Paediatric surgery

Specialty Overview
Overview

- Paediatric Surgery is that branch of medicine that deals with the diseases, trauma and malformations of childhood years (foetal period to teenage years).
- Consultant surgeons working in this area of clinical practice will have undergone a specific training programme to furnish the knowledge, skills and professional attitudes necessary for dealing with children and their families.
- At present the majority of specialised children’s surgery is performed in designated children’s hospitals, or in paediatric surgical units within larger hospitals. In these settings, teams of health professionals led by consultant paediatric surgeons provide the necessary services to diagnose, treat and support the rehabilitation of children with various ailments.
- The routine workload has a very general focus with most consultants developing experience and skills across the breadth of surgery. To facilitate this, the training is broadly based and comprehensive.
- Most consultants will also have a commitment to an emergency workload though the nature of delivery of that will vary between different units.
- There is an increasing trend for consultants to develop further specific expertise in areas of special interest which include:
  - Neonatal Surgery
  - Urological Surgery
  - Hepatobiliary Surgery
  - Gastrointestinal Surgery
  - Oncological Surgery.

Eleri Cusick
Graham Lamont
Editors
The Purposes of Training

The purpose of training in the specialty of paediatric surgery is to produce surgeons competent to work as consultant paediatric surgeons in the UK.

This includes:

- Competence to manage patients presenting on an unselected emergency paediatric surgical ‘take’, diagnosing, assessing and treating or referring on as appropriate.
- Competence in the management of patients presenting with a range of symptoms and elective conditions as specified in the core syllabus for the specialty of paediatric surgery.
- Competence to manage an additional range of elective and emergency conditions by virtue of appropriate training and assessment opportunities obtained during training.
- Professional competences as specified in the syllabus and derived from the CanMEDS framework of the Canadian Medical Association and Good Medical Practice documents of the General Medical Council of the UK.
The Training Pathway

- Specialty training programmes are the route to achieving a Certificate of Completion of Training (CCT) in Paediatric Surgery. Under current guidelines, this certificate is mandatory before a UK-trained surgeon can apply for a consultant position in the U.K.
- Entry to training programmes is via competitive selection, and successful candidates will have met the requirements set down in the person specification for the post.
- The programme of training in paediatric surgery is currently an indicative 8 years’ duration and aims to furnish trainees with the knowledge, skills, and attitudes to gain a CCT in paediatric surgery.
- Programmes are designed to provide exposure to a wide range of surgical problems in children during training, commensurate with the requirements of the curriculum.
- In addition, trainees may be exposed to more focused practice in various paediatric specialties, and it is possible that on a case-by-case basis, trainees who are pursuing special interests will elect to have their CCT deferred.
- New consultants are expected to manage the broad range of conditions presenting to them, within the limits of their experience and expertise. This may involve appropriate referrals within the team to colleagues having specific expertise or to national designated centres for specified rare conditions.
- The syllabus outlines, for the benefit of trainers, trainees, and assessors, the knowledge and skills to be acquired and applied, together with the levels of performance expected at various waypoints during training.
- The four stages: initial, intermediate, final, and special interest reflect progress through the specialty.
- The initial stage (ST1 and 2) is the early phase and comprises training in surgery in general.
- The intermediate stage (ST3 and 4) introduces specialist paediatric surgical skills.
- The final stage (ST5 and 6) develops these specialist skills further.
- The special interest (ST7 and 8) stage enables further development of paediatric specialisation and consolidation of specialist skills and forms the transition to CCT.
- The syllabus is not rigid to the extent that it is well recognised there will be variations in the profiles of placement allocated during each stage. The annual review and learning agreements ensure that the overall syllabus requirements are met during each stage, regardless of sequence.
- The use of the term ‘patient/parent’ is used to acknowledge all who have legal responsibility for the child, including guardians and professional carers.
The Scope and Standards of Paediatric Surgical Practice At CCT

On completion of the training programme Paediatric Surgical Trainees, including those pursuing an academic pathway, will be expected to have completed the competence based curriculum successfully. This includes the following broad areas:

Professional Skills and Behaviour

This is defined in detail in the syllabus on professional skills and behaviour but there is particular emphasis on:

- Understanding the specific features of the management of children’s health and illness
- Appropriate professional behaviours in dealing with children and families
- The ability to both lead and work within the relevant teams

General Surgery

- Assessment and management of children with acute abdominal pathology
- Assessment and management of trauma (including APLS certification)
- Assessment and management of children with abdominal wall herniae
- Long term management of those children presenting with index neonatal conditions
- Assessment and management of children with oncological diagnoses

Neonatal Surgery

- Assessment and management of neonates with acute abdominal pathology
- Assessment and management of neonates with abdominal wall defects
- Assessment and management of neonates with major index conditions e.g. Hirschsprung’s disease, anorectal malformations, oesophageal atresia
- Assessment and management of pyloric stenosis

Urology

- Assessment and management of children with urinary tract infection
- Assessment and management of children with both upper and lower urinary tract abnormalities to include hypospadias
- Assessment and management of children with haematuria
Areas of Special Interest

Neonatal Surgery

This is defined as the surgery of infants up to 44 weeks post conceptual age (gestational age + postnatal age).

With the availability of antenatal diagnosis, neonatal surgical care also includes antenatal counselling of parents and other health professionals.

Neonatal surgery is an essential component of paediatric surgery and contributes significantly to the emergency workload of any general paediatric surgeon.

Urological Surgery

Paediatric urology is the surgical management of congenital and acquired anomalies of the genitourinary system in neonates and children. It forms a major component of the paediatric surgical workload.

BAPU, the British Association of Paediatric Urologists, is an active group and there are moves to have Paediatric Urology officially recognised as a sub-speciality. The majority of the work is elective and some specialist paediatric urologists elect not to take part in general paediatric surgery on-call.

All paediatric surgeons must undertake some training in paediatric urology which comprises a significant proportion of the Intercollegiate Exam in Paediatric Surgery, while those aiming for a paediatric urology post must train in general paediatric surgery.

For those intending a career in paediatric urology subspecialist training posts are available in designated posts including Birmingham, Great Ormond Street and Manchester. Certain conditions e.g. bladder exstrophy are managed in designated supra-regional centres: Great Ormond Street and Manchester.

Hepatobiliary Surgery

This special interest area is supra regional being based in Kings Hospital, London, Birmingham Children’s Hospital and Leeds. Although complex operative surgery is based in these units a full understanding of paediatric hepatobiliary surgery is part of general paediatric surgery.

By nature of the small number of surgeons required at Consultant level training in this special interest is tightly controlled.

Gastrointestinal Surgery

Gastrointestinal surgery is a major component of general paediatric surgery with the majority of paediatric surgeons involved to some extent. The division into upper and lower GI is less distinct than in adult general surgery but there is subspecialisation with inflammatory bowel disease being managed by a smaller number of surgeons.
Antireflux surgery provides a steady workload but more complex procedures such as gastro-oesophageal disconnection are generally limited to a small number of enthusiasts.

**Oncological Surgery**

Paediatric oncological surgery should be exclusively managed in tertiary centres by those trained and having expertise in this specific branch.

It is likely to be the full time or part time special interest of 1 or 2 surgeons within each centre.

It is expected that all paediatric surgical trainees will cover this aspect of paediatric surgery but those with a special interest may have to plan targeted training to reach the level of expertise and confidence appropriate for a consultant.

**Laparoscopic Surgery**

Laparoscopy is one of the fastest growing areas in paediatric surgery. Currently a number of enthusiasts are carrying out almost all paediatric surgical procedures with the aid of a laparoscope.

For the majority of paediatric surgeons this is some way off but it is anticipated that all current and future paediatric surgical trainees will be confident in the handling of a laparoscope and simple laparoscopic procedures.

**Academic Surgery**

At the time of writing (2007) clarity is currently being sought by the BAPS Education Committee about the nature, number and distribution of academic training posts in paediatric surgery in the UK.
The Configuration and Delivery of Paediatric Surgical Services

‘Surgical Care of the Young: The organisation of a first class service’ has just been published (July 07) and provides a clear framework for the configuration and delivery of paediatric surgical services. This involves guidelines for provision both within and outside tertiary centres.
Future Trends in Paediatric Surgery

Laparoscopy and the potential for robotics are important areas for future development.

Cost implications are currently limiting this in all but a few centres in the UK but this seems likely to change.

Antenatal surgery, formerly seen as the most likely focus for change in paediatric surgery remains the province of a small number of enthusiasts and observed with interest by the majority.
Key Topics

On completion of the training programme, the Paediatric Surgical Trainee will be expected to have demonstrated competence in all aspects of the published syllabus. These would include the following areas:

Generic

- Understanding the specific features of the management of childrens health and illness
- Self directed learning
- Ability to assess published evidence in relation to clinical care
- Ability to teach
- Appropriate professional behaviours in dealing with children and families
- The ability to both lead and work within appropriate teams

General Surgery

- Assessment and management of children with acute abdominal pathology
- Assessment and management of trauma (including APLS certification)
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Initial Stage

Overview of Initial Stage

The purpose of the initial stage of training (ST 1 and 2) is to enable the trainee to develop the key skills that will allow further progression in the specialty. The module Core Surgical Skills and Knowledge for all specialties is common to all the surgical specialties.

By the end of ST2, trainees including those following an academic pathway will need demonstrate competence to the defined level in the following areas:

- Generic Skills to allow teamworking, and management of paediatric patients
- Basic sciences (anatomy, physiology, pathology, embryology and genetics) as they relate to illness in children and the practice of Paediatric Surgery
- The diagnosis and management of common paediatric surgical conditions:
  - Child with abdominal pain
  - Vomiting child
  - Trauma
  - Groin conditions
    - Hernia
    - Hydrocoele
    - Penile inflammatory conditions
    - Undescended testis
    - Acute scrotum
  - Abdominal wall pathologies
  - Urological conditions
  - Constipation
  - Head / Neck swellings
  - Intussusception
  - Abscess
  - Ingrowing toenail

In terms of general experience it is expected that trainees would have gained exposure to the following procedures and to be able to perform those marked (*) under direct supervision.

<table>
<thead>
<tr>
<th>Elective Procedures</th>
<th>Emergency Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inguinal Hernia (not neo-natal)</td>
<td>Appendicectomy</td>
</tr>
<tr>
<td>Orchidopexy</td>
<td>Incision and drainage of abscess*</td>
</tr>
<tr>
<td>Circumcision*</td>
<td>Pyloromyotomy</td>
</tr>
<tr>
<td>Lymph node biopsy*</td>
<td>Operation for testicular torsion*</td>
</tr>
<tr>
<td>Abdominal wall herniae</td>
<td>Insertion of pleural drain*</td>
</tr>
<tr>
<td>Insertion of CV lines</td>
<td>Insertion of suprapubic catheter*</td>
</tr>
<tr>
<td>Management of Ingrowing toenails*</td>
<td>Reduction of intussusception</td>
</tr>
<tr>
<td>EUA Rectum*</td>
<td></td>
</tr>
<tr>
<td>Manual evacuation*</td>
<td></td>
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<tr>
<td>Open rectal biopsy</td>
<td></td>
</tr>
<tr>
<td>Excision of skin lesions*</td>
<td></td>
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</tbody>
</table>

ST1 Placement in Paediatric Surgery

Purpose
The purpose of a placement in Paediatric Surgery is to enable the trainee to develop some of the key skills that will underpin further training and experience in the specialty by:

- Understanding the differences between the adult and paediatric presentation of common surgical conditions.
- Understanding key differences between adult and child in the management of surgical conditions.
- Being able to diagnose common paediatric surgical conditions
- Undergoing exposure to a range of common surgical procedures
- Developing a number of generic skills specific to paediatric surgery

During the attachment it is expected that the trainee will cover the following (further detail is found in the syllabus).

**Knowledge**

- Variable requirements for communication according to age
- Basic Sciences relevant to child development and disease (including relevant genetics and embryology)
- Specific ethical and legal Issues affecting the practice of Paediatric Surgery (including issues of consent)
- The symptom patterns, differential diagnosis, investigation and management of common paediatric surgical conditions (see list below)
- The theoretical basis of life support approaches in paediatric surgery
- The principles of surgical intervention

**Clinical Skills**

- History taking relevant to specific age or developmental stage
- Appropriate examination techniques for children of different ages
- Basic life support skills in paediatric practice
- Ability to communicate appropriately with:
  - Patients
  - Relatives/carers
  - Colleagues, including ward & OP teams
- In respect of common clinical presentations, including:
  - The child with abdominal pain
  - Abdominal wall pathologies
  - The Vomiting child
  - Common Urological conditions
  - Trauma
  - Constipation
  - Head / Neck swellings
  - Intussusception
  - Ingrowing toenail
  - Abscess
  - Groin conditions:
    - Hernia
    - Hydrocoele
    - Penile inflammatory conditions
  - Undescended testis
  - Acute scrotum
- The ability to:
Construct a differential diagnosis
Interpret investigations
Construct a management plan for common conditions

Operative Skills

The following procedures are those which the trainee will be able to undertake under direct senior supervision by completion of a 6-month module in Paediatric Surgery. There would be a reduced expectation for 4-month attachments.

Elective Procedures

- Circumcision
- Abdominal wall herniae
- Management of ingrowing toenails
- EUA rectum
- Manual evacuation
- Excision of skin lesions

Emergency Procedures

- Incision and drainage of abscess
- Operation for testicular torsion

Click on Workplace Based Assessments to view the assessment forms including DOPS and PBAs

Topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Basic sciences</th>
</tr>
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<tbody>
<tr>
<td>Category</td>
<td>Core Surgical Skills and Knowledge for All Specialties</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
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<tr>
<td>Underpinning basic science knowledge appropriate for the practice of surgery.</td>
<td></td>
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<tr>
<td>Applied anatomy: Knowledge of anatomy appropriate for surgery</td>
<td></td>
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<tr>
<td>Physiology: Knowledge of physiology relevant to surgical practice</td>
<td></td>
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<tr>
<td>Pathology: Knowledge of pathological principles underlying system specific pathology</td>
<td></td>
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<tr>
<td>Microbiology: Knowledge of microbiology relevant to surgical practice</td>
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<tr>
<td>Radiology: Knowledge of diagnostic and interventional radiology</td>
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</tbody>
</table>

Applied anatomy:

- Development, organs and structures, surface and imaging anatomy of thorax, abdomen, pelvis, perineum, limbs, neck as appropriate for surgical operations

Physiology:

- Homeostasis
- Thermoregulation
2 Metabolic pathways
2 Blood loss
2 Sepsis
2 Fluid balance and fluid replacement therapy
2 Metabolic abnormalities

Pathology:
2 Inflammation
2 Wound healing
2 Cellular injury
2 Vascular disorders
2 Disorders of growth, differentiation and morphogenesis
2 Tumours
2 Surgical immunology
2 Surgical haematology

Microbiology:
2 Surgically important microorganisms
2 Sources of infection
2 Asepsis and antisepsis
2 Sterilisation
2 Antibiotics
2 High risk patient management

Radiology:
2 Principles of diagnostic and interventional radiology

Clinical Skills  No content
Technical Skills and Procedures No content
Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Basic surgical skills</th>
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<tbody>
<tr>
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Acquisition of basic surgical skills in instrument and tissue handling.

Incision of skin and subcutaneous tissue: Ability to incise superficial tissues accurately with suitable instruments.

Closure of skin and subcutaneous tissue: Ability to close superficial tissues accurately.

Knot tying: Ability to tie secure knots.

Haemostasis: Ability to achieve haemostasis of superficial vessels.

Tissue retraction: Use of suitable methods of retraction.
Use of drains: Knowledge of when to use a drain and which to choose.

Tissue handling: Ability to handle tissues gently with appropriate instruments.

Skill as assistant: Ability to assist helpfully, even when the operation is not familiar.

Incision of skin and subcutaneous tissue:

3 Langer’s lines
3 Healing mechanism
2 Choice of instrument
3 Safe practice
3 Basic Surgical Skills course

Closure of skin and subcutaneous tissue:

2 Options for closure
2 Suture and needle choice
3 Safe practice

Knot tying:

2 Choice of material

Knowledge

Haemostasis:

3 Techniques

Tissue retraction:

2 Choice of instruments

Use of drains:

2 Indications
2 Types
2 Management/removal

Tissue handling:

3 Choice of instruments

Incision of skin and subcutaneous tissue:

3 Ability to use scalpel, diathermy and scissors

Closure of skin and subcutaneous tissue:

Clinical Skills

3 Accurate and tension free apposition of wound edges

Knot tying:

2 Single handed
3 Double handed
3 Instrument  
3 Superficial  
2 Deep  

Haemostasis:  

3 Control of bleeding vessel (superficial)  
3 Diathermy  
3 Suture ligation  
2 Tie ligation  
2 Clip application  

Tissue retraction:  

3 Tissue forceps  
2 Placement of wound retractors  

Use of drains:  

2 Insertion  
2 Fixation  
2 Removal  

Tissue handling:  

3 Appropriate application of instruments and respect for tissues  

Skill as assistant:  

2 Anticipation of needs of surgeon when assisting  

**Technical Skills and Procedures**  

No content  

**Professional Skills**  

Please see the [Professional Skills and Behaviour » Initial](#) section for these skills  

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**Topic**  

The Assessment and Management of the Surgical Patient  

**Category**  

Core Surgical Skills and Knowledge for All Specialties  

**Sub-category:** None  

**Objective**  

*Ability to assess the patient and manage the patient, and propose surgical or non-surgical management.*  

**Knowledge**  

No content  

3 Surgical history and examination (elective and emergency)  
2 Construct a differential diagnosis  
2 Plan investigations  
2 Clinical decision making  

**Clinical Skills**  

3 Case work up and evaluation; risk management  
2 Active participation in MDTs  
2 Taking consent for intermediate level intervention; emergency and elective  
3 Written clinical communication skills  
3 Interactive clinical communication skills: patients  
3 Interactive clinical communication skills: colleagues
Technical Skills and Procedures
No content

Professional Skills
Please see the Professional Skills and Behaviour » Initial section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Peri-operative care</th>
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<tbody>
<tr>
<td>Category</td>
<td>Core Surgical Skills and Knowledge for All Specialties</td>
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</table>

*Ability to manage patient care in the peri-operative period.*

*Pre-operative assessment and management: Ability to assess the patient adequately prior to operation and manage any pre-operative problems appropriately.*

**Objective**

*Intraoperative care: Ability to conduct safe surgery in the operating theatre environment.*

*Post-operative care: Ability to care for the patient in the post-operative period.*

**Blood Products:** Appropriate use of blood products.

**Antibiotics:** Appropriate use of antibiotics.

Pre-operative assessment and management:

2 Cardiorespiratory physiology
2 Diabetes mellitus
2 Renal failure
2 Pathophysiology of blood loss
2 Pathophysiology of sepsis
2 Risk factors for surgery and scoring systems
3 Principles of day surgery

Intraoperative care:

3 Safety in theatre
4 Sharps safety
3 Diathermy, laser use
3 Infection risks
2 Radiation use and risks
2 Tourniquets
2 Principles of local, regional and general anaesthesia

Post-operative care:

2 Cardiorespiratory physiology
2 Diabetes mellitus
2 Renal failure
2 Pathophysiology of blood loss
2 Pathophysiology of sepsis
2 Complications specific to particular operation
3 Critical care
Blood Products:
3 Components of blood
2 Alternatives to use of blood products

Antibiotics:
3 Common pathogens in surgical patients
2 Antibiotic sensitivities
3 Antibiotic side-effects
3 Principles of prophylaxis and treatment
Pre-operative assessment and management:
3 History and examination
3 Interpretation of pre-operative investigations
3 Management of comorbidity
3 Resuscitation

Intraoperative care:
2 Safe conduct of intraoperative care

Post-operative care:
3 Assessment of patient’s condition
3 Post-operative analgesia
3 Fluid and electrolyte management
3 Monitoring of post-operative patient
3 Detection of impending organ failure
3 Initial management of organ failure
2 Use of MDT meetings

Blood Products:
3 Appropriate use of blood products
3 Management of the complications of blood product transfusion

Antibiotics:
3 Appropriate prescription of antibiotics

Clinical Skills

Professional Skills: Please see the Professional Skills and Behaviour » Initial section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Assessment of multiply injured patients including children</th>
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<tbody>
<tr>
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<tr>
<td>Objective</td>
<td>Safely assess the multiply injured patient.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 Anatomy</td>
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<td></td>
<td>3 Pathogenesis of shock</td>
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### 2 Differences In Children

<table>
<thead>
<tr>
<th>Clinical Skills</th>
<th>4 History and examination</th>
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<tbody>
<tr>
<td>3 Investigation</td>
<td></td>
</tr>
<tr>
<td>3 Resuscitation and early management according to ATLS and APLS guidelines</td>
<td></td>
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<tr>
<td>3 Referral to appropriate surgical subspecialties</td>
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<thead>
<tr>
<th>Technical Skills and Procedures</th>
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<tbody>
<tr>
<td>2 Central venous line insertion</td>
</tr>
<tr>
<td>3 Chest drain insertion</td>
</tr>
<tr>
<td>1 Diagnostic peritoneal lavage</td>
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<tr>
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<tr>
<td>Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills</td>
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</tbody>
</table>

#### Topic: Bleeding diathesis

**Category:** Core Surgical Skills and Knowledge for All Specialties  
**Sub-category:** None  

**Objective:**  
*Diagnosis:* Diagnose possible bleeding diathesis in the surgical patient.  
*Treatment:* Manage bleeding diathesis in the surgical patient.  

