Mayo Clinic
Children’s Center

MAYOCLINIC.ORG/PEDIATRICS
Mayo Clinic Children’s Center

Mayo Clinic Children’s Center provides comprehensive pediatric care, advanced treatment options, and a seamless health care experience. Referring your pediatric patient to Mayo Clinic means you gain peace of mind by working with physicians who are highly invested in the health and recovery of your patient. The Center understands and supports the importance of the relationship you have already defined with your patient and family, and recognizes that ongoing collaboration and communication with you is essential. From outpatient services to complex inpatient care, when you send your young patients to Mayo Clinic Children’s Center, be assured coordinated care from a multidisciplinary team will be provided.

A referral to Mayo Clinic Children’s Center means you have:

- Subspecialists working in a multidisciplinary center to care for the whole child
- Proven quality outcomes
- Committed, full-circle, physician communications
Referral process

Referring physicians can call Mayo Clinic Children's Center 1-855-MAYO-KID (1-855-629-6543, toll-free) to:

• Consult with one of our pediatric specialists
• Refer a patient
  - Pediatric medical or surgical specialty care evaluation
  - Multidisciplinary diagnostic evaluation and plan of care
• Request medical transport for emergent or urgent care
• Coordinate nonurgent hospital referrals

Referral information

To request an appointment for your patient, Mayo Clinic will need the following information:

• Name
• Address
• Phone number
• Date of birth
• Indication or reason for referral
• Insurance information
• Referring physician National Provider Identifier (NPI) number
• Services you would like Mayo Clinic to provide

Patient referrals can also be submitted online via the Mayo Clinic Referring Physician Office: www.mayoclinic.org/medical-professionals
Meeting your young patient’s needs

The Children Center’s multispecialty clinics are organized around a child’s primary diagnosis. For best care, more than one subspecialist will routinely participate in a child’s evaluation and treatment. Conditions treated in the center’s multispecialty clinics include:

- Aerodigestive disorders
- Angelman’s syndrome
- Anorectal malformations
- Autism and other developmental disorders (Dana Neurodevelopmental Disorders Program)
- Brachial plexopathy
- Brain injury
- Brain tumor
- Cerebral palsy
- Child maltreatment*
- Chronic pain
- Cochlear implant
- Complex oral reconstruction
- Complex scoliosis and spine
- Craniofacial disorders*
- Cystic fibrosis*
- Diabetes*
- Eosinophilic esophagitis
- Epilepsy
- Erythromelalgia
- Facial paralysis
- Feeding disorders
- Fertility preservation for boys and girls
- Fetal surgery
- Friedreich’s ataxia
- Genetic dermatology
- Hemophilia*
- High risk neonatal follow up
- Inflammatory bowel disease (including very early onset)
- Kidney stone*
- Klippel-Trenaunay Weber syndrome
- Lipid disorders
- Marfan syndrome
- Metabolic bone diseases
- Mitochondrial disorders
- Neurofibromatosis*
- Neuromuscular disorders
- Obesity
- Pain rehabilitation
- Palliative care and integrative medicine
- Peroxisomal disorders
- Skeletal dysplasia
- Skin cancer, including melanoma
- Spina bifida
- Sports medicine injury and performance
- Thyroid disorders
- TMJ and facial pain
- Transgender and intersex
- Transplant
  - Bone marrow and stem cell*
  - Heart*
  - Liver*
  - Kidney *
- Trauma
- Turner syndrome
- Vascular anomalies
- Velopharyngeal insufficiency

*Designates nationally recognized Center of Excellence, special accreditation or similar award.
Pediatric Specialties

Mayo Clinic Children’s Center offers numerous pediatric specialties, often, with more than one subspecialist participating in the care of a child’s treatment.

**Allergy**
- Allergy clinical laboratory and immunizations
- Anaphylaxis, eosinophil and mast cell disorders
- Asthma
- Dermatitis and eczema
- Eosinophilic esophagitis
- Food and drug allergy
- Primary immunodeficiency*
- Rhinitis and sinusitis
- Urticaria and angioedema
- Post-surgery nerve block treatment at home
- Scoliosis surgery enhanced recovery
- Spinal anesthesia for infant circumcision and hypospadias repair

**Anesthesia**
- Critical care anesthesia
- Inpatient acute and chronic pain consultation
- Intrathecal injections of Spinraza for SMA
- Management for complex pediatric patients (e.g., congenital heart disease, pulmonary and tracheal diseases, epidermolysis bullosa, spinal muscular atrophy)
- Multiple procedures under one anesthesia (e.g., combine MRI, EMG or any other procedure or surgery under one anesthesia)
- Outpatient pain, including medication management, injections and blocks
- Pectus excavatum surgery enhanced recovery
- Pectus excavatum surgery enhanced recovery
- Post-surgery nerve block treatment at home
- Scoliosis surgery enhanced recovery
- Spinal anesthesia for infant circumcision and hypospadias repair

