



ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM 2026-27

THE WORLD'S MOST ROBUST
STUDENT TEACHING PROGRAM!

ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM

CURRICULUM

First-Year Residents

Goal: Build foundational knowledge in imaging modalities, anatomy, and systematic interpretation.

Basics of Radiology and Imaging Modalities

- Physics of X-rays, CT, MRI, and Ultrasound.
- Radiation safety, dose management, and radiographic quality assurance.
- Basics of ultrasound: Doppler techniques and artefacts.
- Introduction to CT and MRI parameters.

Systematic Imaging Techniques

- **Chest Imaging:** Anatomy and basics of chest X-ray interpretation.
- **Abdominal Radiographs:** Interpretation and approach.
- **Musculoskeletal Imaging:** Bone age determination and plain film interpretation.
- Fluoroscopy basics, including gastrointestinal barium studies.

Anatomy and Normal Variants

- Imaging anatomy of the chest, abdomen, pelvis, and musculoskeletal systems.
- Neuroanatomy and normal brain myelination.
- Vascular anatomy and common variants using CT/MR Angio.

Common Diseases and Case-Based Learning

- Radiology of infectious and inflammatory diseases (e.g., COVID-19, tuberculosis).
- Basics of pulmonary and cardiac imaging.
- Introduction to Paediatric imaging: Neonatal cranial ultrasound and respiratory distress.
- Imaging in emergencies: Acute abdomen, and chest pain.

Interventional Radiology Basics

- Introduction to biopsy and drainage procedures.
- Orientation to vascular and nonvascular interventions.

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Second-Year Residents

Goal: Develop advanced skills in imaging interpretation and explore specialised imaging domains.

Advanced Imaging Techniques

- Dual-energy CT and advanced MRI sequences (SWI, DWI, DTI).
- Introduction to functional MRI and MR spectroscopy.
- Basics of PET-CT and nuclear imaging.

Specialised Systems Imaging

- **Neurological Imaging:** CNS infections, neurodegenerative diseases, stroke imaging.
- **Musculoskeletal Imaging:** Brachial plexus, joint MRIs, and traumatic injuries.
- **Foetal and Gynaecological Imaging:** Imaging in pregnancy, endometriosis, and acute gynaecological conditions.
- **Oncology Imaging:** Liver lesions, lymphoma, and tumour response assessment.

Paediatric Radiology

- Advanced topics in neonatal brain imaging.
- Imaging of paediatric tumours and bone abnormalities.

Interventional Radiology

- Techniques for biopsies, drainages, and catheter placements.
- Orientation to embolization and basic vascular interventions.

Emerging Trends

- Basics of radionics and artificial intelligence applications in radiology.
- Recent updates in imaging classifications: BI-RADS, LIRADS, and WHO tumour classification.

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Third-Year Residents

Goal: Achieve mastery in subspecialty imaging, advanced techniques, and case-based learning.

Subspecialty Imaging

- **Breast Imaging:** Breast MRI, contrast-enhanced mammography, and BI-RADS reporting.
- **Cardiac Imaging:** Cardiac CT, CMR, myocardial ischemia evaluation, and congenital heart disease.
- **Neurological Imaging:** Advanced cranial nerve tracking, epilepsy imaging, and functional brain mapping.
- **Musculoskeletal Imaging:** Advanced joint MRIs, bone tumours, and sports injuries.
- **Oncology Imaging:** PET-CT in oncology, tumour imaging, and response evaluation.

Advanced Interventional Radiology

- Embolization techniques (e.g., TACE, TARE).
- Endovascular management of vascular malformations.
- Nonvascular interventions in gynaecology and oncology.

Case-Based and Exam-Oriented Learning

- Discussion of interesting cases in chest, abdomen, and musculoskeletal systems.
- Spotters, quizzes, and exam preparatory courses.
- Management of complex emergencies: Acute abdomen and stroke imaging.

Emerging Trends

- Functional MRI, radiomics, and advanced reporting standards.
- AI and machine learning in imaging and workflow optimization.

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Consultants

Goal: Excel in interdisciplinary collaboration and subspecialty expertise.

Subspecialty Mastery

- **Cardiac Imaging:** Advanced techniques in CTCA, CMR, and myocardial perfusion.
- **Oncology Imaging:** Radiomics, liver and gynaecological cancers, and tumour classification updates.
- **Neurological Imaging:** Comprehensive neurodegenerative disease imaging.
- **Paediatric Radiology:** Imaging of metabolic and congenital disorders.

Interdisciplinary Collaboration

- Integration of imaging with surgical and oncological planning.
- Role of imaging in multidisciplinary tumour boards and quality assurance.

Emerging Areas

- Artificial intelligence, workflow optimization, and image processing.
- Quality assurance and department management in radiology.
- Radiomics and functional imaging applications.

Advanced Interventional Radiology

- Advanced embolization procedures.
- TACE/TARE in liver oncology and hepatopancreatic biliary imaging.
- Complex vascular and nonvascular interventions.



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