**Knowledge:**  
- Diagnosis:  
  - 3 Mechanism of haemostasis  
  - 2 Pathology of impaired haemostasis e.g. haemophilia, liver disease, massive haemorrhage  
- Treatment:  
  - 2 Understands use of blood products  
  - 3 Avoidance by correct surgical techniques  
  - 3 Corrective measures, e.g. warming, packing  

**Clinical Skills:**  
- 2 Recognition of conditions likely to lead to the diathesis  
- 2 Recognition of abnormal bleeding during surgery  

**Technical Skills and Procedures:** No content  

**Professional Skills:** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

#### Topic: Venous thrombosis + embolism

**Category:** Core Surgical Skills and Knowledge for All Specialties  
**Sub-category:** None  

**Objective:** Understanding of practice in the prevention and management of Venous thrombosis and Embolism.
Coagulation: Understanding of the physiology and pathophysiology of coagulation.

Diagnosis: Able to arrange basic investigation of patients with suspected venous thrombosis and embolism.

Treatment: Ability to initiate treatment of venous thrombosis and embolism.

Prophylaxis: Use of common methods of prophylaxis against venous thrombosis and embolism.

Coagulation:

3 Clotting mechanism (Virchow Triad)
2 Effect of surgery and trauma on coagulation
2 Tests for thrombophilia and other disorders of coagulation

Diagnosis:

2 Methods of investigation for suspected thromboembolic disease

Knowledge

Treatment:

3 Anticoagulation, heparin and warfarin
2 Role of V/Q scanning, CT angiography and thrombolysis
2 Place of pulmonary embolectomy

Prophylaxis:

3 Knowledge of methods of prevention, mechanical and pharmacological

Coagulation:

3 Recognition of patients at risk

Diagnosis:

3 Awareness of symptoms and signs associated with pulmonary embolism and DVT

Clinical Skills

2 Role of duplex scanning, venography and d-dimer measurement

Treatment:

3 Initiate and monitor treatment

Prophylaxis:

3 Awareness at all times of the importance of prophylaxis

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Initial section for these skills

Topic Nutrition
Topic: Management of the dying patient

Objective: Ability to manage the dying patient appropriately.

Knowledge:
- 2 Ability to analyse published evidence

Clinical Skills:
- Teaching:
  - 3 Ability to teach small groups

Technical Skills and Procedures: No content

Professional Skills: Please see the Professional Skills and Behaviour » Initial section for these skills
Palliative Care: Good management of the dying patient in consultation with the palliative care team.

Principles of organ donation: Knowledge of the principles of organ donation.

Palliative Care:

2 Care of the terminally ill
3 Analgesia
2 Antiemetics
2 Laxatives

Knowledge

Principles of organ donation:

2 Circumstances in which consideration of organ donation is appropriate
3 Principles of brain death

3 Understanding the role of the coroner and the certification of death

Palliative Care:

Clinical Skills

2 Symptom control in the terminally ill patient

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Initial section for these skills

Topic Endocrine and Metabolic Disorders

Category Core Surgical Skills and Knowledge for All Specialties

Sub-category: None

To identify, investigate and managesurgical patients with common metabolic disorders
- To identify, investigate and manage surgical patients with Thyrotoxicosis
- To identify, investigate and manage surgical patients with Hypothyroidism
- To identify, investigate and manage surgical patients with Hypercalcaemia
- Knowledge of the significance of corticosteroid therapy in patient care
- To identify, investigate and manage surgical patients with diabetes mellitus
- To identify, investigate and manage surgical patients with Hyponatraemia

Thyrotoxicosis
2 Pathophysiology of thyroid hormone excess and associated risks from surgery

Hypothyroidism
2 Pathophysiology of thyroid hormone deficiency and associated risks from surgery

Knowledge

Hypercalcaemia
2 Causes and effects of hypercalcaemia

Cortico-steroid therapy
3 Complications
3 Steroid insufficiency

Diabetes Mellitus
2 Complications

Hyponatraemia
2 Pathophysiology of fluid and electrolyte balance
2 Causes of hyponatraemia
Thyrotoxicosis
2 History and examination
2 Investigation of thyrotoxicosis

Hypothyroidism
2 History and examination
2 Investigation

Hypercalcaemia
2 Investigation of hypercalcaemia
2 Treatment of hypercalcaemia

Cortico-steroid therapy
3 Peri-operative management of patients on steroid therapy

Diabetes Mellitus
3 Peri-operative management of diabetic patients

Hyponatraemia
3 Treatment

Clinical Skills

Technical Skills and Procedures  No content

Professional Skills  Please see the Professional Skills and Behaviour » Initial section for these skills

Topic  Child Protection
Category  Core Surgical Skills and Knowledge for All Specialties
Sub-category:  None
Objective  No content

Knowledge
4 Working knowledge of trust and Local Safeguarding Children Boards (LSCBs) Child Protection Procedures
4 Basic understanding of child protection law
4 Understanding of Children's rights
4 Working knowledge of types and categories of child maltreatment, presentations, signs and other features (primarily physical, emotional, sexual, neglect, professional)
4 Understanding of one personal role, responsibilities and appropriate referral patterns in child protection
4 Understanding of the challenges of working in partnership with children and families
Ability to:
4 Recognise the possibility of abuse or maltreatment

Clinical Skills
4 Recognise limitations of own knowledge and experience and seek appropriate expert advice
4 Urgently consult immediate senior in surgery to enable referral to paediatricians
4 Keep appropriate written documentation relating to child protection matters
4 Communicate effectively with those involved with child protection, including children and their families

**Technical Skills and Procedures**

No content

**Professional Skills**

Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

---

**Topic** Anatomy

**Category** Generic Paediatric Surgery Skills

**Sub-category:** Basic Sciences

*To understand the basic anatomy that surgeons will encounter during the management of children, and the embryological development of anatomical systems.*

**Objective**

**CARDIOVASCULAR:**

2 Embryogenesis of heart and major vessels, and formation of the lymphatic system
2 Common anatomical variations of heart chambers, valves and major vessels
2 Surgical anatomy of heart and major arteries + veins in thorax, neck, abdomen and groins

**RESPIRATORY:**

2 Embryogenesis of trachea and bronchial tree
2 Lung development
2 Common anatomical variations of respiratory tree and lungs to include vascular anomalies
2 Surgical anatomy of pleura, lung and trachea and bronchial tree

**GASTROINTESTINAL TRACT AND ABDOMINAL WALL:**

2 Embryogenesis of the GIT to include formation of the solid organs, anorectum, and abdominal wall
2 Common anatomical variations in the formation of the GIT and abdominal wall
2 Surgical anatomy of the GIT and its relations to other systems

**RENAL:**

2 Embryogenesis of the upper and lower renal tract to include male and female genital development
2 Common anatomical variations of the renal tract and genitalia
2 Surgical anatomy of the renal tract, and associated genital structures to include relationships to other systems

**NEUROLOGICAL:**

2 Embryogenesis of the brain and spinal cord, and of the supporting structures (skull, vertebral column)
2 Common anatomical variations of the brain and spinal cord
2 Surgical anatomy of the brain, spinal cord and major somatic nerves (to
include relationships to other systems)

MUSCULO SKELETAL:

2 Embryogenesis of the skeleton and muscle development
2 Common anatomical variations of skeleton
2 Surgical anatomy of skeleton where relevant to other systems

CARDIOVASCULAR:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

RESPIRATORY:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

GASTROINTESTINAL TRACT AND ABDOMINAL WALL:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

Clinical Skills

RENAL:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

NEUROLOGICAL:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

MUSCULO SKELETAL:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

Technical Skills and Procedures
No content

Professional Skills
Please see the Professional Skills and Behaviour » Initial section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Physiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Generic Paediatric Surgery Skills</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Basic Sciences</td>
</tr>
<tr>
<td>Objective</td>
<td>To understand the normal physiological processes at different ages. To understand the effects of disease and trauma on these processes.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>FLUID BALANCE:</td>
</tr>
<tr>
<td></td>
<td>2 Basic requirements of fluid and electrolytes at different ages</td>
</tr>
<tr>
<td></td>
<td>2 Mechanisms of homeostasis</td>
</tr>
<tr>
<td></td>
<td>2 Influence of disease states</td>
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<td>-renal</td>
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<td>-cardiac</td>
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<td>-gastrointestinal</td>
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<tr>
<td></td>
<td>-trauma</td>
</tr>
<tr>
<td></td>
<td>2 Mechanisms of homeostasis</td>
</tr>
<tr>
<td></td>
<td>2 Abnormalities encountered in disease</td>
</tr>
</tbody>
</table>
ACID-BASE BALANCE:
2 Basic requirements of fluid and electrolytes at different ages
2 Mechanisms of homeostasis
2 Influence of disease states
   -renal
   -cardiac
   -gastrointestinal
   -trauma
2 Mechanisms of homeostasis
2 Abnormalities encountered in disease

OXYGEN TRANSPORT:
2 Airway function in health and disease
2 Alveolar function and gas exchange
2 Effect of disease
   -R.D.S.
   -Infection
   -Barotrauma
   -Prematurity
2 Effect of foetal circulation

GASTROINTESTINAL TRACT:
2 Motility of different regions of gut
2 Secretion and absorption
2 Function of sphincter regions
   -G.O. junction
   -Pylorus
   -Ileocaecal region
   -Anorectum
2 Defaecation and continence

HEPATOBILIARY FUNCTION AND PANCREATIC FUNCTION:
2 Metabolic and synthetic hepatic function
2 Bile production and transport
2 Exocrine pancreatic function
2 Effect of disease on normal function

RENAL TRACT:
2 Renal mechanisms for maintenance of homeostasis
2 Effect of disease
2 Bladder function and continence
2 Transitional renal physiology in neonate and young child

GROWTH AND METABOLISM:
2 Nutritional requirements at different ages
2 Endocrine factors influencing growth
   -thyroid
   -pituitary
   -pancreatic
   -adrenal
   -gonadal
2 Effect of disease states including
   -chronic disease
-trauma

response to operation

2 Influence and use of parenteral and enteral feeding

AUTONOMIC NERVOUS SYSTEM:
2 Differing effects of sympathetic and parasympathetic innervation
2 Effects on differing physiological processes

FLUID BALANCE:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

ACID-BASE BALANCE:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

OXYGEN TRANSPORT:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

GASTROINTESTINAL TRACT:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

Clinical Skills

HEPATOBILIARY FUNCTION AND PANCREATIC FUNCTION:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

RENAL TRACT:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

GROWTH AND METABOLISM:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

AUTONOMIC NERVOUS SYSTEM:
2 Relate knowledge to assessment of clinical situation or progress of disease condition

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Initial section for these skills

Topic Surgical Pathology and Genetics

Category Generic Paediatric Surgery Skills

Sub-category: Basic Sciences

Objective No content

INFLAMMATORY PROCESSES:

Knowledge

2 Processes of acute inflammatory response as it affects different organ systems

-Respiratory
- GIT
- Renal
  2 Processes of chronic inflammatory response
  2 Processes of wound healing

ONCOLOGY:
  2 Basic mechanisms of tumour initiation and growth
  2 Role of environmental factors
  2 Role of genetic factors
  2 Basic knowledge of staging of different tumours and relation to treatment strategies and outcome
  2 Mechanism of action of chemo and radiotherapy

PRINCIPLES OF HUMAN GENETICS:
  2 Relevance to clinical conditions

INFECTIVE PROCESSES:
  2 Commonly encountered infective agents
  2 Diagnostic procedures
  2 Role and mechanism of antibiotics
  2 Value of preventative measures

HAMARTOMATOUS LESIONS:
  2 Basic pathology of lesions related to growth
  2 Prognosis of differing lesions
  2 Differential diagnosis and treatment modalities if required

INFLAMMATORY PROCESSES:
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

ONCOLOGY:
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

Clinical Skills
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

PRINCIPLES OF HUMAN GENETICS:
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

INFECTIVE PROCESSES:
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

HAMARTOMATOUS LESIONS:
  2 Relate knowledge to assessment of clinical situation or progress of disease condition

Technical Skills and Procedures
  No content

Professional Skills
  Please see the Professional Skills and Behaviour » Initial section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Good Clinical Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Generic Paediatric Surgery Skills</td>
</tr>
</tbody>
</table>
Sub-category: Understanding the specific features of the management of childrens health and illness

Objective
To be able to take a history and make an appropriate physical examination. Keep accurate and relevant medical records.

Examination:

2 Patterns of clinical signs

Note keeping/Letters:

Knowledge
Examination:

3 Medical notes
3 Discharge letters
2 Coding returns
2 Outpatient letters/ Prescriptions
2 Role of medical records in central data returns

History Taking:

2 Symptom patterns

Examination:

3 Appropriate explanation of procedure to parents and patients
3 Ability to examine without causing undue discomfort
2 Elicit signs and use equipment appropriately

Note keeping/Letters:

Legible accurate recording of:
3 History examination Differential diagnosis
3 Investigation and management plan
3 Results and action taken

Clinical Skills
2 Other relevant information
4 Date and sign each entry
3 Relevant IT skills (e-mail and internet skills)

History Taking:

3 Elicit a relevant history
3 Identify and synthesise problems
2 Take a history in difficult circumstances
- English is not the patient or parents first language
- Patient with disability
- Patient or parents have psychological problems
- Confrontational parents

Examination:

Technical Skills and Procedures
3 Note keeping/Letters:

3 History Taking:

Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills
<table>
<thead>
<tr>
<th>Topic</th>
<th>Good Clinical Care: Time management, Risk management and decision-making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Generic Paediatric Surgery Skills</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Appropriate professional behaviours in dealing with children and families</td>
</tr>
<tr>
<td>Objective</td>
<td>To manage time and problems effectively.</td>
</tr>
<tr>
<td>TIME MANAGEMENT:</td>
<td>2 Systematic approach to prioritisation of patient tasks</td>
</tr>
<tr>
<td>RISK MANAGEMENT:</td>
<td>2 Complications and side effects of treatments (surgical and non-surgical) and the effect of non-intervention</td>
</tr>
<tr>
<td>DECISION MAKING:</td>
<td>2 Clinical priorities in investigation and management</td>
</tr>
<tr>
<td>TIME MANAGEMENT:</td>
<td>3 Start with most important task</td>
</tr>
<tr>
<td></td>
<td>2 Show improved efficiency as skill develops</td>
</tr>
<tr>
<td></td>
<td>2 Recognise need to re-prioritise or call for help</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>RISK MANAGEMENT:</td>
</tr>
<tr>
<td></td>
<td>2 Discuss relevant risks with parents/patients (where applicable)</td>
</tr>
<tr>
<td></td>
<td>DECISION MAKING:</td>
</tr>
<tr>
<td></td>
<td>2 Analyse and manage clinical problems</td>
</tr>
<tr>
<td></td>
<td>2 Involve appropriate other professionals and parents/patients</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Pre-operative care</th>
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</thead>
<tbody>
<tr>
<td>Category</td>
<td>Generic Paediatric Surgery Skills</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Operative Skills</td>
</tr>
<tr>
<td>Objective</td>
<td>To ensure the trainee has reached a level of competence in a range of basic operative procedures.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3 Indications for surgery</td>
</tr>
<tr>
<td></td>
<td>3 Required preparation for surgery to include necessary pre-operative investigations</td>
</tr>
<tr>
<td></td>
<td>3 Outcomes and complications of surgery</td>
</tr>
<tr>
<td></td>
<td>3 Knowledge of the admission process</td>
</tr>
<tr>
<td></td>
<td>3 Synthesis of history and examination into operative management plan</td>
</tr>
<tr>
<td></td>
<td>3 Ability to explain procedure and outcomes to patient and parents at an appropriate level</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>3 To be able to take informed consent</td>
</tr>
<tr>
<td></td>
<td>2 To construct an appropriate theatre list</td>
</tr>
<tr>
<td></td>
<td>3 To follow the admission procedure</td>
</tr>
</tbody>
</table>

| Technical Skills and Procedures | No content |
| Professional Skills | Please see the Professional Skills and Behaviour » Initial section for these skills |
Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

**Topic** | Intra-operative care
---|---
**Category** | Generic Paediatric Surgery Skills
**Sub-category:** | Operative Skills
**Objective** | To ensure the trainee has reached a level of competence in a range of basic operative procedures
3 Anatomy to be encountered during procedure
2 Steps involved in operative procedure
2 Knowledge of alternative procedures in case of encountering difficulties
3 Potential complications of procedure
3 Necessary hand-eye dexterity to complete procedure
3 Appropriate use of assistance
3 Communication with other members of theatre team
**Knowledge**
**Clinical Skills**

**Technical Skills and Procedures** | No content
---|---
**Professional Skills** Please see the Professional Skills and Behaviour » Initial section for these skills

**Topic** | Post-operative care
---|---
**Category** | Generic Paediatric Surgery Skills
**Sub-category:** | Operative Skills
**Objective** | To ensure the trainee has reached a level of competence in a range of basic operative procedures.
3 Outcomes of procedure
2 Likely post-operative progress from disease process and intervention
2 Physiological and pathological changes in condition as a result of intervention
3 Assessment of patient and physiological parameters
3 Appropriate intervention to deal with changing parameters
3 Communication skills for dealing with team members, patients and parents
2 Ability to prioritise interventions
**Knowledge**
**Clinical Skills**

**Technical Skills and Procedures** | No content
---|---
**Professional Skills** Please see the Professional Skills and Behaviour » Initial section for these skills

**Topic** | Intussusception
---|---
**Category** | Surgical conditions of childhood
**Sub-category:** | Assessment and management of children with acute abdominal pathology
*To be able to assess a child presenting acutely with intussusception as the suspected diagnosis*
*To be able to formulate a differential diagnosis and an investigation and management plan*
*To be able to treat the child appropriately up to and including operative intervention if required*
*To be able to communicate the above information at the required level to*

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Page 31 of 126
patients/ parents/ other team members/ referral source

Knowledge

3 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis
2 Role of radiology both for diagnosis and interventional management
2 Technique for non-operative reduction
3 Ability to assess child and recognise severity of illness, to include indications for operative intervention

Clinical Skills

2 Ability to take appropriate resuscitative measures and form a viable treatment plan
3 Ability to communicate with all relevant groups

ST1: 1 Air enema reduction
1 Operative reduction of intussusception

Technical Skills and Procedures

ST2: 1 Air enema reduction
1 Operative reduction of intussusception

Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

---

**Topic** Child with abdominal pain

**Category** Surgical conditions of childhood

**Sub-category:** Assessment and management of children with acute abdominal pathology

To be able to assess a child presenting with abdominal pain either acutely or through the OP clinic.

