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| <b>Branch Name:</b>          | B.Sc RIT                 |
| <b>Program Code:</b>         | AS102                    |
| <b>Course Title:</b>         | Radiographic Positioning |
| <b>Course Code:</b>          | 1AS1030202               |
| <b>Pre-requisite Course:</b> |                          |

### Course Objectives:

The course is designed to provide students with the knowledge and skills required to work in operation theatres and assist anaesthesiologists in the safe & efficient delivery of patient care during surgical procedures.

### Teaching and Examination Scheme:

| Teaching Scheme<br>(Hours per week) |                 |                  |        | Evaluation Scheme (Marks) |                          |                          |                          |                  |
|-------------------------------------|-----------------|------------------|--------|---------------------------|--------------------------|--------------------------|--------------------------|------------------|
| Lecture<br>(L)                      | Tutorial<br>(T) | Practical<br>(P) | Credit | Theory (Marks)            |                          | Practical (Marks)        |                          | Total<br>(Marks) |
|                                     |                 |                  |        | University<br>Assessment  | Continuous<br>Assessment | University<br>Assessment | Continuous<br>Assessment |                  |
| 03                                  | -               | 02               | 04     | 50                        | 50                       | 25                       | 25                       | 150              |

### Course Contents:

| Unit No | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Total<br>Hours |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1       | <b>SHOULDER GIRDLE</b> <ul style="list-style-type: none"> <li>• Related radiological anatomy</li> <li>• Basic and special projections</li> </ul> Shoulder non trauma routine: <ul style="list-style-type: none"> <li>• AP(external rotation)</li> <li>• AP(internal rotation)</li> <li>• Inero superior axial(Lawrence method)</li> <li>• Inero superior shoulder projection(west point method)</li> <li>• Posterior oblique – glenoid cavity(grashey method)</li> <li>• Inter tubercular groove (kisk method)</li> <li>• In erect with weight bearing for clavicle &amp; acromioclavicular joint</li> </ul> Shoulder (trauma routine): <ul style="list-style-type: none"> <li>• AP neutral rotation</li> <li>• Transthoracic lateral (Lawrence method)</li> </ul> Scapula Y view <ul style="list-style-type: none"> <li>• Tangential projection-supraspinatus outlet(neer method)</li> <li>• Apical oblique projections (garth method)</li> </ul> <b>Clavicle</b> <ul style="list-style-type: none"> <li>• AP and AP axial</li> </ul> Acromioclavicular joints: <ul style="list-style-type: none"> <li>• AP bilateral with and without weight</li> </ul> Sternoclavicular joints Scapula | 15             |

- AP
- Lateral erect
- Lateral recumbent

### **HUMERUS**

- Related radiological anatomy
- AP
- LAT
- Horizontal beam LAT
- Proximal humerus views

### **ELBOW**

- Related radiological anatomy
- AP- fully extended, partially flexed
- AP oblique- external and internal rotation
- Lateral
- Acute flexion(jones method)
- Trauma axial lateral(coyle method)
- Radial head lateral

### **FOREARM**

- Related radiological anatomy
- AP
- LAT

### **WRIST**

- Related radiological anatomy
- PA, AP
- PA oblique
- Lateral
- Radial deviation
- Carpal canal- inferiosuperior (gaynor-hart method)
- Carpel bridge

### **HAND**

- Related radiological anatomy
- PA
- PA oblique
- Lateral
- Lateral- flexion and extension
- AP bilateral oblique(nirgaard method)

### **FINGERS**

- Related radiological anatomy
- PA
- Oblique
- LAT

### **THUMB**

- Related radiological anatomy
- AP
- PA oblique
- Lateral
- AP (Roberts method)
- Skiers thumb (folio method)

**FEMUR**

- Related radiological anatomy
- Mid and distal femur

**AP**

- Lateral
- Mid and proximal femur

**• AP**

- Lateral

**KNEE**

- Related radiological anatomy
- Knee
- AP
- Oblique- medial and lateral rotations
- Lateral
- AP( weight bearing)
- Knee- intercondylar fossa
- PA axial(camp coventry and holmblad method)
- AP axial
- Skyline view

