



**Cleveland Clinic** Children's

# Pediatric Imaging

Cleveland Clinic's Imaging Institute includes the Section of Pediatric Imaging, which offers comprehensive services to assist in diagnosing disorders in patients ranging from the smallest premature infants to adults with pediatric diseases. The team has expertise in imaging all body systems, including the chest, abdomen, musculoskeletal system, brain and spine.

Our team of subspecialty trained pediatric radiologists follow guidelines and principles based on the national Image Gently® campaign to lower radiation dose in the imaging of children. Through a committee dedicated to radiation safety, we continually monitor and improve techniques to minimize radiation exposure to pediatric patients throughout Cleveland Clinic.

The Section of Pediatric Imaging offers the full range of services, from plain film radiography to CT, MRI PET/CT, PET/ MRI, ultrasound, fluoroscopy and interventional procedures. Select subspecialty services are detailed below.

## Pediatric MRI

Our dedicated pediatric MRI suite is fully supported by leading-edge pediatric anesthesia services for sedation and recovery. Standard MRI is used to evaluate every body system. Specialized techniques are employed to evaluate blood vessels (MR angiography), kidneys (MR urography), bowel (MR enterography) and the biliary system (MR cholangiopancreatography). Our comprehensive brain and spinal cord imaging services include dedicated techniques for epilepsy imaging to guide medical and surgical treatment.

## Fetal MRI

A team of specialists in fetal development and pediatric radiology perform studies to determine the underlying

causes of a broad range of fetal conditions, among them central nervous system anomalies, congenital diaphragmatic hernias, chest masses and abdominal and genitourinary disorders.

## Vascular Anomalies Imaging

Using a combination of ultrasound and MRI, we investigate congenital hemangiomas and vascular malformations in children. Our multidisciplinary team approach enables us to provide an accurate diagnosis, determine the extent of involvement and collaborate on a treatment plan.

*Our pediatric radiologists work hand-in-hand with basic science researchers to further our understanding of imaging studies and improve patient care.*



## Interventional Procedures

Ultrasound-guided interventional procedures, including joint fluid aspiration and steroid injections performed under ultrasound guidance can produce dramatic results in children with juvenile idiopathic (rheumatoid) arthritis from infancy through adolescence. Cleveland Clinic is one of a select number of institutions in the country offering this procedure. To limit radiation exposure, additional ultrasound-guided interventional procedures are performed, including kidney, liver and soft tissue biopsies as well as drainage of abdominal and pelvic abscess collections.

## PET/MR

Cleveland Clinic's Imaging Institute is one of only a few sites globally to have full clinical implementation of this advanced hybrid imaging modality for its patients. The PET/MR, located at the main campus, offers our cancer, epilepsy and neurological, as well as cardiac patients simultaneous scanning of two advanced modalities in one appointment. This enables shorter scan times and greatly improved diagnostic accuracy using very low ionizing radiation compared to conventional imaging. PET/MR offers superior soft-tissue contrast resolution, multi-planar image acquisition, and functional imaging capability with specialized PET and MR scanning techniques, such as whole body diffusion-weighted (DW) imaging, dynamic contrast MR imaging, list-mode PET, and MR elastography/spectroscopy along with using novel MR and PET imaging agents. Furthermore, the lack of ionizing radiation from MR imaging is highly appealing, particularly when pediatric, young adult, or pregnant patients are to be imaged. Subspecialty disease specific scan protocols and synoptic reports are available for our patients.

## Locations

Pediatric Imaging services are offered at three primary locations throughout Northeast Ohio. All Cleveland Clinic imaging facilities are linked by a single Radiology Information System and Picture Archiving and Communication System, which allow images taken in one location to be viewed by our board-certified radiologists anywhere in the health system.

**Cleveland Clinic  
main campus**  
9500 Euclid Ave.  
Cleveland, OH 44195

**Fairview Hospital**  
18099 Lorain Ave.  
Cleveland, OH 44111

**Hillcrest Hospital**  
6803 Mayfield Road  
Mayfield Heights, OH 44124

## Section of Pediatric Imaging Staff



Neil Vachhani, MD,  
Head, Section of  
Pediatric Imaging



Brooke Lampl, DO



Ihsan Mamoun MD



Ellen Park, MD



Unni Udayasankar,  
MD



Esben Vogelius, MD

## Make an Appointment

To make an appointment for an evaluation with a Cleveland Clinic Pediatric Radiologist, please call **216.444.6873** or toll-free, **800.223.2273**. To learn more about Cleveland Clinic's Section of Pediatric Imaging, visit us online at [clevelandclinic.org/pediatricradiology](http://clevelandclinic.org/pediatricradiology).

## For Referring Physicians

Cleveland Clinic welcomes the opportunity to partner with you in caring for your patients. Please call **216.445.9597** to speak with a Pediatric Radiologist and learn more about how Cleveland Clinic's Imaging Institute can help support you and your patients.