To be able to formulate a differential diagnosis and an investigation and management plan

To be able to treat the child appropriately up to and including operative intervention if required

To be able to communicate the above information at the required level to patients/ parents/ other team members

3 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis
2 Place and value of investigations
2 Place of operative intervention, and associated outcomes (see Section 4)

**Knowledge**

3 Ability to assess ill child
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST1: 1 Appendicectomy

**Clinical Skills**

**Technical Skills and Procedures**

ST2: 2 Appendicectomy

**Professional Skills** Please see the Professional Skills and Behaviour » Initial section for these skills

---

**Topic** Vomiting child

Page 32 of 126
Category: Surgical conditions of childhood

Sub-category: Assessment and management of children with acute abdominal pathology

To be able to assess a child presenting with vomiting either acutely or through the OP clinic.
To be able to formulate a differential diagnosis and an investigation and management plan

Objective
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to patients/parents/other team members

Knowledge
2 Patterns of symptoms and relation to likely pathology
3 Significance of bile stained vomiting
2 Differential diagnosis

Clinical Skills
3 Ability to assess ill child including an assessment of severity of dehydration.
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST1:
1 OGD
1 Pyloromyotomy

ST2:
1 OGD
2 Pyloromyotomy

Professional Skills
Please see the Professional Skills and Behaviour » Initial section for these skills

---

Category: Trauma management

Sub-category: Assessment and management of trauma (including APLS certification)

To be able to assess a child presenting with trauma either through the A+ E Dept or directly to the hospital.
To be able to formulate a differential diagnosis and an investigation and management plan

Objective
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to patients/parents/other team members

Knowledge
2 Likely effects of different types of trauma and relation to age of child
2 Investigation protocols and local variations thereof
2 Awareness of NAI and local procedures for dealing with this category of trauma
Clinical Skills
3 Ability to appropriately assess trauma cases and carry out relevant resuscitative measures
2 Ability to prioritise interventions
2 Ability to act as part of team or lead team where appropriate
ST1:
1 Chest drain insertion

Technical Skills and Procedures
ST2:
1 Chest drain insertion

Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

Topic Good Clinical Care: Life Support Skills
Category Surgical conditions of childhood
Sub-category: Assessment and management of trauma (including APLS certification)
Objective To demonstrate basic + advanced life support skills
Knowledge 3 Theoretical basis of life support
Clinical Skills 3 Basic, Advanced Life Support skills
Technical Skills and Procedures No content
Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

Topic Child with groin conditions
Category Surgical conditions of childhood
Sub-category: Management of benign surgical conditions
Objective To be able to assess a child presenting to the OP clinic or acutely with ‘groin pathology’
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source

INGUINAL HERNIA:
3 Developmental anatomy
2 Natural history
3 Indications and outcomes of surgery

HYDROCELE:
3 Developmental anatomy
2 Natural history
3 Place of conservative management
3 Indications and outcomes of surgery

UNDESCENDED TESTIS:
3 Developmental anatomy
2 Natural history of undescended testis and retractile testis
2 Place of conservative management
2 Indications and outcomes of surgery

PENILE INFLAMMATORY CONDITIONS:

3 Developmental anatomy
2 Natural history
3 Place of conservative management
3 Indications and outcomes of surgery

ACUTE SCROTUM:

3 Natural history
2 Place of conservative management
3 Indications and outcomes of surgery

INGUINAL HERNIA:

3 Ability to assess child and reach appropriate diagnosis
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

HYDROCOELE:
3 Ability to assess child and reach appropriate diagnosis
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

UNDESCENDED TESTIS:

Clinical Skills
3 Ability to assess child and reach appropriate diagnosis
3 Ability to differentiate true undescended testis from retractile variant
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

PENILE INFLAMMATORY CONDITIONS:
3 Ability to assess child and reach appropriate diagnosis
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

ACUTE SCROTUM:
3 Ability to assess child and reach appropriate diagnosis
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

Hernia (ST1):
1 Inguinal herniotomy (non-neonatal)

Technical Skills and Procedures

Hydrocoele (ST1):
1 Surgery for hydrocoele

Penile inflammatory conditions (ST1):
1 Prepucioplasty
1 Circumcision
Undescended testis (ST1):
1 Surgery for undescended testis

Acute scrotum (ST1):
1 Surgery for acute scrotum

Hernia (ST2):
2 Inguinal herniotomy (non-neonatal)

Hydrocele (ST2):
2 Surgery for hydrocoele

Penile inflammatory conditions (ST2):
1 Prepucioplasty
2 Circumcision

Undescended testis (ST2):
1 Surgery for undescended testis

Acute scrotum (ST2):
2 Surgery for acute scrotum

**Professional Skills**
Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic**  Abdominal wall pathologies

**Category**  Surgical conditions of childhood

**Sub-category:**  Management of benign surgical conditions

*To be able to assess a child presenting to the OP clinic or acutely with abnormalities of the abdominal wall*

*To be able to formulate a differential diagnosis and an investigation and management plan*

**Objective**

*To be able to treat the child appropriately up to and including operative intervention if required*

*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*

**Knowledge**

**UMBILICAL HERNIA:**

3 Developmental anatomy
3 Natural history
2 Place of conservative management
2 Indications and outcomes of surgery

**SUPRA-UMBILICAL HERNIA:**

3 developmental anatomy
2 Natural history to include contrast with umbilical hernia
2 Indications and outcomes of surgery

**EPICASTRICH HERNIA:**

3 Developmental anatomy
2 Natural history
2 Indications and outcomes of surgery

**Clinical Skills**

**UMBILICAL HERNIA:**
3 Ability to assess child and reach appropriate diagnosis  
2 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

**SUPRA-UMBILICAL HERNIA:**
3 Ability to assess child and reach appropriate diagnosis  
2 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

**EPIGASTRIC HERNIA:**
3 Ability to assess child and reach appropriate diagnosis  
2 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

Umbilical hernia (ST1):
1 Repair of umbilical hernia

Epigastric hernia (ST1):
1 Repair of epigastric hernia

**Technical Skills and Procedures**

Umbilical hernia (ST2):
2 Repair of umbilical hernia

Epigastric hernia (ST2):
2 Repair of epigastric hernia

**Professional Skills**

Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

---

**Topic** Urological Conditions

**Category** Surgical conditions of childhood

**Sub-category:** Management of benign surgical conditions

To be able to assess a child presenting to the OP clinic or acutely with abnormalities in the urinary tract  
To be able to formulate a differential diagnosis and an investigation and management plan  
To be able to treat the child appropriately up to and including operative intervention if required  
To be able to communicate the above information at the required level to patients/parents/other team members/referral source

**Objective**

URINARY TRACT INFECTION:

3 Patterns of symptoms and relation to likely pathology and age of child  
2 Relevance of different symptom patterns  
2 Differential diagnosis

**Knowledge**

HAEMATURIA:
3 Patterns of symptoms and relation to likely pathology and age of child  
2 Differential diagnosis  
2 Place and value of investigations
URINARY TRACT INFECTION:

3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Clinical Skills

HAEMATURIA:
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST1:
1 Insertion od supra-pubic catheter
1 Cystourethroscopy

Technical Skills and Procedures

ST2:
2 Insertion od supra-pubic catheter
2 Cystourethroscopy

Professional Skills Please see the Professional Skills and Behaviour » Initial section for these skills

---

**Topic**  
Constipation  

**Category**  
Surgical conditions of childhood  

**Sub-category:** Management of benign surgical conditions  

To be able to assess a child presenting to the OP clinic or acutely with constipation as the primary presenting symptom
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to patients/parents/other team members/referral source

**Objective**

3 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis to include medical anomalies and socio-psychological aspects of symptom
2 Place and value of investigations
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan

**Knowledge**

3 Ability to communicate with all relevant groups.
2 To include community aspects of further management

**Clinical Skills**

ST1:
1 Rectal biopsy
1 Manual Evacuation
1 EUA rectum
1 Anal stretch

**Technical Skills and Procedures**

ST2:
2 Rectal biopsy
2 Manual Evacuation
2 EUA rectum
2 Anal stretch
<table>
<thead>
<tr>
<th>Topic</th>
<th>Head and neck swellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Surgical conditions of childhood</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Management of benign surgical conditions</td>
</tr>
<tr>
<td>Objective</td>
<td>To be able to assess a child presenting to the OP clinic or acutely with a head/neck swelling as the primary presenting symptom&lt;br&gt;To be able to formulate a differential diagnosis and an investigation and management plan</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 Patterns of symptoms and relation to likely pathology, relevant anatomy and age of child&lt;br&gt;2 Relevance of embryonic development of head and neck structures&lt;br&gt;2 Differential diagnosis&lt;br&gt;2 Place and value of investigations</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 Ability to assess child&lt;br&gt;2 Ability to form a viable investigation and treatment plan&lt;br&gt;2 Ability to communicate with all relevant groups</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>ST1: &lt;br&gt;1 Excision skin lesion&lt;br&gt;1 Excision/biopsy of lymph nodes&lt;br&gt;ST2: &lt;br&gt;1 Excision skin lesion&lt;br&gt;1 Excision/biopsy of lymph nodes</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Topic</th>
<th>Abscess</th>
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</thead>
<tbody>
<tr>
<td>Category</td>
<td>Surgical conditions of childhood</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Other Conditions</td>
</tr>
<tr>
<td>Objective</td>
<td>To be able to assess a child presenting acutely with acute surgical pathology (see example below) as the suspected diagnosis&lt;br&gt;To be able to formulate a differential diagnosis and an investigation and management plan&lt;br&gt;To be able to treat the child appropriately up to and including operative intervention if required&lt;br&gt;To be able to communicate the above information at the required level to patients/parents/other team members/referral source</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3 Patterns of symptoms and relation to likely pathology and age of child&lt;br&gt;2 Differential diagnosis&lt;br&gt;2 Place and value of investigations</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 Ability to assess child&lt;br&gt;2 Ability to form a viable investigation and treatment plan&lt;br&gt;2 Ability to communicate with all relevant groups</td>
</tr>
</tbody>
</table>
**Technical Skills and Procedures**

2 Incision and drainage of abscess

**Professional Skills**

Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Ingrowing toenail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Surgical conditions of childhood</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>Other Conditions</td>
</tr>
<tr>
<td></td>
<td>To be able to assess a child presenting acutely with non acute surgical pathology (see example below) as the suspected diagnosis</td>
</tr>
<tr>
<td></td>
<td>To be able to formulate a differential diagnosis and an investigation and management plan</td>
</tr>
<tr>
<td>Objective</td>
<td>To be able to treat the child appropriately up to and including operative intervention if required</td>
</tr>
<tr>
<td></td>
<td>To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3 Patterns of symptoms and relation to likely pathology and age of child</td>
</tr>
<tr>
<td></td>
<td>3 Relevance of different symptom patterns</td>
</tr>
<tr>
<td></td>
<td>2 Differential diagnosis</td>
</tr>
<tr>
<td></td>
<td>2 Place and value of investigations</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 Ability to assess child</td>
</tr>
<tr>
<td></td>
<td>2 Ability to form a viable investigation and treatment plan</td>
</tr>
<tr>
<td></td>
<td>3 Ability to communicate with all relevant groups</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>2 Operative management of ingrowing toenails</td>
</tr>
<tr>
<td>Professional Skills</td>
<td>Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills</td>
</tr>
</tbody>
</table>
Intermediate Stage

The aim of the intermediate stage (ST3 and 4) is to allow the trainee to continue to develop the skills knowledge and attitude required to practise Paediatric Surgery in the U.K health system.

Trainee will build on the basic skills and competences achieved in the initial stage of the programme, gaining exposure to the more specialised areas of practice. It is expected that the trainees will continue to build on their clinical experiences and be able to demonstrate competent practice in the operations detailed at the end of the initial stage.

The curriculum goals are presented in a modular fashion for ease of reference and recording of achievement rather than as a suggested teaching package. In some centres the trainees may work for firms in which there is an element of specialisation (paediatric urology is a prime example of this), but in other units there may be a more widespread range of experience to be obtained. There will obviously be areas of duplicate coverage and again this curriculum should be viewed as a framework to aid understanding rather than as a prescriptive document.

The different sections will contain a mixture of information on relevant conditions, symptom patterns and associated surgical operations. This is in an attempt to represent the variety of clinical practice. Overall these goals outlined are simply guides to progress and should be used by trainees, trainers and Programme Directors to help plan rotational placements to ensure a full breadth of training.

The following modules are included:

- Gastrointestinal
- Neonatology
- General Urology
- Thoracic
- Oncology
- Endocrine
- Surgical Disciplines
- Research and Audit
- Teaching and Training.

The expected outcomes for this phase of training are as follows:

- Further experience in the management of the common surgical problems of childhood
- A practitioner with integrity, respect and compassion
- Increasing exposure to the more specialised areas of paediatric surgery to include clinical presentation, operative and non-operative management of cases within the different areas.
- Competence in further range of operations common to paediatric practice

The operative skills outlined here are those relevant to this stage of surgical training. Many are related to the conditions outlined in the specialty modules.

Again the curriculum is there to act as a guide to a minimum level of competence to be achieved by the end of ST4. The operations detailed here are those it is reasonable to expect the trainee to be able to perform either independently or with consultant assistance available but not necessarily at the operating table.
Although this list is not exhaustive it gives an indication of those procedures that it is reasonable to expect a trainee by the end of ST4 to have been exposed to and in the case of the marked procedures (*) be deemed competent to perform.

**Elective Procedures**

- Gastrostomy – open / PEG*
- Fundoplication
- Splenectomy / cholecystectomy
- Upper GI Endoscopy (flexible)
- Exomphalos minor
- Anoplasty for low anorectal malformation
- Intestinal resection and anastomosis (non-neonatal)
- Rectal Biopsy for Hirschsprungs (suction/open)*
- Inguinal herniae – infant and neonatal (not extreme prematurity)
- Colostomy closure*
- C.V. line insertion*
- Open biopsy of tumours
- Muscle biopsy*
- Cystoscopy*
- Repair glandular hypospadias
- Simple Nephrectomy (dysplastic kidney)
- Ureteric reimplant / submucosal injection
- Closure of vesicostomy or ureterostomy
- Laparoscopic approach for diagnosis*

**Emergency Procedures**

- Gastroschisis closure (primary or silo)
- Colostomy formation – anorectal malformations / Hirschsprungs disease*
- Correction of malrotation*
- Meconium ileus enterotomy / or stoma formation
- Operative reduction / resection of intussusception*
- Urinary diversion (ureterostomy/vesicostomy formation)*
- Removal of oesophageal foreign body

Click on [Workplace Based Assessments](#) to view the assessment forms including DOPS and PBAs

**Topics**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Groin conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>General Surgery of Childhood</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
</tbody>
</table>

To be able to assess a child presenting to the OP clinic or acutely with ‘groin pathology’

To be able to formulate a differential diagnosis and an investigation and management plan

To be able to treat the child appropriately up to and including operative intervention if required

To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source

**Knowledge**

INGUINAL HERNIA:
3 Developmental anatomy  
2 Natural history  
3 Indications and outcomes of surgery

HYDROCELE:

3 Developmental anatomy  
2 Natural history  
3 Place of conservative management  
3 Indications and outcomes of surgery

UNDESCENDED TESTIS:

3 Developmental anatomy  
2 Natural history of undescended testis and retractile testis  
2 Place of conservative management  
2 Indications and outcomes of surgery

PENILE INFLAMMATORY CONDITIONS:

3 Developmental anatomy  
2 Natural history  
3 Place of conservative management  
3 Indications and outcomes of surgery

ACUTE SCROTUM:

3 Natural history  
2 Place of conservative management  
3 Indications and outcomes of surgery

INGUINAL HERNIA:

3 Ability to assess child and reach appropriate diagnosis  
3 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

HYDROCELE:

3 Ability to assess child and reach appropriate diagnosis  
3 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

**Clinical Skills**

UNDESCENDED TESTIS:

3 Ability to assess child and reach appropriate diagnosis  
3 Ability to differentiate true undescended testis from retractile variant  
3 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups

PENILE INFLAMMATORY CONDITIONS:

3 Ability to assess child and reach appropriate diagnosis  
3 Ability to form a treatment plan  
3 Ability to communicate with all relevant groups
ACUTE SCROTUM:
3 Ability to assess child and reach appropriate diagnosis
3 Ability to form a treatment plan
3 Ability to communicate with all relevant groups
Hernia (ST3):
2 Inguinal herniotomy (non-neonatal)
1 Inguinal hernia (neonatal)

Hydrocele (ST3):
2 Surgery for hydrocele

Penile Conditions (ST3):
2 Prepuciaplasty
2 Circumcision

Undescended testis (ST3):
2 Surgery for undescended testis

Acute scrotum (ST3):
2 Surgery for acute scrotum

Technical Skills
and Procedures
Hernia (ST4):
3 Inguinal herniotomy (non-neonatal)
2 Inguinal hernia (neonatal)

Hydrocele (ST4):
3 Surgery for hydrocele

Penile Conditions (ST4):
3 Prepuciaplasty
3 Circumcision

Undescended testis (ST4):
2 Surgery for undescended testis

Acute scrotum (ST4):
3 Surgery for acute scrotum

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Abdominal wall pathologies
Category General Surgery of Childhood
Sub-category: None

Objective
To be able to assess a child presenting to the OP clinic or acutely with abnormalities of the abdominal wall
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to
UMBILICAL HERNIA:

3 Developmental anatomy
3 Natural history
2 Place of conservative management
2 Indications and outcomes of surgery

Knowledge

SUPRA-UMBILICAL HERNIA:
3 Developmental anatomy
2 Natural history to include contrast with umbilical hernia
2 Indications and outcomes of surgery

EPIGASTRIC HERNIA:
3 Developmental anatomy
2 Natural history
2 Indications and outcomes of surgery

UMBILICAL HERNIA:
3 Ability to assess child and reach appropriate diagnosis
2 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

Clinical Skills

SUPRA-UMBILICAL HERNIA:
3 Ability to assess child and reach appropriate diagnosis
2 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

EPIGASTRIC HERNIA:
3 Ability to assess child and reach appropriate diagnosis
2 Ability to form a treatment plan
3 Ability to communicate with all relevant groups

Umbilical hernia (ST3):
2 Repair of umbilical hernia

Epigastric hernia (ST3):
2 Repair of epigastric hernia

Technical Skills and Procedures

Umbilical hernia (ST4):
3 Repair of umbilical hernia

Epigastric hernia (ST4):
3 Repair of epigastric hernia

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Category Sub-category: Objective
Access General Surgery of Childhood None None
**Knowledge**
None

**Clinical Skills**
None

Vascular access (ST3):
1 Central venous lines (incl perc)

Dialysis (ST3):
1 PD catheter insertion/removal

**Technical Skills and Procedures**
Vascular access (ST4):
2 Central venous lines (incl perc)

Dialysis (ST4):
2 PD catheter insertion/removal

**Professional Skills**
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic**
**Pyloricstenosis**

**Category**
Gastrointestinal

**Sub-category:** None

**Objective**
None

**Knowledge**
None

**Clinical Skills**
None

ST3:
2 Pyloromyotomy
2 OGD

**Technical Skills and Procedures**
ST4:
3 Pyloromyotomy
3 OGD

**Professional Skills**
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic**
**Gastro-oesophageal reflux**

**Category**
Gastrointestinal

**Sub-category:**
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

**Objective**
To be able to treat the child appropriately up to and including operative intervention in selected cases

**Knowledge**
2 Pathophysiology
3 Investigation and management

2 Indications for operative intervention
Clinical Skills
3 Ability to synthesise history and investigations into appropriate management plan
3 Ability to communicate information to parents/child
ST3:
1 Oesophageal dilatation
1 Gastrostomy - open
1 PEG (insertion/removal)
1 Fundoplication

Technical Skills and Procedures
ST4:
2 Oesophageal dilatation
2 Gastrostomy - open
2 PEG (insertion/removal)
2 Fundoplication

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Abdominal pain
Category Gastrointestinal

Sub-category: None

Objective
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
3 Patterns of symptoms and relation to likely pathology and age of child
3 Differential diagnosis
3 Place and value of investigations
3 Place of operative intervention, and associated outcomes
3 Ability to assess ill child

Clinical Skills
3 Ability to communicate with ill child (see Section 1)
3 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
3 Appendicectomy
2 Op reduction intussusception

Technical Skills and Procedures
ST4:
3 Appendicectomy
2 Op reduction intussusception

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Constipation
Category: Gastrointestinal

Objective:
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge:
2 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis to include medical anomalies and socio-psychological aspects of symptom
3 Place and value of investigations
3 Ability to assess child
3 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups.
2 To include community aspects of further management

Clinical Skills:
3 Ability to assess ill child
3 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups.
2 To include community aspects of further management

Technical Skills and Procedures:
ST3:
2 Rectal Biopsy
3 Manual evacuation
3 EUA rectum
3 Anal stretch
ST4:
3 Rectal Biopsy
3 Manual evacuation
3 EUA rectum
3 Anal stretch

