Appendix 2: Syllabus

The syllabus contains the specialty topics that must be covered in the training programme. Each of these topics includes one or more learning objectives.

Formative WBAs may be used to assess and provide feedback on any areas of clinical activity. However, other than for the critical conditions, index procedures or where they have been identified to address a concern, WBAs are optional and trainees, therefore, do not need to use WBAs to evidence their learning against each syllabus topic.

In the three phases of specialty training the following methodology is used to define the level of performance/competence to be achieved at completion of each phase in the domains of:

- specialty-based knowledge
- clinical skills and judgement
- technical and operative skills

Standards for knowledge

Each topic for a level or phase of training has a competence level ascribed to it for knowledge ranging from 1 to 4 which indicates the depth of knowledge required:

1. knows of
2. knows basic concepts
3. knows generally
4. knows specifically and broadly

Standards for clinical and technical skills

The practical application of knowledge is evidenced through clinical and technical skills. Each topic has a competence level ascribed to it in the areas of clinical and technical skills ranging from 1 to 4:

1. Has observed

Exit descriptor; at this level the trainee:

- has adequate knowledge of the steps through direct observation
- can handle instruments relevant to the procedure appropriately and safely
- can perform some parts of the procedure with reasonable fluency.

2. Can do with assistance

Exit descriptor; at this level the trainee:

- knows all the steps - and the reasons that lie behind the methodology
- can carry out a straightforward procedure fluently from start to finish under direct supervision
- knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations).

3. Can do whole but may need assistance

Exit descriptor; at this level the trainee:

- can adapt to well-known variations in the procedure encountered, without direct input from the trainer
- recognises and makes a correct assessment of common problems that are encountered
- is able to deal with most of the common problems
- knows when help is needed
- requires advice rather than help that requires the trainer to scrub.

4. Competent to do without assistance, including complications

Exit descriptor, at this level the trainee:

- with regard to the common clinical situations in the specialty, can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input
- is at the level at which one would expect a day-one UK consultant surgeon to function
- is capable of supervising trainees.

To ensure the appropriate procedural and clinical competence, there are nominated index procedures (appendix 4) that will require assessment through PBAs and critical conditions (appendix 3) that will require assessment through CBDs or CEXs as appropriate. Other than for the critical conditions, index procedures or where they have been identified to address a concern, WBAs are optional for formative feedback. Trainees, therefore, do not need to use WBAs to evidence their learning against each syllabus topic.

Syllabus

	ST3-ST4	ST5-ST6	ST7-ST8
General Surgery of Childhood			
➢ **Objectives:** **To understand the presenting symptoms of common 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**	**4**	**4**	**4**
➢ **Knowledge:** **Developmental anatomy** **Natural history** **Place of conservative management** **Indications and outcomes of surgery**	**4**	**4**	**4**
➢ **Clinical Skills:** **Ability to assess child** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	4	4	**4**

Ability to assess child and reach appropriate diagnosis, form a treatment plan and communicate with all relevant groups			
➢ **Technical skills and procedures:**			
1. Groin conditions: **Hernia, Hydrocele, Undescended testis** **Inguinal herniotomy (non-neonatal)** **Inguinal hernia (neonatal)** **Surgery for hydrocele** **Orchidopexy (including laparoscopy)** **Surgery for acute scrotum** **2. Abdominal wall pathologies: Umbilical, Supraumbilical, Epigastric Hernias** **Repair of umbilical hernia** **Repair of epigastric hernia** **3. Head and neck swellings** **Excision skin lesion** **Excision/biopsy of lymph nodes** **Surgery for thyroglossal cyst** **Surgery for branchial cysts and branchial remnants** **4. Access** **Vascular access (including simulation):** **Central venous lines and ports (including percutaneous)** **Central venous line removal**	 **3** **2** **4** **3** **4** **3** **3** **4** **3** **1** **1** **2** **4**	 **4** **3** **4** **4** **4** **4** **4** **4** **4** **2** **2** **3** **4**	 **4** **4** **4** **4** **4** **4** **4** **4** **4** **2** **2** **4** **4**
G I conditions			
➢ **Objectives:** **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**	**3**	**4**	**4**
➢ **Knowledge:** **Patterns of symptoms and relation to likely pathology** **Significance of bile-stained vomiting** **Differential diagnosis** **Place and value of investigations** **Understanding of the biochemical changes associated with the condition** **Understanding of functional GI obstructions**	**3** **4**	**4** **4**	**4** **4**
➢ **Clinical Skills:** **Ability to assess ill child including an assessment of severity of dehydration** **Ability to safely correct the dehydration and biochemical abnormalities**	**3**	**4**	**4**

