

## **BRANCH - V M.Ch PAEDIATRIC SURGERY**

### **Curriculum for M.Ch. Paediatric surgery Training Program:**

#### **A. Operative Surgery:-**

The basic requirement and the minimal operative experience required during the 3 year training program are outlined here below. The operative experience would be acquired through progressively graded surgical responsibility starting from the investigative, history writing, preoperative and the post-operative management to the assisting at surgery (initially in infants and children and then the newborn during the first and the second year of training) and then leading to the independent operative responsibility with minimal supervision during the last year of training).

The log book should have nearly the following number of operative procedures.

#### **1. All Indexed Neonatal Surgical cases : N = 50**

Esophageal atresia and TEF

Anorectal malformations (low and high)

Exomphalos and Gastroschisis

Duodenal Atresia / obstruction

Diaphragmatic Hernia

Hirschsprung's disease (Colostomy and Primary Pull-through)

NNEC

Spina Bifida

Intestinal Obstruction (Atresia, Stenosis, Malrotation)

Congenital Hypertrophic Pyloric Stenosis

Meconium Ileus and Intestinal Volvulus

Neonatal tumors

Neonatal surgical jaundice

Bladder exstrophy

Prune Belly syndrome

## **2. Gastrointestinal surgical problems: N 50**

Colostomy making and closure

Esophageal replacement

Anti gastroesophageal reflux surgery

Gastrostomy

Pull through procedures for ARA

Pull through procedures for Hirschsprung's disease

Intestinal obstruction, resections

Intussusception

Splenectomy

Patient VLD anomalies

Umbilical Hernia

Appendectomy

Biliary atresia

Choledochal cysts

Surgery on the pancreases (Pancreatitis, tumours, pseudocysts)

## **3. Pediatric Urological Cases : N 50**

Pyelolithotomy

Pyeloplasty

Ureteric reimplantation

Ureterolithotomy

Ureterostomy

Cystolithotomy

Cystoscopy

Nephrectomy

Nephrostomy

Orchidectomy for tumors, Exploration

Posterior urethral valve fulguration

Urinary diversion

Operation for torsion of testis

Circumcision

Orchidopexy

Hypospadias repair.

Bladder augmentation / substitution procedures

Lower Urinary Tract Endoscopy

Cystourethroscopy

STING for Vesicoureteral Refl ux

Bladder Injection procedures for Neurogenic bladder

Endoscopic Management of Ureterocele

Percutaneous Nephrolithotomy and endoscopic management of

Urinary Tract Calculi

Uretero-rensoscopy in Children

Minimally Invasive Management of Calculi

#### **4. Pediatric Thoracic Cases : N 50**

Oesophageal dilatation

Foreign body removal

Esophagoscopy

Pleural drainage

Pulmonary resection

Thoracotomy for excision of duplication Cyst, CCAM, tumor

Pneumonectomy

Decortication and pleural toilet

#### **5. Pediatric Oncology Cases : N = 20**

Hepatoblastoma

Neuroblastoma

Rhabdomyosarcoma

Wilm's tumour

Ovarian tumors

Testicular Tumors

Soft tissue sarcomas

Sacro Coccygeal teratomas

## **6. Paediatric Endoscopic Procedures : N = 50**

Cystoscopy

Bronchoscopy

Esophagoscopy

## **7. Minimal Access Surgery: N =20**

### **Minimal Access Surgery Applications in the Abdomen :**

Diagnostic and Therapeutic.

Laparoscopic appendectomy

Laparoscopic hernia surgery in children

Laparoscopic Heller myotomy

MAS-assisted percutaneous endoscopic gastrostomy & jejunostomy tubes placement

Laparoscopic fundoplication

Laparoscopic pyloromyotomy

Laparoscopic cholecystectomy

Laparoscopic management of intestinal malrotation, intussusception, adhesiolysis, Meckel diverticulum, and small-bowel atresia.

Laparoscopic pull-through for Hirschsprung disease

Laparoscopic management of anorectal malformations

Laparoscopic management of Nonpalpable undescended testes

Laparoscopic management of Varicocele

Laparoscopic management of Ovarian pathology

Laparoscopic splenectomy

Laparoscopic nephrectomy

Laparoscopic hepatobiliary surgery

Laparoscopic Assisted ACE Procedure for Fecal Incontinence in Children

## **Minimal Access Surgery Applications in the Thorax**

Thoracoscopic procedures :

Diagnostic and Therapeutic.

Assessment and / or resection of mediastinal or lung masses

Repair of Diaphragmatic Hernia & Eventration

Resection of subpleural blebs

Pleurodesis

Pericardial drainage

Lung biopsies

Lung resections

Drainage of empyema & Decortication

Tumor biopsies

Sympathectomy

Repair of Esophageal atresia & T.E. Fistula

Excision of foregut duplication cysts & lung cysts ( including hydatid )

## **Minimal Access Surgery Applications in the Newborn :**

Thoracoscopic procedures :

Repair of Esophageal atresia & T.E. Fistula

Repair of Diaphragmatic Hernia & Eventration

Biopsy of mediastinal or lung masses

Lobectomy for CLE & CCAM

Laparoscopic procedures :

Laparoscopic pyloromyotomy

Laparoscopic management of Biliary atresia

Biopsy of abdominal masses

excision of choledochal cyst ,

Ladd's procedure, and reduction of intussusceptions

pull-through for ARA and Hirschsprung's disease

### **8. General Pediatric Surgical cases : N =50**

Inguinal hernia

Circumcision

Venous Cut downs, abscess drainage, others

Thyroglossal cysts

Excision of lymphangiomas and other soft tissue lesions

### **9. Paediatric Plastic Surgical cases : N = 50**

Hypospadias

Cleft lip and Palate.

Release of syndactyly

Management Of Congenital And Acquired Conditions Including

Craniofacial Anomalies,

Hand Abnormalities And

Vascular Anomalies

### **10. Pediatric neurosurgical cases : N = 50**

Spina Bifida and Hydrocephalus.

Note: The number of cases mentioned as above is only for a guideline. The total number mentioned is desirable, however, may not be feasible in all the centers offering M.Ch. training course.

To compensate for the loss an exchange program with the well established centers with a sizeable work load in pediatric surgery is compulsory for 2 months.

## **B. Non-operative areas of Training:**

The non-operative component of the structured M.Ch. training program in pediatric surgery is also equally important and should include:-

1. Technique of Resuscitation of the Newborn
2. PALS and NALS
3. ATLS
4. Antenatal diagnosis and counselling (intervention if possible)
5. Orientation with Internet and the Computer technology
6. Management of Day care Surgery
7. Pediatric Transplantation (Liver, Kidney, Pancreas)
8. Surgical Embryology, genetics and the gene therapy
9. Pediatric Chemotherapy regimens for solid tumours
10. Problems of babies with prematurity and small for date physiology of the Newborn and the drug schedules for the newborn, and the blood exchange transfusions
11. Organizational capabilities to host conferences, Symposia, workshops etc.
12. Membership of National and International Pediatric Surgical associations
13. Subscribing to the established journals in the speciality.
14. Knowledge about the progress made in Pediatric Surgery during the past few decades : Transplants, Endoscopy, Lasers, Laparoscopy, Tumor markers, antenatal diagnosis, gene therapy.
15. Regenerative Medicine & Stem Cell Therapy