Professional Skills:
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic: Gastro-intestinal bleeding

Category: Gastrointestinal

Sub-category: None

Objective:
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge:
2 Place and value of investigations
2 Place of operative intervention, and associated outcomes

Clinical Skills:
3 Ability to assess ill child
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
2 OGD
1 Colonoscopy
2 Sigmoidoscopy
1 Small bowel resection/anastomosis (Meckels)

Technical Skills and Procedures
ST4:
3 OGD
1 Colonoscopy
3 Sigmoidoscopy
2 Small bowel resection/anastomosis (Meckels)

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Intestinal obstruction
Category Gastrointestinal
Sub-category: None

Objective
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis
2 Place and value of investigations
2 Place of operative intervention, and associated outcomes
3 Ability to assess ill child

Clinical Skills
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
2 Laparotomy
1 Adhesiolysis
1 Small bowel resection/anastomosis
2 OGD

Technical Skills and Procedures
ST4:
2 Laparotomy
2 Adhesiolysis
2 Small bowel resection/anastomosis
2 OGD

Professional Skills Please see the Professional Skills and Behaviour » Intermediate section for
Topic: Inflammatory bowel disease
Category: Gastrointestinal
Sub-category: None

Objective:
- To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

Knowledge:
- 2 Patterns of symptoms and relation to likely pathology and age of child
- 2 Differential diagnosis
- 3 Place and value of investigations
- 2 Place of operative intervention, and associated outcomes
- 3 Ability to assess ill child
- 3 Ability to communicate with ill child (see Section 1)
- 2 Ability to form a viable investigation and treatment plan
- 3 Ability to communicate with all relevant groups

Clinical Skills:
- ST3:
  - 1 Colonoscopy
  - 2 Sigmoidoscopy
  - 1 Small bowel resection/anastomosis
  - 1 Right hemicolectomy
  - 1 Left hemicolectomy
  - 1 Total colectomy

Technical Skills and Procedures:
- ST4:
  - 1 Colonoscopy
  - 3 Sigmoidoscopy
  - 1 Small bowel resection/anastomosis
  - 2 Right hemicolectomy
  - 1 Left hemicolectomy
  - 1 Total colectomy

Professional Skills:
- Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

Topic: Short bowel syndrome
Category: Gastrointestinal
Sub-category: None

Objective:
- To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

Knowledge:
- 2 Patterns of symptoms and relation to likely pathology and age of child
- 2 Differential diagnosis
- 3 Place and value of investigations
- 2 Place of operative intervention, and associated outcomes
- 3 Ability to assess ill child
- 3 Ability to communicate with ill child (see Section 1)
- 2 Ability to form a viable investigation and treatment plan
- 3 Ability to communicate with all relevant groups

Clinical Skills:
- ST3:
  - 1 Colonoscopy
  - 2 Sigmoidoscopy
  - 1 Small bowel resection/anastomosis
  - 1 Right hemicolectomy
  - 1 Left hemicolectomy
  - 1 Total colectomy

Technical Skills and Procedures:
- ST4:
  - 1 Colonoscopy
  - 3 Sigmoidoscopy
  - 1 Small bowel resection/anastomosis
  - 2 Right hemicolectomy
  - 1 Left hemicolectomy
  - 1 Total colectomy

Professional Skills:
- Please see the Professional Skills and Behaviour » Intermediate section for these skills
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis
2 Place and value of investigations
2 Place of operative intervention, and associated outcomes
3 Ability to assess ill child

Clinical Skills
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
No content

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Liver disease
Category Gastrointestinal
Sub-category: None

Objective
To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Patterns of symptoms and relation to likely pathology and age of child
2 Differential diagnosis
2 Place and value of investigations
2 Place of operative intervention, and associated outcomes
3 Ability to assess ill child

Clinical Skills
3 Ability to communicate with ill child (see Section 1)
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
ST3:
1 Cholecystectomy

ST4:
1 Cholecystectomy

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Congenital diaphragmatic hernia
Category Neonatal Surgery
Sub-category: None
To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge
2 Mode of presentation both pre- and post natal
2 Patho-physiology of the condition and anatomical variants
2 Associated anomalies
2 Outcome data on the condition
2 Differing management strategies
2 Role of pre-natal counselling

Clinical Skills
2 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
ST3:
1 Operation for diaphragmatic hernia (neonate)

ST4:
2 Operation for diaphragmatic hernia (neonate)

Professional Skills
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Intestinal atresias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Neonatal Surgery</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
</tbody>
</table>

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge
2 Mode of presentation both pre- and post natal
2 Anatomical variants
2 Associated anomalies
2 Outcome data on the condition
2 Differing management strategies
2 Role of pre-natal counselling

Clinical Skills
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
ST3:
1 Duodeno- duodenostomy
1 Intestinal resection/anastomosis
1 Stoma formation

ST4:
1 Duodeno- duodenostomy
1 Intestinal resection/anastomosis
1 Stoma formation

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**  
**Meconium ileus**

**Category**  
Neonatal Surgery

**Sub-category:**  
None

**Objective**  
*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

To be able to construct an appropriate management plan for these children  
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases  
To be able to practice with integrity, respect and compassion

**Knowledge**

2 Mode of presentation both pre- and post natal  
2 Patho-physiology of the condition and anatomical variants  
2 Associated anomalies  
2 Outcome data on the condition  
2 Differing management strategies  
3 Role of pre-natal + genetic counselling  
3 Ability to assess child

**Clinical Skills**

2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**

ST3:  
1 Operation for meconium ileus

ST4:  
1 Operation for meconium ileus

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**  
**Malrotation**

**Category**  
Neonatal Surgery

**Sub-category:**  
None

*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

**Objective**

To be able to construct an appropriate management plan for these children

*To understand the place of operative management in the neonatal period and be able to carry this out in selected cases*

*To be able to practice with integrity, respect and compassion*

2 Mode of presentation  
2 Patho-physiology of the condition and anatomical variants

**Knowledge**

2 Associated anomalies

2 Outcome data on the condition

2 Differing management strategies
Clinical Skills
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
ST3:
1 Correction of malrotation

ST4:
2 Correction of malrotation

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**  
Hirschsprung’s disease

**Category**  
Neonatal Surgery

**Sub-category:** None

*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

*To be able to construct an appropriate management plan for these children*

*To understand the place of operative management in the neonatal period and be able to carry this out in selected cases*

*To be able to practice with integrity, respect and compassion*

**Knowledge**
2 Mode of presentation both pre- and post natal
2 Patho-physiology of the condition and anatomical variants
2 Associated anomalies

2 Outcome data on the condition
2 Differing management strategies
2 Role of genetic counselling

**Clinical Skills**
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Rectal biopsy
2 Rectal washout
1 Trans-anal pull through
1 Duchamel procedure

**Technical Skills and Procedures**
ST4:
2 Rectal biopsy
2 Rectal washout
1 Trans-anal pull through
1 Duchamel procedure

**Professional Skills**
Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**  
Anorectal malformations

**Category**  
Neonatal Surgery
Sub-category: None

**Objective**

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period

To be able to construct an appropriate management plan for these children

To understand the place of operative management in the neonatal period and be able to carry this out in selected cases

To be able to practice with integrity, respect and compassion

**Knowledge**

2 Mode of presentation both pre- and post natal

2 Patho-physiology of the condition and anatomical variants

2 Associated anomalies

2 Outcome data on the condition

2 Differing management strategies

2 Role of pre-natal counselling

**Clinical Skills**

3 Ability to assess child

2 Ability to form a viable investigation and treatment plan

3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**

ST3:

1 Anoplasty

1 Sigmoid colostomy

1 PSARP

ST4:

2 Anoplasty

2 Sigmoid colostomy

1 PSARP

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic** Oesophageal atresia and tracheo-oesophageal fistula

**Category** Neonatal Surgery

**Sub-category:** None

**Objective**

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period

To be able to construct an appropriate management plan for these children

To understand the place of operative management in the neonatal period and be able to carry this out in selected cases

To be able to practice with integrity, respect and compassion

2 Mode of presentation both pre- and post natal

2 Patho-physiology of the condition and anatomical variants

2 Associated anomalies

2 Outcome data on the condition

2 Differing management strategies

2 Role of pre-natal counselling

**Clinical Skills**

3 Ability to assess child

2 Ability to form a viable investigation and treatment plan

3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**

ST3:

1 Operation for oesophageal atresia/TOF

1 Oesophageal dilatation (neonatal)
ST4:
1 Operation for oesophageal atresia/TOF
1 Oesophageal dilatation (neonatal)

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Necrotising enterocolitis
Category Neonatal Surgery
Sub-category: None

Objective

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge

2 Mode of presentation
2 Patho-physiology of the condition
2 Associated anomalies
2 Outcome data on the condition
2 Differing management strategies

Clinical Skills

3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Laparotomy
1 Intestinal resection/anastomosis

Technical Skills and Procedures

ST4:
1 Laparotomy
1 Intestinal resection/anastomosis

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Neonatal abdominal wall defects
Category Neonatal Surgery
Sub-category: None

Objective

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge

2 Mode of presentation both pre- and post natal
2 Patho-physiology of the condition and anatomical variants
2 Associated anomalies
2 Outcome data on the condition
2 Differing management strategies
2 Role of pre-natal counselling

Clinical Skills
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
1 Repair of gastroschisis
1 Repair of exomphalos

Technical Skills and Procedures
ST4:
2 Repair of gastroschisis
1 Repair of exomphalos

Professional Skills
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

### Topic Intersex anomalies
### Category Neonatal Surgery
### Sub-category: None

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period

To be able to construct an appropriate management plan for these children

To understand the place of operative management in the neonatal period and be able to carry this out in selected cases

To be able to practice with integrity, respect and compassion

- 2 Mode of presentation both pre- and post natal
- 2 Patho-physiology of the condition and anatomical variants
- 2 Associated anomalies

### Knowledge

- 2 Outcome data on the condition
- 2 Differing management strategies
- 2 Role of genetic counselling

### Clinical Skills

- 3 Ability to assess child
- 2 Ability to form a viable investigation and treatment plan
- 3 Ability to communicate with all relevant groups

### Technical Skills and Procedures

No content

### Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

### Topic Antenatal management
### Category Neonatal Surgery
### Sub-category: None

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period

To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion
2 Likely modes of presentation of different conditions
2 Place and value of investigations
2 Types of and indications for antenatal intervention
2 Role of ante-natal counselling

3 Ability to counsel and inform parents

2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

No content

Please see the Professional Skills and Behaviour » Intermediate section for these skills

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<thead>
<tr>
<th>Topic</th>
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<tr>
<td>Technical Skills</td>
<td>ST3: 1 Tumour biopsy</td>
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<td>and Procedures</td>
<td>ST4: 1 Tumour biopsy</td>
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Professional Skills

<table>
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<tr>
<th>Topic</th>
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<tr>
<td>Objective</td>
<td>To understand the presentation and management of childhood tumours To be able to formulate a differential diagnosis and an investigation and management plan To be able to practice with integrity, respect and compassion</td>
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<tr>
<td>Knowledge</td>
<td>2 Mode of clinical presentation 2 Differential diagnosis 2 Relevant basic science knowledge of oncogenesis 2 Outcome data of treatment modalities 2 Role of surgery</td>
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<td>Clinical Skills</td>
<td>3 Ability to assess child 2 Ability to form a viable investigation and treatment plan 3 Ability to communicate with all relevant groups</td>
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Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills
**Technical Skills and Procedures**

ST3:
1 Nephro-ureterectomy

ST4:
1 Nephro-ureterectomy

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic** Neuroblastoma  
**Category** Oncology  
**Sub-category:** None

**Objective**  
*To understand the presentation and management of childhood tumours*  
*To be able to formulate a differential diagnosis and an investigation and management plan*  
*To be able to practice with integrity, respect and compassion*

**Knowledge**

2 Mode of clinical presentation  
2 Differential diagnosis  
2 Relevant basic science knowledge of oncogenesis  
2 Outcome data of treatment modalities  
2 Role of surgery

**Clinical Skills**

3 Ability to assess child  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups

ST3:
1 Surgery for neuroblastoma

**Technical Skills and Procedures**

ST4:
1 Surgery for neuroblastoma

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic** Hepatoblastoma  
**Category** Oncology  
**Sub-category:** None

**Objective**  
*To understand the presentation and management of childhood tumours*  
*To be able to formulate a differential diagnosis and an investigation and management plan*  
*To be able to practice with integrity, respect and compassion*

**Knowledge**

2 Mode of clinical presentation  
2 Differential diagnosis  
2 Relevant basic science knowledge of oncogenesis  
2 Outcome data of treatment modalities  
2 Role of surgery

**Clinical Skills**

3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**
1 Only specialist centre

**Professional Skills**
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

### Topic: Soft tissue tumours
**Category:** Oncology
**Sub-category:** None

**Objective**
- To understand the presentation and management of childhood tumours
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to practice with integrity, respect and compassion

**Knowledge**
1 Mode of clinical presentation
2 Differential diagnosis
3 Relevant basic science knowledge of oncogenesis
4 Outcome data of treatment modalities
5 Role of surgery
6 Role of surgery

**Clinical Skills**
1 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**
ST3:
1 Local excision soft tissue tumour

**Professional Skills**
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

### Topic: Haematological malignancies
**Category:** Oncology
**Sub-category:** None

**Objective**
- To understand the presentation and management of childhood tumours
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to practice with integrity, respect and compassion

**Knowledge**
1 Mode of clinical presentation
2 Differential diagnosis
3 Relevant basic science knowledge of oncogenesis
4 Management strategies and basic outcome data of treatment modalities
5 Role of surgery

**Clinical Skills**
1 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

**Technical Skills**
ST3:
and Procedures  2 Cervical Lymph node biopsy

ST4:
2 Cervical Lymph node biopsy

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

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<td>To understand the presentation and management of childhood tumours To be able to formulate a differential diagnosis and an investigation and management plan To be able to practice with integrity, respect and compassion</td>
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<table>
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<td>Objective</td>
<td>To understand the presentation and management of childhood tumours To be able to formulate a differential diagnosis and an investigation and management plan To be able to practice with integrity, respect and compassion</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 Outcome data of treatment modalities 2 Role of surgery</td>
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<tr>
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<td>3 Ability to assess child 3 Ability to form a viable investigation and treatment plan 3 Ability to communicate with all relevant groups</td>
</tr>
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<td>Technical Skills and Procedures</td>
<td>ST3: 1 Oopherectomy 1 Oophero-salpingectomy</td>
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<td>Professional Skills</td>
<td>Please see the Professional Skills and Behaviour » Intermediate section for these skills</td>
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</table>
2 Oopherectomy
2 Oophero-salpingectomy

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

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<tr>
<td>Objective</td>
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</tr>
<tr>
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<td>Clinical Skills</td>
<td>None</td>
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<td>Technical Skills and Procedures</td>
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<td>ST3:</td>
<td>1 Adrenalectomy</td>
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<tr>
<td>ST4:</td>
<td>1 Adrenalectomy</td>
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Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

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<tr>
<td>Objective</td>
<td>To understand the presenting symptoms of endocrine conditions in childhood and their management</td>
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<td></td>
<td>To be able to formulate a differential diagnosis and an investigation and management plan</td>
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<td>To be able to identify the need for surgery and influence of endocrine conditions on surgery</td>
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<td></td>
<td>To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source</td>
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<td>To be able to practice with integrity, respect and compassion</td>
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<td>Knowledge</td>
<td>2 Likely modes of presentation</td>
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<tr>
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<td>2 Differential diagnosis</td>
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<td>2 Place and value of investigations</td>
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<td>2 Knowledge of appropriate referral pathways</td>
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<td>3 Ability to assess child</td>
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</tr>
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<td>3 Ability to communicate with all relevant groups</td>
</tr>
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<td>ST3:</td>
<td>1 Thyroidectomy</td>
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<tr>
<td>ST4:</td>
<td>1 Thyroidectomy</td>
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</table>

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills
**Topic**: Parathyroid disease  
**Category**: Endocrine conditions  
**Sub-category**: None  

*To understand the presenting symptoms of endocrine conditions in childhood and their management*  
*To be able to formulate a differential diagnosis and an investigation and management plan*  

**Objective**  
*To be able to identify the need for surgery and influence of endocrine conditions on surgery*  
*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*  
*To be able to practice with integrity, respect and compassion*  

2 Likely modes of presentation  
2 Differential diagnosis  
2 Place and value of investigations  
2 Knowledge of appropriate referral pathways  
3 Ability to assess child  

**Clinical Skills**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups  

**Technical Skills and Procedures**  
No content  

**Professional Skills**  
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

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**Topic**: Diabetes  
**Category**: Endocrine conditions  
**Sub-category**: None  

*To understand the presenting symptoms of endocrine conditions in childhood and their management*  
*To be able to formulate a differential diagnosis and an investigation and management plan*  

**Objective**  
*To be able to identify the need for surgery and influence of endocrine conditions on surgery*  
*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*  
*To be able to practice with integrity, respect and compassion*  

2 Likely modes of presentation  
2 Differential diagnosis  
2 Place and value of investigations  
2 Knowledge of appropriate referral pathways  
2 Ability to assess child  

**Clinical Skills**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups  

**Technical Skills and Procedures**  
ST3:  
2 OGD  
ST4:  
2 OGD  

**Professional Skills**  
Please see the [Professional Skills and Behaviour » Intermediate](#) section for
these skills

**Topic**  
Disorders of growth  
**Category** Endocrine conditions  
**Sub-category:** None

To understand the presenting symptoms of endocrine conditions in childhood and their management  
To be able to formulate a differential diagnosis and an investigation and management plan

**Objective**  
To be able to identify the need for surgery and influence of endocrine conditions on surgery  
To be able to communicate the above information at the required level to patients/parents/other team members/referral source  
To be able to practice with integrity, respect and compassion

2 Likely modes of presentation  
2 Differential diagnosis  
2 Place and value of investigations  
2 Knowledge of appropriate referral pathways  
2 Ability to assess child

**Knowledge**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups

**Clinical Skills**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups

**Technical Skills and Procedures**  
ST3:  
2 OGD

ST4:  
2 OGD

**Professional Skills**  
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Topic**  
Disorders of secondary sexual development  
**Category** Endocrine conditions  
**Sub-category:** None

To understand the presenting symptoms of endocrine conditions in childhood and their management  
To be able to formulate a differential diagnosis and an investigation and management plan

**Objective**  
To be able to identify the need for surgery and influence of endocrine conditions on surgery  
To be able to communicate the above information at the required level to patients/parents/other team members/referral source  
To be able to practice with integrity, respect and compassion

2 Likely modes of presentation  
2 Differential diagnosis  
2 Place and value of investigations  
2 Knowledge of appropriate referral pathways  
2 Ability to assess child

**Knowledge**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups

**Clinical Skills**  
2 Ability to form a viable investigation and treatment plan  
3 Ability to communicate with all relevant groups
ST3:
1 Subcutaneous mastectomy

ST4:
1 Subcutaneous mastectomy

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Chest wall anomalies
Category Thoracic Surgery
Sub-category: None

Objective
To identify the place of surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Likely modes of presentation
2 Differential diagnosis
2 Place and value of investigations
2 Knowledge of appropriate referral pathways
2 Outcomes of surgery
3 Ability to assess child

Clinical Skills
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
1 Repair Pectus excavatum
1 Repair Pectus carinatum

Technical Skills and Procedures
ST4:
1 Repair Pectus excavatum
1 Repair Pectus carinatum

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Congenital and acquired lung abnormalities
Category Thoracic Surgery
Sub-category: None

Objective
To understand the presenting symptoms of thoracic anomalies in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To identify the place of surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Likely modes of presentation
2 Differential diagnosis
2 Place and value of investigations
2 Knowledge of developmental embryology and pertinent anatomy
2 Knowledge of appropriate referral pathways
2 Outcomes of surgery

Clinical Skills
3 Ability to assess child
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
2 Thoracotomy
1 Open biopsy of lung
1 Pulmonary lobectomy
1 Partial pulmonary lobectomy
1 Excision of extra lobar sequestration
2 Aspiration of pleural cavity
2 Insertion of open chest drain
2 Insertion of percutaneous chest drain
1 Open pleural debridement
1 Thorascopic pleural debridement
1 Rigid bronchoscopy

