

## **SYLLABUS FOR FELLOWSHIP PROGRAMME IN MAXILLO- FACIAL IMAGING**

The candidate should have a thorough knowledge on the following:-

- 1. Radiation physics**
- 2. Radiation biology**
- 3. Radiation protection**
- 4. Infection control in radiology**
- 5. Conventional radiographic imaging**

- a.i.1.a) Basic principles of conventional radiographic imaging in the maxilla facial region
- a.i.1.b) Projection techniques for Intra oral, Extra oral radiography, TMJ imaging
- a.i.1.c) Processing of X-ray films
- a.i.1.d) Radiographic image quality
- a.i.1.e) Panoramic imaging
- a.i.1.f) Contrast imaging in conventional radiography such as saligraphy, arthrography
- a.i.1.g) Artefacts in conventional imaging

### **6. Digital imaging**

- a) Direct digital imaging
- b) Indirect digital imaging
- c) Digital image manipulation
- d) Digital subtraction radiography

### **7. Computed Tomography**

- a) Basic principles, components of the system detectors
- b) Helical scanning, multi – slice scanning
- c) Windowing the CT image
- d) CT interpretation
- e) Recognition of CT artefacts, Radiation safety

### **8. CBCT**

- a) Basic principles
- b) Image acquisition
- c) Interpretation
- d) Artefacts

### **9. Ultrasound**

- a) Basic principles, components of an ultrasound system

- b) Types of transducers
- c) Image acquisition on an ultrasound
- d) Real time ultrasonographic imaging
- e) Doppler ultrasonographic imaging
- f) Artefacts

#### **10. Magnetic Resonance Imaging**

- a) Basic principles, components of an MR system
- b) Origin of MR system
- c) Concept of T1 T2 relaxation processes and proton density
- d) Basic principles of common sequences in clinical use
- e) Contrast imaging in MR
- f) Artefacts

#### **11. Radionuclide imaging**

- a) Static and dynamic imaging
- b) Single Photon Emission Computed Tomography (SPECT)
- c) Positron Emission Tomography (PET)

#### **12. Interventional radiology**

- a) Digital fluoroscopy
- b) CT sialography
- c) MR sialography
- d) Angiography
- e) Arthrography
- f) Sialoendoscopy

## MAXILLO- FACIAL IMAGING

### GUIDELINES

| Specifications                              | Requirements                                                                                                                                                                                           | Available | Recommendations         |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|
| Name of the Course Director                 | 9 years of Teaching / Clinical experience in oral medicine & Radiology                                                                                                                                 | 1         | 1                       |
| Teaching Faculty                            | 5 years other M.D.S. In<br>1. M.D.S. - Oral Medicine & Radiology.<br>2. M.D.S. - Oral Surgery<br><br>Supporting Staff / Para Medicals Staff :<br>1. Radiographer<br>2. Dark Room<br>3. Assistant<br>4. | 2         |                         |
| Administrative Staff                        | 1. Staff Nurse<br>2. Data Operation                                                                                                                                                                    |           |                         |
| Out Patient                                 | 30 per day                                                                                                                                                                                             |           |                         |
| Equipments                                  | 1. Conventional radiography<br>2. Digital imaging<br>3. Computed Tomography<br>4. CBCT<br>5. Ultrasound<br>6. Magnetic Resonance Imaging<br>7. Radionuclide imaging                                    |           |                         |
| <b><u>Built-up Area</u></b><br>Seminar Room | 1                                                                                                                                                                                                      |           | 120 Sq.ft.<br>100 Sq.ft |
| Pantry Area                                 | 1                                                                                                                                                                                                      |           |                         |
| Rest Room (Toilet)                          | 1                                                                                                                                                                                                      |           |                         |

|                                  |                                                       |   |  |
|----------------------------------|-------------------------------------------------------|---|--|
| Multi Media                      | LCD Computer with<br>internet Scanner<br>Photo copies | 1 |  |
| Library                          | Mention in Syllabus and<br>Training Scheduled         |   |  |
| Laboratory/<br>Skills Lab        | Mention in Syllabus and<br>Training Scheduled         |   |  |
| Maximum<br>Intake of<br>students | 2 Students.                                           |   |  |
| Registration<br>Details          | As per the Medical<br>University Regulations          |   |  |