Ability to communicate with ill child (see section 1) **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**			
➢ **Technical skills and procedures:** **1. Pyloric stenosis** **Pyloromyotomy**	**3**	**4**	**4**
2. Gastro-oesophageal reflux **OGD** **Oesophageal dilatation** **Gastrostomy (insertion/removal/closure)** **Open or laparoscopic fundoplication** **Feeding jejunostomy** **Oesophago-gastric disconnection**	 **3** **2** **2** **1** **1** **1**	 **4** **3** **3** **2** **2** **2**	 **4** **4** **4** **3** **3** **2**
3. Abdominal pain **Open and Laparoscopic appendicectomy** **Operative reduction of intussusception**	 **3** **3**	 **4** **4**	 **4** **4**
4. Constipation **Rectal Biopsy** **EUA and Manual evacuation** **ACE procedure**	 **3** **4** **2**	 **4** **4** **3**	 **4** **4** **4**
5. GI bleeding **OGD / Sigmoidoscopy** **Small bowel resection/anastomosis – open and laparoscopically assisted (Meckels)**	 **2** **2**	 **3** **3**	 **4** **4**
6. Intestinal obstruction **Laparotomy** **Adhesiolysis** **Small bowel resection/anastomosis**	 **2** **2** **2**	 **3** **3** **3**	 **4** **4** **4**
7. Inflammatory Bowel Disease **OGD** **Colonoscopy** **Sigmoidoscopy** **Small bowel resection/anastomosis** **Right hemicolectomy** **Left hemicolectomy** **Total colectomy** **Pouch formation**	 **3** **2** **3** **2** **2** **2** **2** **1**	 **4** **3** **3** **3** **3** **3** **3** **1**	 **4** **3** **4** **4** **4** **4** **4** **2**
8. Short bowel syndrome **Bowel lengthening procedures (specialist centre)**	 **1**	 **1**	 **2**
9. Liver/ biliary disease / pancreas / spleen **Cholecystectomy** **Choledochal cyst (specialist centre)** **Kasai procedure - (specialist centre)** **Splenectomy** **Pancreatic lesions**	**1** **1** **1** **1** **1**	**2** **1** **1** **2** **2**	**3** **1** **1** **3** **2**
Urology			
➢ **Objectives:**	**3**	**4**	**4**

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:** **Patterns of symptoms and relation to likely pathology and age of child** **Relevance of different symptom patterns** **Differential diagnosis** **Place and value of investigations**	**3**	**4**	**4**
➢ **Clinical Skills:** **Ability to assess child.** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	**3**	**4**	**4**
➢ **Technical skills and procedures**			
1. Foreskin pathology			
Preputioplasty	**4**	**4**	**4**
Circumcision	**4**	**4**	**4**
2. Urinary tract infection			
None			
3. Haematuria			
Cysto-urethroscopy	**2**	**3**	**4**
4. Hypospadias			
Repair distal hypospadias	**2**	**3**	**4**
Repair proximal hypospadias	**1**	**2**	**3**
Repair urethral fistula	**1**	**2**	**3**
5. Upper tract obstruction (to include Pelvi-ureteric junction obstruction and Vesico-ureteric junction obstruction)			
Pyeloplasty	**2**	**3**	**4**
Nephrectomy	**2**	**3**	**4**
Heminephrectomy	**1**	**2**	**3**
Insertion of percutaneous nephrostomy – with ultrasound guidance	**1**	**2**	**2**
Insertion of JJ stent	**2**	**3**	**4**
Ureteric reimplantation	**1**	**2**	**3**
6. Posterior urethral valves			
Resection of PUV	**1**	**2**	**3**
Formation/closure of vesicostomy	**2**	**3**	**4**
7. Urinary tract calculus disease			
Interventional management of urolithiasis	**1**	**2**	**3**
8. Bladder dysfunction (incl. neuropathic bladder)	**2**	**3**	**4**
Cysto-urethroscopy	**2**	**3**	**4**