Technical Skills and Procedures
ST4:
2 Thoracotomy
1 Open biopsy of lung
1 Pulmonary lobectomy
1 Partial pulmonary lobectomy
1 Excision of extra lobar sequestration
3 Aspiration of pleural cavity
3 Insertion of open chest drain
3 Insertion of percutaneous chest drain
2 Open pleural debridement
2 Thorascopic pleural debridement
1 Rigid bronchoscopy

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Tracheal anomalies
Category Thoracic Surgery
Sub-category: None

To understand the presenting symptoms of thoracic anomalies in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To identify the place of surgery
To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source
To be able to practice with integrity, respect and compassion

Knowledge

2 Likely modes of presentation
2 Differential diagnosis
2 Place and value of investigations
2 Knowledge of developmental embryology and pertinent anatomy
2 Knowledge of appropriate referral pathways
2 Outcomes of surgery
2 Ability to assess child

Clinical Skills

2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Fibreoptic bronchoscopy
1 Tracheostomy
1 Rigid bronchoscopy
1 Fibreoptic bronchoscopy

Technical Skills and Procedures

ST4:
1 Fibreoptic bronchoscopy
1 Tracheostomy
1 Rigid bronchoscopy
1 Fibreoptic bronchoscopy

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Inhaled foreign body

Category: Thoracic Surgery
Sub-category: None

To understand the presenting symptoms of thoracic anomalies in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To identify the place of surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge

3 Likely modes of presentation
2 Differential diagnosis
3 Place and value of investigations
2 Knowledge of developmental embryology and pertinent anatomy
2 Knowledge of appropriate referral pathways
2 Outcomes of surgery
3 Ability to assess child

Clinical Skills

2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Rigid removal of FB from bronchus

Technical Skills and Procedures

ST4:
1 Rigid removal of FB from bronchus

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

<table>
<thead>
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<td>3 Relevance of different symptom patterns</td>
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<td>3 Ability to communicate with all relevant groups</td>
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<td>Technical Skills</td>
<td>ST3:</td>
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<tr>
<td></td>
<td>2 Cysto-urethroscopy</td>
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<tr>
<td></td>
<td>1 STING/deflux</td>
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<td>and Procedures</td>
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Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

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<td>Knowledge</td>
<td>3 Patterns of symptoms and relation to likely pathology and age of child</td>
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<td>3 Differential diagnosis</td>
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</table>
3 Place and value of investigations
3 Ability to assess child
3 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups
ST3:
2 Haematuria

ST4:
3 Haematuria

Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**

**Urethral meatus**

**Category**

Urology

**Sub-category:** None

**Objective**

None

**Knowledge**

None

**Clinical Skills**

None

ST3:
1 Meatotomy
1 Meatooplasty
1 Urethral dilatation

**Technical Skills and Procedures**

ST4:
2 Meatotomy
2 Meatooplasty
2 Urethral dilatation

**Professional Skills**

Please see the Professional Skills and Behaviour » Intermediate section for these skills

---

**Topic**

**Hypospadias**

**Category**

Urology

**Sub-category:** None

*To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract*

*To be able to formulate a differential diagnosis and an investigation and management plan*

**Objective**

*To be able to treat the child appropriately up to and including operative intervention in selected cases*

*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*

*To be able to practice with integrity, respect and compassion*

**Knowledge**

2 Likely modes of presentation

2 Different anatomical variants
2 Place and value of investigations/ operative intervention
3 Ability to assess child

Clinical Skills
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Repair coronal/glanular hypospadias
1 Repair penile hypospadias
1 Repair proximal hypospadias
1 Repair urethral fistula

Technical Skills and Procedures

ST4:
1 Repair coronal/glanular hypospadias
1 Repair penile hypospadias
1 Repair proximal hypospadias
1 Repair urethral fistula

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Upper tract obstruction (to include pelvi-ureteric junction obstruction and vesico-ureteric junction obstruction)
Category Urology
Sub-category: None

To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
To be able to formulate a differential diagnosis and an investigation and management plan

Objective To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Likely modes of presentation
2 Place and value of investigations/ operative intervention

Clinical Skills
3 Ability to assess child

2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Pyeloplasty
1 Nephrectomy
1 Nephro- ureterectomy
1 Insertion of percutaneous nephrostomy

Technical Skills and Procedures
1 Insertion of open nephrostomy
1 Insertion of JJ stent
1 Ureteric reimplantation

ST4:
1 Pyeloplasty
2 Nephrectomy
2 Nephro-ureterectomy
1 Insertion of percutaneous nephrostomy
1 Insertion of open nephrostomy
1 Insertion of JJ stent
1 Ureteric reimplantation

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Posterior urethral valves
Category Urology
Sub-category: None

Objective
To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Likely modes of presentation
2 Place and value of investigations/operative intervention
2 Differential diagnosis
3 Ability to assess child

Clinical Skills
2 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

Technical Skills and Procedures
ST3:
1 Destruction of PUV

ST4:
1 Destruction of PUV

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Urinary tract calculus disease
Category Urology
Sub-category: None

Objective
To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
2 Likely modes of presentation
Clinical Skills

2 Ability to assess child
3 Ability to form a viable investigation and treatment plan
3 Ability to communicate with all relevant groups

ST3:
1 Nephrolithotomy
1 Pyleolithotomy
1 Ureterolithotomy
1 Removal of bladder calculus

Technical Skills and Procedures

ST4:
1 Nephrolithotomy
1 Pyleolithotomy
1 Ureterolithotomy
1 Removal of bladder calculus

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Bladder dysfunction (incl. neurogenic bladder)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Urology</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
<tr>
<td>Objective</td>
<td>To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract</td>
</tr>
<tr>
<td></td>
<td>To be able to formulate a differential diagnosis and an investigation and management plan</td>
</tr>
<tr>
<td></td>
<td>To be able to treat the child appropriately up to and including operative intervention in selected cases</td>
</tr>
<tr>
<td></td>
<td>To be able to communicate the above information at the required level to patients/parents/other team members/referral source</td>
</tr>
<tr>
<td></td>
<td>To be able to practice with integrity, respect and compassion</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 Likely modes of presentation</td>
</tr>
<tr>
<td></td>
<td>2 Differential diagnosis</td>
</tr>
<tr>
<td></td>
<td>2 Place and value of investigations</td>
</tr>
<tr>
<td></td>
<td>2 Knowledge of appropriate referral pathways</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>3 Ability to assess child</td>
</tr>
<tr>
<td></td>
<td>2 Ability to form a viable investigation and treatment plan</td>
</tr>
<tr>
<td></td>
<td>3 Ability to communicate with all relevant groups</td>
</tr>
<tr>
<td>ST3:</td>
<td>2 Cysto-urethroscopy</td>
</tr>
<tr>
<td></td>
<td>1 Vescicostomy</td>
</tr>
<tr>
<td></td>
<td>1 Closure of vescicostomy</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>1 Suprapubic catheter</td>
</tr>
<tr>
<td></td>
<td>1 Endoscopic cauterisation of lesion of bladder</td>
</tr>
<tr>
<td></td>
<td>1 Endoscopic removal of clot from bladder</td>
</tr>
<tr>
<td></td>
<td>1 Ileal bladder reconstruction</td>
</tr>
<tr>
<td></td>
<td>1 Colonic bladder reconstruction</td>
</tr>
<tr>
<td></td>
<td>1 Ureteric diversion</td>
</tr>
<tr>
<td></td>
<td>1 Ureteric un-diversion</td>
</tr>
</tbody>
</table>
ST4:
3 Cysto-urethroscopy
1 Vescostomy
1 Closure of vescostomy
2 Suprapubic catheter
1 Endoscopic cauterisation of lesion of bladder
1 Endoscopic removal of clot from bladder
1 Ileal bladder reconstruction
1 Colonic bladder reconstruction
1 Ureteric diversion
1 Ureteric un-diversion

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

### Topic: Renal failure
### Category: Urology
### Sub-category: None

**Objective**
- To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 3 Likely modes of presentation
- 3 Differential diagnosis
- 3 Place and value of investigations
- 3 Knowledge of referral criteria to renal medical colleagues

**Clinical Skills**
- 3 Ability to assess child
- 3 Ability to communicate with all relevant groups
  
  ST3:
  1 Renal transplant
  1 Transplant nephrectomy
  1 PD catheter insertion/removal
  1 Haemodialysis catheter insertion

**Technical Skills and Procedures**
  ST4:
  1 Renal transplant
  1 Transplant nephrectomy
  2 PD catheter insertion/removal
  2 Haemodialysis catheter insertion

**Professional Skills**
Please see the Professional Skills and Behaviour » Intermediate section for these skills

### Topic: Bladder exstrophy (incl. epispadias)
**Category**: Urology  
**Sub-category**: None

**Objective**
- To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 2 Likely modes of presentation
- 2 Differential diagnosis
- 2 Place and value of investigations

**Clinical Skills**
- 3 Ability to assess child
- 2 Ability to communicate with all relevant groups

**Technical Skills and Procedures**
- ST3:
  - 1 Repair of bladder exstrophy
  - 1 Repair of epispadias
  - 1 Closure of bladder neck
- ST4:
  - 1 Repair of bladder exstrophy
  - 1 Repair of epispadias
  - 1 Closure of bladder neck

**Professional Skills**
Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

**Category**: Duplication of urinary tract  
**Sub-category**: None

**Objective**
- To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 2 Likely modes of presentation
- 2 Embryological derivation and anatomical variants
- 2 Place and value of investigations/operative intervention
- 2 Differential diagnosis

**Clinical Skills**
- 3 Ability to assess child
- 2 Ability to form a viable investigation and treatment plan
- 3 Ability to communicate with all relevant groups

**Technical Skills**
- ST3:
### and Procedures

1. Hemi-nephrectomy
2. Excision of ureterocele
3. Endoscopic incision of ureterocele

#### ST4:

1. Hemi-nephrectomy
2. Excision of ureterocele
3. Endoscopic incision of ureterocele

### Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Vesico-ureteric reflux</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td>Urology</td>
</tr>
</tbody>
</table>

| **Sub-category:**       | None                   |
| **Objective**           | None                   |
| **Knowledge**           | None                   |
| **Clinical Skills**     | None                   |

#### ST3:

1. Ureteric reimplantation

#### ST4:

1. Ureteric reimplantation

### Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Orthopaedic Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td>Surgical Disciplines</td>
</tr>
</tbody>
</table>

| **Sub-category:**       | None                   |

#### Objective

To understand the basic principles involved in other Paediatric Surgical Specialties

To understand how these disciplines interact with General Paediatric Surgery and Paediatric Urology

To be able to refer to other specialties appropriately

| **Knowledge**           | None                   |

2 To understand the basic principles of major conditions in the specialty

2 To understand the referral mechanisms to the discipline

2 To be aware of the influence of conditions on child health

#### Clinical Skills

2 To recognise the associated anomalies when dealing with children

2 To construct an appropriate investigation and referral plan

#### Technical Skills and Procedures

No content

### Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Paediatric Cardiac Surgery</th>
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<thead>
<tr>
<th>Topic</th>
<th>Paediatric neurosurgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
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</tr>
<tr>
<td>Sub-category:</td>
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</tr>
<tr>
<td>Objective</td>
<td>To understand the basic principles involved in other Paediatric Surgical Specialties</td>
</tr>
<tr>
<td></td>
<td>To understand how these disciplines interact with General Paediatric Surgery and Paediatric Urology</td>
</tr>
<tr>
<td></td>
<td>To be able to refer to other specialties appropriately</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To understand the basic principles of major conditions in the specialty</td>
</tr>
<tr>
<td></td>
<td>2 To understand the referral mechanisms to the discipline</td>
</tr>
<tr>
<td></td>
<td>2 To be aware of the influence of conditions on child health</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To recognise the associated anomalies when dealing with children</td>
</tr>
<tr>
<td></td>
<td>2 To construct an appropriate investigation and referral plan</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>No content</td>
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<tr>
<td>Professional Skills</td>
<td>Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills</td>
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<table>
<thead>
<tr>
<th>Topic</th>
<th>Paediatric plastic surgery</th>
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<tbody>
<tr>
<td>Category</td>
<td>Surgical Disciplines</td>
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<tr>
<td>Sub-category:</td>
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</tr>
<tr>
<td>Objective</td>
<td>To understand the basic principles involved in other Paediatric Surgical Specialties</td>
</tr>
<tr>
<td></td>
<td>To understand how these disciplines interact with General Paediatric Surgery and Paediatric Urology</td>
</tr>
<tr>
<td></td>
<td>To be able to refer to other specialties appropriately</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To understand the basic principles of major conditions in the specialty</td>
</tr>
<tr>
<td></td>
<td>2 To understand the referral mechanisms to the discipline</td>
</tr>
<tr>
<td></td>
<td>2 To be aware of the influence of conditions on child health</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To recognise the associated anomalies when dealing with children</td>
</tr>
<tr>
<td></td>
<td>2 To construct an appropriate investigation and referral plan</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>No content</td>
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<tr>
<td>Professional Skills</td>
<td>Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills</td>
</tr>
</tbody>
</table>

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To understand the referral mechanisms to the discipline
2 To be aware of the influence of conditions on child health

Clinical Skills

To understand the basic principles involved in other Paediatric Surgical Specialties

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Paediatric ophthalmology
Category Surgical Disciplines
Sub-category: None

Objective To understand how these disciplines interact with General Paediatric Surgery and Paediatric Urology
To be able to refer to other specialties appropriately
2 To understand the basic principles of major conditions in the specialty
2 To understand the referral mechanisms to the discipline

Knowledge 2 To be aware of the influence of conditions on child health

Clinical Skills 2 To recognise the associated anomalies when dealing with children
2 To construct an appropriate investigation and referral plan

Technical Skills and Procedures No content

Professional Skills Please see the Professional Skills and Behaviour » Intermediate section for these skills

Topic Paediatric E.N.T. Surgery
Category Surgical Disciplines
Sub-category: None

Objective To understand how these disciplines interact with General Paediatric Surgery and Paediatric Urology
To be able to refer to other specialties appropriately
2 To understand the basic principles of major conditions in the specialty
2 To understand the referral mechanisms to the discipline

Knowledge 2 To be aware of the influence of conditions on child health

Clinical Skills 2 To recognise the associated anomalies when dealing with children
2 To construct an appropriate investigation and referral plan

Technical Skills and Procedures No content

Professional Skills Please see the Professional Skills and Behaviour » Intermediate section for
these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Transplantation</th>
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<td>Category</td>
<td>Surgical Disciplines</td>
</tr>
<tr>
<td>Sub-category:</td>
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<tr>
<td>Objective</td>
<td>To understand the principles of diagnosis and management in a number of conditions as they present to the General Paediatric Surgeon</td>
</tr>
<tr>
<td></td>
<td>2 To understand the basic principles of transplantation both surgical and medical</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To understand the referral mechanisms to the discipline</td>
</tr>
<tr>
<td></td>
<td>2 To understand the ethical principles involved</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To construct an appropriate investigation and referral plan</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>No content</td>
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<tr>
<td>Professional Skills</td>
<td>Please see the Professional Skills and Behaviour » Intermediate section for these skills</td>
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</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Spina Bifida</th>
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<tr>
<td>Category</td>
<td>Surgical Disciplines</td>
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<tr>
<td>Sub-category:</td>
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<tr>
<td>Objective</td>
<td>To understand the principles of diagnosis and management in a number of conditions as they present to the General Paediatric Surgeon</td>
</tr>
<tr>
<td></td>
<td>2 To understand the basic principles of management</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To understand the local networks for managing the condition</td>
</tr>
<tr>
<td></td>
<td>2 To be aware of the influence of conditions on child health</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To recognise the associated anomalies when dealing with children</td>
</tr>
<tr>
<td>Technical Skills and Procedures</td>
<td>No content</td>
</tr>
<tr>
<td>Professional Skills</td>
<td>Please see the Professional Skills and Behaviour » Intermediate section for these skills</td>
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<table>
<thead>
<tr>
<th>Topic</th>
<th>Vascular anomalies</th>
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<tbody>
<tr>
<td>Category</td>
<td>Surgical Disciplines</td>
</tr>
<tr>
<td>Sub-category:</td>
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</tr>
<tr>
<td>Objective</td>
<td>To understand the principles of diagnosis and management in a number of conditions as they present to the General Paediatric Surgeon</td>
</tr>
<tr>
<td></td>
<td>2 To understand the pathophysiology of the condition</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To know the differential diagnosis</td>
</tr>
<tr>
<td></td>
<td>2 To understand the indications and outcomes of therapy</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To recognise associated anomalies</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>2 To construct an appropriate investigation and referral plan including identifying the need for surgery</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>No content</td>
</tr>
</tbody>
</table>
and Procedures

Professional Skills
Please see the Professional Skills and Behaviour » Intermediate section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Child abuse</th>
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<tbody>
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<tr>
<td>Sub-category:</td>
<td>None</td>
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<tr>
<td>Objective</td>
<td>To understand the principles of diagnosis and management in a number of conditions as they present to the General Paediatric Surgeon</td>
</tr>
<tr>
<td>Knowledge</td>
<td>2 To understand the basic principles of diagnosis and management</td>
</tr>
<tr>
<td></td>
<td>2 To understand the referral mechanisms within local setting</td>
</tr>
<tr>
<td></td>
<td>2 To be aware of legal responsibilities</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>2 To recognise the possibility of the condition</td>
</tr>
<tr>
<td></td>
<td>2 To construct an appropriate investigation and referral plan</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>No content</td>
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<tr>
<td>and Procedures</td>
<td>Professional Skills</td>
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<td>Please see the Professional Skills and Behaviour » Intermediate section for these skills</td>
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<thead>
<tr>
<th>Topic</th>
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<tbody>
<tr>
<td>Category</td>
<td>Operative skills</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
<tr>
<td>Objective</td>
<td>To ensure the trainee has reached a level of competence in a range of basic operative procedures.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3 Indications for surgery</td>
</tr>
<tr>
<td></td>
<td>3 Required preparation for surgery to include necessary pre-operative investigations</td>
</tr>
<tr>
<td></td>
<td>3 Outcomes and complications of surgery</td>
</tr>
<tr>
<td></td>
<td>3 Knowledge of the admission process</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>3 Synthesis of history and examination into operative management plan</td>
</tr>
<tr>
<td></td>
<td>3 Ability to explain procedure and outcomes to patient and parents at an appropriate level</td>
</tr>
<tr>
<td></td>
<td>3 To be able to take informed consent</td>
</tr>
<tr>
<td></td>
<td>3 To construct an appropriate theatre list</td>
</tr>
<tr>
<td></td>
<td>3 To follow the admission procedure</td>
</tr>
<tr>
<td>Technical Skills</td>
<td>No content</td>
</tr>
<tr>
<td>and Procedures</td>
<td>Professional Skills</td>
</tr>
<tr>
<td></td>
<td>Please see the Professional Skills and Behaviour » Intermediate section for these skills</td>
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</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Intra-operative care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Operative skills</td>
</tr>
</tbody>
</table>

Sub-category: None

Objective

*To ensure the trainee has reached a level of competence in a range of basic operative procedures.*

Knowledge

- 3 Anatomy to be encountered during procedure
- 3 Steps involved in operative procedure
- 3 Knowledge of alternative procedures in case of encountering difficulties
- 3 Potential complications of procedure
- 3 Necessary hand-eye dexterity to complete procedure

Clinical Skills

- 3 Appropriate use of assistance
- 3 Communication with other members of theatre team

Technical Skills and Procedures

No content

Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

---

Topic: Post-operative care

Category: Operative skills

Sub-category: None

Objective

*To ensure the trainee has reached a level of competence in a range of basic operative procedures.*

Knowledge

- 3 Outcomes of procedure
- 3 Likely post-operative progress from disease process and intervention
- 3 Physiological and pathological changes in condition as a result of intervention
- 3 Assessment of patient and physiological parameters
- 3 Appropriate intervention to deal with changing parameters
- 3 Communication skills for dealing with team members, patients and parents
- 3 Ability to prioritise interventions

Technical Skills and Procedures

No content

Professional Skills

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills
Final (including special interests) Stage

Overview of Final Stage

The aim of the final stage is enable the trainee to further develop the skills knowledge and attitude required to complete training and move to practise as a Consultant Paediatric Surgeon in the U.K health system.

