



# ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM 2026-27

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**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.



# ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM

## 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.



# ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM

## 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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# ICRI RADIOLOGY RESIDENTS TEACHING PROGRAM

## 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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