Vesicostomy	**2**	**3**	**4**
Closure of vesicostomy	**2**	**4**	**4**
Suprapubic catheter	**3**	**4**	**4**
Endoscopic cauterisation of lesion of bladder	**2**	**2**	**4**
Endoscopic management of clot from bladder	**1**	**2**	**2**
Ileal / Colonic bladder reconstruction	**1**	**2**	**3**
Ureteric diversion / undiversion	**1**	**2**	**3**
Mitrofanoff procedure			
9. Renal failure (specialist centre)	**1**	**2**	**3**
Haemodialysis catheter insertion	**1**	**2**	**3**
PD catheter insertion	**2**	**3**	**4**
PD catheter removal			
10. Bladder exstrophy (to include outlet anomalies e.g. epispadias) specialist centres	**1**	**1**	**2**
Closure of bladder neck	**1**	**1**	**2**
Repair of bladder exstrophy	**1**	**1**	**2**
Repair of epispadias			
11. Duplication of urinary tract	**1**	**2**	**3**
Open +/- laparoscopic hemi-nephrectomy	**1**	**2**	**3**
Endoscopic incision of ureterocele			
12. Urethral meatus	**2**	**3**	**4**
Meatotomy	**2**	**3**	**4**
Meatoplasty	**3**	**4**	**4**
Urethral dilatation			
13. Epispadias	**1**	**1**	**2**
Repair of epispadias (specialist centres)			
14. Vesico-ureteric reflux	**2**	**3**	**4**
Cysto-urethroscopy	**2**	**3**	**4**
STING/deflux	**1**	**2**	**3**
Ureteric reimplantation			
Neonatal Surgery			
➢ **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**	**3**	**4**	**4**
➢ **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 counselling**	**3**	**4**	**4**
➢ **Clinical skills:** **Ability to counsel antenatally** **Ability to assess a neonate**	**3**	**4**	**4**

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

➢ **Technical skills and procedures**			
1. Oesophageal atresia			
Operation for oesophageal atresia/TOF	**1**	**2**	**3**
Repair of H fistula	**1**	**1**	**2**
Repair of recurrent fistula	**1**	**1**	**2**
Oesophageal dilatation (neonatal)	**2**	**2**	**3**
Oesophageal replacement	**1**	**1**	**2**
Aortopexy	**1**	**1**	**2**
2. Congenital diaphragmatic hernia			
Operation for diaphragmatic hernia (neonate) Including eventration	**2**	**3**	**4**
3. Intestinal atresias			
Duodeno- duodenostomy	**2**	**3**	**4**
Intestinal resection/anastomosis	**2**	**3**	**4**
Stoma formation	**2**	**3**	**4**
4. Small bowel duplications			
Intestinal resection/anastomosis	**2**	**3**	**4**
5. Meconium ileus			
Operation for meconium ileus	**2**	**3**	**4**
6. Malrotation			
Correction of malrotation	**2**	**3**	**4**
7. Hirschsprung's disease			
Rectal biopsy	**3**	**4**	**4**
Trans-anal pull through – open or laparoscopically Assisted	**1**	**2**	**3**
Pull through laparoscopic or open (Duhamel procedure, Soave, Swenson)	**1**	**2**	**3**
8. Anorectal malformations			
Anoplasty	**2**	**3**	**4**
Sigmoid colostomy	**2**	**3**	**4**
PSARP	**1**	**2**	**3**
9. Necrotising enterocolitis			
Laparotomy and proceed	**2**	**3**	**4**
Intestinal resection/anastomosis	**2**	**3**	**4**
10. Neonatal Abdominal Wall Defects			
Repair of gastroschisis	**2**	**3**	**4**
Application of preformed silo	**2**	**3**	**4**
Repair of exomphalos	**2**	**3**	**4**
11. Sacro coccygeal teratoma			
Excision of sacro coccygeal teratoma	**1**	**2**	**3**
12. Differences of sex development			
Cystovaginoscopy	**2**	**3**	**4**
13. Antenatal management			
None			

