Pediatric General Surgery: Goals and Objectives
FOD, Core TTP:

Rotation Description

The service of pediatric surgery is part of CTU #3. The service is comprised of Drs. Kolar and Winthrop. Dr. Kolar and Dr. Winthrop are available (as per the call schedule) for all surgical patients less than the age of 18 years from 8 am until 5pm. After 5pm the pediatric surgeon is on call for all patients 12 and under. The pediatric surgeons are also available for consult by the surgical residents or adult surgeon on call at any time. If a patient less than the age of 18 years is taken to the OR for trauma, congenital issues or any surgical issue that is complex the pediatric surgeons would like to be contacted.

A rotation in Pediatric Surgery will give residents the opportunity to become familiar with the unique needs of infants, children and adolescents as surgical patients. Some of the surgical diseases encountered in children and adolescents are similar in their presentation, management and outcome with their adult counterparts; others are quite different. The fundamental principles of surgical care, however, are similar to those that govern surgical practice in other age groups.

a) Knowledge

- Well organised understanding of anatomy, pathology and pathophysiology of infants, children and adolescents requiring surgical treatment (as per specific RCPSC goals of training in General surgery)

b) Skills

- Mastery of basic physician skills related to the assessment, management, timing and indications for surgery in children.Introduction specific pediatric surgical procedures with graduated performance in the operating room appropriate for the stage of training

c) Attitudes

- Function as a coordinator and supervisor of junior house staff and students on the service involving preoperative, intraoperative and postoperative patient management delivered in step down unit, ICU and on the ward
- Communicates effectively with patients and families, colleagues & allied health professionals
- Professional behaviours (honesty, reliability, & confidentialit

d) Academics

RC Competencies:

a) MEDICAL EXPERT

At the conclusion of the transition to practice the resident should meet all of the following objectives in spite of variations in rotation durations and resident exposure to pediatric surgery.

Surgical anatomy:

1.4.1.1 Abdomen and Pelvis relevant to pediatric surgery,

Physiology

1.4.3.13 Physiological differences of pediatric surgical patients compared to adults, and the clinical consequences of the differences for the surgical care of children, including responses to hypovolemia, physiologic stress and surgical stress (fluid therapy, nutrition and metabolism, wound care, heat regulation). **Recognize:**

a. The unique natural history of surgical diseases in children and use the information in reaching a diagnosis.

b. The limited host resistance and high risk of nosocomial infections in newborns, and the need for aseptic protocols to minimize environmental hazards.

c. The need to individualize drug dosage and fluid administration on the basis of weight (and the immature hepatic and renal function), and be able to calculate expediently fluid and electrolyte requirements using standard formulas.

d. The risk of apnea post anesthesia and post narcotic administration in small infants

1.4.7.1 Understand the principles of trauma in the pediatric population

1.4.7.2 Common mechanisms of pediatric trauma and common patterns of injury

Perform a patient-centered clinical assessment in the area of pediatric problems and establish a specific management plan

2.2 Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion 2.2.1. Gather a relevant clinical history 2.2.2. Identify and interpret the clinical significance of findings in a physical examination 2.2.4. Select appropriate methods to stage malignancies 2.2.5. Select and interpret medical imaging.

2.2.5.1. Radiography 2.2.5.2. Ultrasonography 2.2.5.3. Computed tomography (CT) 2.2.5.4. Magnetic resonance imaging (MRI) 2.2.5.5. Nuclear imaging 2.2.5.6. Positron emission tomography (PET) 2.2.6. Interpret the clinical relevance of laboratory and pathology reports 2.2.7. Determine the indications for, and benefits and risks of surgical intervention for the clinical presentation 2.2.8. Assess peri-operative risk Establish goals of care in collaboration with patients and their families1 2.3. , which may include slowing disease progression, treating symptoms, achieving cure, improving function, and palliation 2.3.1. Identify opportunities for advance care planning discussions and explore the patient's values, wishes and preferences related to end-of life-care 2.3.1.1. Apply knowledge of settings for end-of-life care, including home, hospice, palliative care units, and hospital.

