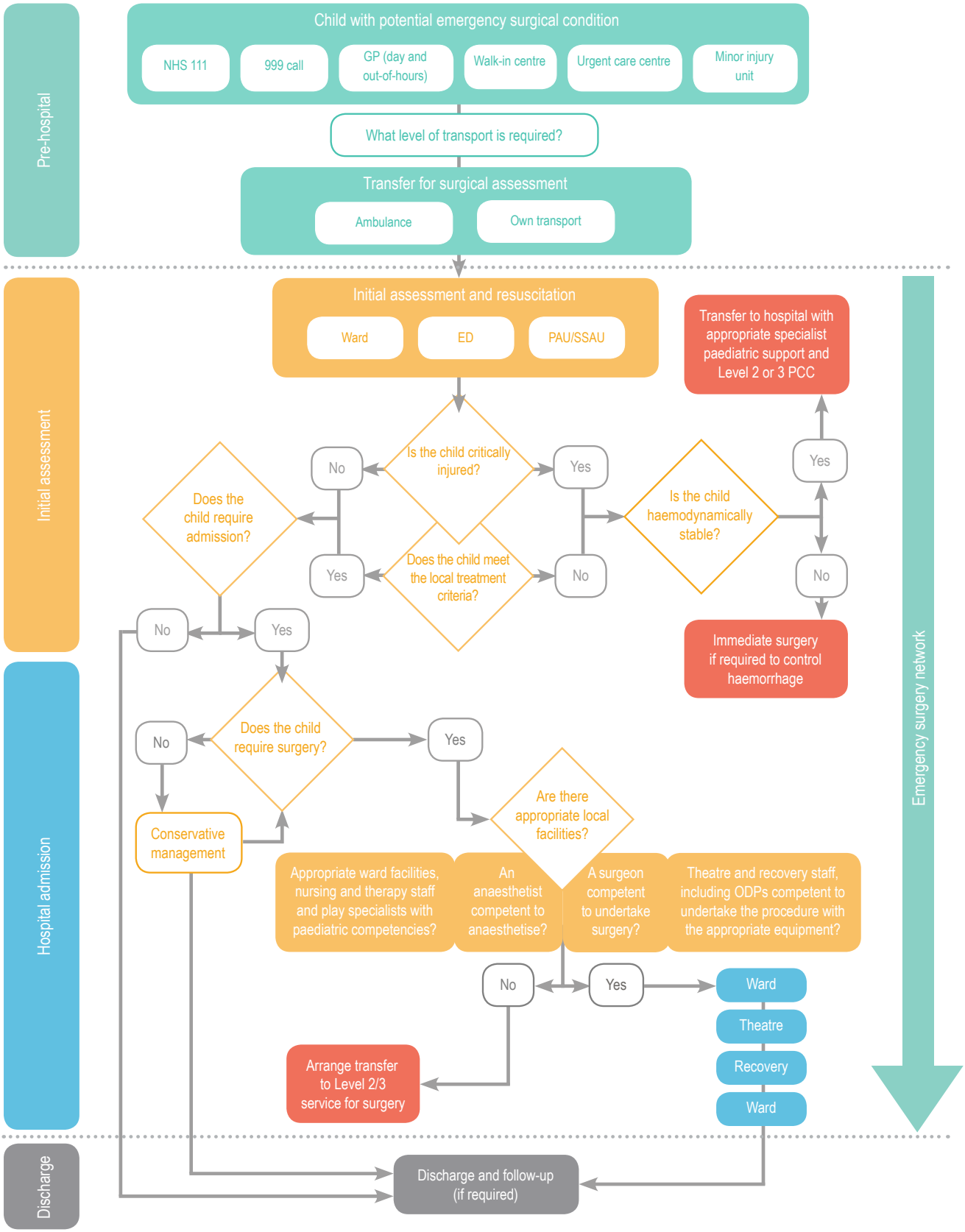
Patients and their families

Patients and families should be treated with dignity and respect at all times. Patients must be given sufficient information, in a format that is appropriate for their age and developmental status, to allow for informed decision-making about all aspects of care.

All areas of the hospital in which a child may be waiting or treated must offer a safe environment that meets the needs of children and young people of different ages.

Adolescents require separate consideration with regards to communication, consent and environmental needs.

