

## **Post – Doctoral Fellowship Programme for Maxillo-facial Prosthetics**

**GOAL OF TRAINING** – To enable the student to fabricate all types of maxillo-facial prostheses and know the recent techniques of extra-oral imaging, designing and fabricating the prostheses.

### **TOPICS TO BE COVERED :**

1. Anatomy of cranio-facial structures
2. Physiology of hearing ability and speech mechanism
3. Developmental disorders and growth anomalies
4. Psychological counselling
5. Material science – silicone and colour pigments
6. Colour formulation – shade selection
7. Surgical/Plastic reconstruction techniques
8. Maxillo facial implants and their prosthetic components
9. Osseo-integration
10. Maxillo-facial imaging, use of software for designing and fabrication of surgical templates (STL)
11. Maintenance and follow-up

### **POSTINGS AND DURATION :**

7 days for a period of 3 months

### **SKILLED PROCEDURES :**

#### **No. of prostheses :**

- a. Obturators – 5
- b. Nasal – 2
- c. Orbital – 2
- d. Auricular – 2
- e. Facial defect – 2
- f. Finger – 2

#### **Sequence of procedure :**

- i. Impression making
- ii. Wax pattern –
  - a) Sculpting
  - b) Donor wax pattern
  - c) Mirror image with software
- iii. Maxillo facial implants –

- a) Site selection
- b) Template fabrication
- c) Implant placement
- iv. Abutment fixation and attachment fabrication
- v. Wax try-in
- vi. Investing and dewaxing
- vii. Shade selection and matching
- viii. Finishing and fitting on patient – with extrinsic staining

## **MODULES :**

Each module is for 3 months

### **Module I**

- Anatomy of human cranio – facial structures
- Physiology of speech and hearing mechanism
- Developmental disorders of cranio – facial structures
- Plastic / surgical reconstruction techniques
- Psychological counseling
- Material aspects
- Colour science
- + Fabrication of obturators

### **Module II**

- Recent techniques for imaging
- Assessment of the defect area and treatment planning
- Basics of maxillofacial implants and osseointegration
- Application of different prosthetic components and retention mechanisms
- Use of radio-graphic techniques for maxillo-facial imaging
- Use of software for surgical template ,Wax pattern
- + Fabrication of auricular and finger prostheses

### **Module III**

- External painting of the orbital prostheses
- Fabrication of orbital prostheses

## **Module IV**

- Fabrication of nasal and facial prostheses

### **LOG BOOK :**

- i. Pre-clinical procedures
- ii. Every clinical step

### **NO. OF CASES :**

- ✓ Obturators – 5
- ✓ Nasal – 2
- ✓ Orbital – 2
- ✓ Auricular – 2
- ✓ Facial defect – 2
- ✓ Finger – 2

### **Publication / presentation :**

Paper publication related to the subject –

- (a) Atleast 1 Indexed Peer Reviewed Journal (Maximum 2)
- (b) Atleast 1 Non indexed Journal (Maximum 6)

### **Recommended Books and Journals :**

1. Taylor TD. Clinical Maxillofacial Prosthetics. 1st ed. St. Louis: Quintessence. Co
2. Curtis TA, Marunick MT, Beumer J. Maxillofacial Rehabilitation: Prosthodontics and Surgical Considerations.
3. Chalian VA, Maxillofacial prosthetics - multidisciplinary practice.
4. Thomas KF, Prosthetic rehabilitation.
5. McKinstry RE. Fundamentals of facial prosthetics.
6. Levin AC . Maxillofacial prosthetics
7. Shafer's Textbook of Oral Pathology, 5th edition, Rajendran R, Sivapathasundaram
8. Keith Thomas, Textbook of Clinical Anaplastology

### **Journals :**

1. International Journal of Oral Maxillofacial Surgery
2. Journal of Prosthetic Dentistry
3. International Journal of Prosthodontics
4. Journal of Prosthodontics
5. Journal of Oral Rehabilitation
6. Journal of Plastic Reconstruction Surgery

