Areas of Specialized Surgical Expertise

Niche Areas of Surgical Expertise at SickKids

More than 70 areas of specialized procedures are offered within the surgical areas of Perioperative Services, showing the depth of our unique skills here at SickKids. Read about these areas below.

Cardiac Surgery

SURGICAL CORRECTION
- Valve sparing surgical repair and RVOT stenting for tetralogy of Fallot
- Sutureless repair for pulmonary vein stenosis (PVS)
- Double-switch procedures for congenitally corrected transposition (ccTGA)
- Unifocalisation of MAPCA in complex pulmonary atresia
- Primary repair of multiple VSDs

MINIMALLY INVASIVE CARDIAC SURGERY
- Axillary approach for Atrial Septal Defects, Partial AVSD and Valve Repair
- Thorascopic sympathectomy for ventricular arrhythmia

MECHANICAL CIRCULATORY SUPPORT
- All intra-corporeal and para-corporeal systems

HYBRID PROCEDURES
- Norwood for borderline left ventricle (LV)
- Device closure of ventricular septal defects (VSDs)

See SickKids Cardiovascular Surgery

Dentistry

ORAL ANOMALIES
- Oral rehabilitation of congenital enamel or dentin anomalies
- Endosseous implant restoration for oral clefts and craniofacial conditions
- Craniofacial orthodontic correction
- Surgical management of jaw cysts and tumours
- Correction of acquired or developmental dentofacial deformities

DENTAL CARIES
- Comprehensive oral rehabilitation of severe early childhood dental caries
- Management of medically complex children with dental disease

DENTAL TRAUMA
- Acute surgical management of dental traumatic injuries

See SickKids Dentistry
General and Thoracic Surgery

ESOPHAGUS
Surgical management of esophageal atresia
Surgical management of tracheo-esophageal fistulae

ANORECTAL ANOMALIES, HERNIA
Surgical management of anorectal anomalies including Hirschprung’s disease
Surgical management of congenital diaphragmatic hernias

GI AND HEPATOBILIARY DISORDERS
Surgical management of complex gastrointestinal disorders including short gut and intestinal failure
Surgical management of complex hepatobiliary disorders

THORAX AND ABDOMINAL CONDITIONS
Surgical management of thoracic, pulmonary and abdominal anomalies and tumors
Correction of pectus anomalies and breast lesions
Minimally invasive surgery

See SickKids General & Thoracic Surgery

Neurosurgery

BRAIN AND SPINAL TUMORS
Evaluation and surgical management of brain and spinal tumors
Evaluation and surgical management of rare malignant paediatric embryonal brain tumors

EPILEPSY, MOVEMENT AND NEUROPHYSIOLOGICAL DISORDERS
Surgical management of complex epilepsy, including lobectomy and hemispherectomy
Evaluation and surgical management of movement disorders, including dystonia and spasticity
Dorsal rhizotomy for complex neurophysiological disorders

VASCULAR CONDITIONS OF THE BRAIN AND SPINAL CORD
Surgical and endovascular management of arteriovenous malformations and pediatric cerebral aneurysms
Surgical revascularization for Moyamoya disease
Surgical management of Vein of Galen malformations

See SickKids Neurosurgery

Ophthalmology & Vision Sciences

CORNEAL REINNERVATION, STRABISMUS, EYELID, OCULPLASTIC
Surgical management of corneal reinnervation surgery
Surgical correction of strabismus
Oculoplastic surgery and reconstruction of the eyelids
RETINA
Surgical management of Retinoblastoma
Surgical management of complex retinal and vitreo-retinal conditions

KERATOCONUS, CORNEA, GLAUCOMA
Surgical management of Keratoconus
Surgical management of corneal reconstruction including corneal cross-linking and corneal transplant
Surgical management of Glaucoma

See SickKids Ophthalmology & Vision Sciences

Orthopaedic Surgery
SCOLIOSIS AND SPINAL DEFORMITIES
Re-alignment of spinal deformities

LOWER EXTREMITY AND CEREBRAL PALSY
Surgical correction of lower extremity deformities including hip, alignment, leg length discrepancy, foot & ankle
Surgical treatment of cerebral palsy and neuromuscular disease

BONE CANCERS AND METABOLIC CONDITIONS
Excision of pediatric bone and soft tissue cancers and surgical reconstruction
Treatment of congenital, genetic / metabolic skeletal conditions, including skeletal dysplasia & osteogenesis imperfecta

See SickKids Orthopaedic Surgery

Otolaryngology - Head and Neck Surgery
COCHLEAR IMPLANT, HEARING AID
Cochlear implant and bone anchored hearing aid surgery

OTOLOGIC SURGERY, AIRWAY
Endoscopic otologic surgery including cholesteatoma surgery
Evaluation & surgical management of complex airway disorders including laryngotracheal birth defects & injuries

VOICE DISORDERS, SINUS AND CENTRAL SKULL
Evaluation and surgical management of voice disorders including recurrent respiratory papillomatosis
Endoscopic sinus and central skull base surgery

HEAD AND NECK
Surgical excision of tumors of the head and neck

See SickKids Otolaryngology - Head and Neck Surgery
Plastic & Reconstructive Surgery

FACIAL PARALYSIS, CORNEAL REINNERVATION
Facial paralysis reconstruction
Corneal reinnervation surgery

INJURIES OF THE BRACHIAL PLEXUS, SPINAL CORD
Surgical reconstruction of obstetrical brachial plexus injuries
Nerve transfer surgery for spinal cord injuries

CRANIOFACIAL CONDITIONS, FACIAL CLEFTS, EAR INJURIES AND ANOMALIES
Surgical management of complex craniofacial conditions including encephalocele
Surgical correction of congenital facial clefts
Surgical reconstruction of ear anomalies (Microtia) and traumatic ear injuries

HAND, LIMB AND BURN INJURIES
Reconstructive surgery following burn injuries
Reconstructive surgery for complex anomalies and injuries of the hand and extremities

See SickKids Plastic & Reconstructive Surgery

Urology

HYPOSPADIAS, BLADDER
Primary and revisionary surgery for hypospadias
Surgical correction of renal and bladder anomalies, including bladder extrophy

INCONTINENCE, KIDNEY AND URINARY TRACT
Surgical management of neuro incontinence with restoration of bowel and bladder control
Surgical management of tumors of the kidney and urinary tract
Surgical management of complex kidney stones

KIDNEY TRANSPLANT
Living related kidney transplantation

See SickKids Urology