

Department of Prosthodontics



Study Guide Final Year B.D.S

**Sharif Medical and Dental College
Lahore**



PREFACE

In the field of dentistry, the prosthodontics related to providing solutions to patients suffering from partial or complete edentulism. These dental conditions are diverse individual to individual. The education and training in Prosthodontic is important to train future dentist for treatment complex dental conditions and restoring optimum function and esthetics. This study guide will help the students in learning of this subject.

Dr. Uzma Shahid

HOD/Associate Professor of prosthodontics



VISION & MISSION OF UHS

Qualitative and Quantitative Revolution in Medical Education and Research through Evolution and there by improve Health Care delivery to Populace.

UHS shall be innovative global center of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring, and inquiring health professionals for the benefit of the country and the wider world.

MISSION OF SMDC

Sharif Medical & Dental College is dedicated to best serve the nation through preservation and dissemination of advanced knowledge and educating the students by latest trends in learning and research reaching levels pars excellence.

The Institution is committed to provide standardized quality medical education to its students by inculcating professional knowledge, skills and responsibilities in them with the aim of:

- Preparing them as modern physicians having initiative to act as future leaders in their respective fields and becoming lifelong learners.
- Encouraging the spirit of critical thinking through research and publication.
- Building up an understanding of the ethical values compatible with our religion, culture and social norms.
- Developing a sense of being responsible citizens of the society possessing professional competence and instilling in them the values of hard work and dedication thus preparing them to be accountable to the stakeholders and the state.

The Institution is devoted to keep abreast its faculty with the latest trends in Medical Education encompassing teaching/learning methodologies, assessment tools, research opportunities and professionalism to facilitate their professional development, competencies and commitment towards continues learning.

Our patient-centered mission is achieved by outstanding medical care & services in professional practice with due emphasis and focus on our local health needs.

Our mission further elaborate upon establishing academic and research facilities in areas of local demand under global gold standards and leading advancement in research, education & patient care.

VISION OF SMDC

To be recognized for the provision of a safe and functional environment conducive to collaborative teaching & learning, comfortable working atmosphere, and conducting world class research through professionalism and excellence.



LIST OF CONTENTS

Sr. No.	Topic	Page No.
1.	Teaching and Learning Strategies	1
2.	List of Lectures	2
3.	list of lab and clinical demonstrations(SGDs)	4
4.	Learning Objectives	5
5.	Assessment Plan	9
6.	List of Faculty	10
7.	Recommended Readings	11

TEACHING AND LEARNING STRATEGIES

a) Modes of Information Transfer

PMC has allocated 325 hours of teaching in the subject of prosthodontics for the final Year B.D.S. course. Following teaching modules have been planned to impart core knowledge of Prosthodontics so that student can grasp the subject fully and is adequately prepared for university examinations.

Large Group Interactive Session (LGIS)

A total 77 LGIS are planned for the entire year. The session will be conducted by the associate Professor and assistant professors. The session will be interactive, and students should actively participate in them. At the start of each session, the learning outcome will be displayed.

Practical Classes, Demonstration & Individual Performance

Students of final year will have their rotation in prosthodontic department for two months. During this period students are supposed to do clinical and laboratory training of complete and partial dentures. Patients will be allotted to students for clinical and laboratory procedures. Students are supposed to perform the procedures under supervision.

Small-Group Discussion (SGD) & Case-based learning

The class will be divided into the batches. Case-based learning and small group discussion will be conducted throughout the academic year. Clinical problems in the clinic will be discussed with the students. A senior demonstrator will be interactively facilitating the session and students are required to generate the discussion amongst themselves & the facilitator in line with the learning objectives of the topic.

Students' presentation

Presentations by the students were scheduled after the completion of the course. Topics will be allocated to students and each presentation will be of 10-15 minutes duration with a Question & Answer session after it. This will help to increase student's engagement in their learning.