This final phase of training is when trainees continue to build on the competences achieved in the first phases of the programme, gaining both competences not achieved at earlier stages and further exposure to the more specialised areas of practice. The goals as outlined in previous stages remain pertinent, as it is expected that the trainees will continue to build on their experience and move beyond competent practice to the level of an advanced practitioner, in many of the areas.

The planning of these final attachments is important as it provides an opportunity to remedy areas of training deficiency from earlier in the programme, or the development of a special interest.

The curriculum goals are again presented in a modular fashion for ease of reference and recording of achievement rather than as a suggested teaching package. There will obviously be areas of duplicate coverage and again this curriculum should be viewed as a framework to aid understanding rather than as a proscriptive document. Though the information on the individual conditions is largely unchanged from the intermediate stage, the objectives of these ‘modules’ have been altered to reflect the expectation that the trainees will be exhibiting a more advanced level of performance.

The different sections will contain a mixture of information on relevant conditions, symptom patterns and associated surgical operations. Overall these goals outlined are simply guides to progress and should be used by trainees, trainers and Programme Directors to help plan rotational placements to ensure a full breadth of training.

The following modules are included:

- Gastrointestinal
- Neonatology
- General Urology
- Thoracic
- Oncology
- Endocrine
- Surgical Disciplines
- Research and Audit

By the end of the final stage of training trainees including those who are following an academic pathway will have:

- Achieved the level of an advanced practitioner in the management of the common surgical problems of childhood
- Acquired the skills to practice with integrity, respect and compassion
- Gained sufficient theoretical knowledge and practical experience to be able to enter for the examination in paediatric surgery as set by the Intercollegiate Board in Paediatric Surgery.
- Developed skills and experience in areas of more specialised practice – with a view to developing a sub-specialty interest if appropriate.
• Achieved the level of advanced practitioner in operations common to Paediatric practice, and be developing competence in procedures appropriate to sub-specialty training.

The list detailed here will not be achieved by all trainees, as many will be looking to specialise in a particular area. Individual circumstance will dictate the experience each trainee will gain. As a guide the trainee will by the end of this phase be expected to both initiate and lead in the operative management. In addition they will be expected to demonstrate the self-awareness of the need for support and advice of senior colleagues.

**Elective Procedures**

**Neonatal**

• Repair of Oesophageal atresia (+/- fistula)
• Colonic interposition/ gastric pull up
• Repair of recurrent fistula
• Aortopexy
• Congenital Diaphragmatic hernia repair
• Repair of eventration of diaphragm
• Duodeno-duodenostomy
• Management of congenital atresias of intestine
• Management of duplications
• Management of necrotising enterocolitis
• Neonatal pull-through for Hirschsprungs disease

**General Abdominal**

• Achalasia management
• Gastric disconnection
• Feeding jejunostomy
• ACE procedure
• Bowel lengthening procedure
• Posterior sagittal anorectoplasty
• Pull through for Hirschsprungs disease
• Management of Crohns disease of small and large intestine
• Colonic resection for Ulcerative colitis and ileoanal pouch formation
• Colonoscopy

**Thoracic**

• Management of empyema
• Resection of lung lesions
• Management of chest wall deformity
• Management of airway anomalies

**Endocrine**

• Resection of salivary gland lesions
• Thyroid/parathyroid surgery
• Management of hyperinsulinism

**Oncology**
• Hepatoblastoma
• Wilms tumour
• Adrenal tumours – benign/malignant
• Soft tissue tumours
• Sacrococcygeal tumour

**Hepatobiliary**

• Biliary atresia
• Choledochal cyst

**Urology**

• Pyeloplasty
• Partial Nephrectomy
• Management of renal calculi
• Destruction of posterior urethral valves
• Bladder extrophy closure
• Bladder augmentation / artificial sphincter insertion
• Epispadias repair
• Complex hypospadias repair

**Paediatric Urology Special Interest Overview**

Paediatric urology is delivered in a number of different units across United Kingdom, either by surgeons whose entire workload consists of Paediatric Urology, or by those who undertake Paediatric Urology as the major focus of their job plans. The service is often focused in tertiary paediatric units, though a number of specific conditions are treated in supra-regional units.

The majority of trainees entering this phase of training will have completed either the essential part of a paediatric surgical programme (ST1-6), or an adult urology programme. Selection criteria will be published as part of the selection process for the specialty.

The final part of training to become a full-time paediatric urologist is likely to take place in those designated units that had specified training posts under the Calman system, or are deemed by PMETB to provide sufficient clinical exposure and a rounded educational experience to enable trainees to complete the required training.

**Aim**

The aim of this aspect of training is to deliver the knowledge skills and experience required by trainees who wish to focus their future practice either solely in the field of paediatric urology, or with paediatric urology as their major special interest.

**Outcomes**

At completion of this section of the programme the trainee will:

• Be able to manage the index conditions encountered in paediatric urological practice in the United Kingdom
• Be able to formulate appropriate investigation and management strategies for children under his/her care
• Be able to undertake the operative management of the index conditions to the required level
• Be able to communicate these plans effectively to patients, parent, relevant colleagues
• Be able to interact appropriately with other members of the team
• Practise with integrity respect and compassion

Specific Technical Skills

The following list of procedures includes those that it is anticipated that a trainee completing the 2 year module in paediatric urology would be competent to perform to level 4. This list follows from those procedures identified at earlier stages

• Pyeloplasty
• Partial Nephrectomy
• Management of renal calculi
• Operative destruction of valves
• Complex hypospadias repair
• Nephrectomy
• Reimplantation of ureters
• Operative management of impalpable testis
• Operative relief of urinary obstruction (e.g. stent insertion)

The following list is one of which every trainee must have exposure to, though depending on previous exposure and future career pathway, may not be required to be competent in the performance of individual procedures. (Skill Level 3 or 4)

• Closure of bladder Exstrophy
• Bladder augmentation
• Urethral sphincter insertion
• Epispadias repair
• Gender re-assignment surgery

Review of Module

The responsibility for the review of the outcomes of this module rests with the British Association of Paediatric Urology (BAPU) working in concert with the Education and Training Committee of British Association of Paediatric Surgeons who have overall responsibility for the curriculum.

Click on Workplace Based Assessments to view the assessment forms including DOPS and PBAs

Topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Groin conditions</th>
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<tbody>
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</tr>
<tr>
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</table>

To be able to assess a child presenting to the OP clinic or acutely with ‘groin pathology’
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention if required
To be able to communicate the above information at the required level to patients/parents/other team members/referral source

Knowledge INGUINAL HERNIA:
4 Developmental anatomy
4 Natural history
4 Indications and outcomes of surgery

HYDROCELE:

4 Developmental anatomy
4 Natural history
4 Place of conservative management
4 Indications and outcomes of surgery

UNDESCENDED TESTIS:

4 Developmental anatomy
4 Natural history of undescended testis and retractile testis
4 Place of conservative management
4 Indications and outcomes of surgery

PENILE INFLAMMATORY CONDITIONS:

4 Developmental anatomy
4 Natural history
4 Place of conservative management
4 Indications and outcomes of surgery

ACUTE SCROTUM:

4 Natural history
4 Place of conservative management
4 Indications and outcomes of surgery

INGUINAL HERNIA:

4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

HYDROCOELE:
4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

Clinical Skills

UNDESCENDED TESTIS:

4 Ability to assess child and reach appropriate diagnosis
4 Ability to differentiate true undescended testis from retractile variant
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

PENILE INFLAMMATORY CONDITIONS:

4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups
ACUTE SCROTUM:
4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

Hernia (ST5):
3 Inguinal herniotomy (non-neonatal)
3 Inguinal hernia (neonatal)

Hydrocoele (ST5):
3 Surgery for hydrocoele

Penile Conditions (ST5):
3 Prepucioplasty
4 Circumcision

Undescended testis (ST5):
3 Surgery for undescended testis

Acute scrotum (ST5):
4 Surgery for acute scrotum

Technical Skills and Procedures

Hernia (ST6):
3 Inguinal herniotomy (non-neonatal)
3 Inguinal hernia (neonatal)

Hydrocoele (ST6):
4 Surgery for hydrocoele

Penile Conditions (ST6):
4 Prepucioplasty
4 Circumcision

Undescended testis (ST6):
4 Surgery for undescended testis

Acute scrotum (ST6):
4 Surgery for acute scrotum

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Abdominal wall pathologies</th>
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</table>

To be able to assess a child presenting to the OP clinic or acutely with abnormalities of the abdominal wall

To be able to formulate a differential diagnosis and an investigation and management plan

To be able to treat the child appropriately up to and including operative
intervention if required

To be able to communicate the above information at the required level to patients/parents/other team members/referral source

UMBILICAL HERNIA:

4 Developmental anatomy
4 Natural history
4 Place of conservative management
4 Indications and outcomes of surgery

SUPRA-UMBILICAL HERNIA:

Knowledge
4 Developmental anatomy
4 Natural history to include contrast with umbilical hernia
4 Indications and outcomes of surgery

EPIGASTRIC HERNIA:

4 Developmental anatomy
4 Natural history
4 Indications and outcomes of surgery

UMBILICAL HERNIA:

4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

SUPRA-UMBILICAL HERNIA:

Clinical Skills
4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

EPIGASTRIC HERNIA:

4 Ability to assess child and reach appropriate diagnosis
4 Ability to form a treatment plan
4 Ability to communicate with all relevant groups

Umbilical hernia (ST5):
4 Repair of umbilical hernia

Epigastric hernia (ST5):
4 Repair of epigastric hernia

Technical Skills and Procedures

Umbilical hernia (ST6):
4 Repair of umbilical hernia

Epigastric hernia (ST6):
4 Repair of epigastric hernia

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills
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<td>None</td>
</tr>
<tr>
<td>Clinical Skills</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Vascular access (ST5):</td>
</tr>
<tr>
<td></td>
<td>3 Central venous lines (incl perc)</td>
</tr>
<tr>
<td></td>
<td>Dialysis (ST5):</td>
</tr>
<tr>
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<td>3 PD catheter insertion/removal</td>
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<tr>
<td>Technical Skills and Procedures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vascular access (ST6):</td>
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<tr>
<td></td>
<td>3 Central venous lines (incl perc)</td>
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<tr>
<td></td>
<td>Dialysis (ST6):</td>
</tr>
<tr>
<td></td>
<td>3 PD catheter insertion/removal</td>
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<td>Clinical Skills</td>
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<tr>
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<td>3 Pyloromyotomy - ST5</td>
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<tr>
<td>Technical Skills and Procedures</td>
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</tr>
<tr>
<td></td>
<td>4 Pyloromyotomy - ST6, ST7, ST8</td>
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<tr>
<td></td>
<td>4 OGD - ST5, ST6, ST7, ST8</td>
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<td>To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management</td>
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<tr>
<td></td>
<td>To be able to formulate a differential diagnosis and an investigation and management plan</td>
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<td>To be able to treat the child appropriately up to and including operative intervention in selected cases</td>
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<td>To be able to communicate the above information at the required level to patients/parents/other team members/referral source</td>
</tr>
<tr>
<td></td>
<td>To be able to practice with integrity, respect and compassion</td>
</tr>
<tr>
<td>Knowledge</td>
<td>3 Pathophysiology</td>
</tr>
<tr>
<td></td>
<td>3 Investigation and management</td>
</tr>
</tbody>
</table>

Please see the [Professional Skills and Behaviour » Final](#) section for these skills.
3 Indications for operative intervention
3 Ability to synthesise history and investigations into appropriate management plan
3 Ability to communicate information to parents/child
3 Oesophageal dilatation (ST5 & ST6)
4 Oesophageal dilatation (ST7 & ST8)
3 Gastrostomy-open (ST5 & ST6)
4 Gastrostomy-open (ST7 & ST8)

3 PEG (insertion/removal) - ST5
4 PEG (insertion /removal) - ST6, ST7, ST8

3 Fundoplication (ST5, ST6, ST7)
4 Fundoplication (ST8)

1 Feeding jejunostomy (ST5)
2 Feeding jejunostomy (ST6)
3 Feeding jejunostomy (ST7)
4 Feeding jejunostomy (ST8)

1 Oesophago gastric disconnection (ST5 & ST6)
2 Oesophago gastric disconnection (ST7 & ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
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<tbody>
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<td>Objective</td>
<td>To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management</td>
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<tr>
<td>Knowledge</td>
<td>To be able to practice with integrity, respect and compassion</td>
</tr>
<tr>
<td></td>
<td>4 Patterns of symptoms and relation to likely pathology and age of child</td>
</tr>
<tr>
<td></td>
<td>4 Differential diagnosis</td>
</tr>
<tr>
<td></td>
<td>4 Place and value of investigations</td>
</tr>
<tr>
<td></td>
<td>4 Place of operative intervention, and associated outcomes</td>
</tr>
<tr>
<td></td>
<td>4 Ability to assess ill child</td>
</tr>
<tr>
<td></td>
<td>4 Ability to communicate with ill child (see Section 1)</td>
</tr>
<tr>
<td></td>
<td>4 Ability to form a viable investigation and treatment plan</td>
</tr>
<tr>
<td></td>
<td>4 Ability to communicate with all relevant groups</td>
</tr>
<tr>
<td></td>
<td>3 Appendicectomy (ST5)</td>
</tr>
<tr>
<td></td>
<td>4 Appendicectomy (ST6, ST7, ST8)</td>
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</tbody>
</table>

Technical Skills and Procedures

3 Op reduction intussusception (ST5 & ST6)
4 Op reduction intussusception (ST7 & ST8)
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Constipation</th>
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</table>
| **Objective**  | *To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management*
|                | *To be able to formulate a differential diagnosis and an investigation and management plan* |
| **Objective**  | *To be able to treat the child appropriately up to and including operative intervention in selected cases* |
|                | *To be able to communicate the above information at the required level to patients/parents/other team members/referral source* |
|                | *To be able to practice with integrity, respect and compassion* |
| **Knowledge**  | 4 Patterns of symptoms and relation to likely pathology and age of child |
|                | 3 Differential diagnosis to include medical anomalies and socio-psychological aspects of symptom |
|                | 4 Place and value of investigations |
|                | 4 Ability to assess child |
| **Clinical Skills** | 4 Ability to form a viable investigation and treatment plan |
|                | 4 Ability to communicate with all relevant groups. |
|                | 3 To include community aspects of further management |
| **Technical Skills and Procedures** | 4 Rectal Biopsy |
|                | 4 Manual evacuation |
|                | 4 EUA rectum |
|                | 4 Anal stretch |

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Gastro-intestinal bleeding</th>
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<td><strong>Objective</strong></td>
<td><em>To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management</em></td>
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<tr>
<td></td>
<td><em>To be able to formulate a differential diagnosis and an investigation and management plan</em></td>
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<tr>
<td><strong>Objective</strong></td>
<td><em>To be able to treat the child appropriately up to and including operative intervention in selected cases</em></td>
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<td><em>To be able to practice with integrity, respect and compassion</em></td>
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<tr>
<td><strong>Knowledge</strong></td>
<td>3 Patterns of symptoms and relation to likely pathology and age of child</td>
</tr>
<tr>
<td></td>
<td>3 Differential diagnosis</td>
</tr>
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</table>
Clinical Skills

4 Ability to assess ill child
4 Ability to communicate with ill child (see Section 1)
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
4 OGD

Technical Skills and Procedures

2 Colonoscopy (ST5 & ST6)
3 Colonoscopy (ST7)
4 Colonoscopy (ST8)

3 Sigmoidoscopy (ST5,)
4 Sigmoidoscopy (ST6, ST7, ST8)

3 Small bowel resection/anastomosis (Meckels) - ST5 & ST6
4 Small bowel resection/anastomosis (Meckels) - ST7 & ST8

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Intestinal obstruction

Category Gastrointestinal

Sub-category: None

Objective

To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to treat the child appropriately up to and including operative intervention in selected cases
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge

4 Patterns of symptoms and relation to likely pathology and age of child
4 Differential diagnosis
4 Place and value of investigations
4 Place of operative intervention, and associated outcomes
4 Ability to assess ill child
4 Ability to communicate with ill child (see Section 1)
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Clinical Skills

3 Laparotomy (ST5 & ST6)
4 Laparotomy (ST7 & ST8)

Technical Skills and Procedures

3 Adhesiolysis (ST5 & ST6)
4 Adhesiolysis (ST7 & ST8)

3 Small bowel resection/anastomosis (ST5 & ST6)
4 Small bowel resection/anastomosis (ST7 & ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills
**Inflammatory bowel disease**

**Category:** Gastrointestinal

**Objective**
- To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to treat the child appropriately up to and including operative intervention in selected cases
- To be able to communicate the above information at the required level to patients/parents/other team members/referral source
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 3 Patterns of symptoms and relation to likely pathology and age of child
- 3 Differential diagnosis
- 3 Place and value of investigations
- 3 Place of operative intervention, and associated outcomes
- 4 Ability to assess ill child
- 4 Ability to communicate with ill child (see Section 1)
- 4 Ability to form a viable investigation and treatment plan
- 4 Ability to communicate with all relevant groups

**Clinical Skills**
- 4 OGD
- 2 Colonoscopy (ST5 & ST6)
- 3 Colonoscopy (ST7)
- 4 Colonoscopy (ST8)
- 3 Sigmoidoscopy (ST5 & ST6)
- 4 Sigmoidoscopy (ST7 & ST8)
- 3 Small bowel resection/anastomosis (ST5 & ST6)
- 4 Small bowel resection/anastomosis (ST7 & ST8)

**Technical Skills and Procedures**
- 2 Right hemicolecotomy (ST5)
- 3 Right hemicolecotomy (ST6, ST7)
- 4 Right hemicolecotomy (ST8)
- 2 Left hemicolecotomy (ST5)
- 3 Left hemicolecotomy (ST6, ST7)
- 4 Left hemicolecotomy (ST8)
- 2 Total colectomy (ST5)
- 3 Total colectomy (ST6, ST7)
- 4 Total colectomy (ST8)
- 1 Pouch formation (ST5 & ST6)
- 2 Pouch formation (ST7)
- 3 Pouch formation (ST8)

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills
<table>
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<th>Topic</th>
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</table>
| Objective         | To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management  
|                   | To be able to formulate a differential diagnosis and an investigation and management plan  
|                   | To be able to treat the child appropriately up to and including operative intervention in selected cases  
|                   | To be able to communicate the above information at the required level to patients/parents/other team members/referral source  
|                   | To be able to practice with integrity, respect and compassion  
| Knowledge         | 3 Patterns of symptoms and relation to likely pathology and age of child  
|                   | 3 Differential diagnosis  
|                   | 3 Place and value of investigations  
|                   | 3 Place of operative intervention, and associated outcomes  
|                   | 4 Ability to assess ill child  
| Clinical Skills   | 4 Ability to communicate with ill child (see Section 1)  
|                   | 3 Ability to form a viable investigation and treatment plan  
|                   | 4 Ability to communicate with all relevant groups  
| Technical Skills and Procedures | None  
| Professional Skills | Please see the [Professional Skills and Behaviour » Final](#) section for these skills |

<table>
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<th>Topic</th>
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| Objective         | To understand the presenting symptoms of common gastrointestinal conditions in childhood and their management  
|                   | To be able to formulate a differential diagnosis and an investigation and management plan  
|                   | To be able to treat the child appropriately up to and including operative intervention in selected cases  
|                   | To be able to communicate the above information at the required level to patients/parents/other team members/referral source  
|                   | To be able to practice with integrity, respect and compassion  
| Knowledge         | 3 Patterns of symptoms and relation to likely pathology and age of child  
|                   | 3 Differential diagnosis  
|                   | 3 Place and value of investigations  
|                   | 3 Place of operative intervention, and associated outcomes  
|                   | 4 Ability to assess ill child  
| Clinical Skills   | 4 Ability to communicate with ill child (see Section 1)  
|                   | 4 Ability to form a viable investigation and treatment plan  
|                   | 4 Ability to communicate with all relevant groups  
| Technical Skills and Procedures | 2 Cholecystectomy  
|                   | 1 Choledochal cyst (ST5 & ST6)  
|                   | 2 Choledochal cyst (ST7)  
|                   | 3 Choledochal cyst (ST8)  
| Professional Skills | Please see the [Professional Skills and Behaviour » Final](#) section for these skills |
1 Kasai procedure - ST5 & ST6 (specialist centre)
2 Kasai procedure - ST7 (specialist centre)
3 Kasai procedure - ST8 (specialist centre)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
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*To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract*
*To be able to formulate a differential diagnosis and an investigation and management plan*