**LEG**

- Related radiological anatomy
- AP
- LAT

**Ankle**

- Related radiological anatomy
- AP
- AP mortise (15° oblique)
- Lateral
- AP stress

**Foot**

- Related radiological anatomy
- AP
- Oblique
- Lateral
- AP and lateral weight bearing

**Calcaneus**

- Related radiological anatomy
- Plantar dorsal(axial)
- Lateral

**SKULL AND CRANIAL BONES AND FACIAL BONES**

- Related radiological anatomy
- Basic & special projections
- Cranium
- Base of skull
- Sella turcica
- Mastoids
- Optic foramina and Orbits
- Nasal bone
- TM joint

- Facial bones
- Internal auditory canals
- Zygomatic arches
- Mandible
- Para nasal sinuses

### **CHEST**

- Related radiological anatomy
- Basic & special projections
- PA,AP,&LAT
- AP supine & erect
- Lateral decubitus
- AP lordotic
- Anterior oblique
- Posterior oblique
- Upper airway: AP, LAT

### **CERVICAL SPINE**

- Related radiological anatomy
- Basic views
- AP open mouth (C1 and C2)
- AP axial
- Oblique
- Lateral
- Erect
- Trauma lateral(horizontal beam)
- Cervico thoracic junction (swimmers view)

#### **Special views**

- Lateral- hyperflexion and hyperextension
- AP (fuchs method) or PA (judd method)
- AP wagging jaw (ottonello method)
- AP axial (pillars)

### **THORACIC SPINE**

- Related radiographic anatomy and projections
- AP
- Lateral
- Oblique

### **LUMBAR SPINE, SACRUM AND COCCYX**

- Related radiographic anatomy
- AP
- Oblique
- Lateral
- Lateral (L5 – S1)
- AP axial (L5 – S1)

#### **Scoliosis series**

- AP or PA
- Erect lateral
- AP(ferguson method)

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <ul style="list-style-type: none"> <li>• AP – R and L bending</li> </ul> <p>Spinal fusion series</p> <ul style="list-style-type: none"> <li>• AP or PA – R and L bending</li> <li>• Lateral – hyperextension and hyperflexion</li> </ul> <p><b>SACRUM AND COCCYX</b></p> <ul style="list-style-type: none"> <li>• AP axial sacrum</li> <li>• AP axial coccyx</li> <li>• Lateral sacrum</li> <li>• Lateral coccyx</li> </ul> <p><b>PAEDIATRIC RADIOGRAPHY</b></p> <ul style="list-style-type: none"> <li>• Positioning, care and radiation protection while handling babies</li> </ul> <p><b>DENTAL RADIOGRAPHY</b></p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Terminology</li> <li>• Dental formula</li> <li>• Intra – oral radiography</li> <li>• Bite wing</li> <li>• Periapical radiography</li> </ul> <p>Occlusal radiography</p> <ul style="list-style-type: none"> <li>• Extra oral oblique lateral</li> <li>• Cephalometry</li> <li>• Orthopantomography</li> </ul> |  |
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### Practicals

| Unit No | Topic                                                    | Total Hours |
|---------|----------------------------------------------------------|-------------|
| 1       | Radiography of upper limb.                               | 10          |
| 2       | Radiography of lower limb.                               | 10          |
| 3       | Radiography of chest.                                    | 10          |
| 4       | Radiography of skull and cranial bones and facial bones. | 5           |
| 5       | Radiography of spine.                                    | 5           |
| 6       | Dental Radiography.                                      | 5           |
| 7       | Pediatric Radiography.                                   | 5           |

### Text Books/ Reference Books:

1. Handbook of Medical Radiography latest edition by C Ram Mohan
2. Radiographic positioning Niranjana Baghel

**Course Learning Outcomes (CLO):**

After completing the course, students should be competent to perform routine radiographic examinations independently, ensure diagnostic-quality images with minimal radiation exposure and apply anatomical and technical knowledge in clinical radiology settings.