Skill Demonstration

For appropriate Skill demonstration, students will do the clinical and lab procedures.

b) Venue for Learning Outcomes

- Lecture Halls
- Prosthodontic Laboratory
- Tutorial rooms
- Prosthodontic clinic
- Libraries including audio visual
- Online classes- Zoom/Google class room



LIST OF LECTURES

Sr.no.	Topics	Lectured by
1.	Introduction	Dr. Uzma
	Introduction to prosthodontics	Dr. Uzma
2.	History taking,	Dr. Hamna
3.	Examination of patient	Dr. Uzma
4.	Treatment planning	Dr. Uzma
5.	Classification of patients	Dr. Uzma
6.	Anatomy of max. denture bearing area	Dr. Uzma
7.	Anatomy of mand. denture bearing area	Dr. Uzma
8.	Limiting structures of max. And mand. Dentures and its significance.	Dr. Uzma
9.	Impression materials	Dr. Uzma
10.	Denture base material.	Dr. Uzma
11.	Latest innovations in materials.	Dr. Uzma
	Types of impression trays and selection.	Dr. Uzma
12.	Impression, and objectives of impression.	Dr. Uzma
13.	Theories of impression,	Dr. Uzma
14.	Impression techniques	Dr. Uzma
15.	Border moulding and posterior palatal seal.	Dr. Uzma
16.	Neutral zone concept	Dr. Uzma
17.	Height of occlusal plane.	Dr. Uzma
18.	Jaw relations orientation	Dr. Uzma
19.	Jaw relations vertical	Dr. Uzma
20.	Jaw relations vertical	Dr. Uzma
21.	Jaw relations horizontal	Dr. Uzma
22.	Articulator lab. And clinical steps	Dr. Hamna
23.	Articulation and occlusion	Dr. Hamna
24.	Articulation and occlusion	Dr. Hamna
25.	Occlusal schemes	Dr. Uzma
26.	Basic principles for Arrangement of teeth	Dr. Uzma
27.	Arrangement of anterior teeth	Dr. Uzma
28.	Arrangement of posterior teeth	Dr. Uzma
29.	Selection criteria for anterior teeth	Dr. Uzma
30.	Selection of posterior teeth	Dr. Uzma
31.	Land marks for tooth positioning	Dr. Uzma
32.	Teeth set up in challenging situations	Dr. Uzma
33.	Trial	Dr. Uzma
34.	Trial	Dr. Uzma
35.	Insertion.	Dr. Uzma
36.	Post insertion follow up	Dr. Uzma
37.	Single complete denture.	Dr. Uzma
38.	Sequel caused by complete denture	Dr. Hamna
39.	Combination syndrome	Dr. Uzma
40.	Management of combination syndrome.	Dr. Uzma
41.	Introduction and types of Immediate dentures	Dr. Uzma
42.	Lab. And clinical procedures for construction of Immediate	Dr. Uzma



	dentures	
43.	Introduction and classification of Over dentures	Dr. Uzma
44.	Selection criteria for Over dentures	Dr. Uzma
45.	Problems associated with Over dentures	Dr. Uzma
46.	Relining and rebasing	Dr. Uzma
47.	Denture repair	Dr. Uzma
48.	Introduction to dental Implants	Dr. Uzma
49.	Classification of dental Implants	Dr. Uzma
50.	Case selection for dental Implants	Dr. Uzma
51.	Problems associated with dental implants	Dr. Uzma
52.	Introduction to Maxillofacial prosthesis	Dr. Uzma
53.	Objectives and types Obturators	Dr. Uzma
54.	Problems associated with maxillary Obturators	Dr. Uzma
55.	Mandibular resection, etiology, and challenges	Dr. Uzma
56.	Mandibular resection prosthesis	Dr. Uzma
57.	Mandibular resection prosthesis	Dr. Uzma
58.	Introduction to Treatment planning of RPDS	Dr. Uzma
59.	Surveying	Dr. Uzma
60.	Treatment planning of max. RPDs	Dr. Uzma
61.	Treatment planning of mandibular RPDs	Dr. Uzma
62.	Denture bases	Dr. Uzma
63.	Denture bases	Dr. Uzma
64.	Direct retainers	Dr. Uzma
65.	Clasp design	Dr. Uzma
65.	Special clasp design	Dr. Uzma
66.	Indirect retainers	Dr. Uzma
67.	Minor connectors	Dr. Uzma
68.	Major connectors	Dr. Uzma
69.	Distal extension bases	Dr. Uzma
70.	Distal extension bases	Dr. Uzma
71.	Support and retention associated with distal extension bases.	Dr. Hamna
72.	Special impression making procedures	Dr. Uzma
73.	Steps of complete denture construction(clinical)	Dr. Uzma
74.	Steps of complete denture construction(laboratory)	Dr. Uzma
75.	Case discussion of complete denture	Dr. Uzma
77.	Case discussion of complete denture	Dr. Uzma



