

Training program for Pediatric surgery in Mbweni Hospital unit of St. Joseph University in Tanzania

PEDIATRIC SURGERY PROGRAM GOALS AND OBJECTIVES

A competent pediatric surgical resident at Mbweni Hospital must be dedicated to life-long learning, patient care, and professionalism. Our goal is to prepare the trainee, who are general surgeons, to function as a competent practitioner of pediatric surgery. The **PEDIATRIC SURGERY PROGRAM** must commit to quality service to patients, performed in concert with educational activities, in order to achieve a pediatric surgical knowledge and to contribute to development of pediatric surgery service at Mbweni Hospital in Tanzania.

According to American College of Surgeons The classification for children's surgical centers is as follows (March 4, 2014)

- **Level I** (highest level): Possesses adequate resources to provide comprehensive surgical care and perform both complex and noncomplex surgical procedures in newborns and children of all ages, including those with the most severe health conditions and birth defects. Is staffed 24 hours a day, 7 days a week with properly credentialed pediatric specialists, including pediatric and subspecialty surgeons, pediatric anesthesiologists, pediatric diagnostic and interventional radiologists, and pediatric emergency physicians. Has a Level IV neonatal intensive care unit (NICU), the highest level of critical care for newborns.
- **Level II:** Possesses adequate resources to provide advanced surgical care for children of all ages, including those who have accompanying ("comorbid") medical conditions. Operations would typically be performed by a single surgical specialty. Personnel include a certified pediatric surgeon, pediatric anesthesiologist, and pediatric radiologist; with other pediatric specialists readily available for consultation; and has an emergency physician and an intensive care unit that both have pediatric expertise. Has a Level III or higher NICU.
- **Level III:** Possesses adequate resources to provide basic surgical care and perform common, low-risk surgical procedures in children older than 1 year who are otherwise healthy. Has a general surgeon, anesthesiologist, radiologist, and emergency physician, all of whom have pediatric expertise. Has a Level I NICU (well-newborn nursery) or higher.

Both Level II and III surgical centers must be able to stabilize and transfer critically ill children to a hospital with higher-level resources. All children's surgical centers must have at least one pediatric surgical nurse, a pediatric rapid response team of critical care professionals available at all hours, and an in-house physician with Pediatric Advanced Life Support certification or equivalent qualifications. Furthermore, these centers must be capable of performing pediatric resuscitation in all areas of the facility.

Additional guidelines for ambulatory, or outpatient, surgical centers include having preoperative and recovery areas dedicated to pediatric patients. Also according to the task force report, a pediatric anesthesiologist at an ambulatory surgical center should administer or supervise the administration of a general anesthetic or sedative to all infants below the age of 1 year.

A)For the first two years the goal is to train a pediatric surgeon level III to develop an outpatient pediatric surgical service in Mbweni.

“At a time when the administrative and economic structure of health service in the developing countries, like Pakistan is under scrutiny, the role of outpatient surgery in the delivery of health care for all ages and particularly for children is to be evaluated. There is a shortage of hospital beds for children and also paucity

of trained pediatric surgeons and nurses. Under these circumstances, we conclude that outpatient pediatric surgery will prove a desirable means of health care delivery for common surgical lesions in infants and children. It is safe, cost-effective, acceptable and facilitates better utilization of hospital staff and resources. A variety of common pediatric operations can be done safely as out patients in infants and children, with economic advantages, high parent's acceptability and better utilization of hospital resources without sacrificing the quality of health services (JPMA 50:220, 2000)"

Outpatient surgery, also known as **ambulatory surgery, same-day surgery, day case, or day surgery**, is surgery that does not require an overnight hospital stay. The term "outpatient" arises from the fact that surgery patients may go home and do not need an overnight hospital bed. The purpose of outpatient surgery is to keep hospital costs down, as well as saving the patient time that would otherwise be wasted in the hospital

Common outpatient procedures include:

- Circumcision
- Hydrocele
- Inguinal Hernia Repair -
- Umbilical Hernia repair
- Epigastric Hernia Repair
- Undescended Testicle -
- Lumps and Bumps
- Hemangiomas
- Lymphangiomas
- Branchial Cysts/Sinuses
- Lymph Node biopsy
- Frenulectomy
- Breast Mass Excision/Biopsy
- Labial Adhesions
- Removal of Skin Lesions
- Pilonidal Sinus

B)For the last three years it will be important that the program covers the specifics of operating pediatric conditions.