Establish a patient-centered management plan, including non-operative, preoperative, operative, and postoperative care for patients with the following conditions:

2.4.93 Gasrtointestinal tract obstruction, including pyloric stenosis, malrotation, and volvulus, congenital bands, Hirschsprungs disease. foreign bodies and intussuception, umbilical hernia, umbilical granuloma, Meckels diverticulum, appendicitis.
2.4.94 Common pediatric neck masses (lymphadenitis, thyroglossal duct cyst, dermoid cyst, branchial cleft cyst, lymphangioma, tongue tie, thyroid disease)

Plan and perform procedures and therapies for the purpose of assessment and/or management

3.1.1.6 Initial management of patients with soft tissue injuries, including burn injuries (pediatric)
3.1.1.7. Resuscitation and stabilization in pediatric trauma patients
3.1.1.7.1 Establishment of intravenous/ intraosseous access
3.1.1.7.2 Provision of appropriate iv fluid
3.1.1.7.3 Determinations of need for a blood transfusion
3.1.1.7.4. Determination of the need for an operative intervention locally or transfer to a pediatric center
3.1.1.7.5 Application of the principles of non-operative management of solid organ injuries
3.11.2.1. Recognize and address challenges arising in emergency situations and when patient capacity to provide consent is limited

3.3. Prioritize procedures or therapies, taking into account clinical urgency and available resources 3.3.1. Triage patients appropriately for emergent, urgent or elective care and interventions 3.3.2. Select patients appropriately for intraoperative pathology consultations
3.4. Perform procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances

Diagnostic Procedures and technical skills specific to Pedaitric surgery Perform

3.4.100 Appendectomy in a child over the age of 2y
3.4.101 Inguinal, umbilical, and epigastric hernia repairs in children over the age of two years
3.4.102 Laparotomy for an acute abdomen in children over 2 y of age
3.4.103 Laparotomy for a bowel obstruction in children over 2 y
3.4.104 Incision and drainage of superficial abscesses
3.4.105 Excision of benign lesions of the skin and subcutaneous tissue
3.4.106 Operative management of ingrown toenails
3.4.107 Operative management of pilonidal disease
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Provide perioperative care and surgical management in collaboration with a subspecialty surgeon

3.5.44 Pyloromyotomy
3.5.45 Circumcision
3.5.46 Minor oral surgical procedures, including treatment of ranula, tongue tie, and mucocele

Establish plans for ongoing care and, when appropriate, timely consultation

4.1 Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further
4.1.1. Identify indications for consultation with other health care professionals
4.1.1.1Provide referral for advanced operative or endoscopic procedures.
4.1.2. Provide follow-up on results of investigations and response to treatment
4.1.3. Recognize and manage complications

Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety

5.1 Recognize and respond to harm from health care delivery, including patient safety incidents

5.2 Adopt strategies that promote patient safety and address human and system factors

5.2.1 Participate and/or lead in a pause or checklist immediately before surgical .incision

5.2.2 Apply strategies to enhance patient and provider safety and reduce the risk of complications from surgical interventions

For outline of the other competencies and EPA's see general RSO

Special Objectives

1. Formulate a clear plan for the evaluation and treatment of a child presenting with: bilious vomiting, non-bilious vomiting, acute abdominal pain, chronic abdominal pain, constipation and upper and lower GI bleeding
2. Be aware of and recognize common post-operative complications in children and initiate their treatment.

3. Diagnose and provide the initial management of several conditions which, while ideally managed in a special pediatric facility, may demand initial (and occasionally definitive) management locally because of urgency or distance: incarcerated inguinal hernia in the neonate, intestinal malrotation with volvulus, aspirated and ingested foreign bodies, acute abdomen in the neonate or infant, acute gastrointestinal bleeding, blunt abdominal and thoracic trauma.

4. Diagnose and refer the following problems that may be seen initially by a general surgeon but will almost always be best managed in a specialized pediatric facility: congenital lesions of the lungs and mediastinum, gastroesophageal reflux (surgical management),chest wall deformities (pectus excavatum and carinatum), solid tumors of childhood (e.g.neuroblastoma, Wilms' tumor, hepatoblastoma
5. Diagnose and apply principles of initial care and care during transport in the following neonatal conditions whose definitive management should only be undertaken in specialized pediatric facilities with qualified pediatric surgeons: congenital diaphragmatic hernia, esophageal atresia / tracheoesophageal fistula, gastroschisis / omphalocele, intestinal atresia, Hirschsprung's disease, imperforate anus, intestinal malrotation, major pulmonary parenchymal disease (congenital lobar emphysema, CPAM, etc.)