**Cardiology**
- Cardiac catheterization and interventional cardiology
- Cardiac CT and MRI
- Cardiac intensive care unit
- Cardiomyopathy (hypertrophic, dilated, noncompaction, restrictive, arrhythmogenic)
- Congenital heart disease
- Echocardiography*
- Fetal cardiology
- General pediatric cardiology
- Heart failure*
- Heart rhythm and arrhythmias
- Heart transplantation
- Long QT syndrome, sudden death, Mayo Clinic Heart Rhythm Clinic
- Pacemaker and defibrillator implantation
- Pericardial disease
- Pulmonary hypertension
- Sports cardiology
- Syncope
- Thrombotic disorders heart disease
Cardiovascular Surgery

• Congenital heart disease
• Ebstein’s anomaly
• Extracorporeal membrane oxygenation (ECMO)*
• Hybrid procedures
• Hypertrophic cardiomyopathy
• Minimally invasive and robotic surgery
• Neonatal and pediatric cardiac surgery
• Thoracic aortic and endovascular surgery
• Total artificial heart (TAH)
• Valve repair and replacement
• Ventricular assist devices (VAD)

Child Maltreatment

• Inpatient child maltreatment consultation
• Mayo Clinic Child and Family Advocacy Center*
• Outpatient child maltreatment

Critical Care

• Continuous renal replacement therapy
• Extracorporeal life support (venovenous and venoarterial ECMO)*
• High frequency oscillation ventilation
• Inhaled nitric oxide therapy
• Invasive and noninvasive mechanical ventilation
• Ventricular assistive device

Dental Specialties

• Complex malocclusion, such as combined jaw surgery and orthodontics
• Orthodontics
• Major oral reconstruction
• Obstructive sleep apnea support
• Orofacial pain
• Periodontics
Dermatology

- Birthmarks
- Complex and routine medical dermatologic disorders
- Connective tissue disease
- Dermatitis and eczema
- Dermatopathology and cutaneous immunopathology
- Diagnostic services for pathologic skin specimens
- Erythromelalgia
- Genetic skin diseases
- Infantile hemangiomas
- Patch testing
- Pigmented lesions
- Psoriasis
- Sturge-Weber syndrome*
- Vascular malformation overgrowth syndromes (ex., Klippel-Trenaunay syndrome)
- Vascular malformations

Developmental & Behavioral Pediatrics

- Autism spectrum disorder
- Developmental delay
- Intellectual disability
- Neurodevelopmental (Newborn Intensive Care Unit) Follow-up Clinic

Emergency Medicine

- General pediatric emergency medicine
- Trauma (Level 1 Pediatric Trauma Center)*

Endocrinology, Diabetes, Metabolism and Nutrition

- Diabetes*
- Lipid disorders
- Metabolic bone disease
- Parathyroid and calcium disease
- Pituitary, gonad and adrenal disorders
- Thyroid disorders/diseases
- Transgender health
- Weight management

Gastroenterology & Hepatology

- Advanced therapeutic endoscopy
- Celiac disease
- Esophageal disease
- Familial adenomatous polyposis syndrome
- Gastrointestinal neoplasia
- Inflammatory bowel disease
- Liver disease
- Liver transplant
- Motility disorders
- Pancreaticobiliary diseases

General Pediatric & Adolescent Medicine

- Autonomic dysfunction
- Complex Care Clinic
- Complex primary care with integrated clinic specialty clinics including asthma, sports medicine, ADHD and developmental
- Inpatient general pediatrics
- Newborn nursery
- Preventative health services
- Community primary care
<table>
<thead>
<tr>
<th>Genetics (Clinical Genomics)</th>
<th>Gynecology (Adolescent)</th>
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<tr>
<td>• Birth defects</td>
<td>• Adolescent breast disorders</td>
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<tr>
<td>• Chromosomal anomalies (such as Down syndrome)</td>
<td>• Complex contraception</td>
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<tr>
<td>• Conditions that can cause disabilities (such as fetal alcohol syndrome, fragile X syndrome)</td>
<td>• Fertility preservation</td>
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<tr>
<td>• Connective tissue disorders</td>
<td>• Menstrual disorders</td>
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<tr>
<td>• Genomics of hearing and vision loss</td>
<td>• Menstrual management in developmentally delayed and/or medically complex children</td>
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<td>• Metabolic, neurologic and multisystem disorders (such as mitochondrial disorders and congenital disorders of glycosylation)</td>
<td>• Polycystic ovary syndrome</td>
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<td>• Phenylketonuria</td>
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<td>• Rare, single-gene disorders</td>
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<td>• Sickle cell disease</td>
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<td>• Tuberous sclerosis</td>
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<td>• Von Hippel-Lindau disease*</td>
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<td>• Williams syndrome</td>
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</table>
Hematology & Oncology