7. Journal of Oral Maxillofacial Surgery
8. Journal of Otolaryngology, Head and Neck Surgery
9. International Journal of Oral and Maxillofacial Implants
10. British Journal of Oral and Maxillo-facial surgery
11. Journal of Oral Implantology
12. Quintessence International
13. European Journal of Cancer Care
14. American Journal of Oto-laryngology

## DENTAL – MAXILLO FACIAL PROSTHETICS - GUIDELINES

Specifications	Requirements	Available	Recommendations
Name of the Course Director	M.D.S. Prosthetics with a year teaching / Clinical experience in the concern speciality.		1
Teaching Faculty	M.D.S. Prosthetics M.D.S. Oral & Maxillo facial surgery 5 years teaching clinical experience		
Administrative Staff			Office Staff – 1 Chair side Assistant - 3 Radiographer DRA - 1
Out Patient			30 patients
Equipments	As specified in Post – Doctoral Fellowship Course in implantatology (Page No.54) As specified in Post-Doctoral Fellowship Course and Acrylic & silicone based materials (Page no.56)	For making Prosthetics	Minimum one set.
<b><u>Built-up Area</u></b>			120 Sq.ft. 100 Sq.ft 50 Sq. ft.
Multi Media			LCD – 1 Computer with Internet – 1 Photo copies Scanner Seating Furniture Cup Board
Library	10 Books of Implantology 5 Books of Maxillo Facial Prosthetics Text Books of Basic		

	Sciences National & international Journals		
Laboratory/ Skills Lab	As mentioned in the Post- Doctoral Fellowship Course (Page No.55)		
Maximum Intake of students	2 Students.		
Registration Details	As per the Medical University Regulations		

## **INFRASTRUCTURE**

All infrastructure given is for three students. This must be increased proportionate to increase in seats.

### **A. BUILT-UP AREA**

<b>Infrastructure</b>	<b>Requirement (sq ft)</b>
Administrative Area (Reception, office, Medical Record)	
Dental Operatory(150x3)	
Radiology	
Sterilization Area	
Waste Disposal Area	
Amenities (Pantry, Lounge & rest rooms for doctors)	
Dental Material Lab	
Conservative Lab	
Seminar Hall and Library	
<b>Total</b>	

### **B. EQUIPMENTS**

i.. Dental Chair and Unit - 3 Nos.

Electrically operated, spittoon attachment, Halogen Light with 2 intensity, Air ventury suction, micromotor & airrotor control with straight & contra angle handpiece, light cure unit, 3 way syringe, X-ray viewer, instrument tray, Dental Operators stool with height adjustment scaler with three tips

ii. Radiology Equipments(Paralleling Technique Equipments)

- a. Intra Oral X Ray Unit - 1
- b. RVG Unit - 1
- c. Panoramic X Ray Unit - 1
- d. Lead aprons - 2
- e. Dosimeter Badge - 1

iii. Camera/SLR - 1 Unit

iv. Computer with accessories - 2

v. Sterilization Equipments

a. Autoclave -1

b. Vapoclave -1

c. Ultra Sonic Cleaner -1

d. Packing and Sealing Unit -1

vi. Hospital waste Disposal

a. Colour Coded Bins

b. Needle Destroyer

c. Mercury Disposal System

d. Radiology Waste Disposal System.