Oncology			
➢ **Objectives:** **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** **To understand the MDT set up and role of surgeon as a member of the MDT**	**3**	**4**	**4**
➢ **Knowledge:** **Mode of clinical presentation** **Differential diagnosis** **Relevant basic science knowledge of oncogenesis** **Outcome data of treatment modalities** **Role of surgery**	**3** **1**	**4** **2**	**4** **3**
➢ **Clinical skills:** **Ability to assess child** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	**3**	**4**	**4**
➢ **Technical Skills and Procedures:** **1. Wilm's tumour** **Nephro-ureterectomy/nephrectomy for Wilms** **2. Neuroblastoma** **Surgery for neuroblastoma** **3. Hepatoblastomy** **Surgery for hepatoblastoma (only at specialist centre)** **4. Soft tissue tumour** **Local excision soft tissue tumour** **5. Haematological malignancies** **Cervical Lymph node biopsy** **6. Benign tumours** **Oopherectomy** **Oophero-salpingectomy** **7. Generic procedures** **Tumour biopsy – open / laparoscopic**	 **1** **1** **1** **1** **2** **2** **2** **2**	 **2** **2** **2** **2** **3** **3** **3** **3**	 **3** **3** **2** **3** **4** **4** **4** **4**
Endocrine including thyroid, parathyroid, pancreas			
➢ **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**	**3**	**4**	**4**

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** **Likely modes of presentation** **Differential diagnosis** **Place and value of investigations** **Knowledge of appropriate referral pathways**	**3**	**4**	**4**
➢ **Clinical skills:** **Ability to assess child** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	**3**	**4**	**4**
➢ **Technical skills** **1. Adrenal** **Adrenalectomy** **2. Thyroid** **Thyroidectomy** **3. Disorders of growth and secondary sexual development** **Gastrostomy**	 **1** **1** **2**	 **1** **1** **3**	 **2** **2** **4**
<u>Airway and Thoracic</u>			
➢ **Objectives:** **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**	**4**	**4**
➢ **Knowledge:** **Likely modes of presentation** **Differential diagnosis** **Place and value of investigations** **Knowledge of appropriate referral pathways** **Outcomes of surgery**	**3**	**4**	**4**
➢ **Clinical Skills:** **Ability to assess child** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	**3**	**4**	**4**
➢ **Technical skills and procedures:** **1. Chest wall anomalies** **Repair of Pectus Excavatum / Carinatum** **2. Congenital and acquired lung abnormalities including management of empyema** **Thoracotomy** **Open biopsy of lung** **Pulmonary lobectomy**	 **2** **1** **1**	 **1** **3** **2** **2**	 **2** **4** **3** **3**

Excision of extra lobar sequestration **Aspiration of pleural cavity** **Insertion of open chest drain** **Open/thoracoscopic pleural debridement** **Rigid bronchoscopy** **Fibreoptic bronchoscopy** **3. Tracheal anomalies** **Tracheostomy** **Rigid bronchoscopy** **Fibreoptic bronchoscopy** **4. Inhaled / aspirated / ingested foreign body** **Rigid bronchoscopic removal of FB bronchus**	**1** **4** **4** **2** **2** **2** **1** **2** **2** **2**	**2** **4** **4** **3** **3** **3** **1** **3** **3** **2**	**3** **4** **4** **4** **4** **4** **2** **4** **4** **2**
Peri-operative Care – Preop / Intraop / Postop			
➢ **Objective:** **To ensure the trainee has reached a level of competence in a range of basic operative procedures.**	**3**	**4**	**4**
➢ **Knowledge:** **Preop** **Indications for surgery** **Required preparation for surgery to include necessary pre-operative investigations** **Outcomes and complications of surgery** **Knowledge of the admission process** **Intraop** **Anatomy to be encountered during procedure** **Steps involved in operative procedure** **Knowledge of alternative procedures in case of encountering difficulties** **Potential complications of procedure** **Postop** **Outcomes of procedure** **Likely post-operative progress from disease process and intervention** **Physiological and pathological changes in condition as a result of intervention**	**3** **3** **3**	**4** **4** **4**	**4** **4** **4**
➢ **Clinical Skills:** **Preop :** **Synthesis of history and examination into operative management plan** **Ability to explain procedure and outcomes to patient and parents at an appropriate level** **To be able to take informed consent** **To construct an appropriate theatre list** **To follow the admission procedure** **Intraop:** **Necessary hand-eye dexterity to complete procedure** **Appropriate use of assistance** **Communication with other members of theatre team** **Postop:** **Assessment of patient and physiological parameters**	**3** **3** **3**	**4** **4** **4**	**4** **4** **4**

