Maharashtra University of Health Sciences, Nashik

SYLLABUS

"Fellowship Course in Oral Implantology"

Fellowship Course In Oral Implantology

TITLE OF PROGRAMME	:	Fellowship Course in Oral Implantology
DURATION	:	01 Year
ELIGIBILITY	:	BDS/MDS candidate with recognized Degree by Dental Council of India will be eligible. No candidate can register for two programmes simultaneously.
TOTAL INTAKE (per year)		:12 per centre +3 per centre Total(15Candidate) Total strength not to exceed the ratio of 1:5 (Teacher to Student) Maximum strength of 15 Students

SYLLABUS

THEORY

FUNDAMENTALS

- Introduction and history of implants.
- Oral anatomy and histology.
- Maxilla and mandible-osteology, muscle attachments, blood supply and nerve supply and age changes.
- Maxillary sinus.
- Tempromandibular joint.
- Mastication and occlusion.
- Dental anatomy.
- Oral mucosa, gingival – significance of keratinized mucosa.
- Periodontal tissues.

Alveolar bone in health and disease

- Structure
- Bone anatomy

- Bone histology
- Bone physiology
- Bone biochemistry

Defense mechanism of the oral cavity

Biomaterials

- Properties of titanium and its alloys
- Bone augmentation materials

Sterilization and asepsis

- General considerations
- Surgical room
- Sterilization protocol
- Pre-operative procedures
- Pre-medication

Osseointegration

- Concept of Osseointegration
- Biomechanics of Osseointegration

Implant prototypes and different systems
Design of each Implant

- Endosseous implants
- Endosteal Implants
- Submucosal Implants
- Sub periosteal implants
- Blade Implants
- Transosteal implant

CLINICAL ASPECTS OF IMPLANTOLOGY

1. Clinical assessment and case selection
2. Patient screening and medical evaluation
3. Indications and contra indications for Implant therapy
4. Special emphasis on
    - Diabetes mellitus
    - Smoking
    - Steroid therapy
    - Irradiation
    - Alcohol abuse
5. Examination of oral cavity
6. Assessment of existing dentition and periodontal status
7. Oral hygiene status
8. Edentulous ridge
    - Type and classification
    - Soft tissue & bony evaluation
9. Intermaxillary space evaluation
10. Determination of prognosis
11. Radiological assessment
    - OPG
    - CT Scans
    - Ball bearing templates
    - Study casts
    - Photographs
    - Templates
12. Marketing of implant treatment and practice management.

DIAGNOSIS AND TREATMENT PLANNING

1. Indications and contra indications
2. Diagnosis
3. Medical history
4. Dental history
5. Oral examination
6. Anatomical limits for fixtures placement
7. Radiographic examination
8. Fabrication of radiographic splint
9. Additional bone evaluation
10. Designs for edentulous patient treatment
11. Designs for partially edentulous patient treatment
12. Number of Implants
    - Single tooth / Multiple teeth implants/Complete edentulous arches
    - One stage / Two stage Implants
13. Type of implants

SURGICAL ASPECTS OF PLACEMENT OF IMPLANTS

1. Basic principles of surgery
2. Surgical instruments
3. Preparation of patient
4. Anesthetic options – LA / GA / IV sedation
5. Flap design/flapless designs
6. Preparation of implant bed
7. Implant placement
8. Suture materials and suturing techniques
9. Post operative care
10. Post operative complications and management
    (healing after implant placement)

SPECIAL SITUATIONS AND PROSTHODONTIC ASPECT

1. Single tooth replacement
2. Over-dentures
3. Hypodontia and oligodontia
4. Implant placement immediately following extraction & alveoplasty
5. Micro-vascular bone grafting techniques in combination with osseointegrated fixtures.
6. Implant prosthesis for craniofacial defects like Implant retained ear prosthesis, nose prosthesis, eye prosthesis, etc.
7. Cleft palate rehabilitation
8. Use of hyberbaric oxygen to prevent implant loss in irradiated patients

ADJUNCTIVE SURGICAL PROCEDURES

1. Soft tissue grafting
2. Bone grafting
3. Sinus lift
4. Ridge augmentation/bone expansion/condensation/splitting
5. Guided tissue/bone regeneration
6. Distraction osteogenesis