vii. Specialty Specific Equipments

a. Bleaching Light Unit

b. Laser Unit(Diode)

viii. Seminar Hall and Library

a. LCD Projector,

b. Computer with necessary accessories and internet facilities

c. Photo Copier

d. Scanner

e. Seating furniture

f. Cupboard

ix. Laboratory Equipments

a. Casting Machine - 1

b. Burn out Furnace - 1

c. Porcelain furnace with vacuum pump - Metal Ceramic -1

d. All Ceramic Furnace - 1

e. Ceramic Kit -1

f. Heavy Duty Lathe - 1

g. Model Trimmer	- 1
h. Die Cutting Machine & Die Systems	- 1
i. Sand Blaster	- 1
k. Spot Welder	- 1
l. Steam Cleaner	- 1
m. Face Bow and Semi Adjustable Articulator	- 1
n. Ceramic Trimming & Finishing Machine	- 1
o. Vacuum Mixing Machine	- 1
p. Vibrator	- 1
q. Milling Machine	- 1
r. Magnifying Work Loupes	- 1
s. Micromotor	- 1
t. Electropolishing Unit	-1
u. Duplicating Unit/ Flasks	-1
v. Composite Finishing Kit	-1
w. Microblaster	
x. Shade Guide	

## **C. INSTRUMENTS**

### **AMALGAM RESTORATION**

- Mouth mirror
- Probe
- Tweezer
- Burs
- Excavator
- Enamel chisel
- Hatchet
- Hoe
- Gingival marginal trimmer
- Wedge
- Matrix band and retainer
- Mortar and pestle
- Cement spatula
- Glass slab
- Plastic instrument
- Amalgam carrier
- Amalgam condenser
- Amalgam burnishes
- Amalgam carver
- Amalgam polishing kit

## **CAST RESTORATION FOR INLAY, ONLAY, FULL CROWN AND CAST POST**

- Mouth mirror
- Probe
- Tweezer
- Burs
- Peeso reamer
- Spirit lamp
- Plastic instrument
- Inlay wax
- Screw Pin
- Crown preparation Kit
- Self cure acrylic and monomer
- Cement spatula
- Glass slab
- Artery forceps
- Articulating paper
- Wax sheet
- Impression tray
- Gingival retraction cord
- Gingival retraction and insertion instrument
- X ray film
- X ray film holder
- N P Alloy adjustment kit
- Gold polishing kit

## **COMPOSITE RESTORATION**

- Mouth mirror
- Probe
- Tweezer
- Plastic instrument
- Cheek retractor
- Tongue retractor
- Shade guide
- Applicator for etchant and bonding agent
- Cellophane strip
- Wedge
- Bonding agent
- Etchant
- Composite resin material
- Finishing burs
- Finishing and polishing kit

- Articulating paper
- Face mirror

### **GLASS IONOMER**

- Mouth mirror
- Probe
- Tweezer
- Plastic instrument
- Cheek retractor
- Agate spatula
- Paper pad
- Cellophane strip
- Vaseline
- Finishing burs
- 

### **BLEACHING**

1. Mouth mirror
2. Probe
3. Tweezer
4. Rubber dam sheet
5. Vaseline
6. Dental floss
7. 30% H<sub>2</sub>O<sub>2</sub>
8. 36% HCl
9. Diethyl ether
10. Sodium perborate
11. Wooden stick for application

### **JACKET CROWN**

- ✓ Mouth mirror
- ✓ Probe
- ✓ Tweezer
- ✓ Local anesthesia and 2 ml disposable syringe
- ✓ Burs
- ✓ Spirit lamp
- ✓ Plastic instrument
- ✓ Self cure acrylic and monomer
- ✓ Articulating paper
- ✓ Gingival retraction cord
- ✓ Gingival retraction and insertion instrument
- ✓ Cement spatula

## **REIMPLANTATION**

- Mouth mirror
- Probe
- Tweezer
- L.A. and disposable syringe and needle
- Periosteal elevator
- 21 Gauge wire
- Micromotor handpiece
- Carborandum disc and mandrel
- Suture needle and material silk 3-0
- Artery forceps
- Extraction forceps
- All RCT instruments

## **D. MATERIALS**

- a. Impression Materials/Model Materials/Waxes
- b. Aesthetic Restorative Materials
- c. Bleaching Materials
- d. Composite Materials – Dual Cure, Single Cure