<table>
<thead>
<tr>
<th>Objective</th>
<th>To be able to treat the child appropriately up to and including operative intervention in selected cases</th>
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</thead>
<tbody>
<tr>
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<td>To be able to communicate the above information at the required level to patients/ parents/ other team members/ referral source</td>
</tr>
<tr>
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<td>To be able to practice with integrity, respect and compassion</td>
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**Knowledge**

4 Patterns of symptoms and relation to likely pathology and age of child

4 Relevance of different symptom patterns

<table>
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<th>4 Differential diagnosis</th>
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<tr>
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<td>4 Place and value of investigations</td>
</tr>
<tr>
<td></td>
<td>4 Ability to assess child</td>
</tr>
</tbody>
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**Clinical Skills**

4 Ability to form a viable investigation and treatment plan

4 Ability to communicate with all relevant groups

3 Cysto-urethroscopy (ST5 & ST6)

4 Cysto-urethroscopy (ST7 & ST8)

**Technical Skills and Procedures**

2 STING/deflux (ST5 & ST6)

3 STING/deflux (ST7)

4 STING/deflux (ST8)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
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*To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract*
*To be able to formulate a differential diagnosis and an investigation and management plan*

<table>
<thead>
<tr>
<th>Objective</th>
<th>To be able to treat the child appropriately up to and including operative intervention in selected cases</th>
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<tbody>
<tr>
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<td>To be able to practice with integrity, respect and compassion</td>
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**Knowledge**

4 Patterns of symptoms and relation to likely pathology and age of child

4 Ability to assess child
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<thead>
<tr>
<th>Topic</th>
<th>Hypospadias</th>
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<td>3 Likely modes of presentation 3 Different anatomical variants 4 Place and value of investigations/operative intervention 4 Ability to assess child</td>
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<td>Clinical Skills</td>
<td>4 Ability to form a viable investigation and treatment plan 4 Ability to communicate with all relevant groups 2 Repair coronal/glanular hypospadias (ST5 &amp; ST6) 3 Repair coronal/glanular hypospadias (ST7) 4 Repair coronal/glanular hypospadias (ST8)</td>
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<td>1 Repair penile hypospadias (ST5 &amp; ST6) 2 Repair penile hypospadias (ST7) 3 Repair penile hypospadias (ST8)</td>
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<td>1 Repair proximal hypospadias (ST5 &amp; ST6) 2 Repair proximal hypospadias (ST7) 3 Repair proximal hypospadias (ST8)</td>
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<table>
<thead>
<tr>
<th>Topic</th>
<th>Upper tract obstruction (to include Pelvi-ureteric junction obstruction and Vesico-ureteric junction obstruction)</th>
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Knowledge

4 Likely modes of presentation
4 Place and value of investigations/operative intervention
4 Differential diagnosis

Clinical Skills

4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
1 Repair urethral fistula (ST5 & ST6)
2 Repair urethral fistula (ST7)
3 Repair urethral fistula (ST8)
2 Pyeloplasty (ST5 & ST6)
3 Pyeloplasty (ST7)
4 Pyeloplasty (ST8)
2 Nephrectomy (ST5)
3 Nephrectomy (ST6 & ST7)
4 Nephrectomy (ST8)
2 Nephro-ureterectomy (ST5)
3 Nephro-ureterectomy (ST6 & ST7)
4 Nephro-ureterectomy (ST8)
2 Insertion of percutaneous nephrostomy (ST5 & ST6)
3 Insertion of percutaneous nephrostomy (ST7)
4 Insertion of percutaneous nephrostomy (ST8)
2 Insertion of open nephrostomy (ST5 & ST6)
3 Insertion of open nephrostomy (ST7)
4 Insertion of open nephrostomy (ST8)
2 Insertion of JJ stent (ST5 & ST6)
3 Insertion of JJ stent (ST7)
4 Insertion of JJ stent (ST8)

Technical Skills and Procedures

2 Nephrectomy (ST5)
3 Nephrectomy (ST6 & ST7)
4 Nephrectomy (ST8)

Professional Skills

Please see the Professional Skills and Behaviour » Final section for these skills

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Topic: Posterior urethral valves
Category: Urology
Sub-category: None

Objective

To be able to assess a child presenting to the OP clinic or acutely with symptoms referable to the urinary tract
To be able to formulate a differential diagnosis and an investigation and
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To be able to treat the child appropriately up to and including operative intervention in selected cases
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Knowledge
- 4 Likely modes of presentation
- 4 Place and value of investigations/ operative intervention
- 4 Differential diagnosis
- 4 Ability to assess child

Clinical Skills
- 4 Ability to form a viable investigation and treatment plan
- 4 Ability to communicate with all relevant groups
- 1 Ureteric reimplantation (ST5 & ST6)
- 2 Ureteric reimplantation (ST7)
- 3 Ureteric reimplantation (ST8)

Technical Skills and Procedures
- 1 Destruction of PUV (ST5 & ST6)
- 2 Destruction of PUV (ST7)
- 3 Destruction of PUV (ST8)

Professional Skills
Please see the Professional Skills and Behaviour » Final section for these skills
3 Ureterolithotomy (ST8)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

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<tr>
<th>Topic</th>
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- To be able to practice with integrity, respect and compassion

**Knowledge**

- Likely modes of presentation
- Differential diagnosis
- Place and value of investigations
- Knowledge of appropriate referral pathways
- Ability to assess child

**Clinical Skills**

- Ability to form a viable investigation and treatment plan
- Ability to communicate with all relevant groups

1. Removal of bladder calculus (ST5 & ST6)
2. Removal of bladder calculus (ST7)
3. Removal of bladder calculus (ST8)

2. Cysto-urethroscope (ST5)
3. Cysto-urethroscope (ST6)
4. Cysto-urethroscope (ST7 & ST8)

2. Vesicostomy (ST5 & ST6)
3. Vesicostomy (ST7)
4. Vesicostomy (ST8)

2. Closure of vesicostomy (ST5)
3. Closure of vesicostomy (ST6)
4. Closure of vesicostomy (ST7 & ST8)

3. Suprapubic catheter (ST5 & ST6)
3. Suprapubic catheter (ST7 & ST8)

1. Endoscopic cauterisation of lesion of bladder (ST5 & ST6)
2. Endoscopic cauterisation of lesion of bladder (ST7)
3. Endoscopic cauterisation of lesion of bladder (ST8)

2. Endoscopic removal of clot from bladder (ST5 & ST6)
3. Endoscopic removal of clot from bladder (ST7)
4. Endoscopic removal of clot from bladder (ST8)

1. Ileal bladder reconstruction (ST5 & ST6)
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<th>Topic</th>
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<td>3 Differential diagnosis</td>
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<td>3 Place and value of investigations</td>
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<td>3 Knowledge of referral criteria to renal medical colleagues</td>
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<td>1 Ureteric un-diversion (ST5 &amp; ST6)</td>
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<td>1 Transplant nephrectomy (ST5 &amp; ST6)</td>
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<td>3 Transplant nephrectomy (ST8)</td>
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<td>3 PD catheter insertion/removal (ST5 &amp; ST6)</td>
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<td>4 PD catheter insertion/removal (ST7 &amp; ST8)</td>
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| Professional Skills | Please see the [Professional Skills and Behaviour](#) section for these skills |

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<tr>
<th>Topic</th>
<th>Bladder extrophy (to include outlet anomalies e.g. epispadias)</th>
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Sub-category: None

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To be able to practice with integrity, respect and compassion

Knowledge
3 Likely modes of presentation
3 Differential diagnosis
3 Place and value of investigations

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
2 Haemodialysis catheter insertion (ST5)
3 Haemodialysis catheter insertion (ST6)
4 Haemodialysis catheter insertion (ST7 & ST8)

Technical Skills and Procedures
1 Repair of bladder extrophy (ST5 & ST6)
2 Repair of bladder extrophy (ST7)
3 Repair of bladder extrophy (ST8)
1 Repair of epispadias (ST5 & ST6)
2 Repair of epispadias (ST7)
3 Repair of epispadias (ST8)

Professional Skills
Please see the Professional Skills and Behaviour » Final section for these skills

Topic Duplication of urinary tract
Category Urology
Sub-category: None

Objective
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Knowledge
3 Likely modes of presentation
3 Embryological derivation and anatomical variants
3 Place and value of investigations/operative intervention
3 Differential diagnosis

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures
1 Closure of bladder neck (ST5 & ST6)
2 Closure of bladder neck (ST7)
3 Closure of bladder neck (ST8)

1 Hemi-nephrectomy (ST5)  
2 Hemi-nephrectomy (ST6)  
3 Hemi-nephrectomy (ST7)  
4 Hemi-nephrectomy (ST8)  

1 Excision of ureterocele - ST5, ST6  
2 Excision of ureterocele - ST7  
3 Excision of ureterocele - ST8  

1 Endoscopic incision of ureterocele ST5  
2 Endoscopic incision of ureterocele ST6, ST7  
3 Endoscopic incision of ureterocele ST8

**Professional Skills**  Please see the [Professional Skills and Behaviour » Final](#) section for these skills

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<td>2 Meatotomy - ST5</td>
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<td>3 Meatotomy - ST6</td>
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<td>4 Meatotomy - ST7, ST8</td>
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**Technical Skills and Procedures**  
2 Meatoplasty -ST5  
3 Meatoplasty -ST6  
4 Meatoplasty -ST7, ST8  

2 Urethral dilatation -ST5  
3 Urethral dilatation -ST6  
4 Urethral dilatation -ST7, ST8

**Professional Skills**  Please see the [Professional Skills and Behaviour » Final](#) section for these skills
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<td>Technical Skills and Procedures</td>
<td>1 Ureteric reimplantation ST5, ST6</td>
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<td>2 Ureteric reimplantation ST7</td>
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<td>Technical Skills and Procedures</td>
<td>2 Intestinal resection/anastomosis - ST5, ST6</td>
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<td>3 Intestinal resection/anastomosis - ST7</td>
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<td>Technical Skills and Procedures</td>
<td>1 Excision of sacro coccygeal teratoma ST5, ST6</td>
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<td>4 Patho-physiology of the condition and anatomical variants</td>
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4 Associated anomalies  
4 Outcome data on the condition  
4 Differing management strategies  
4 Role of pre-natal counselling

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### Objective

To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period

To be able to construct an appropriate management plan for these children

To understand the place of operative management in the neonatal period and be able to carry this out in selected cases

To be able to practice with integrity, respect and compassion

### Knowledge

- Mode of presentation both pre- and post natal
- Patho-physiology of the condition and anatomical variants
- Associated anomalies
- Outcome data on the condition
- Differing management strategies
- Role of pre-natal + genetic counselling

### Clinical Skills

- Ability to assess child
- Ability to form a viable investigation and treatment plan
- Ability to communicate with all relevant groups

### Technical Skills and Procedures

- Correction of malrotation (ST5)
- Correction of malrotation (ST6, ST7)
- Correction of malrotation (ST8)

### Professional Skills

Please see the [Professional Skills and Behaviour » Final](#) section for these skills
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge
4 Mode of presentation both pre- and post natal
3 Patho-physiology of the condition and anatomical variants
4 Associated anomalies
4 Outcome data on the condition
4 Differing management strategies
4 Role of genetic counselling

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
3 Rectal biopsy (ST5)
4 Rectal biopsy (ST6, ST7, ST8)
4 Rectal washout

Technical Skills and Procedures
1 Trans-anal pull through (ST5 & ST6)
2 Trans-anal pull through (ST7)
3 Trans-anal pull through (ST8)
1 Pull through (Duhamel procedure, Soave, Swenson) - ST5
2 Pull through (Duhamel procedure, Soave, Swenson) - ST6, ST7
3 Pull through (Duhamel procedure, Soave, Swenson) - ST8

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Oesophageal Atresia and Tracheo-oesophageal fistula
Category Neonatal Surgery
Sub-category: None

Objective
To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge
4 Mode of presentation both pre- and post natal
4 Patho-physiology of the condition and anatomical variants
4 Associated anomalies
4 Outcome data on the condition
4 Differing management strategies
4 Role of pre-natal counselling

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures
1 Operation for oesophageal atresia/TOF (ST5 & ST6)
2 Operation for oesophageal atresia/TOF (ST7)
3 Operation for oesophageal atresia/TOF (ST8)
1 Repair of H fistula (ST5 & ST6)
2 Repair of H fistula (ST7 & ST8)

1 Repair of recurrent fistula (ST5, ST6, ST7)
2 Repair of recurrent fistula (ST8)

1 Oesophagal replacement
1 Aortopexy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Anorectal Malformations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td>Neonatal Surgery</td>
</tr>
<tr>
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</table>

*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

*To be able to construct an appropriate management plan for these children*

*To understand the place of operative management in the neonatal period and be able to carry this out in selected cases*

*To be able to practice with integrity, respect and compassion*

| Knowledge              | 4 Mode of presentation both pre- and post natal
|------------------------| 4 Patho-physiology of the condition and anatomical variants
|                        | 4 Associated anomalies
|                        | 4 Outcome data on the condition
|                        | 4 Differing management strategies
|                        | 4 Role of pre-natal counselling
|                        | 4 Ability to assess child

| Clinical Skills        | 4 Ability to form a viable investigation and treatment plan
|------------------------| 4 Ability to communicate with all relevant groups
|                        | 2 Anoplasty (ST5 & ST6)
|                        | 3 Anoplasty (ST7)
|                        | 4 Anoplasty (ST8)

| Technical Skills and Procedures | 3 Sigmoid colostomy (ST5)
|---------------------------------| 4 Sigmoid colostomy (ST6, ST7, ST8)
|                                 | 1 PSARP (ST5 & ST6)
|                                 | 2 PSARP (ST7)
|                                 | 3 PSARP (ST8)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Necrotising Enterocolitis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td>Neonatal Surgery</td>
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*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

*To be able to construct an appropriate management plan for these children*

*To understand the place of operative management in the neonatal period and...*
To be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion

Knowledge
4 Mode of presentation
4 Patho-physiology of the condition
4 Associated anomalies
4 Outcome data on the condition
4 Differing management strategies

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
1 Oesophageal dilatation (neonatal) - ST5 & ST6
2 Oesophageal dilatation (neonatal) - ST7
3 Oesophageal dilatation (neonatal) - ST8

Technical Skills and Procedures
1 Laparotomy (ST5)
2 Laparotomy (ST6)
3 Laparotomy (ST7)
4 Laparotomy (ST8)

Professional Skills
Please see the Professional Skills and Behaviour » Final section for these skills

Topic Neonatal Abdominal Wall Defects
Category Neonatal Surgery
Sub-category: None

Objective
To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period
To be able to construct an appropriate management plan for these children
To understand the place of operative management in the neonatal period and be able to carry this out in selected cases
To be able to practice with integrity, respect and compassion
4 Mode of presentation both pre- and post natal
4 Patho-physiology of the condition and anatomical variants
4 Associated anomalies

Knowledge
4 Outcome data on the condition
4 Differing management strategies
4 Role of pre-natal counselling

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
1 Intestinal resection/anastomosis (ST5)
2 Intestinal resection/anastomosis (ST6)
3 Intestinal resection/anastomosis (ST7)
4 Intestinal resection/anastomosis (ST8)

Technical Skills and Procedures
2 Repair of gastroschisis (ST5)
3 Repair of gastroschisis (ST6 & ST7)
4 Repair of gastroschisis (ST8)

2 Repair of exomphalos (ST5)
3 Repair of exomphalos (ST6 & ST7)
4 Repair of exomphalos (ST8)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Intersex anomalies</th>
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<tbody>
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<td>Category</td>
<td>Neonatal Surgery</td>
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</table>

*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

*To be able to construct an appropriate management plan for these children*

*To understand the place of operative management in the neonatal period and be able to carry this out in selected cases*

*To be able to practice with integrity, respect and compassion*

3 Mode of presentation both pre- and post natal
3 Patho-physiology of the condition and anatomical variants
3 Associated anomalies

<table>
<thead>
<tr>
<th>Knowledge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Outcome data on the condition</td>
<td></td>
</tr>
<tr>
<td>3 Differing management strategies</td>
<td></td>
</tr>
<tr>
<td>3 Role of genetic counselling</td>
<td></td>
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</table>

4 Ability to assess child

<table>
<thead>
<tr>
<th>Clinical Skills</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Ability to form a viable investigation and treatment plan</td>
<td></td>
</tr>
<tr>
<td>4 Ability to communicate with all relevant groups</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Skills and Procedures</th>
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</tr>
</thead>
</table>

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Antenatal management</th>
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<tbody>
<tr>
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<td>Neonatal Surgery</td>
</tr>
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<td>Sub-category:</td>
<td>None</td>
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</table>

*To understand the diagnosis and management of children presenting with congenital abnormalities in the neonatal period*

*To be able to construct an appropriate management plan for these children*

*To understand the place of operative management in the neonatal period and be able to carry this out in selected cases*

*To be able to practice with integrity, respect and compassion*

4 Likely modes of presentation of different conditions
4 Place and value of investigations

<table>
<thead>
<tr>
<th>Knowledge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Types of and indications for antenatal intervention</td>
<td></td>
</tr>
<tr>
<td>4 Role of ante-natal counselling</td>
<td></td>
</tr>
</tbody>
</table>

4 Ability to counsel and inform parents

<table>
<thead>
<tr>
<th>Clinical Skills</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Ability to form a viable investigation and treatment plan</td>
<td></td>
</tr>
<tr>
<td>4 Ability to communicate with all relevant groups</td>
<td></td>
</tr>
</tbody>
</table>

| Technical Skills | None |
### Wilms Tumour

**Category:** Oncology  

**Objective:**  
- To understand the presentation and management of childhood tumours  
- To be able to formulate a differential diagnosis and an investigation and management plan  
- To be able to practice with integrity, respect and compassion  

**Knowledge:**  
- 4 Mode of clinical presentation  
- 4 Differential diagnosis  
- 3 Relevant basic science knowledge of oncogenesis  
- 4 Outcome data of treatment modalities  
- 4 Role of surgery  

**Clinical Skills:**  
- 4 Ability to assess child  
- 4 Ability to form a viable investigation and treatment plan  
- 4 Ability to communicate with all relevant groups  

**Technical Skills and Procedures:**  
- 2 Nephro-ureterectomy/nephrectomy for Wilms (ST5 & ST6)  
- 3 Nephro-ureterectomy/nephrectomy for Wilms (ST7)  
- 4 Nephro-ureterectomy/nephrectomy for Wilms (ST8)

### Neuroblastoma

**Category:** Oncology  

**Objective:**  
- To understand the presentation and management of childhood tumours  
- To be able to formulate a differential diagnosis and an investigation and management plan  
- To be able to practice with integrity, respect and compassion  

**Knowledge:**  
- 4 Mode of clinical presentation  
- 4 Differential diagnosis  
- 3 Relevant basic science knowledge of oncogenesis  
- 4 Outcome data of treatment modalities  
- 4 Role of surgery  

**Clinical Skills:**  
- 4 Ability to assess child  
- 4 Ability to form a viable investigation and treatment plan  
- 4 Ability to communicate with all relevant groups  

**Technical Skills and Procedures:**  
- 1 Surgery for neuroblastoma (ST5 & ST6)  
- 2 Surgery for neuroblastoma (ST7)  
- 3 Surgery for neuroblastoma (ST8)
Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Hepatoblastoma</th>
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<tbody>
<tr>
<td>Category</td>
<td>Oncology</td>
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<tr>
<td>Sub-category:</td>
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To understand the presentation and management of childhood tumours
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to practice with integrity, respect and compassion

4 Mode of clinical presentation
4 Differential diagnosis
3 Relevant basic science knowledge of oncogenesis

Knowledge
4 Outcome data of treatment modalities
4 Role of surgery

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
1 Surgery for hepatoblastoma (ST5 & ST6) only at specialist centre

Technical Skills and Procedures
2 Surgery for hepatoblastoma (ST7) only at specialist centre
3 Surgery for hepatoblastoma (ST8) only at specialist centre

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Soft tissue tumours</th>
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<tbody>
<tr>
<td>Category</td>
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</tr>
<tr>
<td>Sub-category:</td>
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</tbody>
</table>

