NHS SCOTLAND

BETTER HEALTH, BETTER CARE

National Delivery Plan for Children and Young People's Specialist Services in Scotland

General Surgery of Childhood

Care Pathways for Surgical Emergencies

healthier scotland
SCOTTISH GOVERNMENT

Contents

Note: A4 versions of the individual Care Pathways can be downloaded from the National Delivery Plan website for circulation and display within local clinical services as required.

www.specialchildrensservices.scot.nhs.uk

Introduction

This guidance is based on the premise that if a clinical team is familiar with the condition that they are treating, and have the competences and facilities to deliver the care the patient requires, then it should be provided.

It recognises that for every child requiring intervention, there will be several others who only require assessment and then reassurance or conservative care and who will recover rapidly from their illness.

The guidance also accepts that the complex and uncommon will require specialist assessment and facilities for care and that location of treatment should have safety as the prime consideration rather than the convenience of geographic proximity. It recognises that some treatment is time dependent if success is to be achieved.

Centralisation of all cases to specialist centres may deskill peripheral units; the facility to resuscitate and stabilise the critically ill child presenting in that locality is then potentially prejudiced. Conversely outreach and combined working with generalists and specialists can upskill all concerned.

The viability and sustainability of clinical services is dependent, in part, upon volume and elective practice can provide the foundation upon which emergency care can continue. Transfer of elective practice into specialist units leaves the emergency service vulnerable.

These issues combine to suggest that the welfare of children in Scotland with surgical illness is best served by having clarity over who should do what and where, how communications between clinicians and services can be established, maintained and used to patient benefit, and how regions can best serve their own communities and least disrupt families while providing excellence in clinical care for both specialist and non-specialist conditions.

The pathways described in this guidance focus on the management of a number of specific surgical scenarios, both common and uncommon, and the interventions that can reasonably be expected. They are written with the future in mind, with the recognition that the service contributions of surgical trainees is diminishing and the reality that those surgeons more recently trained in adult general surgery may be less familiar with paediatric surgical practice.

Under the auspices of the National Delivery Plan these Care Pathways are now being circulated as guidance for service planners, operational managers and frontline clinical staff across the Scottish regions. The Pathways sit alongside, and complement, the work undertaken and ongoing within each of the Scottish regions to clarify and support the role and service model for all of the hospitals in the region in respect of their services for children and young people.