Illustrative patient pathway for a child with an emergency surgical presentation



Pre-hospital care

Parents may access many different types of professionals and services when seeking advice for a sick child. Accurate risk assessment and timely and effective initial care is essential prior to arrival at hospital for children with potential emergency surgical conditions. All ambulance services and telephone triage systems – eg NHS 111 – should use a recognised triage tool when assessing potentially sick children, especially children under the age of two.[46]

GPs assessing or treating children and young people with unscheduled care needs must have access to immediate telephone advice from a consultant paediatrician or surgeon.[46]

All those working in services that might refer a child to hospital must have the necessary training and maintain competencies in how to recognise a sick child and initiate resuscitation if required.[47] For GPs, nurse practitioners and ambulance workers who may see critically ill children irregularly, additional training in the early recognition and resuscitation of critically sick children should be available. Training should be supported by local paediatricians.[46,99]

Non-paediatric facilities where children may present must have clear arrangements for assessment and transfer of children. The safest mode of transport must be considered when referring a potentially sick child to hospital from a GP, walk-in centre or other community facility.[99]

Children should be taken to the nearest appropriate ED for assessment, unless the child has major trauma or there are local agreements about transfers for particular presentations. Initial triage to assess the severity of injury at the scene of an incident should lead to transportation by the local ambulance service to the most appropriate destination, which may be a paediatric major trauma centre.[12,72] Ambulances should alert the receiving hospital about any critically ill or injured child to allow for appropriate teams to be ready on arrival.[12,99] Where possible, children should be cared for within local hospitals.

Senior healthcare professionals from hospitals, the community and primary care – as well as representatives of children, young people and their families – all need to be involved in the monitoring, reviewing and improving the effectiveness of local unscheduled care.[46]

Generic standards for non-specialist services across the whole patient admission

The standards have been divided into key topic areas in the patient pathway. All the standards in this section apply to all emergency surgical services in all specialties.

A. Initial assessment, resuscitation and stabilisation

1. In any area where a child (including infants) may arrive, there must be suitable triage arrangements that enable swift recognition and initial management of a critically ill or injured child[42,97,99]

STANDARD	MEASUREMENT CRITERIA
Triage arrangements are available to carry out a brief clinical assessment within 15 minutes of arrival, including pain score (where appropriate) and a system of prioritisation for full assessment if waiting times exceed 15 minutes[42]	Local policy
There are protocols for the assessment and resuscitation of a seriously ill child. This includes a PEWS tool and a process for escalating care to senior clinicians or accessing specialist advice if required[6,42,94]	Protocol on alerting the paediatric resuscitation team Protocol for accessing support for difficult airway management Protocol on stabilisation and ongoing care

2. Every hospital that carries out acute emergency care, inpatient care or surgery in children and young people must have a rota for a resuscitation team who are competent to care for a sick or injured child[99]

STANDARD	MEASUREMENT CRITERIA
A paediatric resuscitation team is immediately available (within five minutes) at all times, with a recognised system for alerting them to respond in an emergency[12,42,40]	On-call rota Local protocol
The hospital have sufficient staff with advanced paediatric resuscitation and life support competencies to maintain a paediatric resuscitation team at all times[42,99]	On-call rota Record of training
Senior first responders, if not consultants, must have at least 12 months' experience in the assessment and initial management of a sick child[99]	On-call rotas At least RCPCH Level 1 competencies and appropriate advanced skills for assessment and management for resuscitation[53]
Urgent help is available at all times for advanced airway management, intubation and ventilation, and this is carried out by competent staff[42,43,99]	On-call rota
Anaesthetists managing the airway of a sick child have trained assistance available[37,50]	ODP or nursing competencies On-call rota
Anaesthetists with no regular paediatric commitment but who provide out-of-hours cover for stabilisation of children prior to transfer must maintain skills in paediatric resuscitation and have an appropriate level of CPD in paediatric anaesthesia[6,37]	Annual appraisal Record of training Support with local mentoring

3. All hospitals admitting emergencies must have the required resources and equipment to stabilise and resuscitate a child, including infants at all times

STANDARD	MEASUREMENT CRITERIA
In the ED there is a designated resuscitation area for resuscitation and stabilisation of critically ill children, which has the appropriate drugs and equipment and is checked in compliance with Resuscitation Council (UK) guidance[114]	Description of facilities Local governance
Hospitals must have paediatric equipment of the right size and specification. Staff must be trained in the use of the equipment[24,99]	Risk assessment logs Record of training

4. Early resuscitation and antibiotic treatment must be given to patients with potential severe sepsis and septic shock[58]	
STANDARD	MEASUREMENT CRITERIA
In patients under five years, a traffic-light system is used to identify those patients most at risk when presenting with an unexplained fever. Parenteral antibiotics are given in compliance with NICE guidance[58,59,60]	Audit report and action plan
Fluid requirements, especially with preoperative fasting, are given in compliance with *NICE Guidelines on Intravenous Fluids Therapy in Children* (published December 2015)[57]	Audit report and action plan

5. Stabilisation following initial resuscitation must be carried out by a team of competent individuals comprising (at a minimum) a paediatrician or senior emergency medicine clinician or a surgeon, an anaesthetist or intensivist, and a nurse working in concert with ED staff or ward staff. Other staff may also be required to attend urgently, eg a general surgeon, ENT surgeon, ODPs and radiographers[97]	
STANDARD	MEASUREMENT CRITERIA
Following the initial resuscitation of a critically sick or collapsed child, stabilisation and further management is led by a clinician of appropriate seniority, who has the competencies and knowledge to manage and oversee the treatment of a critically sick child[97]	On-call rota Inclusion in job descriptions Annual appraisal and revalidation

