



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
- Thoroscopic 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 injury

[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 HEPOBILIARY 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 exstrophy

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](#)