Malignant
- Brain tumors
- Bone and soft tissue tumors
  - Ewing sarcoma
  - Non-rhabdomyosarcoma soft tissue sarcoma
  - Osteosarcoma
  - Rhabdomyosarcoma
- Cutting-edge therapies for cancer
  - Proton beam radiation
  - CAR-T (chimeric antigen receptor T) cell therapy
  - Haplo SCT (haploidentical stem cell transplant for patients in need of a bone marrow or stem cell transplant who do not have a matched family or unrelated donor)
  - Therapy directed by genomic sequencing
- Germ cell tumors
- Leukemia and lymphoma
- Liver tumors
- Neuroblastoma and other adrenal tumors
- Other rare tumors (e.g., nasopharyngeal carcinoma, melanoma)
- Phenylketonuria
- Rare, single-gene disorders
- Retinoblastoma
- Wilms tumor and other kidney tumors

Nonmalignant
- Anemia, neutropenia, thrombocytopenia
- Benign tumors
- Bone marrow failure
- Coagulation disorders
  - Bleeding disorders (e.g., hemophilia, von Willebrand disease, platelet disorders, others)
  - Thrombotic disorders (e.g., protein C deficiency, protein S deficiency, factor V Leiden)
- Langerhans cell histiocytosis and related disorders

Infectious Diseases
- Bone and joint infections
- Hepatitis
- HIV and AIDS
- Infections in immunocompromised patients
- Infections in the returning traveler
- Lymphadenitis
- Meningitis
- Recurrent fevers and infections
- Respiratory infections
- Skin and soft tissue infection, including recurrent MRSA infection
- Tuberculosis
### Maternal & Fetal Medicine

- Abnormal alpha-fetoprotein (AFP)
- Complex maternal or fetal cardiac disease
- Fetal anemia
- Fetal arrhythmia
- Fetal bladder outlet obstruction
- Fetal congenital diaphragmatic hernia
- Fetal surgery
- Gastroscisis or omphalocele
- Inherited and acquired thrombophilias
- Lower urinary tract obstruction (LUTO)
- Maternal rhesus (Rh) factor disease or atypical alloimmunization
- Placenta previa or placenta accreta
- Pregnancy complicated by cancer or transplant
- Spina bifida
- Twin reversed arterial perfusion (TRAP) sequence or acardiac twin
- Twin-twin transfusion syndrome

### Neonatal Medicine

- General care nursery
- Neonatal intensive care unit
- Neonatal intermediate special care nursery
- Neonatal medical transport
- Telemedicine

### Nephrology & Hypertension

- Ambulatory blood pressure monitoring
- Complicated nephrotic syndrome
- Congenital renal tract anomalies
- Critical care, including continuous renal replacement therapy
- General pediatric nephrology, including acid-base and electrolyte disorders
- Hypertension
- Inherited renal diseases
- Polycystic kidney disease*
- Kidney stones, including Mayo Clinic Hyperoxuluria Center
- Kidney transplant
- Pediatric dialysis, including peritoneal dialysis and hemodialysis
- Renal parenchymal diseases, including hematuria