6. All hospitals admitting surgical paediatric emergencies must have access to all key laboratory services in a timely manner 24 hours a day, 7 days a week, to support clinical decision-making[106]	
STANDARD	MEASUREMENT CRITERIA
Written reports of plain film x-rays are available within 12 hours, 7 days a week	Local policy
All radiological equipment is optimised for paediatric use and uses specific paediatric software[64,106]	Local governance
Local agreements between services ensure timely access to imaging and interventional radiology and specialist paediatric radiology advice when this is not available in the local hospital[99,106]	On-call rota Local policy Network-level agreement
Arrangements are in place for transfer of a child if more complex imaging or intervention is required[106]	Network-level agreement Local policy
Procedures in place for image transfer and review by a specialist paediatric radiologist if required[62,106]	Network-level agreements

7. Staff should be aware of the need to establish pregnancy status in older children and young people prior to surgery[40,51]	
STANDARD	MEASUREMENT CRITERIA
Hospitals have a local policy that ensures local compliance with the RCPCH guidelines on asking female older children and young adults about the possibility of pregnancy[51]	Local policy
Patients under 16 years are given the opportunity to be asked about pregnancy away from parents/carers and any information disclosed is kept in confidence unless there are overriding safeguarding concerns[51]	Local policy

8. SSPAUs assessing children who present as an emergency must have ready access to appropriate senior staff and resuscitation support[35,46,49,82]	
STANDARD	MEASUREMENT CRITERIA
SSPAUs only assess and manage children attending as an emergency if they have availability of senior paediatric medical, surgical and anaesthetic staff with the necessary skills throughout all hours they are open[40,46,99]	Local policy
SSPAUs assessing and managing emergency admissions have an appropriately equipped and staffed emergency room for reception, triage and resuscitation[46,49,99]	Description of facilities Local governance
There is defined access to community children's nursing teams, with close links to the acute unit to allow early discharge and home review[46,49,99]	Local arrangements

9. Walk-in centres (and lone-standing SSPAUs) assessing children must have appropriate protocols and agreements for urgent transfer and admission if required[99,100]	
STANDARD	MEASUREMENT CRITERIA
Protocols are in place for rapid assessment and transfer of patients, including how to communicate with the receiving unit[99]	Local protocol

B. Transfers

I) URGENT TRANSFERS

1. The critically ill child with an immediate life-threatening condition must be assessed by a senior clinician; the decision to operate or transfer must be made promptly, according to network arrangements[2]

STANDARD	MEASUREMENT CRITERIA
The decision to transfer a patient is made after discussion with senior clinicians in the referring hospital and is authorised by the referring consultant[27]	Network-level policy
Prior to any transfer, there is an early discussion with paediatric intensivists and critical care facilities[93]	Availability of network-level rotas and contact details

2. Children must be adequately resuscitated and stabilised prior to transfer, even if this may delay the transfer[81]

There are clear protocols for resuscitation and stabilisation of the acutely ill child prior to transfer[94,99]	Local or network protocol
Requests for ambulance are not made until agreement to transfer has been reached between services[81]	Network-level policy

3. There must be a retrieval service that can transfer a severely ill or injured child to a specialist centre in a safe and timely manner[27]

STANDARD	MEASUREMENT CRITERIA
Hospital boards must deliver a policy for the time-critical transfer of a child to critical care or other specialist services, including when retrieval services should be used and contact details for specialist advice[81,99]	Transfer policy developed with local transfer network[96,101]
Referring hospitals are able to transfer children to a specialist centre when it is time-critical and do not need to wait for a retrieval service if this will potentially harm the child[99]	Network-level policy
Hospital teams working in both specialist and non-specialist centres are ready for transfer of infants and children requiring emergency surgery and are prepared to provide high-level and timely support for these transfers[27]	Network-level agreements
There are agreed transfer arrangements for specialist injuries, eg major head injuries or burns, which have to be sent outside of the lead Level 3 critical care centre[26,99]	Network-level policy
The hospital/network has a policy to support surgeons and anaesthetists undertaking life-saving interventions in children who cannot be transferred or who cannot wait until a designated surgeon is available[1,70]	Local or network-level policy

4. Hospitals must be in a transfer network that can coordinate and manage urgent transfers[27]

STANDARD	MEASUREMENT CRITERIA
Networks ensure specialist providers can accept transfers within a specified and agreed timescale. Service-level agreements include details of the service suitability for all ages of children and young people[27]	Service-level agreement
There is a nominated leader for inter-hospital transfers within each hospital in a network[27,37,81,93]	Job description
Pathways and links between specialist centres and local DGHs are agreed at a network level and are regularly audited[37,81]	Local or network-level audit report and action plan
The responsibility for finding an alternative service for urgent transfers, if the network tertiary centre is unable to accommodate the transfer, is defined by the local transfer network. Policies include party responsible for finding a bed, a single contact number, ideal inclusion of a formal bed-finding service[81]	Network-level agreements Network-level policy

