

Department of Radiology

The Edward Mallinckrodt Institute of Radiology — more commonly known as Mallinckrodt Institute of Radiology or MIR — serves as the Department of Radiology for Washington University School of Medicine in St. Louis, helping to guide the consulting physician in the discovery, the treatment, and, ultimately, the healing of disease. Established in 1930, MIR is one of the largest and most scientifically sophisticated radiology centers worldwide.

Internationally recognized for its groundbreaking research, the Institute continues to pioneer new radiological techniques for better patient care.

Milestones

- Development of the first diagnostic test for gallbladder disease
- Design and construction of the first cross-sectional X-ray laminagraph
- Collaboration on design and installation of the first cyclotron located in a U.S. medical center
- Development of positron emission tomography (PET)
- Installation of one of the world's first computed tomography (CT) and magnetic resonance (MR) scanners
- Interfacing of a minicomputer with a gamma camera to improve the accuracy and efficiency of nuclear medicine procedures
- Establishment of the first mobile mammography van west of the Mississippi River
- Integration of CT and MR scans with a three-dimensional technology application of organic chemistry to the preparation of radiopharmaceuticals used in medical imaging
- Measurement of cerebral blood flow and metabolism
- Establishment of one of the largest and most comprehensive interventional radiology services in the United States
- Application of PET for measuring metabolic activity in relation to cardiac blood flow
- Early adoption of sequential PET/MR imaging

The Institute occupies more than 400,000 total square feet and comprises its own 12-story building, with satellite facilities in Barnes-Jewish and St. Louis Children's hospitals; the Clinical Sciences Research and East buildings; the Scott Avenue Imaging Center; the Center for Advanced Medicine; the Knight Emergency and Trauma Center; and the South County Siteman Cancer Center. The department provides diagnostic radiology, nuclear medicine and radiation physics services for all hospitals in the Washington University Medical Center, Barnes-Jewish West County and Barnes-Jewish St. Peters hospitals. The Institute also provides diagnostic radiology for the Washington University Orthopedic and Barnes-Jewish Hospital Outpatient Orthopedic center.

MIR clinical facilities are on several floors of the Institute, with general diagnostic radiology on the second floor; neuroradiology on the third floor; gastrointestinal and genitourinary radiology and ultrasonography on the fourth floor; and MRI on the fifth floor. A comprehensive interventional radiology center occupies the eighth floor. Nuclear medicine is on the ninth floor of the Barnes-Jewish Hospital West Pavilion. Orthopedic imaging and musculoskeletal radiology services are on the sixth floor of the Center for Advanced Medicine. The Breast Health Center, on the fifth floor of the Center for Advanced Medicine, is a multidisciplinary facility that provides a full range of breast imaging services and interventional procedures. In the north wing of St. Louis Children's Hospital is a complete pediatric radiology facility, offering ultrasound, nuclear medicine, CT and MRI, and interventional radiology.

The Institute has 102 examination rooms used for diagnostic radiology. Clinical and research equipment includes two PET/CT scanners, 13 CT scanners, two PET scanners, one PET/MR scanner, 15 MR scanners (including an 11.7-Tesla research scanner), 12 high-end ultrasound machines (plus seven portable units), nine interventional radiology systems, five digital chest units, 10 computer radiography units, two neurointerventional radiology systems and six mammography units. In addition, as part of the department's community outreach effort, the Institute co-sponsors with the Alvin J. Siteman Cancer Center a mobile mammography van that provides screening services at corporate and public sites in the St. Louis area.

MIR has approximately 200,000 square feet devoted to research, with facilities in the Clinical Sciences Research Building (radiological sciences), in the East Building (electronic radiology), in the Scott Avenue Imaging Center (neurological PET, molecular pharmacology, biomedical MR imaging, optical imaging and cardiovascular imaging), and in the Center for Clinical Imaging Research (a bioimaging facility for basic and translational inpatient and outpatient clinical research).

Administrative, teaching and support functions occupy the sixth floor and the ninth through the 12th floors of the Institute. Information and training related to the use of radioactive materials is handled by Environmental Health and Safety; for more information, contact the department's director Daniel Doenges, CHP, at 314-362-2988 or daniel.doenges@wustl.edu.

Website: <https://www.mir.wustl.edu>