Neonatal Surgical Emergencies

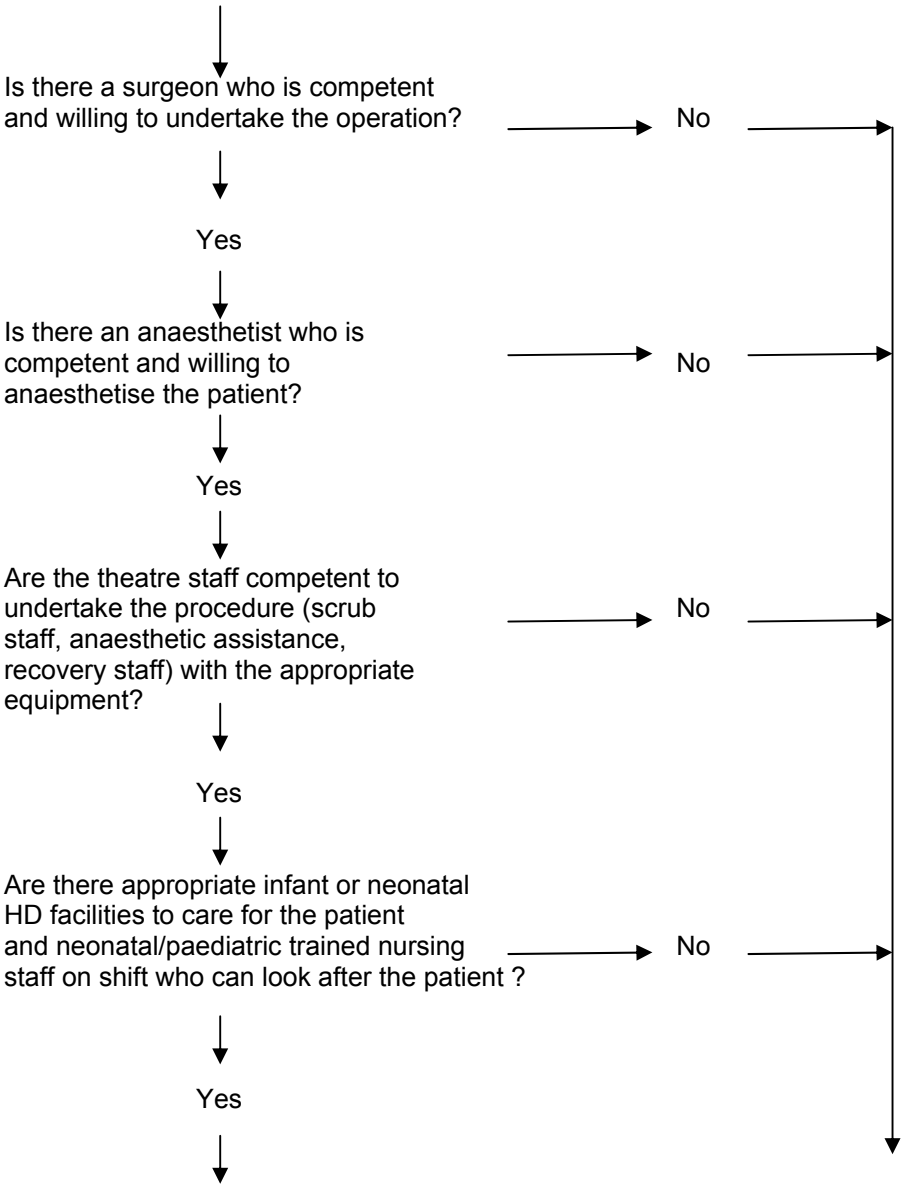
This guidance is not intended to cover the management of surgical emergencies in neonates. All neonates requiring surgery or with suspected surgical conditions should be transferred to regional centres.

All maternity units and hospitals accepting neonatal admissions should have the necessary team competencies to resuscitate a sick neonate. Clear local arrangements and protocols should be in place to support referral and transfer to the regional specialist centre.

Suspected pyloric stenosis

Child presents with suspected pyloric stenosis

Make a diagnosis based on history, physical examination (including test feed) and, if necessary, abdominal ultrasound scan. Check U&E's and blood gases. Establish IV access and ensure adequate and appropriate IV fluid resuscitation (you will need to involve local paediatricians in this step). IV fluid replacement should be 0.45% saline with 5% dextrose and 10 mmol KCl in every 500ml bag. Fluid replacement should commence at 125% maintenance.



Suspected intussusception

Child presents with suspected intussusception

Establish IV access and ensure adequate and appropriate IV fluid resuscitation and analgesia (you will need to involve local paediatricians in this step).

NB: fluid resuscitation in this condition needs to be vigorous and may require 40 – 60 mls/kg body weight of crystalloid fluid. Careful monitoring during the resuscitation is essential.

↓

Is there a radiologist who is competent and willing to make the diagnosis and undertake air reduction? Are there appropriate resuscitation facilities and personnel in the radiology department? → No →

↓ Yes

Is there a surgeon who is able and willing to operate if air reduction fails or complications (e.g. perforation) develop? → No →

↓ Yes

Is there an anaesthetist who is competent and willing to anaesthetise the patient? → No →

↓ Yes

Is theatre immediately available? Are the theatre staff competent to undertake the procedure (scrub staff, anaesthetic assistance, recovery staff) with the appropriate equipment? → No →

↓ Yes

Are there appropriate HD care facilities to care for the patient and paediatric trained nursing staff on shift who can look after the patient? → No →