PERI IMPLANT REGENETRATIVE THERAPY

DECISION MAKING ON AILING AND FAILING IMPLANTS

FUTURE CONSIDERATIONS

MEDICO-LEGAL ASPECTS AND INFORMED CONSENT

PRACTICALS

1. Identify and name various implants designs and components
2. Education and training in implant placement in various simulated bone densities.
3. Drilling procedures and implant site preparations in human dry mandibles
4. Abutment placement
5. Placement of implants in typhodont
6. Various implant placements and management on typhodont up to prosthesis fabrication
7. Lab techniques- from chair thru lab thru chair.
8. Impression procedures and materials and techniques.
9. Prosthesis fabrication.
10. Understanding of ideal occlusion , Implant related occlusal adjustment and various other laboratory procedures involved

CLINICALS

1. Evaluation of the patient's medical status
2. Fabrication of study casts splints and drilling surgical stents
3. Diagnostic imaging and radiographs
4. Sterilization of
   - instruments
   - surgical atmosphere
   - techniques of washing and draping the patient
5. Assisting
   - implant placement (1^{st} stage surgery)
   - abutment placement (2^{nd} stage surgery)
   - impression procedures
6. Prosthodontic rehabilitation
7. Independent placement of implants and completing restorative procedures

LIST OF EQUIPMENTS AND INSTRUMENTS

List of Equipments:

1. Complete dental chair with X-Ray unit
2. Various implant kits and implants
3. Physiodispenser with reduction gear handpiece (20:1) and micromotor straight handpiece.
4. OPG Machine in the premises
5. RVG Machine in the premises
6. Basic implant surgical kit of atleast 3 systems(4 kits each)
7. Autoclave
8. Ultrasonic cleanser.
9. Adequate audiovisual equipment for documentation required

List of instruments:

1. Implant kit
   Complete set of drills for 1st stage, 2nd stage surgery and over dentures
2. Impressions posts
3. Implant analogues
4. Gingival formers
5. Abutments: provisional/customized burnouts/definitive stock.
6. Sterilization boxes
7. Reduction hand pieces
8. Titanium tipped pliers
9. Titanium tweezers
10. Instrument trays – glass and stainless steel
11. Surgical scrub sink – stainless steel / ceramic
12. Lockers
13. Mouth mirror
14. Straight probe

15. Tweezers
16. Kidney tray
17. Surgical tray
18. B. P. Handle
19. B.P.Blade No 11,12,15.
20. Fine periosteal elevator
21. Austin’s retractors
22. Lake tongue depressor
23. Straight artery forceps
24. Curved artery forceps
25. Allis tissue holding forceps
26. Needle holder
27. Scissors
28. Gillis tooth holding forceps
29. Towel clips
30. Surgical drapes
31. Surgical gloves
32. Surgical straight hand piece
33. Surgical burs
34. Plastic sealers (Teflon coated implant scalers)
35. Dentulous and edentulous stock trays (U 1 – U 4), (L 1 – L 2)
36. Rubber blows – 2 in No.
37. Spatula (Straight – 1 in No. And curved – 1 in No.)
38. Crown cutting burs
39. Acrylic trimmers
40. Protective eye glasses

LAB MATERIALS

Instruments and materials required for crown & bridge

1. Diagnostic instruments
2. Handpiece
3. Rotary instruments
4. Cord packer
5. Crown preparation kit
6. Laminate preparation kit
7. Rim lock impression tray
8. Quadrant impression tray
9. Finishing and polishing instruments
10. Profin instruments
11. Shade guides – Vita pan and Vita 3D
12. Alginate impression materials
13. Elastomeric impression materials
14. Retraction cord – various sizes
15. Expansible retraction gel
16. Resin cements
17. Hydrofluoric acid etch
18. Try-in paste
19. Temporary crowns / self cure
20. Freegenol
21. Reinforced ZOE cement