5. Staffing and equipment required for urgent transfers is reviewed and discussed with the senior clinician at the receiving hospital[27,81,99]	
STANDARD	MEASUREMENT CRITERIA
The most experienced and appropriate member of staff available carries out the transfer. This staff member(s) should be defined within a local policy that also includes details of how their on-call work will be covered during the transfer and how they will be returned after the transfer[27]	Local policy On-call rota Record of training including APLS/EPLS or equivalent
Arrangements are made for suitable cover of on-call duties for staff carrying out transfers prior to leaving the hospital[27]	Local or network policy
All staff carrying out transfers have adequate personal injury insurance for any possible accidents during travel[81]	Local or network policy
The referring hospital is responsible for the patient until handover to the receiving hospital has taken place. This should take place within 15 minutes of arrival[81]	Local or network policy
Arrangements are made to ensure staff can return safely to hospital after transfer, as soon as practicable[27]	Local or network-level policy

6. Parents and families must be given help and support when travelling to the receiving hospital, with advice regarding transport, location of hospital and parking[97]	
STANDARD	MEASUREMENT CRITERIA
Parents are kept informed of their child's condition, the care plan and retrieval or transfer arrangements. This information is updated regularly[97]	Written information One-to-one staff support available

ii) CLINICAL TRANSFERS and NON-URGENT TRANSFERS

1. The consultant in charge of care should decide the appropriate mode of transfer following discussion with receiving consultant and parent[99]	
STANDARD	MEASUREMENT CRITERIA
There is a discussion between professionals and patients and family about the appropriate mode of transfer, whether this includes transfer by ambulance, PTS, private or public transport. This discussion is fully documented within the patient's record	Local policy

2. All required records and results of investigations must be available for the receiving hospital	
STANDARD	MEASUREMENT CRITERIA
A full handover is given during referral discussion between two services	Local policy
A copy of the patient's notes or completed handover form and copies of relevant investigations accompanies the patient when transferring between hospitals	Hard copies of notes or copy sent via electronic transfer Hard copy of radiology images or copy sent via electronic transfer or disk

3. There should be a defined patient transport service for transfers where required	
STANDARD	MEASUREMENT CRITERIA
There is an agreed policy for the use of the PTS when transferring patients and families to another hospital for surgical care in a safe and timely manner	Contract with PTS Local policy on criteria for use of PTS, transport by family or carer, or public transport

iii) TRANSFERS WITHIN THE SAME HOSPITAL	
1. Defined arrangements and standards for the transfer of children are in place and audited[1]	
STANDARD	MEASUREMENT CRITERIA
Adequate staffing to allow for safe transfer of patients between departments[36]	Rotas in ED and children's wards
Local policy outlines the transfer of critically ill children within the hospital, including to and from theatre. These should be reviewed and audited regularly[22,99]	Local policy Audit report

iv) SHIFT HANDOVERS	
1. It is the duty of all staff to convey high-quality and appropriate information to oncoming healthcare professionals to allow for safe transfer of responsibility for patients between teams and shifts[104,109]	
STANDARD	MEASUREMENT CRITERIA
Structured arrangements are in place for the handover of children at each change of responsible consultant and team. Adequate time for handover is built into job plans[1,11,104]	Structured handover time in rotas Agreed handover template
Patients and their family know the name of the consultant and team responsible for their care at any time[4]	Patient feedback Local policy
2. A named consultant must be responsible for a patient's care at all times. It must be clear to all staff, patients and families whom is responsible when care is transferred from one consultant to another	
STANDARD	MEASUREMENT CRITERIA
When referring a patient between teams, the referring consultant remains responsible for the care of the patient until the receiving team has seen the patient	Local policy
Where care is being jointly managed between different teams or specialties, the responsibilities of different teams are explicit and are made clear to patients and families[4]	Local policy

C. Pain management

1. Assessment and treatment of pain must start at first presentation and must be regularly reassessed[24,32]	
STANDARD	MEASUREMENT CRITERIA
There is a written policy for pain assessment and management in children[6,94]	Local policy
Analgesia for moderate-to-severe pain is provided within 20 minutes of initial triage and assessment[32]	Audit report and action plan
Pain is reassessed at regular intervals (at least hourly) after providing analgesia to ensure it is effective[32]	Local policy
Pain is assessed using validated pain-scoring tools, which are appropriate to the age and development of the child or infant[37]	Agreed local assessment tools

2. All units must have a properly staffed and funded acute pain service that covers the needs of children[37]	
STANDARD	MEASUREMENT CRITERIA
There is a named consultant and specialist children's nurse, within each hospital, with specific responsibility for acute pain management of children[94]	Job description Local policy