LIST OF LAB AND CLINICAL DEMONSTRATIONS

Laboratory and clinical demonstration for construction of full dentures will be given to every group during rotation in prosthodontics department to final year and third year B.D.S. students.

Laboratory demonstrations

1. Cast making from impression for denture construction.
2. Wax up of cast, boundaries of complete denture and its significance.
3. Occlusal rim construction, ready for jaw relations
4. Articulation
5. Set up of anterior teeth
6. Set up of posterior teeth
7. Ready for trial.
8. Ready for insertion

Clinical demonstration

1. Diagnosis, examination of patient.
2. Tray selection, and making primary impression.
3. Border moulding and primary impression.
4. Special impression techniques for free end saddles
5. Jaw relations
6. Trial
7. Insertion
8. Follow up



LEARNING OBJECTIVES

Dental materials

- General Requirements for biomaterials used to make complete dentures
- Optimal Qualities for prosthodontic impression materials
- Zinc oxide eugenol impression paste
- Compound types: composition and manipulation
- Elastic impression materials: hydrocolloids
- Elastomeric impression materials: properties, advantages, disadvantages
- Disinfection of impression materials
- Polymeric denture base materials
- Materials used in fabrication of prosthetic denture teeth: comparison, advantages, disadvantages
- Denture lining materials- tissue conditioners, soft liners
- Cast Metal alloys
- Denture cleansers
- Denture Adhesives

Complete dentures, related anatomical structures, diagnosis of oral conditions, and management

- Define complete dentures,
- Describe the Applied Anatomy and Physiology, Peripheral tissue attachment of denture bearing area.
- Define and identify the different Tongue forms and its significance
- Describe Saliva and define its clinical significance in prosthodontics treatment
- Describe the application of Systemic disorders and applied pathology in complete denture construction.
- Identification of patients, General conditions.
- Describe the Muscle tone and muscular development and its clinical significance.
- Describe the Osmotic balances and its application.
- Describe and identify Oral lesions with skin manifestations and limitation in prosthodontics treatment.
- Describe Psychiatric evaluation of patients and its role in clinic for prosthesis success.
- Describe and identify the different Ridge and Face forms and relations.
- Describe different type of oral mucosa and its related pathology, its clinical significance.
- Describe the process of Alveolar bone resorption.
- Describe the conditions which needs mouth preparation including pre-prosthetics Surgery

Impressions

- Describe the Objectives of impression.
- Describe and identify the Fundamentals of Denture retention and contributing factors
- Describe the Theories and techniques of impression.



- Describe and make the Impression with different impression techniques: minimum pressure, definite pressure, selective pressure impression.
- Define Pascal's law, atmospheric pressure, Intermolecular attraction, interfacial, surface tension, Impression Techniques: primary, wash and secondary, Impressions, impression trays, impression materials.
- Describe the Factors responsible for physical retention, physiological, mechanical, surgical and psychological factors.

Maxillo-mandibular relation

- Clinical Significance of occlusal rims
- Describe Maxillo-mandibular relations.
- Describe the various methods of vertical relation, perform Occlusal and Rest vertical relations.
- Describe and perform Horizontal relations.
- Describe and perform Centric and Eccentric relations.

Articulators

- Define and differentiate Occlusion and articulation,
- Define and describe different type of Articulators.
- Describe the Protrusive records condylar path.
- Describe the Hanau's formula.
- Define Hinge axis.
- Define Facebow, describe its type arbitrary and kinematics.

Arrangement of teeth

- Describe the criterion for Selection of teeth, arrangement of teeth Factors responsible for size, shape, colour, shade, position and relationship of teeth.
- Define Curve of Spee with its clinical significance.
- Define Curve of Wilson with its clinical significance
- Define Monson curve.