1st year:

The surgeon will cover

1. hydroelectric resuscitation principles in pediatrics
2. Enteral and parenteral nutrition
3. Gastro Intestinal system: Appendicitis, introduction to endoscopy, intestinal intussusception,
4. Thorax: management of empyema,
5. Parietal masses
6. Peritonitis
7. Burns in pediatrics
8. Performing stomias

2nd/3rd years:

1. Introduction to abdominal laparoscopy

2. Gastro intestinal system: Gastro oesophageal reflux, gallbladder cysts, biliary tract problems including congenital atresia of different stages, atresias, anorectal malformations, meconial ileus, Hirschprung disease
3. Thorax: patent ductus
4. Plasty: cleft palate, flaps etc.

The development of the second part of the program is related to the implementation of the pediatric services at Mbweni Hospital.

The quality of medical and nursing care provided in peripheral hospitals in developing countries has an impact on the health and lives of millions of children each year. With recent evidence that such care is poor in many places there is a need for a serious coordinated approach. Improvements in triage, diagnosis, treatment guidelines, monitoring, and follow up may reduce case fatality and iatrogenic complications. These can be seen as public health as well as clinical problems, and demand approaches that can be brought to large scale. Structured hospital assessments might provide an entry point for deciding priorities for improvement, and the effective implementation and integration of evidence based standardised clinical guidelines will be important for many countries. Simple ways to evaluate the quality of clinical care and strategies for making improvements need to be included in undergraduate medical, nursing, and paramedical curricula and in postgraduate training. Research is needed to document the evidence behind standard treatment guidelines and investigate the acceptability and effectiveness of different quality development approaches in smaller rural and remote health systems. Developing skills in evidence based practice among paediatricians in lower income countries will be important for local adaptation and longer term sustainability of quality improvement strategies. Academic thought needs to be applied to addressing the problems of poorly functioning district hospitals; the problems in these hospitals should not be seen as out of sight and out of mind. A coordinated and collaborative approach is required that may involve ministries of health, national paediatric associations, the WHO, the International Paediatric Association, Western and developing country university departments, and non-government organisations

year 1	year 2	year 3
<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the basic pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Appendicitis ▪ Inguinal hernia ▪ Intussusception ▪ Malrotation ▪ Pyloric stenosis ▪ Thoracic/abdominal trauma ▪ Undescended testis ▪ Thoracic empyema ▪ Parenteral and enteral nutrition ▪ Burns ▪ Stomas needs 	<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the intermediate pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Branchial cleft cyst/sinus/remnant ▪ Gastroesophageal reflux ▪ Gastroschisis ▪ Lung physiology ▪ Omphalocele ▪ Ovarian/adnexal diseases 	<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the advanced pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Anorectal malformation ▪ Biliary atresia ▪ Choledochal cyst ▪ Congenital diaphragmatic hernia ▪ Cystic pulmonary airway malformation ▪ Esophageal atresia with or without TEF ▪ Hirschsprung disease ▪ Intestinal atresia ▪ Neuroblastoma ▪ Wilms tumor

COMPETENCY-BASED OBJECTIVES OF THE PEDIATRIC SURGICAL RESIDENCY

PATIENT CARE—The PSR will:

- Demonstrate the ability to gather essential and accurate patient information
- Make informed decisions about diagnostic and therapeutic interventions
- Efficiently complete patient care activities
- Acquire clinical and technical skills following the educational program

MEDICAL KNOWLEDGE—The PSR will:

- Demonstrate investigative and analytical clinical thinking
- Know the indications for, and technical aspects of, pediatric surgical procedures
- Understand the pathophysiology, and the pre- and post-operative care of basic pediatric surgical diseases
- Know and apply basic and clinical science appropriate to pediatric surgical care
- Satisfactorily complete the annual in-training examination

PRACTICE-BASED LEARNING—The PSR will:

- Develop a personal program of self-study and professional growth with guidance from the teaching staff. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of the most relevant pediatric surgical disorders is absolutely necessary. This will allow for sound surgical judgment that relies on rational thinking and knowledge of the surgical literature.

PROFESSIONALISM—The PSR will:

- Provide compassionate patient care, maintaining the highest moral and ethical values with a professional attitude. The PSR should be sensitive to the needs and feelings of others, including the patient’s family members, allied health care personnel (nurse practitioners (NPs), physician’s assistants (PAs), clerical staff, etc.), fellow residents, and medical students
- Demonstrate respect, compassion and integrity in the care of patients on a daily basis
- Show sensitivity to the patient’s culture, age, gender, and disabilities

INTERPERSONAL RELATIONSHIPS AND COMMUNICATION—The PSR will:

- Create and sustain a therapeutic and ethically sound relationship with patients
- Work effectively with other members of the medical team, including allied health care personnel (NPs, PAs, clerical staff, etc.), fellow residents, and medical students
- Maintain professional interactions with other health care providers and hospital staff

These goals are fostered in an environment of progressively graded clinical and operative experience and responsibility.