LAB EQUIPMENTS FOR CERAMIC CROWN AND BRIDGE

1. Induction casting machine
2. Burn out interface
3. Vacuum mixer
4. Agar duplication machine
5. Electroplating machine
6. De-waxing unit
7. Acryliser
8. Bench press
9. Finishing and polishing unit
10. Sand blasters micro and macro
11. Ceramic furnace
12. Trimmers
13. Heavy duty lathe
14. Hand trimmers
15. Cast trimmers
16. Ultrasonic cleaner and sterilizer
17. Surveyor
18. Broken arm surveyor
19. Milling machine
20. Cap tak

Materials

1. Surgical linen
2. Disposable surgical gloves masks and caps
3. Glutaraldehyde detergents
   - for floor
   - hand scrubbing
4. Povidine iodine
   - for patient preparation
5. Graft materials (allografts, xenografts etc.)
6. Suture materials

PRE-CLINICAL WORK:

SURGICAL PHASE:

1. Incision techniques of stents
2. Raising of flaps on models
3. Suturing techniques on models
4. Surgical placement of implants on dummies using various systems
5. Radiographic assessment – OPG, CT scan

PROSTHETIC PHASE:

1. Fabrication of stents
2. Mock preparation
3. Impression technique
4. Various components (identifying)
5. Pouring casts
6. Implant maintenance on models

Minimum requirement for certificate

1. 90% attendance of didactics
2. 90% attendance of simulated session
3. 100% attendance & completion of surgical and prosthetic phase
4. Placement and restoration of 02 Implants including the restoration. (More can be placed and restored optionally)

   Cases to be done during the course include

   (a) Observed – 5 cases

   (b) Assisted – 10 cases

   (c) Performed Under guidance – 2 cases

   (d) Performed without guidance – 3 cases
5. Submission of Log book with all entries

LOG BOOK MAINTENANCE

Serial No	Titles
1.	Instrumental list
2.	Preclinical Work
3.	Clinical Case Record
4.	Academic Presentations
	Seminars Presented
	Scientific Papers and Posters Presented
5.	Academic Activities Attended
	Seminars Attended
	Journal Clubs Attended
6.	Conferences, Workshops and CDE Programmes
	Certificates of Conferences Attended
7.	Photograpic documentation of cases

Scientific participation

- Journal review meetings – Minimum 3 journals.
- Seminars – Minimum 2 by each candidate.
- Conference participation – Atleast 1 Implant conference attendance in country or abroad.
- Clinical discussion – All cases will be discussed for Rx planning, surgical placement, prosthetic steps & maintenance.
- Clinical photography & documentation.

To Be

Exit Examination will include

1. Long case – A case shown for treatment Planning - 30 marks
2. Short case – A discussion of case completed from records presented - 20 marks
3. Research presentation Theory viva voce & Seminar Submitted - 25 masks
4. Skill evaluation logbook evaluation & Internal assessment - 25 marks

LIST OF ESSENTIAL TEXT BOOKS

	NAME OF THE BOOK	AUTHOR(S)
1.	Osseointegration and occlusal Rehabilitation	Sumiya Hobo
2.	Implants and restorative dentistry	Gerard SCortecci
3.	Guided bone regeneration in Implant dentistry	Buser, Dahlin, Schenk
4.	Contemporary Implant dentistry	Carl Misch
5.	Endosteal dental implants	Ralph Mckinney
6.	ITI Dental implants – planning, placement, restoration & maintenance	Nilson
7.	Lab techniques for Branemark sysem	Ross Tayler
8.	The immediate load implant system	Sumiya Hobo
9.	Advanced Osseo integration surgery application in the maxilla facial region	Naert & Worthington
10.	Proceeding of 3rd European Workshop on periodontology Implant Dentistry	
11.	Osseo integration in oral rehabilitation	Naert & Worthington
12.	Principles of Dental Imaging	Langland
13.	Implant therapy – Clinical approaches & evidence of success	Myron Nevins
14.	Dental Implants – The art & science	Charles A, Babbush

LIST OF ESSENTIAL JOURNALS:

1. International journal of oral and maxilla facial implants.
2. Journal of Oral Implantology
3. Journal of Dental research
4. Clinical oral implant research
5. Dental technician
6. Quiescence International
7. Other journals related to specialties of Prosthodontics, Oral Surgery, Periodontics and Radiology.