↓ Yes

↓

Arrange treatment (air enema/surgery) locally

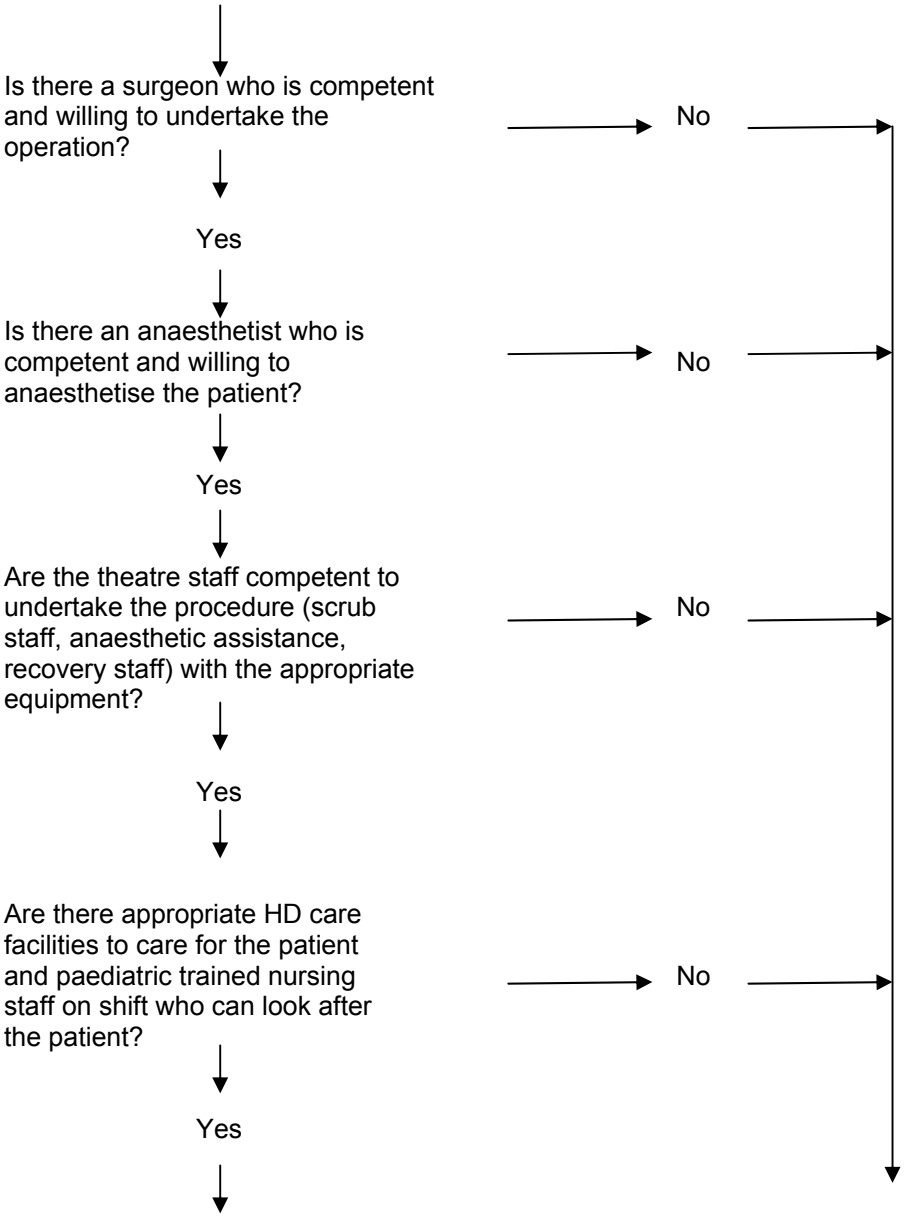
Arrange urgent transfer to regional Centre (local arrangements must be in place to ensure urgent transfer as required and may need to involve paediatricians).

Suspected appendicitis (1)

Child presents with suspected appendicitis (age under 5 years)

NB: This is an uncommon diagnosis in this age group. Clinical features are often unclear and the appendix is frequently perforated at the time of initial presentation. Children with this diagnosis are frequently extremely unwell.

