

"Foundations of Radiodiagnosis: A Clinical and Practical Approach"

Department: Radiodiagnosis

Block: Block 2 (Clinical Department)

Intake Capacity: 5 students

Faculty:

Supervisor: Dr. Abhinav Jain, Professor

Co-Supervisor: Dr. Subohi Khan, Assistant Professor

Objective:

1. To introduce students to the principles and practice of radiology.
2. To familiarize students with basic radiological techniques, modalities, and their applications in clinical medicine.
3. To develop skills in interpreting common radiological findings and integrating these into clinical practice.
4. To encourage self-directed learning and critical thinking in diagnostic radiology.

Elective Schedule Overview:

Week 1: Introduction and Basics

Day 1: Orientation to Radiology

Introduction to the radiology department and faculty.

Overview of imaging modalities: X-ray, Ultrasound, CT, MRI, and Interventional Radiology.

Day 2: Fundamentals of Radiographic Techniques

Understanding radiation physics, safety, and ALARA principles.

Hands-on practice with X-ray positioning and image acquisition.

Day 3: Chest and Abdomen X-Ray Interpretation

Common findings: Pneumonia, pneumothorax, pleural effusion, intestinal obstruction.

Workshop: Systematic approach to X-ray analysis.

Day 4: Basics of Ultrasonography

Indications, limitations, and techniques.

Observation of live ultrasound sessions (abdomen and pelvis).

Day 5: Interpreting Musculoskeletal Radiographs

Fractures, dislocations, and common joint pathologies.

Interactive case-based discussion.

Week 2: Advanced Imaging and Clinical Integration

Day 6: Computed Tomography (CT) Basics

Principles of CT imaging.

Case-based learning: Head trauma and chest CT.

Day 7: Magnetic Resonance Imaging (MRI) Basics

Principles and common sequences.

Applications in neuro and musculoskeletal imaging.

Day 8: Radiology in Emergency Medicine

Trauma imaging protocols.

Interactive session on emergency radiological findings.

Day 9: Role of Radiology in Oncology

Imaging in cancer diagnosis, staging, and follow-up.

Observation of oncological imaging cases.

Day 10: Assessment and Feedback

Case-based presentations by students.

Feedback and discussion on career opportunities in radiology.

Assessment:

- **Formative Assessment:** Daily logbook submission including cases observed, procedures learned, and reflections.
- **Summative Assessment:**
 - A short multiple-choice question (MCQ) test.
 - A case presentation on the last day of the elective.
 - Feedback from faculty mentors based on participation, attitude, and communication skills.

Intake Capacity:

Maximum of 5 students per elective period.