### Neurology

- Cerebrovascular diseases
- Developmental delay
- Epilepsy
- Headache
- Leukodystrophy
- Movement disorders
- Multiple sclerosis and autoimmune neurology
- Neurogenetic disorders
- Neurometabolic disorders
- Neuromuscular disease
- Neuro-oncology
- Peripheral nerve
- Sleep neurology
<table>
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<tr>
<th>Neurosurgery</th>
<th>Oral &amp; Maxillofacial Surgery</th>
<th>Orthopedic Surgery</th>
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<tr>
<td>• Arachnoid cysts</td>
<td>• Cleft lip and cleft palate</td>
<td>• Benign bone tumor</td>
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<tr>
<td>• Brain tumor</td>
<td>• Congenital maxillofacial malformations</td>
<td>• Cervical spine deformity and spinal injury</td>
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<td>• Cerebrovascular disease</td>
<td>• Facial cosmetic</td>
<td>• Clubfoot care and foot deformity correction</td>
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<td>• Chiari malformation and syrinx</td>
<td>• Facial reconstruction</td>
<td>• Developmental hip dysplasia</td>
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<td>• Craniosynostosis</td>
<td>• Facial trauma</td>
<td>• Hand</td>
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<td>• Deep brain stimulation</td>
<td>• Implants</td>
<td>• Limb lengthening and reconstruction</td>
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<td>• Epilepsy and seizure</td>
<td>• Malignant diseases</td>
<td>• Non-fusion spinal surgery</td>
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<tr>
<td>• Fetal surgery for myelomeningocele</td>
<td>• Odontogenic lesions</td>
<td>• Scoliosis, including early onset scoliosis</td>
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<td>• Gamma Knife radiosurgery</td>
<td>• Orthognathic surgery</td>
<td>• Sports surgery</td>
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<td>• General pediatric neurosurgery</td>
<td>• Salivary gland diseases</td>
<td>• Trauma and fracture care</td>
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<td>• Hydrocephalus</td>
<td>• Sleep apnea</td>
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<td>• Myelomeningocele/spina bifida</td>
<td>• Temporomandibular joint surgery (TMJ), including joint replacement</td>
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<td>• Peripheral nerve tumor</td>
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<td>• Pituitary tumor</td>
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<td>• Skull tumors and lesions</td>
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<td>• Spasticity surgery</td>
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<td>• Spinal cord tumor</td>
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<td>• Spine disorders</td>
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<td>• Stereotactic radiosurgery</td>
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<tr>
<td><strong>Ophthalmology</strong></td>
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<td>• Advanced ocular imaging</td>
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<td>• Cataracts</td>
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<td>• Corneal transplants</td>
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<td>• Eye disorders</td>
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<td>• Eye trauma</td>
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<td>• Eyelid disorders</td>
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<td>• Glaucoma</td>
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<td>• Medical and surgical disease of the retina and vitreous</td>
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<td>• Neuro-ophthalmology</td>
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<td>• Oculoplastic and orbital surgery</td>
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<td>• Refraction</td>
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<td>• Retina</td>
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<td>• Strabismus</td>
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Otorhinolaryngology
– Head & Neck Surgery
(Ear, Nose & Throat)

• Airway, laryngeal, and tracheal reconstruction
• Audiology and hearing loss
• Choanal atresia and nasal obstruction
• Cleft lip and cleft palate
• Congenital High Airway Obstruction Syndrome (CHAOS)
• Fetal and newborn airway problems
• Hoarseness, vocal cord lesions, and vocal fold paralysis
• Pediatric head and neck masses and tumors (benign and malignant)
• Sinusitis
• Surgical management of sleep apnea and snoring
• Swallowing and aspiration

Physical Medicine
& Rehabilitation

• Amputee
• Brain injury and stroke
• Cancer
• Concussion
• Developmental delay
• Functional movement disorder
• Inpatient rehabilitation unit*
• Musculoskeletal
• Plagiocephaly
• Seating and wheelchair
• Spasticity
• Spinal cord injury
## Plastic & Reconstructive Surgery

- Breast
- Cosmetic
- Craniosynostosis
- Facial reconstructive
- Hand and upper extremity
- Head and neck
- Plagiocephaly

## Psychiatry & Psychology

- Addiction
- Anxiety, including weekly groups and intensive program
- Attention-deficit/hyperactivity disorder (ADHD)
- Behavioral Medicine Program
- Bipolar disorder
- Child, Adolescent and Family Services Program, including mood and adjustment disorders
- Chronic illnesses
- Depression
- Integrated behavioral health
- Neuropsychological assessment
- Pain rehabilitation
- Self-injury behavior
- Young child behavioral clinic
TO REFER A PATIENT:  507-284-5135

**Pulmonary**
- Asthma
- Bronchiectasis
- Chronic cough
- Cystic fibrosis
- Hereditary hemorrhagic telangiectasia
- Primary ciliary dyskinesia
- Pulmonary hypertension
- Rare and diffuse lung disease
- Sleep medicine
- Ventilator dependence

**Radiation Oncology**
- Abdominal
- Anatomical 3D printing lab
- Body MRI
- Cardiovascular
- Fetal MRI
- Musculoskeletal
- Neuroradiology
- Nuclear medicine
- Thoracic
- Ultrasonography, including small bowel ultrasound to follow inflammatory bowel disease
- Vascular and interventional