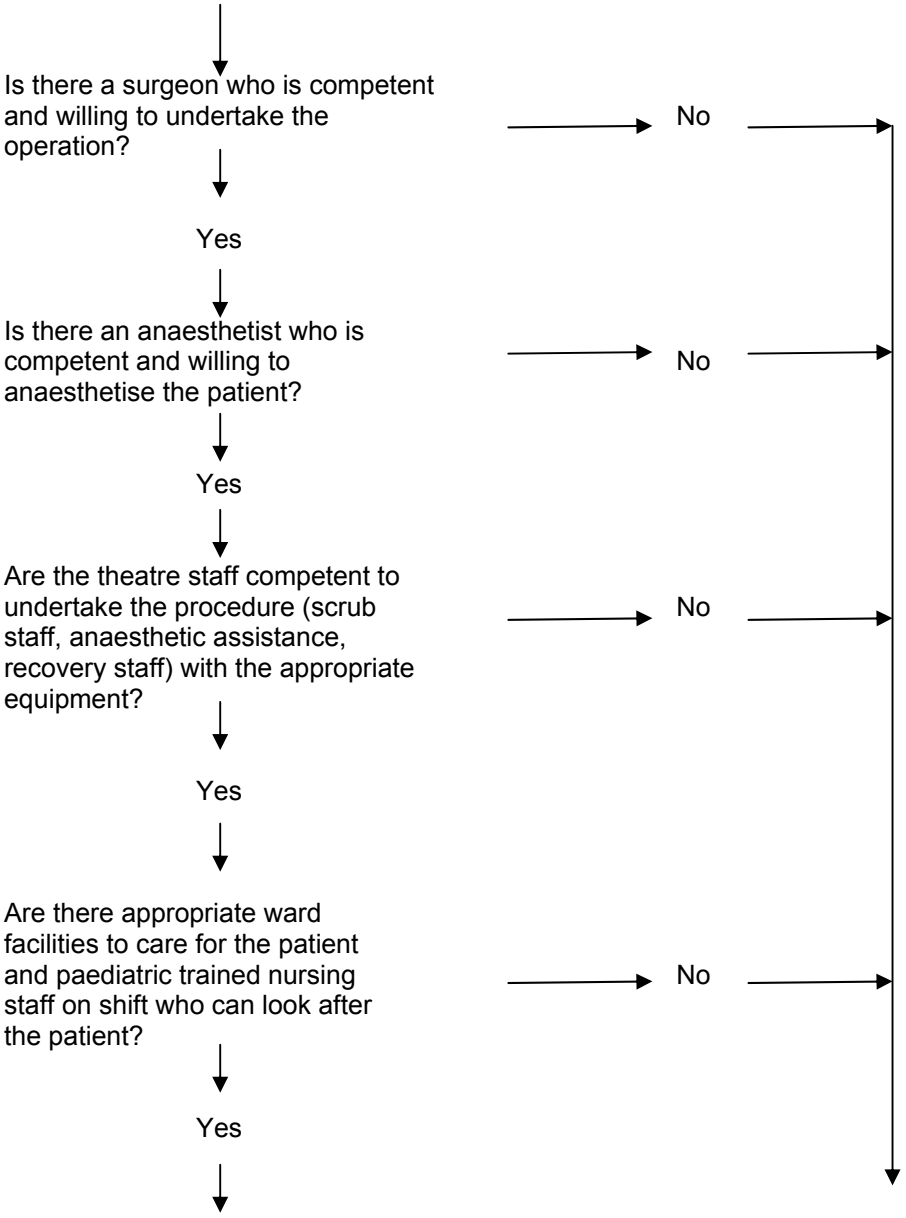
Establish IV access and ensure adequate and appropriate IV fluid resuscitation and analgesia (you will need to involve local paediatricians in this step).



Suspected appendicitis (2)

Child presents with suspected appendicitis (age over 5 years)

Establish IV access and ensure adequate and appropriate IV fluid resuscitation and analgesia (you may need to involve local paediatricians in this step).

