

**Pediatric Trauma Fellowship  
Division of General and Thoracic Surgery  
Hospital for Sick Children**

**Goals and Objectives**

Revised June 13 2010

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**GOALS**

To develop the skills necessary to assume complete responsibility for the pre-operative, operative, and post operative management of the problems of the pediatric trauma patient, to interact appropriately with allied colleagues in the care of the pediatric trauma patient, to interact effectively with the pediatric trauma patient and his/her family and to maintain the leadership and direction of the profession of pediatric general surgery as it pertains to the pediatric trauma patient.

**OBJECTIVES**

The Pediatric Trauma Fellow trainee, relative to the following headings, should be able to....

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**MEDICAL EXPERT**

1. Develop the following clinical skills as they pertain to a pediatric trauma patient:

- Take a relevant history.
- Perform an acceptable physical examination concentrating on the relevant areas.
- Arrive at an appropriate differential diagnosis.
- Order appropriate laboratory, radiological and other diagnostic procedures, demonstrating an ability to interpret these investigations.
- Arrive at an acceptable plan of management, demonstrating knowledge and skill in both the operative and non-operative treatment of the disease process.
- Manage patients in the ambulatory setting, demonstrating a knowledge of office techniques and procedures.
- If hospitalization is necessary, manage the patient throughout the entire in-hospital course, demonstrating appropriate knowledge and skills.
- Provide a plan for patient follow-up.
- Demonstrate efficiency in the utilization of health care resources.

2. Demonstrate a fundamental knowledge and understanding of the following general areas and disease processes within the field of Pediatric Surgery, which is adequate to permit appropriate assessment, investigation, diagnosis, and treatment of these trauma patients:

- Soft tissue and skin infections – primary and secondary, antibiotic therapy, related surgical procedures.
- Common surgical problems in the emergency department – lacerations, burns
- The “Acute Abdomen” – acute appendicitis, acute gastroenteritis, bowel obstruction, intussusception, malrotation and volvulus.
- Rectal bleeding – fissure-in-ano, juvenile polyp, Meckel’s diverticulum, medical conditions that may cause rectal bleeding.
- Common anorectal problems – perianal abscess, fistula-in-ano
- Intestinal diseases in the older child – Crohn’s disease, ulcerative colitis, familial polyposis coli.
- The constipated child – functional megacolon, Hirschsprung disease, motility disorders.

- Non-bilious vomiting – pyloric stenosis, gastroesophageal reflux.
- Pediatric hepatobiliary and pancreatic disorders – gallstones, medical causes of jaundice, pancreatitis, pseudocyst.
- Common neonatal surgical conditions – neonatal intestinal obstruction, esophageal atresia and tracheoesophageal fistula, diaphragmatic hernia, omphalocele and gastroschisis, necrotizing enterocolitis, anorectal malformations, exstrophy.
- Disorders of the thorax – pneumothorax, hemopneumothorax, hemothorax, tension pneumothorax
- Trauma – general approach to the multiple-injured child, including initial treatment of hemorrhagic shock, management of specific organ injuries.
- Fluid and dietary management of the pediatric trauma patient – hemotherapy (blood, plasma, platelets), maintenance fluid regimens, treat of coagulopathy, replacement fluid regimens in specific conditions such as pyloric stenosis, small bowel obstruction, peritonitis, burns, TPN.
- Associated medical conditions which impact on the trauma patient – congenital heart disease, bronchopulmonary dysplasia, juvenile diabetes, immunodeficiency syndromes, etc.
- Indications for and complications of central venous lines in pediatric trauma patients
- Indications for and complications of gastrostomy and jejunostomy tubes in pediatric trauma patients
- Management of the pediatric trauma patient who has become an organ donor

3. Develop the following general skills (using a system of graded responsibility): to handle pediatric tissues gently and deliberately, to make reasoned intra-operative judgments, to contribute to a positive operating room atmosphere, and to demonstrate technical competence in performing the following procedures in children:

- Venous access, including insertion of tunneled central line, portacath, and PICC line.
- Incision and drainage of subcutaneous, soft tissue, or deep abscesses.
- Bronchoscopy, esophagogastrotomy, sigmoidoscopy.
- Exploration of head and neck injuries, including penetrating and blunt mechanisms
- Repair of esophageal perforation.
- Pulmonary resection, including pneumonectomy, lobectomy, and wedge resection.
- Video-assisted thoracic surgery
- Placement of gastrostomy, jejunostomy, ileostomy, colostomy.
- Exploratory laparotomy for trauma, abdominal pain, or acute abdomen.
- Open and laparoscopic appendectomy, splenectomy, cholecystectomy, adrenalectomy, bowel resection, and adhesiolysis.
- Repair of incisional hernia.
- Nephrectomy for traumatic injury
- Liver resection for traumatic injury
- Pancreatectomy and pancreatic drainage procedures for traumatic injury and pseudocyst

- Obtain and synthesize relevant history from pediatric trauma patients, their families and the community.
- Demonstrate an appreciation of the unique relationship between pediatric trauma patients and their families and be able to deal effectively and compassionately with family members by establishing therapeutic relationships.
- Demonstrate an appreciation of the unique psychological needs of pediatric trauma patients.
- Listen effectively.
- Demonstrate effective communication skills.
- Maintain adequate written and dictated medical records.

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### **COLLABORATOR**

- Consult effectively with other physicians and health care professionals.
- Contribute effectively to other interdisciplinary team activities.
- Effectively use the team approach in the management of complex pediatric trauma patients

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### **MANAGER**

- Utilize resources effectively to balance patient care, learning needs, and outside activities.
- Allocate finite health care resources wisely.
- Work effectively and efficiently within each of the hospitals.
- Utilize health care technology to optimize patient care, life-long learning and other activities.
- Demonstrate an appreciation of the economic factors that influence decision-making and the impact of such factors on families.
- Understand the principles and practice of quality assurance and improvement.

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### **HEALTH CARE ADVOCATE**

- Identify the important determinants of health affecting pediatric trauma patients, domestically and internationally.
- Demonstrate an understanding of injury prevention.
- Recognize and respond to those issues where advocacy is appropriate.
- Contribute to health-maintenance advocacy for traumatically injured children, domestically and internationally, including such areas as travel safety, helmet use, children operating machinery or motorized vehicles and accessibility to firearms.

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### **SCHOLAR**

- Complete at least one scholarly project (per year), including writing of research proposal, collection and analysis of data, writing/submission of abstract, presentation of abstract at a major meeting and submission of a manuscript for publication
- Develop, implement and monitor a personal continuing education strategy.
- Critically appraise sources of medical information.
- Facilitate learning of patients, housestaff / students and other health care professionals through formal and informal teaching opportunities.
- Contribute to the development of new knowledge to foster the academic growth of the specialty of pediatric trauma surgery by participating in scholarly work.

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### **PROFESSIONAL**

- Deliver highest quality care with integrity, honesty and compassion.

- Exhibit appropriate personal and interpersonal professional behaviors.
  - Practice medicine ethically consistent with obligations of a physician.
  - Demonstrate sensitivity to age, gender, culture and ethnicity in dealing with pediatric trauma patients and their families.
  - Understand the ethical principles as related to children who have been trauma patients and submitted to medical treatment, research, etc.
  - Recognize the importance of maintenance of competence and evaluation of outcomes.
  - Understand the legal issues related to consent, confidentiality, and refusal of treatment.
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