3. Children undergoing surgery must have a pain-management plan that includes postoperative and discharge analgesia, where appropriate[20,62]	
STANDARD	MEASUREMENT CRITERIA
A pre- and postoperative pain assessment takes place for every child[20]	Local policy
There is access to a play specialist to provide distraction and alternative coping skills to control pain, as well as medication[24,86]	Local policy
Child-friendly analgesia guidance should be readily available[37]	Patient information

D. Surgery, anaesthetics, theatres and recovery

1. Emergency surgery in children – beyond immediate control of haemorrhage or surgery to save a limb or organ – must only take place in hospitals that have inpatient children's facilities[97]

STANDARD	MEASUREMENT CRITERIA
Children that we anticipate will need postoperative intensive care and in whom surgery can safely be delayed long enough for transfer should have their operation performed in a unit with designated paediatric critical care facilities. However, if a child requires immediate surgery and this can be delivered locally, surgery should proceed and transfer to PICU organised for as soon as possible after it is completed. In the case of a young person requiring surgery and postoperative intensive care, it may be appropriate to deliver this in a general adult facility[99]	Local policy and network agreements
Appropriate equipment is always available in theatres for all types of cases that usually require emergency surgery[36]	Local governance

2. Emergency care must be prioritised over elective work within any hospital[17]

STANDARD	MEASUREMENT CRITERIA
There is adequate emergency theatre access, which includes the ability to interrupt or cancel elective work, to accommodate a paediatric emergency[17,36]	Theatre capacity planning
Theatre-booking systems enable identification of priority cases[17,36]	Evidence of NCEPOD prioritisation of theatre cases
For the most immediate, life-threatening conditions, the patient is in theatre within two hours from the decision to operate[5]	Local policy

3. Emergency theatres caring for children must have staff with paediatric training who maintain their competencies[6]

STANDARD	MEASUREMENT CRITERIA
There is close liaison between the lead consultant for paediatric anaesthesia and the theatre manager with regards to training and mentoring of theatre staff[1,19,99]	Local arrangements

4. Surgeons and anaesthetists should only work within the limits of their professional competencies[1]

STANDARD	MEASUREMENT CRITERIA
All consultant surgeons and anaesthetists providing emergency care have the ability to manage common paediatric surgical emergencies[6,97]	Review of paediatric caseload and outcomes through annual appraisal
All hospitals that provide surgery for children have clear operational policies regarding who can operate on and anaesthetise children for elective and emergency surgery, taking into account ongoing clinical experience, the age of the child, the complexity of surgery and any comorbidities. This policy may differ between surgical specialties[94]	Local policy
Supervision of surgery and anaesthetics by trainees is appropriate to their level of competence[1]	Annual appraisal Recorded training in ARCP
Anaesthetists who care for children must have completed the relevant level of training as specified by the RCoA and must have ongoing training to maintain competencies for safe practice[37]	Annual appraisal Record of training
Anaesthetists have a dedicated assistant at all times, who has maintained competencies in perioperative care of children and young people[36]	Local policy On-call rota

5. In the period immediately after anaesthesia the child should be managed in a recovery ward or post-anaesthesia care unit on a one-to-one basis by designated staff with up-to-date basic paediatric resuscitation training[37]	
STANDARD	MEASUREMENT CRITERIA
As soon as possible post-surgery, a member of the medical/nursing team updates the child and parents of the outcome of surgery[1]	Local policy
A registered children's nurse is directly involved in the organisation of the recovery service and training in this area[108]	Local policy

E. Care environment

1. Any environment where children and young people receive care must be designed to meet their specific needs[91]	
STANDARD	MEASUREMENT CRITERIA
Children and young people wait and are treated in secure areas, which should ideally be segregated (audibly and visually) from adults. Design of these areas takes into account their age and stage of development, need for play and additional family support[37,43,90,91]	Description of facilities
Hospital departments provide access to baby-changing facilities and areas where mothers are able to breastfeed[87]	Description of facilities

2. Any environment where children and young people receive care must be secure, with access limited to only those who need it[90,91]	
STANDARD	MEASUREMENT CRITERIA
Any breach of security is investigated and procedures are in place covering the involvement of the police[24]	Local policy

3. Appropriate ward facilities and support for children must be available during admission[86]	
STANDARD	MEASUREMENT CRITERIA
When a child is in hospital play is managed and supervised by a qualified hospital play specialist[25]	Availability of a play specialist
A school-age child or young person that is in hospital for more than five days has access to a school teacher and education facilities, as appropriate for the child's clinical and psychological condition. The local education authority has an obligation to meet this need[25]	Locally agreed contracts

4. There should be resources for older age groups, away from small children. Where specific facilities for young people are not available they should be accommodated in a separate area in a children's ward[24,99]	
STANDARD	MEASUREMENT CRITERIA
Young people are allowed to choose whether they wish to stay in a paediatric or adult ward, subject to local guidance. They may wish to be gender-segregated[89]	Local policy
There is a designated appropriate area, away from young children, for young people to relax and have visitors[24]	Description of facilities