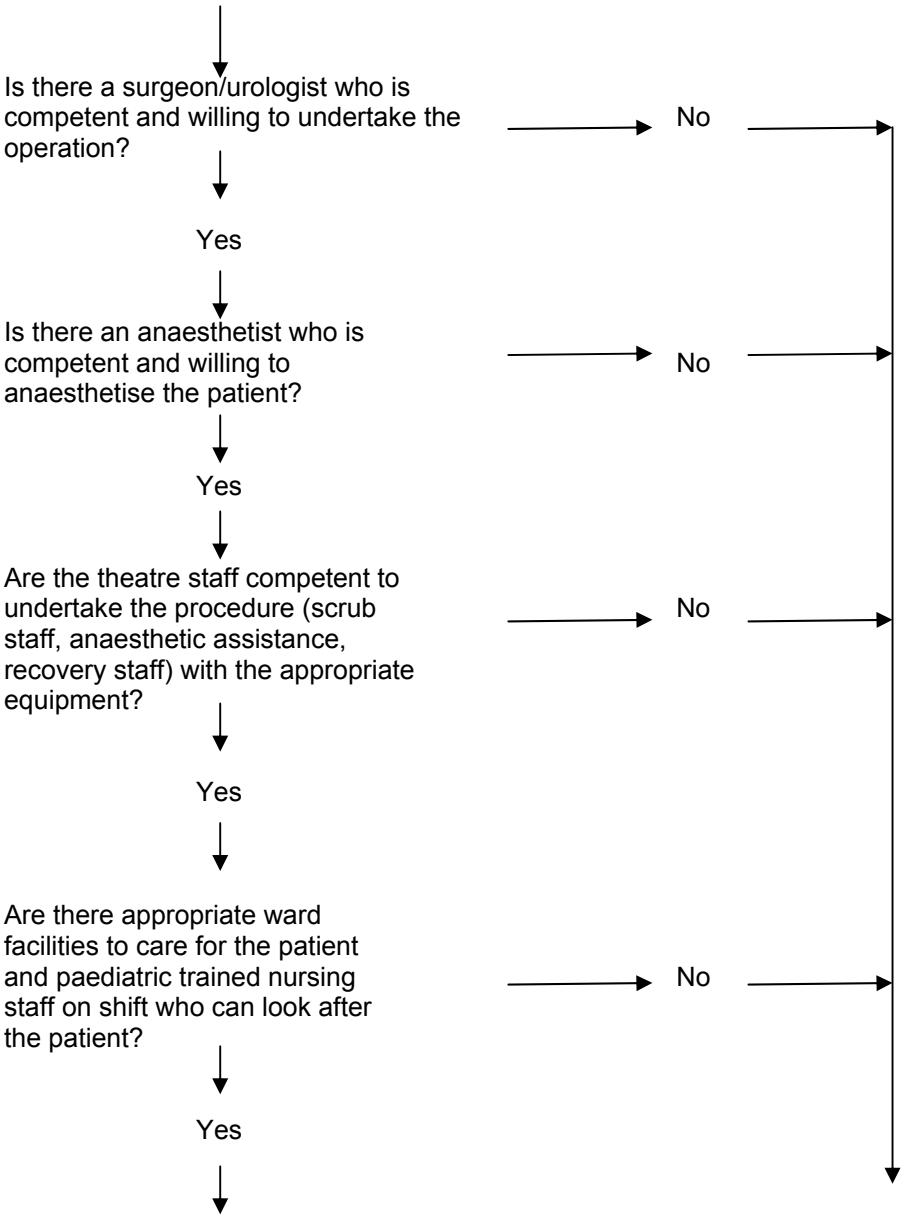


Suspected testicular torsion

Child presents with suspected testicular torsion (all ages except neonates)

NB: There is an imperative here to ensure surgery within 6 hours of symptoms. Any delay will result in testicular loss. Local surgery or immediate transfer is essential.

Ensure adequate analgesia (you may need to involve local paediatricians or anaesthetists in this step).