Appropriate intervention to deal with changing parameters **Communication skills for dealing with team members, patients and parents** **Ability to prioritise interventions**			
Technical skills and procedures (including simulation) **Open and laparoscopic operative skills appropriate for training**			**4**
Trauma			
Objective :To understand the presentations of trauma in children and their management **To undertake necessary time critical intervention** **To understand trauma networks and place of surgery** **To be able to work as part of a team** **To be able to practice with integrity, respect and compassion**	**3**	**3**	**4**
Knowledge: **Mechanism of injury and presentation** **Investigations** **Principles of management**	**3**	**4**	**4**
Clinical Skills: **Ability to assess child** **Ability to form a viable investigation and treatment plan** **Ability to communicate with all relevant groups**	**3**	**4**	**4**
Technical skills and procedures: (including simulation) **Chest drain** **Trauma laparotomy** **Trauma thoracotomy**	**4** **2** **2**	**4** **3** **3**	**4** **3** **3**
Management			
NHS Structure			
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**	**2**	**2**	**2**

Knowledge: **Current structure of NHS in the different parts of the UK (relative to where the trainee is working)** **Role of Department of Health (England) and its equivalent bodies in Northern Ireland, Scotland and Wales** **Role of Strategic Health Authority (England) and its equivalent bodies in Northern Ireland, Scotland and Wales** **Role of regulatory agencies**	**2** **2** **2** **2**	**3** **3** **3** **3**	**3** **3** **3** **3**
Clinical Skills: **Ability to identify impact of structures / changes on delivery of care**	**2**	**2**	**3**
Technical Skills and Procedures: **none**	**2**	**2**	**2**
Trust/Hospital/Health Authority Managerial structures			
Objective: **To understand the current structure and function of the NHS in the different parts of the UK** **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**	**2**	**2**	**2**
Knowledge: **Local managerial structures** **Alternative model(s) of management** **Roles of Executive /Non -executive board members** **Roles of different depts e.g.** **Finance** **Human resources** **Risk management etc**	**2**	**2**	**3**
Clinical Skills: **Ability to interact appropriately with Trust structures to help in service delivery**	**2**	**2**	**3**
Technical skills and Procedures: **none**			
Leadership			
Objectives: **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**	**2**	**2**	**3**
Knowledge: **Differences between leadership and management** **Different styles of leadership and their uses** **Personal leadership styles** **Roles of leaders in teams** **NHS Leadership Qualities Framework**	**2**	**2**	**3**
Clinical Skills: **Ability to identify own style of leadership** **Ability to utilise appropriate style to management of managerial issues**	**2**	**2**	**3**

Ability to lead a team of peers and colleagues in a project (research/audit/managerial)			
Technical skills and Procedures: **No content**			
Supporting Training			
Objective: **To develop the skills required to support training of peers and colleagues.**	**3**	**4**	**4**
Knowledge: **Principles of coaching, training and mentoring** **Principles and uses of assessment and appraisal** **Differing styles of feedback and their appropriate use** **Knowledge of career pathways** **Indicators of 'poor performance'** **Teaching styles and their uses (see section 1.6)**	**3**	**4**	**4**
Clinical skills: **Ability to train junior trainees** **Ability to provide appropriate guidance to trainees through use of techniques of feedback, appraisal and assessment** **Ability to support poor performers appropriately** **Ability to give career advice** **Ability to support colleagues through use of appraisal and revalidation mechanisms**	**3**	**4**	**4**
Technical skills and procedures: **No content**			
Interview Process			
Objective: **To be able to participate appropriately in interview process.**	**2**	**2**	**4**
Knowledge: **Role of interview in selecting candidates for training** **Use of different types of interview** **Role of panel members** **Legal requirements of panel members with respect to Employment and Equal Opportunities legislation**	**2**	**2**	**4**
Clinical skills: **Ability to ask appropriate questions depending on style of interview** **Ability to provide feedback for both successful and unsuccessful candidates** **Completion of paperwork for committee**	**2**	**2**	**3**
Technical skills and procedures: **No content**			