To understand the presentation and management of childhood tumours
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to practice with integrity, respect and compassion

4 Mode of clinical presentation
4 Differential diagnosis
3 Relevant basic science knowledge of oncogenesis

Knowledge
4 Outcome data of treatment modalities
4 Role of surgery

Clinical Skills
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
1 Local excision soft tissue tumour (ST5, ST6)

Technical Skills and Procedures
2 Local excision soft tissue tumour (ST7)
3 Local excision soft tissue tumour (ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

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### Haematological malignancies

**Objective**
- To understand the presentation and management of childhood tumours
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 3 Mode of clinical presentation
- 3 Differential diagnosis
- 3 Relevant basic science knowledge of oncogenesis
- 3 Management strategies and basic outcome data of treatment modalities

**Clinical Skills**
- 4 Ability to assess child
- 4 Ability to communicate with all relevant groups

**Technical Skills and Procedures**
- 2 Cervical Lymph node biopsy (ST5)
- 3 Cervical Lymph node biopsy (ST6 & ST7)
- 4 Cervical Lymph node biopsy (ST8)

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

### Osteosarcoma

**Objective**
- To understand the presentation and management of childhood tumours
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to practice with integrity, respect and compassion

**Knowledge**
- 3 Mode of clinical presentation
- 3 Differential diagnosis
- 3 Relevant basic science knowledge of oncogenesis
- 3 Management strategy and basic outcome data of treatment modalities
- 3 Role of surgery

**Clinical Skills**
- 4 Ability to assess child
- 4 Ability to communicate with all relevant groups

**Technical Skills and Procedures**
- None

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

### Benign tumours

**Objective**
- To understand the presentation and management of childhood tumours
- To be able to formulate a differential diagnosis and an investigation and management plan
- To be able to practice with integrity, respect and compassion
Knowledge

4 Mode of clinical presentation
4 Differential diagnosis
3 Relevant basic science knowledge of oncogenesis
4 Outcome data of treatment modalities
4 Role of surgery

Clinical Skills

4 Ability to assess child
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
2 Oopherectomy (ST5)
3 Oopherectomy (ST6 & ST7)
4 Oopherectomy (ST8)

Technical Skills and Procedures

2 Oophero-salpingectomy (ST5)
3 Oophero-salpingectomy (ST6 & ST7)
4 Oophero-salpingectomy (ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Generic procedures
Category Oncology
Sub-category: None
Objective None
Knowledge None
Clinical Skills None
Technical Skills and Procedures
2 Tumour biopsy ST5
3 Tumour biopsy ST6, ST7
4 Tumour biopsy ST8

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Adrenal gland
Category Endocrine conditions
Sub-category: None
Objective None
Knowledge None
Clinical Skills None
Technical Skills and Procedures
1 Adrenalectomy - ST5, ST6
2 Adrenalectomy - ST7
3 Adrenalectomy - ST8

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Disease of the thyroid gland
Category Endocrine conditions
Sub-category: None
To understand the presenting symptoms of endocrine conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to identify the need for surgery and influence of endocrine conditions on surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
3 Likely modes of presentation
3 Differential diagnosis
3 Place and value of investigations
3 Knowledge of appropriate referral pathways
4 Ability to assess child

Clinical Skills
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures
1 Thyroidectomy (ST5 & ST6)
2 Thyroidectomy (ST7)
3 Thyroidectomy (ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Parathyroid disease
Category Endocrine conditions
Sub-category: None

Objective
To understand the presenting symptoms of endocrine conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to identify the need for surgery and influence of endocrine conditions on surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
3 Likely modes of presentation
3 Differential diagnosis
3 Place and value of investigations
3 Knowledge of appropriate referral pathways
4 Ability to assess child

Clinical Skills
4 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures Not at this level

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

Topic Diabetes
Category Endocrine conditions
Sub-category: None
Objective

To understand the presenting symptoms of endocrine conditions in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to identify the need for surgery and influence of endocrine conditions on surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge

3 Likely modes of presentation
3 Differential diagnosis
3 Place and value of investigations
3 Knowledge of appropriate referral pathways
4 Ability to assess child

Clinical Skills

3 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures

3 OGD (ST5)
4 OGD (ST6, ST7, ST8)

Professional Skills

Please see the Professional Skills and Behaviour » Final section for these skills
To be able to formulate a differential diagnosis and an investigation and management plan
To be able to identify the need for surgery and influence of endocrine conditions on surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

Knowledge
3 Likely modes of presentation
3 Differential diagnosis
3 Place and value of investigations
3 Knowledge of appropriate referral pathways
4 Ability to assess child

Clinical Skills
3 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups

Technical Skills and Procedures
1 Subcutaneous mastectomy (ST5 & ST6)
2 Subcutaneous mastectomy (ST7)
3 Subcutaneous mastectomy (ST8)

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills
**Topic**
Congenital and acquired lung abnormalities including management of empyema

**Category**
Thoracic Anomalies

**Sub-category:**
None

**Objective**
To understand the presenting symptoms of thoracic anomalies in childhood and their management
To be able to formulate a differential diagnosis and an investigation and management plan
To identify the place of surgery
To be able to communicate the above information at the required level to patients/parents/other team members/referral source
To be able to practice with integrity, respect and compassion

**Knowledge**
4 Likely modes of presentation
4 Differential diagnosis
4 Place and value of investigations
3 Knowledge of developmental embryology and pertinent anatomy
4 Knowledge of appropriate referral pathways
4 Outcomes of surgery

**Clinical Skills**
4 Ability to assess child
3 Ability to form a viable investigation and treatment plan
4 Ability to communicate with all relevant groups
2 Thoracotomy (ST5 & ST6)
3 Thoracotomy (ST7)
4 Thoracotomy (ST8)

1 Open biopsy of lung (ST5 & ST6)
2 Open biopsy of lung (ST7)
3 Open biopsy of lung (ST8)

1 Pulmonary lobectomy (ST5 & ST6)
2 Pulmonary lobectomy (ST7)
3 Pulmonary lobectomy (ST8)

1 Partial pulmonary lobectomy (ST5 & ST6)
2 Partial pulmonary lobectomy (ST7)
3 Partial pulmonary lobectomy (ST8)

1 Excision of extra lobar sequestration (ST5 & ST6)
2 Excision of extra lobar sequestration (ST7)
3 Excision of extra lobar sequestration (ST8)

2 Aspiration of pleural cavity (ST5)
3 Aspiration of pleural cavity (ST6)
4 Aspiration of pleural cavity (ST7 & ST8)

2 Insertion of open chest drain (ST5)
3 Insertion of open chest drain (ST6)
4 Insertion of open chest drain (ST7 & ST8)
2 Insertion of percutaneous chest drain (ST5)
3 Insertion of percutaneous chest drain (ST6)
4 Insertion of percutaneous chest drain (ST7 & ST8)

1 Open pleural debridement - ST5
2 Open pleural debridement - ST6
3 Open pleural debridement - ST7
4 Open pleural debridement - ST8

1 Thorascopic pleural debridement - ST5
2 Thorascopic pleural debridement - ST6
3 Thorascopic pleural debridement - ST7
4 Thorascopic pleural debridement - ST8

1 Rigid bronchoscopy -ST5, ST6
2 Rigid bronchoscopy -ST7
3 Rigid bronchoscopy -ST8

1 Fibreoptic bronchoscopy -ST5, ST6
2 Fibreoptic bronchoscopy -ST7
3 Fibreoptic bronchoscopy -ST8

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Tracheal anomalies</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Thoracic Anomalies</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
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</table>

*To understand the presenting symptoms of thoracic anomalies in childhood and their management*

*To be able to formulate a differential diagnosis and an investigation and management plan*

*To identify the place of surgery*

*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*

*To be able to practice with integrity, respect and compassion*

3 Likely modes of presentation

3 Differential diagnosis

3 Place and value of investigations

3 Knowledge of developmental embryology and pertinent anatomy

3 Knowledge of appropriate referral pathways

3 Outcomes of surgery

4 Ability to assess child

**Clinical Skills**

4 Ability to form a viable investigation and treatment plan

4 Ability to communicate with all relevant groups

1 Tracheostomy (ST5 & ST6)

2 Tracheostomy (ST7)

**Technical Skills and Procedures**

3 Tracheostomy (ST8)

2 Rigid bronchoscopy (ST5 & ST6)

3 Rigid bronchoscopy (ST7)
4 Rigid bronchoscopy (ST8)

1 Fibreoptic bronchoscopy (ST5 & ST6)
2 Fibreoptic bronchoscopy (ST7)
3 Fibreoptic bronchoscopy (ST8)

**Professional Skills** Please see the Professional Skills and Behaviour » Final section for these skills

---

**Topic** Inhaled /aspirated /ingested foreign body

**Category** Thoracic Anomalies

**Sub-category:** None

*To understand the presenting symptoms of thoracic anomalies in childhood and their management*

*To be able to formulate a differential diagnosis and an investigation and management plan*

**Objective**

*To identify the place of surgery*

*To be able to communicate the above information at the required level to patients/parents/other team members/referral source*

*To be able to practice with integrity, respect and compassion*

---

**Knowledge**

4 Likely modes of presentation

4 Differential diagnosis

4 Place and value of investigations

4 Knowledge of developmental embryology and pertinent anatomy

4 Knowledge of appropriate referral pathways

4 Outcomes of surgery

4 Ability to assess child

**Clinical Skills**

4 Ability to form a viable investigation and treatment plan

4 Ability to communicate with all relevant groups

**Technical Skills and Procedures**

2 Rigid removal of FB from bronchus (ST5 & ST6)

3 Rigid removal of FB from bronchus (ST7)

4 Rigid removal of FB from bronchus (ST8)

**Professional Skills** Please see the Professional Skills and Behaviour » Final section for these skills

---

**Topic** Pre-operative care

**Category** Operative skills

**Sub-category:** None

*To ensure the trainee has reached a level of competence in a range of basic operative procedures.*

**Objective**

3 Indications for surgery

3 Required preparation for surgery to include necessary pre-operative investigations

**Knowledge**

3 Outcomes and complications of surgery

3 Knowledge of the admission process

**Clinical Skills**

3 Synthesis of history and examination into operative management plan

3 Ability to explain procedure and outcomes to patient and parents at an
appropriate level
3 To be able to take informed consent
3 To construct an appropriate theatre list
3 To follow the admission procedure

### Professional Skills
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

### Intra-operative care

#### Objective
To ensure the trainee has reached a level of competence in a range of basic operative procedures.

#### Knowledge
- 3 Anatomy to be encountered during procedure
- 3 Steps involved in operative procedure
- 3 Knowledge of alternative procedures in case of encountering difficulties
- 3 Potential complications of procedure
- 3 Necessary hand-eye dexterity to complete procedure

#### Clinical Skills
- 3 Appropriate use of assistance
- 3 Communication with other members of theatre team

### Post-operative care

#### Objective
To ensure the trainee has reached a level of competence in a range of basic operative procedures.

#### Knowledge
- 3 Outcomes of procedure
- 3 Likely post-operative progress from disease process and intervention
- 3 Physiological and pathological changes in condition as a result of intervention
- 3 Assessment of patient and physiological parameters

#### Clinical Skills
- 3 Appropriate intervention to deal with changing parameters
- 3 Communication skills for dealing with team members, patients and parents
- 3 Ability to prioritise interventions

### NHS Structure

#### Category
Management

#### Sub-category:
None
To understand the current structure and function of the NHS

Objective

To develop an understanding of leadership qualities required of a consultant
To develop the ability to support colleagues and peers in the delivery of care

Knowledge

3 Current structure of NHS
3 Role of DoH
3 Role of Strategic Health Authority
3 Role of regulatory agencies

Clinical Skills

3 Ability to identify impact of structures / changes on delivery of care

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Final section for these skills

---

Topic Trust Managerial structures

Category Management

Sub-category: None

Objective

To understand the current structure and function of the NHS
To develop an understanding of leadership qualities required of a consultant
To develop the ability to support colleagues and peers in the delivery of care

Knowledge

3 Local managerial structures
3 Alternative model(s) of management
3 Roles of Executive /Non-executive board members
3 Roles of different depts e.g.
3 Finance
3 Human resources
3 Risk management etc.

Clinical Skills

3 Ability to interact appropriately with Trust structures to help in service delivery

Technical Skills and Procedures

No content

Professional Skills

Please see the Professional Skills and Behaviour » Final section for these skills

---

Topic Leadership

Category Management

Sub-category: None

Objective

To understand the current structure and function of the NHS
To develop an understanding of leadership qualities required of a consultant
To develop the ability to support colleagues and peers in the delivery of care

Knowledge

3 Differences between leadership and management
3 Different styles of leadership and their uses
3 Personal leadership styles
### Clinical Skills
- Ability to identify own style of leadership
- Ability to utilise appropriate style to management of managerial issues
- Ability to lead a team of peers and colleagues in a project (research/audit/managerial)

### Technical Skills and Procedures
No content

### Professional Skills
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<table>
<thead>
<tr>
<th>Topic</th>
<th>Supporting training</th>
</tr>
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<tbody>
<tr>
<td>Category</td>
<td>Management</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
<tr>
<td>Objective</td>
<td>To develop the skills required to support training of peers and colleagues.</td>
</tr>
</tbody>
</table>
| Knowledge | 3 Principles of coaching, training and mentoring  
3 Principles and uses of assessment and appraisal  
3 Differing styles of feedback and their appropriate use  
3 Knowledge of career pathways  
3 Indicators of ‘poor performance’  
3 Teaching styles and their uses (see section 1.6)  
3 Ability to train junior trainees  
3 Ability to provide appropriate guidance to trainees through use of techniques of feedback, appraisal and assessment |
| Clinical Skills | 3 Ability to support poor performers appropriately  
3 Ability to give career advice  
3 Ability to support colleagues through use of appraisal and revalidation mechanisms |
| Technical Skills and Procedures | No content |
| Professional Skills | Please see the [Professional Skills and Behaviour » Final](#) section for these skills |

<table>
<thead>
<tr>
<th>Topic</th>
<th>Interview process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Management</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
<tr>
<td>Objective</td>
<td>To be able to participate appropriately in interview process.</td>
</tr>
</tbody>
</table>
| Knowledge | 3 Role of interview in selecting candidates for training  
3 Use of different types of interview  
3 Role of panel members  
3 Legal requirements of panel members with respect to Employment and Equal Opportunities legislation  
3 Ability to ask appropriate questions depending on style of interview |
| Clinical Skills | 3 Ability to provide feedback for both successful and unsuccessful candidates  
3 Completion of paperwork for committee |
| Technical Skills and Procedures | No content |
| Professional Skills | Please see the [Professional Skills and Behaviour » Final](#) section for these skills |
**Topic** | **Urinary Tract Infection** 
---|---
**Category** | Paediatric Urology Special Interest 
**Sub-category**: | None 
**Objective** | None 
**Knowledge** | 4 Patterns of symptoms and relation to likely pathology and age of child 
4 Relevance of different symptom patterns 
4 Differential diagnosis 
4 Place and value of investigations 
4 Ability to assess child 
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions 
**Clinical Skills** | 4 Ability to communicate with all relevant groups 
4 Ability to independently interpret the results of investigations and act on same 
**Technical Skills and Procedures** | None 
**Professional Skills** | Please see the Professional Skills and Behaviour » Final section for these skills

**Topic** | **Haematuria** 
---|---
**Category** | Paediatric Urology Special Interest 
**Sub-category**: | None 
**Objective** | None 
**Knowledge** | 4 Patterns of symptoms and relation to likely pathology and age of child 
4 Differential diagnosis 
4 Place and value of investigations 
4 Ability to assess child 
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions 
**Clinical Skills** | 4 Ability to communicate with all relevant groups 
4 Ability to independently interpret the results of investigations and act on same 
**Technical Skills and Procedures** | None 
**Professional Skills** | Please see the Professional Skills and Behaviour » Final section for these skills

**Topic** | **Hypospadias** 
---|---
**Category** | Paediatric Urology Special Interest 
**Sub-category**: | None 
**Objective** | None 
**Knowledge** | 4 Likely modes of presentation 
4 Different anatomical variants 
4 Place and value of investigations/operative intervention 
**Clinical Skills** | 4 Ability to assess child 
4 Ability to form a viable investigation and treatment plan, including
appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

| Technical Skills and Procedures | None |
| Professional Skills             | Please see the [Professional Skills and Behaviour » Final](#) section for these skills |

<table>
<thead>
<tr>
<th>Topic</th>
<th>Upper tract obstruction (to include Pelvi-ureteric junction obstruction and Vesico-ureteric junction obstruction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Paediatric Urology Special Interest</td>
</tr>
<tr>
<td>Sub-category:</td>
<td>None</td>
</tr>
<tr>
<td>Objective</td>
<td>None</td>
</tr>
</tbody>
</table>

| Knowledge                         | 4 Likely modes of presentation
4 Place and value of investigations/operative intervention
4 Differential diagnosis
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same |

| Clinical Skills                   | None                                                                                                         |
| Technical Skills and Procedures   | None                                                                                                         |
| Professional Skills              | Please see the [Professional Skills and Behaviour » Final](#) section for these skills                        |

| Topic                             | Posterior urethral valves                                                                                     |
| Category                          | Paediatric Urology Special Interest                                                                       |
| Sub-category:                     | None                                                                                                         |
| Objective                         | None                                                                                                         |

| Knowledge                         | 4 Likely modes of presentation
4 Place and value of investigations/operative intervention
4 Differential Diagnosis
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same |

| Clinical Skills                   | None                                                                                                         |
| Technical Skills and Procedures   | None                                                                                                         |
| Professional Skills              | Please see the [Professional Skills and Behaviour » Final](#) section for these skills                        |

| Topic                             | Urinary tract calculas disease                                                                              |
| Category                          | Paediatric Urology Special Interest                                                                       |

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Sub-category: None
Objective None

Knowledge
4 Likely modes of presentation
4 Aetiological and biochemical factors
4 Place and value of investigations/operative and non-operative intervention
4 Differential Diagnosis
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions

Clinical Skills
4 Ability to communicate with all relevant groups, including adult urological services
4 Ability to independently interpret the results of investigations and act on same

Technical Skills and Procedures None

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

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Topic Bladder dysfunction (Incl. neuropathic bladder)
Category Paediatric Urology Special Interest
Sub-category: None
Objective None

Knowledge
4 Likely modes of presentation
4 Differential diagnosis
4 Place and value of investigations
4 Knowledge of appropriate referral pathways
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions

Clinical Skills
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

Technical Skills and Procedures Removal

Professional Skills Please see the Professional Skills and Behaviour » Final section for these skills

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Topic Renal Failure
Category Paediatric Urology Special Interest
Sub-category: None
Objective None

Knowledge
4 Likely modes of presentation
4 Differential diagnosis
4 Place and value of investigations
4 Knowledge of referral criteria to renal medical colleagues
4 Ability to assess child

Clinical Skills
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

**Technical Skills and Procedures**
None

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

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**Topic**
Bladder extrophy (to include outlet anomalies e.g. epispadias)

**Category**
Paediatric Urology Special Interest

**Sub-category:**
None

**Objective**
None

4 Likely modes of presentation
4 Differential diagnosis
4 Place and value of investigations
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

**Technical Skills and Procedures**
None

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

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**Topic**
Duplication of urinary tract

**Category**
Paediatric Urology Special Interest

**Sub-category:**
None

**Objective**
None

4 Likely modes of presentation
4 Embryological derivation and anatomical variants
4 Place and value of investigations-operative intervention
4 Differential diagnosis
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

**Technical Skills and Procedures**
None

**Professional Skills**
Please see the [Professional Skills and Behaviour » Final](#) section for these skills

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**Topic**
Intersex conditions

**Category**
Paediatric Urology Special Interest

**Sub-category:**
None

**Objective**
None
Knowledge

4 Likely modes of presentation
4 Embryological derivation and anatomical variants
4 Place and value of investigations/operative intervention
4 Differential diagnosis
4 Ability to assess child
4 Ability to form a viable investigation and treatment plan, including appropriate range of operative interventions
4 Ability to communicate with all relevant groups
4 Ability to independently interpret the results of investigations and act on same

Clinical Skills

Clinical Skills

Technical Skills and Procedures

None

Professional Skills

Professional Skills

Please see the Professional Skills and Behaviour » Final section for these skills