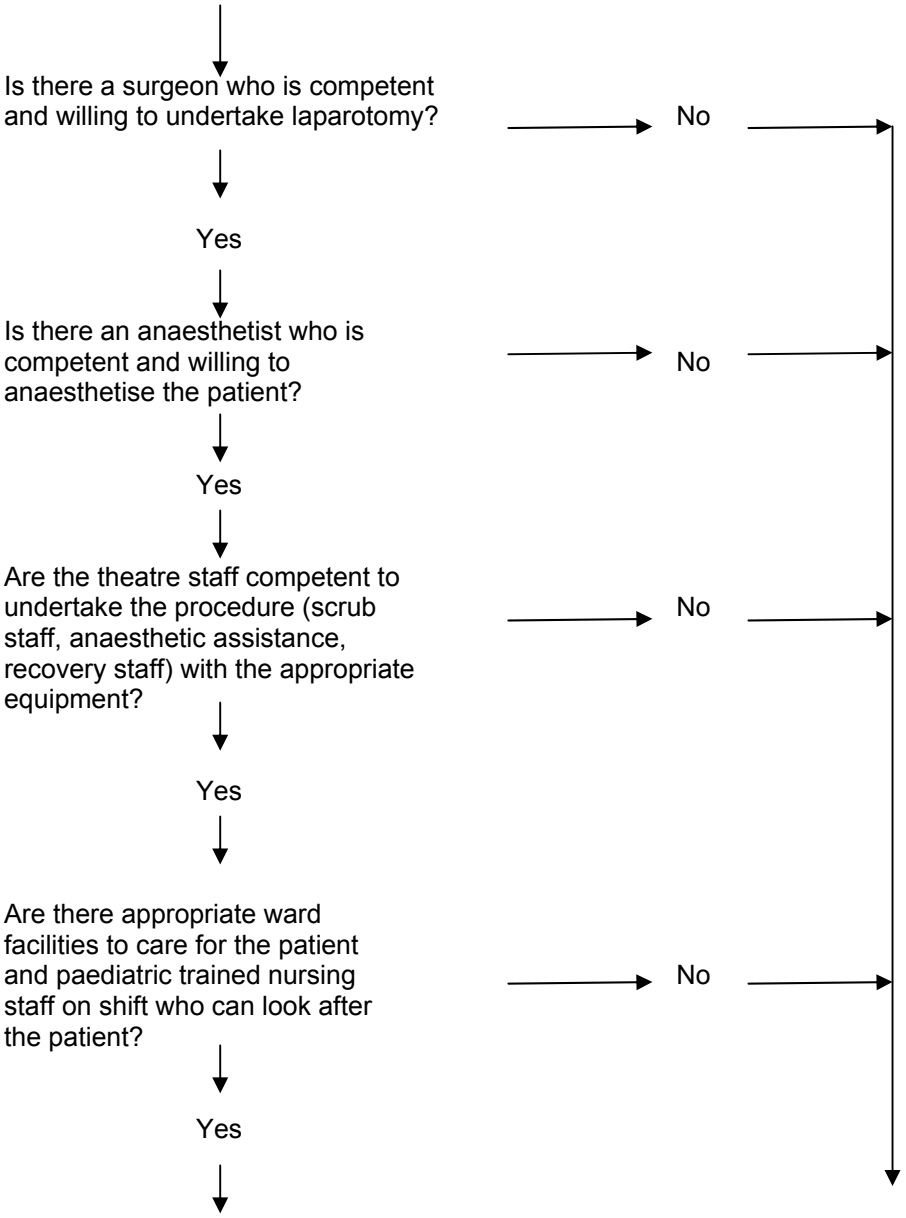


Child with an acute abdomen but no diagnosis

Child presents with acute abdomen but no diagnosis

Establish IV access and ensure adequate and appropriate IV fluid resuscitation and analgesia (you must involve local paediatricians in this step.) Pass a nasogastric tube and arrange plain abdominal x-rays.

