



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.

Cardiovascular 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)

We are especially well positioned to address Tetralogy of Fallot and Transposition of the Great Vessels. For more information, please visit the Cardiovascular Surgery program at <https://www.sickkids.ca/en/care-services/clinical-departments/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

Our strength is providing expert planning and set up for orthognathic and craniofacial surgery as well as dental care for children with complex medical conditions. For more information, please visit the Dentistry program at <https://www.sickkids.ca/en/care-services/clinical-departments/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
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

We have world class expertise in esophageal atresia and tracheo-esophageal fistula repair.

For more information, please visit the General and Thoracic Surgery program at <https://www.sickkids.ca/en/care-services/clinical-departments/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

We provide state of the art and innovative care in managing paediatric embryonal brain tumours and complex epilepsy. For more information, please visit the Neurosurgery program at <https://www.sickkids.ca/en/care-services/clinical-departments/neurosurgery/>

Ophthalmology & Vision Sciences

CORNEAL REINNERVATION, STRABISMUS, EYELID, OCULPLASTIC

Surgical management of corneal reinnervation surgery
Surgical correction of strabismus
Oculoplastics 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

We have developed new innovative approaches to corneal anaesthesia and to the management of retinoblastoma. For more information, please visit the Ophthalmology program at <https://www.sickkids.ca/en/care-services/clinical-departments/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

Our world class expertise is in the management of complex spine deformities and in the management of boney and soft tissue sarcomas.

For more information, please visit the Orthopaedic Surgery program at <https://www.sickkids.ca/en/care-services/clinical-departments/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

Our strengths include cochlear implant surgery and endoscopic otologic and sinus surgery.

For more information, please visit the Otolaryngology program at <https://www.sickkids.ca/en/care-services/clinical-departments/otolaryngology/>

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 encephalocoele

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

We have world class programs in facial paralysis reconstruction and obstetrical brachial plexus reconstruction.

For more information, please visit the Plastic & Reconstructive Surgery program at <https://www.sickkids.ca/en/care-services/clinical-departments/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

Our team has particular expertise in both primary and revisionary hypospadias surgery, bladder exstrophy and the correction of neuro incontinence.

For more information, please visit the Urology program at <https://www.sickkids.ca/en/care-services/clinical-departments/urology/>