F. Discharge

1. All admitted patients must have a discharge plan within 24 hours of admission as part of their management plan[79]

STANDARD	MEASUREMENT CRITERIA
There is coordination of the paediatric and surgical requirements for follow-up at time of discharge to ensure that a clear plan is communicated with patients and their families	Local policy

2. Patients and their families are given clear information on discharge from the service, including which healthcare professional they should contact for advice and support following discharge and how this should be done[1,42]

STANDARD	MEASUREMENT CRITERIA
Parents are informed of any likely after effects of surgical treatment, postoperative analgesia requirements, any follow-up treatment that may be needed, any continuing drug therapy and the implications for school attendance[11]	Standard written information is available
The family are always advised where and when to return if their child's condition deteriorates after discharge (including out-of-hours contact telephone numbers)[1,42,105]	Local policy Evidence of telephone advice offered

3. Post discharge there is liaison between the acute and community services, and community children's nurses are available to provide support to patients and family that require it[48]

STANDARD	MEASUREMENT CRITERIA
A discharge summary letter is sent to the GP, health visitor and school nurse within 24 hours of discharge and a copy given to the patient and parent[46]	Local policy
The discharge summary includes any rehabilitation and therapy requirements[70]	Local policy

G. Patients, parents and families

1. Parents and carers are encouraged to remain with their children throughout their care. Staff must be available to explain what is happening and the plans for care[40,43]

STANDARD	MEASUREMENT CRITERIA
Parents are supported and allowed to be present in areas such as resus, during transfer of a child to theatre, in recovery and on the ward, where accommodation is available for the adult in the child's room or close by[6,22,37,72,97]	Local policy Description of facilities

2. At first contact, services must identify children and families requiring extra support – for example, those who need interpreters or advocates, and children with special needs, including disabled children[78]

Children and families requiring additional communication support must have this recorded in the notes, flagged with other staff members and steps must be taken to provide the support that is needed[78]	Local policy that complies with The Accessible Information Standard[78]

3. Staff must have adequate training and local guidance available to assess the level of competence a child or young person has in terms of decision-making and consent[30]

STANDARD	MEASUREMENT CRITERIA
Discussions about consent include information on the procedure, induction, anaesthetic type, relevant risks and possible side effects, postoperative care and pain, possible complications[37]	Written information
Consent is carried out by a clinician, who has been assessed to be competent to consent for the procedure, ideally by the surgeon performing the operation. The grade of consenting surgeon is included in the notes[94]	Regular audit of the consent process
Consent policies are compliant with DOH guidance (or SEHD guidance in Scotland[116]) and all staff are familiar with the concept of children's competence to give consent, including what to do when there is disagreement between a competent young person and their parent or the clinicians[24,30,86,97,116]	Local policy

4. Trained staff must be available to support parents and families of severely ill children, especially if the child dies[99]

STANDARD	MEASUREMENT CRITERIA
Staff and other pastoral support are available for families coping with the possible death of a child[99]	Local policy On-call rota
The consultant paediatrician on-call is advised as soon as possible about an unexpected death of a child[44]	Local policy
In England, the local safeguarding children's board is informed of the death of any child under the age of 18 years to ensure a review is completed by the Child Death Overview Panel if required.[115] (Arrangements for a review of child deaths in Scotland are currently in development)	Local policy
There is access to a bereavement service for the family members of children who have died. Families are offered the option to donate organs, if this is appropriate[99]	Bereavement and organ donation policy[26,101]

5. Children, young people and their families must receive sufficient information, education and support through partnership with healthcare services to support decision-making[24,62]

STANDARD	MEASUREMENT CRITERIA
Staff recognise and respect the varying needs of patients for information and explanations and give them the information they want or need using appropriate language in a way they can understand[4,6,99,100]	Written and video information
Preoperative preparation for children and parents uses a range of information and media, with contributions from all members of the multidisciplinary team[20,101]	Access to play specialist written and other information

6. Staff should be respectful of the wishes of older children and young people to be talked to as an adult, while recognising that there may be immaturity in understanding because of fear and stress[91,100]	
STANDARD	MEASUREMENT CRITERIA
Consideration is given to the rights of a child to privacy and dignity and inclusion or exclusion of parents/carers in discussions and decisions[91]	Local policy Staff training

7. Children and parents are asked for feedback on care and are involved in service level planning[111]	
STANDARD	MEASUREMENT CRITERIA
There is regular hospital-/network-/health board-wide review of patients' outcomes and experience, at least annually[1]	Audit report and action plan