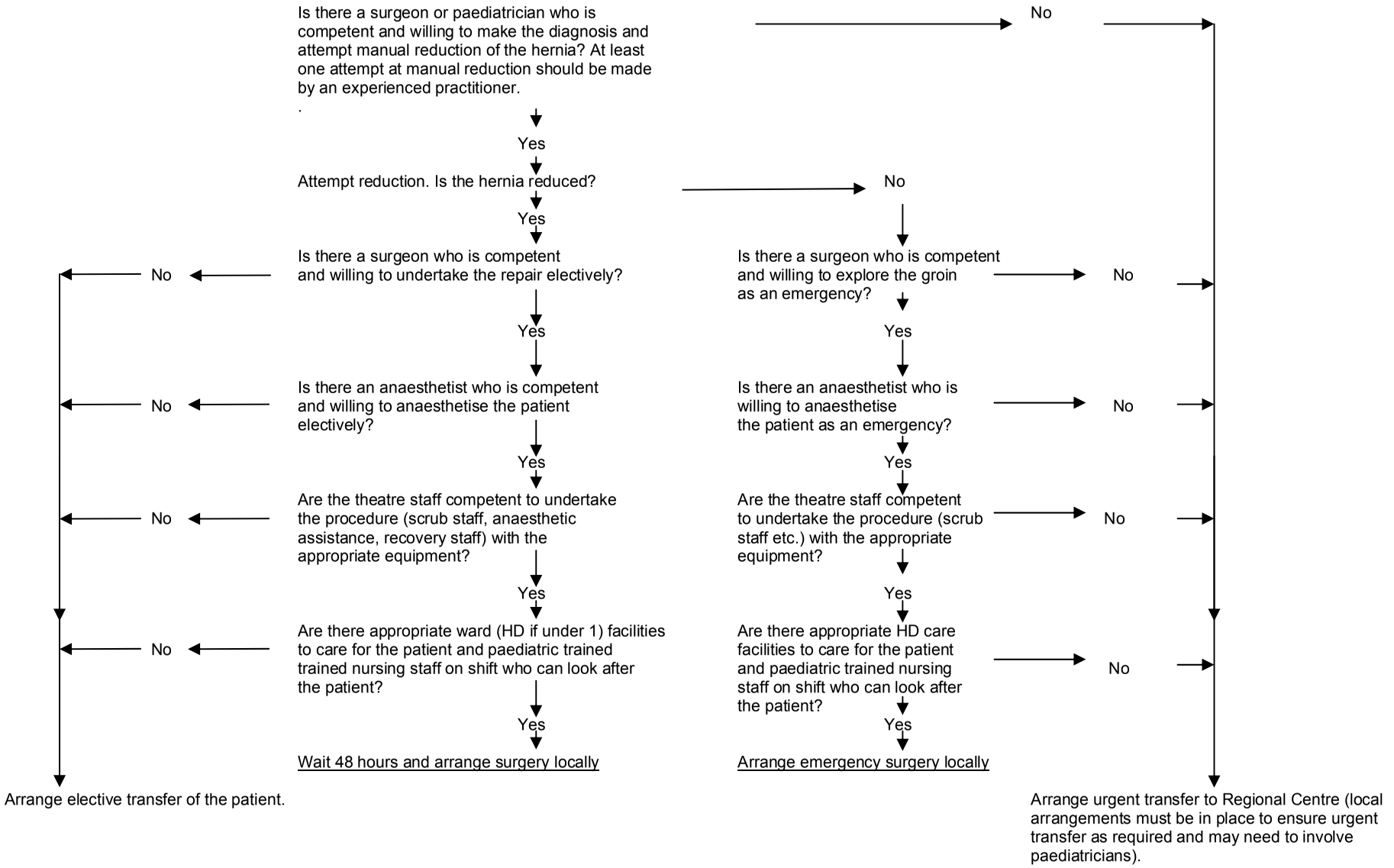
For children under the age of 5 years, consider early consultation with the Regional Paediatric Surgery Team and arrange urgent transfer. For children over the age of 5 years, consider local care.



Irreducible inguinal hernia

Child presents with an irreducible inguinal hernia

Establish IV access and ensure adequate and appropriate IV fluid resuscitation and analgesia (you will need to involve local paediatricians in this step). A small dose of intravenous opiate (if the child is well resuscitated with appropriate personnel & monitoring) may facilitate manual reduction of the hernia.