Trial, Insertion and post-insertion follow-up

- Define Phonetics and describe its application in prosthodontics
- Define Trial of prosthesis and able to perform trial with all
- Define and describe Insertion of complete dentures.
- Describe and explain Post-insertion follow up.

Immediate Dentures and Replacement Dentures

- Define and Classify immediate dentures (partial, complete).
- Describe the Indications and contra indications and objectives
- Describe and perform the laboratory and clinical procedure of immediate dentures.
- Describe the Multi-disciplinary approach including care during surgery
- Describe and perform the Insertion, follow up and maintenance.

Implantology

- Define and describe the Types of implants
 - a) Endosseous



b) Sub periosteal

c) Endodontic implants.

- Define and describe the Osseo integration and Bio compatibility and their relevance with implants
- Describe the Limitation of implants.
- Describe the different Prosthodontic Options. Clinical and laboratory procedures

Maxillo Facial Prosthodontics.

- Define and Classify of congenital and acquired defects.
- Describe the Principles governing treatment and management of patients presenting with various defects
- Define obturators and describe its types
 - Cleft palate prosthesis
 - Speech aid prostheses
 - Facial prostheses
 - TMD splints
 - Bite Raising appliances.

Occlusion including TMD/MPD

- Describe Principles of Occlusion.
- Define the Occlusal Trauma
- Describe its Concept, Aetiology, Treatment planning and options

Geriodontology

- Able to describe the Principles and procedures relating to the management of medically compromised and the elderly patients.
- Describe the Medical conditions having oral manifestation
- Describe the Xerostomia and related to medical conditions and management
- Describe and advice Geriatric Nutrition.
- Describe the Principles of prosthodontic procedures in geriatric patients.

Over Dentures

- Define and describe the Applied Anatomy and Physiology
- Describe the Oral manifestations of local and systemic disorders
- Describe and take History General and oral examination
- Describe and perform Diagnosis and treatment planning, prognosis
- Describe Biomechanics of oral cavity and contributory factors
- Classify the over dentures
 - Partial and complete
 - Removable and Fixed
 - Transitional or Diagnostics and permanent definitive.
- Tooth supported, root supported, implant supported
- Describe the Indications contra indications, advantages and disadvantages
- Describe Steps of procedures and follow up.



Relining, Rebasing and Repairs

- Define and describe the General indications and principles related to relining, rebasing and repair of complete dentures
- Describe the lab. Procedures.

Copy dentures

- Define and describe the indications and contra indications procedures
- Describe laboratory procedures for its construction.



ASSESSMENT PLAN

Formative Assessment:

It will be carried out throughout the academic year to provide timely feedback to the students and help them to identify learning gaps. It includes surprise quizzes, tests during SGDs and LGIS. They may be graded so that students can judge themselves in comparison with their peers.

Summative Assessment (Continuous Internal Assessment)



LIST OF FACULTY

Name	Designation	Email
Dr. Uzma Shahid	Associate Professor	uzmashahid112@gmail.com
Dr. Hamna Khawaja	Assistant Professor	Hamnakhawaja10@gmail.com
Dr. Sajjad Ahmed	Registrar	Sajjaddoc123.sa@gmail.com
Dr. Amna Jalal	Demonstrator	Amna_jalal_@hotmail.com
Dr. Waqas Ejaz	Demonstrator	Waqas_ejaz@live.com



RECOMMENDED READINGS

A) Complete Denture and partial Prosthodontics

- a. Boucher,s Prosthodontic treatment for edentulous Patients by Dicky and Zarb, .
- b. Atlas of complete dentures by John Hobkirk
- c. Syllabus of complete dentures by Heartwell and Rahn.
- d. Immediate and Replacement dentures by Anderson and Storer.
- e. Fenn’s Clinical dental Prosthodontics by MacCraken.
- f. Complete Dentures Prosthodontics by Basker and Devenpot.

B) Miscellaneous

- a. Atlas of implantology by Norman Kranin.
- b. Dental laboratory techniques by Morrow, Rudd and Eissman.
- c. Occlusion by Ramfjord and Ash.
- d. Management of Temporomandibular Disorders by Okeson.