H. Network-delivered care

1. Emergency surgical care should be provided within a network of secondary and tertiary care providers[1,3,20]

STANDARD	MEASUREMENT CRITERIA
Agreed guidelines for managing common emergency surgical presentations across the full patient pathway[1,37]	Network-level guidelines
There is an identified network lead/director, with dedicated time allocated within their job plan[1,35]	Job description
There should be sufficient clerical support for the network to ensure agreed pathways of care and clear communication across the network[1,62]	Network governance
The network is supported by contractual agreements that specify service requirements and outcomes, and advise on the workforce requirements, including succession planning[1,2,97]	Network-level agreement
The network has an agreement on what emergency surgery should take place within the hospitals in their network. Wherever possible, emergency surgery is provided locally. Where this cannot be achieved, there is clear guidance on where surgery will take place[94,97]	Network-level agreement Network policies
If a hospital does not provide some areas of emergency surgery, there should be clear guidance and agreements on where surgery will take place and review of processes[97]	Network governance
There is a single group within each hospital that coordinates care for critically ill children, including transfers. This group has senior leadership and is accountable at hospital board level[99]	Network governance

2. All hospitals that undertake surgery in children must hold regular multidisciplinary reviews and should collect morbidity and mortality information on clinical outcomes related to the surgical care of children[40,94]

STANDARD	MEASUREMENT CRITERIA
There is a regular (at least annual) multidisciplinary review of patient outcomes and experience involving all relevant specialties, which includes learning from positive feedback, complaints, morbidity and mortality, serious untoward incidents and 'near-misses'[2,99]	Minutes of meetings Individual patient case reviews
All units submit data to national audits[6]	Quality accounts
There is regular hospital/network/health board-wide audit of emergency surgery in children[1,6]	Audit report and action plan

I. Staff training and competencies

1. A competency framework and training plan must ensure that all staff providing direct patient care have/are working towards/maintain competencies appropriate for their role in the service[35]

STANDARD	MEASUREMENT CRITERIA
All staff assessing and treating children and young people maintain competencies in the recognition of a critically ill or deteriorating child, implementing resuscitation and alerting the appropriate staff in a timely and effective manner[97,99,110]	Record of training Annual appraisal
All staff who come into contact with children and their families have an up-to-date CRB check (or PVG check in Scotland)[1]	Record of CRB status
Hospitals ensure they have an up-to-date central training record in place for each individual involved in the provision of emergency surgical services	Record of training
All consultants undertake annual appraisal and regular CPD and maintain competencies relevant to their work with critically ill and critically injured children[5]	Paediatric caseload and outcomes discussed as part of annual appraisal
At least one nurse per shift will be trained in paediatric advanced life support training (APLS/EPLS or equivalent)[1,8]	On-call rota

2. All clinical staff caring for children must have at least Level 2 training in safeguarding of children as part of mandatory training. This training must be kept up to date[44]

STANDARD	MEASUREMENT CRITERIA
There is joint training of professionals involved in the care and welfare of children and young people, according to agreed curricula – particularly in the area of safeguarding[40,44]	Record of training
The lead clinician for children's surgical services has Level 3 safeguarding training[49]	Record of training

3. Training in pain relief in children must be provided to all staff involved in patient care[32]

STANDARD	MEASUREMENT CRITERIA
Staff caring for children are competent in assessment of pain (verbal and non-verbal) and use of pain assessment tools suitable for the age and development of child[24]	Local policy Annual appraisal

4. Arrangements are made between specialist paediatric units and DGHs to facilitate postgraduate training, CPD and refresher training for anaesthetic, surgical and the wider perioperative team in the emergency surgical care of children[2]

STANDARD	MEASUREMENT CRITERIA
Tertiary services must provide training and support for secondary care services to train and maintain staff competencies. This should include availability of secondments and rotational posts within tertiary services[42]	Availability of training courses
Staff with previous training in paediatric competencies are mentored in agreement with their local tertiary centre to maintain these competencies[2]	Network-level agreement Certificate of fitness for honorary practice

J. Senior leadership and governance

1. Where children are admitted with surgical problems, their care should be jointly managed by teams with competencies in both surgical and paediatric care[79]

STANDARD	MEASUREMENT CRITERIA
Children admitted for surgery – whether in inpatient, day care or short stay facilities – have a named consultant surgeon and a named paediatrician with timely attendance and urgent review when required[94,99]	Local policy On-call rota
Children admitted for surgery – whether in inpatient, day care or short stay facilities – are cared for on a ward staffed by appropriate numbers of registered children's nurses[96,101]	Local policy
A surgical decision-maker (at least ST3 or above) with the required skills and competencies to assess children assesses all children on admission and discusses management with the on-call consultant surgeon[6,20]	Local policy On-call rota
There is defined access to a named consultant paediatrician review, if required, of any young person who has been admitted to an adult ward[1]	Local policy
Hospital inpatients are reviewed by a consultant surgeon at least once every 24 hours, 7 days a week[13,54]	Local policy
Consultant job plans and scheduling ensures there is 24-hour, 7-day-a-week cover by a consultant surgeon and a consultant paediatrician in hospitals admitting emergency surgical patients[52,61]	On-call rota

2. The surgical service must be led by a consultant surgeon or anaesthetist and a multidisciplinary team with the competencies to carry out any management plans[6]