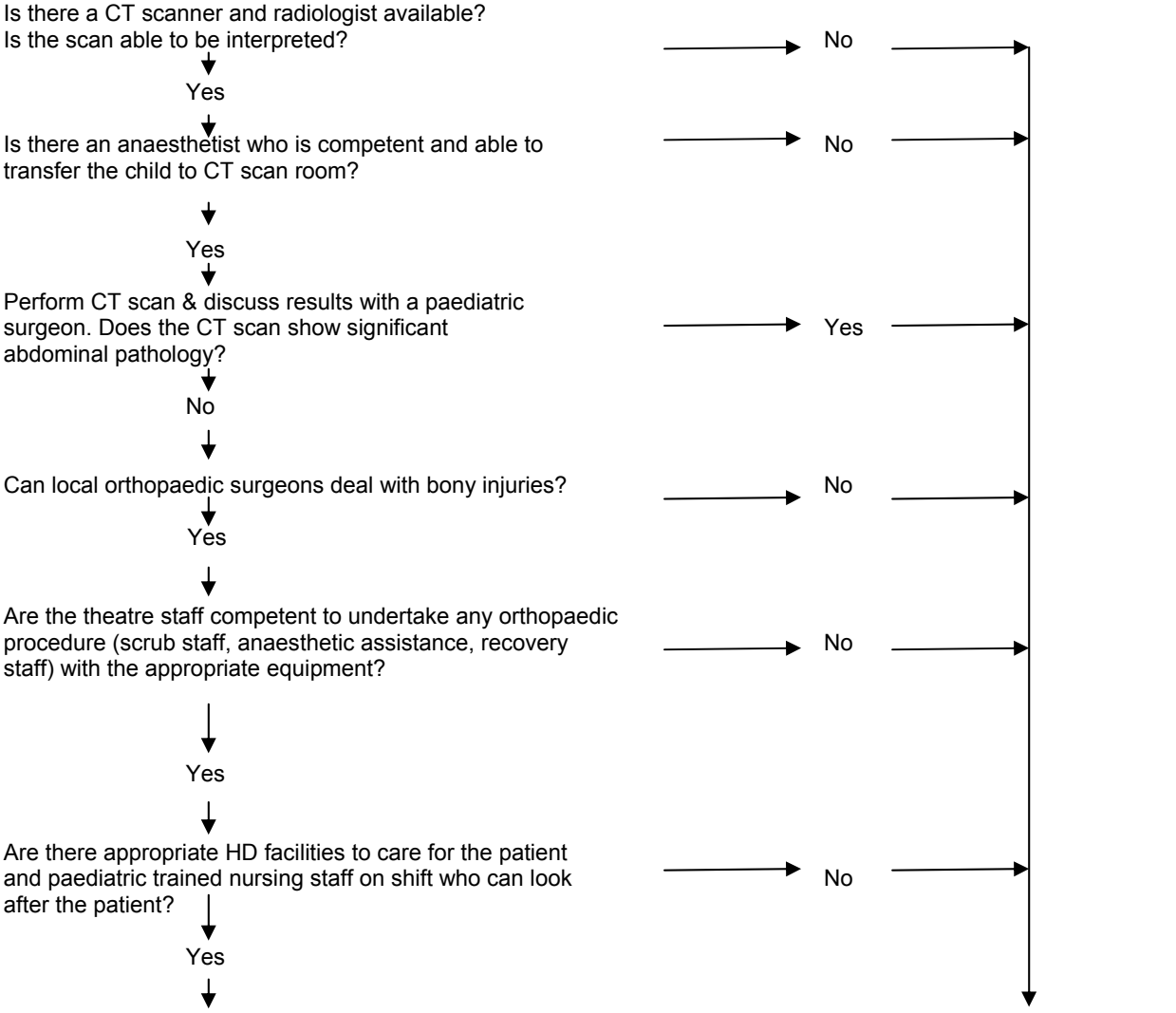


Abdominal/multi-system trauma

Child presents with abdominal/multi-system trauma

NB: Use APLS/ATLS guidelines to assess and manage the child. Early consultation with the on-call Paediatric Surgical Team in the Regional Centre is essential.

(If trauma involves a head injury, look at head injury care pathway for assistance. In the event of a conflict between general trauma or neurotrauma, discuss best plan of action with colleagues in the regional centre. Do not perform a diagnostic peritoneal lavage without prior discussion with the Regional Paediatric Surgical Team.)



Local arrangements must be in place to ensure emergency transfer

Acknowledgement

This guidance was developed for the National Steering Group for Specialist Children's Services by the General Surgery of Childhood Working Group chaired by Professor G G Youngson. Particular thanks are due to Mr. Graham Haddock, Consultant Paediatric Surgeon, and Dr. Ros Lawson, Consultant Paediatric Anaesthetist, for their input to the development of the Care Pathways.