

Introduction to Clinical Practicum in Medical Imaging

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Key concepts, objectives, structure, and best practice guidelines for students entering the practicum phase.

1. What Is a Clinical Practicum?

Aspect	Description
Definition	A supervised, hands-on training period where imaging students apply classroom knowledge to real-world patient care.
Purpose	- Bridge theory to practice - Develop technical competence - Foster professional behavior and communication - Prepare for licensure/registration
Setting	Hospitals, diagnostic imaging centers, outpatient clinics, specialty units (e.g., interventional radiology, nuclear medicine).
Duration	Typically 12–24 weeks (varies by program and specialty).

2. Core Learning Objectives

Domain	Specific Objectives
Technical Skills	• Operate X-ray, CT, MRI, US, and nuclear equipment safely. • Perform patient positioning, exposure selection, and image acquisition. • Apply quality control (QC) and quality assurance (QA) procedures.
Radiation Protection	• Calculate and apply ALARA principles. • Use shielding, collimation, and dose optimization techniques. • Document exposure parameters accurately.
Patient Care	• Conduct patient identification and verification. • Explain procedures, obtain informed consent, and address anxieties. • Maintain privacy, dignity, and infection control standards.

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Domain	Specific Objectives
Clinical Reasoning	• Interpret imaging studies and identify appropriate modalities. • Recognize normal vs. pathological findings (basic level).
Professionalism	• Follow institutional policies, ethics, and legal regulations. • Communicate effectively with radiologists, technologists, and multidisciplinary teams. • Document findings and interventions clearly.
Safety & Emergency Response	• Recognize and respond to equipment malfunctions, patient emergencies, and contrast reactions.
Reflective Practice	• Keep a learning log/journal. • Participate in debriefings and self-assessment.

3. Typical Practicum Structure

1. Orientation (1–2 days)

- Facility tour, safety briefing, introduction to staff.
- Review of policies, emergency procedures, and documentation systems.

2. Pre-Clinical Workshops

- Hands-on equipment demos.
- Simulated patient scenarios (e.g., using phantoms).

3. Clinical Rotations

- **General Radiography** – 2–3 weeks
- **Computed Tomography (CT)** – 2–3 weeks
- **Magnetic Resonance Imaging (MRI)** – 2–3 weeks
- **Ultrasound (US)** – 1–2 weeks
- **Specialty Areas** (e.g., Interventional, Nuclear Medicine, Mammography) – optional/advanced weeks

4. Mentorship & Supervision

- Assigned preceptor (qualified technologist/radiographer).

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- Daily briefings ? task assignment ? supervised performance ? feedback.

Imaging

5. Assessment Points

- **Formative:** Direct observation, checklists, skill?stations.
- **Summative:** Objective Structured Clinical Examination (OSCE), case?log review, reflective portfolio.

6. Debrief & Evaluation

- End?of?rotation meeting.
- Completion of evaluation forms (student ? preceptor, preceptor ? student).

4. Preparing for the Practicum

Checklist Item

Action

Academic Prerequisites Confirm completion of core courses (radiation physics