STANDARD	MEASUREMENT CRITERIA
Every hospital has a named lead clinician for children's surgical services and for trauma in children (if applicable)[1]	Job description
Team leaders encourage a culture of safety, candour and constructive challenge within the team, allowing for open discussion of difficulties or issues that may harm a patient[4]	Annual appraisal and revalidation

3. There should be a sedation committee with responsibility for policies and procedures related to anaesthetising children[15]

STANDARD	MEASUREMENT CRITERIA
In all centres where children are admitted for surgery there is a sedation committee that is responsible for ensuring there are standardised and audited procedures in place for the sedation of children[54]	Local policy Audit report and action plan

4. There must be a nominated lead consultant and lead nurse for safeguarding children within the hospital[44,46,110]

STANDARD	MEASUREMENT CRITERIA
All children and young people have access to a paediatrician with child protection experience and skills (of at least Level 3 safeguarding competencies), who is available to provide immediate advice and subsequent assessment where there are child protection concerns[52]	Local policy
Where there are concerns relating to safeguarding, children are only discharged home after discussion with and review by the responsible consultant for safeguarding[44,46]	Local policy

K. Patient subgroups requiring additional consideration

1. Neonates[63,88]

STANDARD	MEASUREMENT CRITERIA
The treatment of conditions, such as pyloric stenosis and inguinal hernia in premature babies and neonates up to 44 weeks, is not to be undertaken in a DGH unless care can be provided by surgeons, anaesthetists and a wider perioperative team who have completed the relevant level of training and maintain competencies for safe practice[107]	Network-level policy

2. Children with developmental delay or multiple disabilities are at much higher risk from anaesthetic and surgical complications, and consideration should be given prior to surgery whether surgical care should be undertaken in specialist centres[41]

STANDARD	MEASUREMENT CRITERIA
Children with disabilities often have complex health needs and are prone to additional complications. Hospitals must recognise that and meet the particular needs of this group of patients and involve them and their parents in the planning of services[87]	Local governance
The hospital environment must be suitable and spacious enough to accommodate the equipment required to meet the needs of a disabled child. Disabled children are able to access play and recreation facilities with toys and equipment suitable to their age and individual needs[87,90]	Description of facilities
Written information must be available in forms that can be easily understood by young people with disabilities[78]	Written patient information
Children with special needs associated with neurodevelopmental delay or multiple disabilities are managed by multidisciplinary teams. Emergency surgical decisions must not be taken in isolation and the aims of surgery must be clear and agreed with all professionals, the child and parent[37]	Network-level policy

3. Children who have significant comorbidity, such as complex congenital heart disease, should be considered for treatment in a specialist centre for all emergency surgical presentations[37,62]

STANDARD	MEASUREMENT CRITERIA
Children with a severe underlying comorbidity, who require surgery during an emergency admission, are treated in a specialist centre[62,86]	Network-level agreements
Each child with a significant comorbidity (especially those with rare conditions) have a documented individual care plan that is available for clinicians at emergency presentations. There should be clear communication links for advice from specialist centres[41]	Network-level policy
In an emergency, where they require immediate life-saving treatment for a deteriorating condition, children are admitted to the nearest local service. The most appropriate and experienced surgeon, anaesthetist and intensivist is expected to provide the life-saving care, with full discussion with the specialist service[93,110]	Network-level policy

Network-level standards for paediatric critical care facilities

Services for the critically sick or injured child must be planned within a paediatric critical care network comprising DGHs and a level 3 intensive care centre[41,97]	
STANDARD	MEASUREMENT CRITERIA
Each paediatric surgical network has agreements with its local paediatric critical care and neonatal networks on responsibilities for developing local pathways of care between all hospitals and Level 2 and 3 units[64]	Network-level agreement
There is a funded retrieval service for small children and neonates who require urgent transfer for paediatric critical care	Network-level agreement
Level 2 and 3 critical care services must take part in regular network level audits[64,99]	Network-level audit
2. Additional support should be available for the family of a critically ill child in specialist centres[92,99]	
STANDARD	MEASUREMENT CRITERIA
There is space for the family, including kitchen, bathroom and overnight provision[99]	Description of facilities
Flexible visiting hours and support for transportation and accommodation for families[70]	Network-level policy
Information describing care pathway, treatment and recovery plans, and patient/carer support groups is available[70]	Written information
Support services are available to families including interfaith and spiritual support, social workers, interpreters, bereavement support, advice and advocacy[99]	Network-level policy
Staff are trained to recognise and support families' needs	Record of training Annual appraisal
3. All paediatric intensive care must be provided by a Level 3 service and only in other facilities until arrival of a retrieval team[64]	
STANDARD	MEASUREMENT CRITERIA
All hospitals have local policies and agreements in place for the continuation of critical care and its location while waiting for retrieval teams. This should be agreed with the local networks[99]	Network-level policy
Clear guidance is available on when escalation to local Level 2 and 3 critical care should take place for the child with a deteriorating condition[99]	Network-level policy

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