**Rheumatology**
- Autoinflammatory conditions
  - Periodic fever syndromes
- Connective tissue diseases (immune-based)
  - SLE
  - Sclerodermatous conditions
    - Linear scleroderma
    - Morphea
- Inflammatory arthritis
  - Juvenile idiopathic arthritis
  - Spondyloarthropathies
- Inflammatory muscle disease
  - Juvenile dermatomyositis
- Vasculitis
  - Kawasaki disease (usually cardiology)
  - Henoch-Schonlein purpura (HSP)
<table>
<thead>
<tr>
<th>Sleep Medicine</th>
<th>Speech Pathology</th>
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<tbody>
<tr>
<td>• Center for Sleep Medicine*</td>
<td>• Alternative and augmentative communication</td>
</tr>
<tr>
<td>• Central apnea</td>
<td>• Apraxia of speech</td>
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<tr>
<td>• Circadian rhythm sleep disorders</td>
<td>• Autism</td>
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<tr>
<td>• Hypersomnia disorders, including narcolepsy</td>
<td>• Cleft palate and velopharyngeal insufficiency</td>
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<tr>
<td>• Insomnia</td>
<td>• Dysarthria</td>
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<tr>
<td>• Obstructive apnea</td>
<td>• Extended evaluation and diagnostic therapy</td>
</tr>
<tr>
<td>• Restless legs*</td>
<td>• Flexible endoscopic and videofluorographic evaluation of swallowing</td>
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<tr>
<td>• Sleep problems related to underlying medical, neurological or psychiatric disorders</td>
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</tbody>
</table>

• Hearing impairment and cochlear implant
• Inpatient speech and language consultation
• Outpatient speech and language assessment and treatment
• Speech and language delays
• Stuttering
• Voice disorders
Sports Medicine

- Athletic training
- Comprehensive evaluation and treatment of sports injuries
- Nutrition analysis and counseling
- Sports concussion
- Sports psychology
- Sports-specific performance training programs

Surgery

- Achalasia and intestinal motility disorders
- Advanced pediatric surgical care, including minimally invasive surgical techniques, separation of conjoined twins and fetal surgery
- Anorectal malformations and acquired anal disorders
- Congenital anomalies, including pulmonary malformations, bowel atresia, diaphragmatic hernia and Hirschsprung’s disease
- Familial adenomatous polyposis syndromes
- Hernia, hydroceles and other scrotal conditions
- Ileoanal anastomosis (J-pouch) surgery
- Inflammatory bowel disease, including Crohn’s disease and ulcerative colitis
- Liver and biliary disorders, including biliary atresia, choledochal cyst and gallstones
- Multidisciplinary care of gynecologic disorders including tumors, cysts and congenital anomalies
- Pectus deformities
- Solid organ tumors, chest wall masses and pulmonary nodules and malignancies

Urology

- Bladder extrophy and cloacal anomalies
- Disorders of sexual differentiation
- Fertility preservation
- Genitourinary cancers (Wilms’ tumor, testicular, rhabdomyosarcoma)
- Hydronephrosis
- Hypospadias
- Kidney stones
- Undescended testicles
- Ureteropelvic junction (UPJ) obstruction
- Urinary incontinence and voiding dysfunction
- Vesicoureteral reflux

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Children’s Research Center

The Mayo Clinic Children’s Research Center collaborates on pediatric and adolescent research projects focusing on a wide range of topics including cancer, congenital heart conditions, chronic complex disorders, mental health, infections, wellness and more. For more information, please visit: mayo.edu/research/centers-programs/childrens-research-center
REFERRING PROVIDER PORTAL
Use our referring provider portal to submit referral requests and view your patients’ Mayo Clinic medical records at the same time we do.
mayoclinic.org/medical-professionals

INSURANCE
Mayo Clinic has agreements with many insurance carriers, third-party administrators and employers. Patients should check with their insurance plan for specific coverage details before confirming an appointment with our scheduling office.
mayoclinic.org/insurance

CONTINUOUS PROFESSIONAL DEVELOPMENT
Mayo Clinic School of Continuous Professional Development offers a unique learning experience for today’s health care professional. Educational activities enhance and enrich your medical knowledge and improve your service to the patient.
ce.mayo.edu

CLINICAL TRIALS
Research is an integral part of Mayo Clinic. Mayo Clinic physicians are actively engaged in a wide range of novel clinical research, offering patients promising experimental agents and devices. Mayo Clinic investigators work together with the referring physician to optimize patient care.
www.mayo.edu/research/clinical-trials

MAYO MEDICAL LABORATORIES
Mayo Medical Laboratories (MML) is the global reference laboratory of Mayo Clinic. MML provides highly specialized testing and pathology consultation across all medical sub-specialties for patients around the world.
mayomedicallaboratories.com
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(1-855-629-6543, toll-free)