GUIDE BOOK FOR 2nd YEAR

JINNAH MEDICAL AND DENTAL COLLEGE

DEPARTMENT OF PROSTHODONTICS
JUNIOR PROSTHODONTICS

ACADEMIC YEAR: 2022-2023

CONTENTS

VISION

To set local and global standards for quality patient outcomes – creating a culture of excellence to promote a transformative experience for the 21st century clinicians, educators and researchers to benefit all humanity.

MISSION

We are committed to develop well rounded academics, thinkers, clinicians and researchers by strengthening a global view, broadening intellectual foundation and teaching effective communication. It is our aspiration to cultivate creative and critical thinking skills for problem solving, sensitive to cultural and ethical values and responsibilities. Our graduates will be role models and leaders for society.

VALUES

1. Equity
2. Quality
3. Compassionate behavior
4. Social accountability
5. Social Justice
6. Humanistic approach
7. Leadership
8. Innovation
9. Integrity
10. collaboration

PROGRAM LEARNING OUTCOMES -7 STAR DOCTORS – (PMDC)

A JMDC graduate should be able to:

- Demonstrate insight, imagination and curiosity, define one's unique self, one's values and one's place in the world, while incorporating the qualities of a good physician
- Answer complex questions facing physicians, including the role they should play in society, politics and promotion of social justice
- Engage in reflective practice through sound clinical decision making, critical self-assessment and commitment to lifelong learning
- Demonstrate mastery of entry level professional clinical skills used to provide services based on best available evidence
- Display enlightenment and moral virtues to prepare themselves for life and work in a problematic, changing and diverse world
- Be responsible leaders for the good of themselves, their family, community and country
- Be humane and socially equipped individuals, in tune with rights of patients and vulnerable groups
- Show expertise in critical situational analysis
- Respect diversity
- Display effective communication
- Be able to address population health and health system issues based on demography, statistics, epidemiology and cultural nuances

INTRODUCTION TO PROSTHODONTIC DEPARTMENT:

BRIEF OVERVIEW

Prosthodontics, also known as **dental prosthetics** or **prosthetic dentistry**, is the area of dentistry that focuses on dental prostheses. The ADA defines it as:

"The dental specialty pertaining to the diagnosis, treatment planning, rehabilitation and maintenance of the oral function, comfort, appearance and health of patients with clinical conditions associated with missing or deficient teeth or oral and maxillofacial tissues using biocompatible substitutes."

Dental prostheory was pioneered by French surgeon Pierre Fauchard during the late 17th and early 18th century. Despite the limitations of the primitive surgical instruments, Fauchard discovered many methods to replace lost teeth using substitutes made from carved blocks of ivory or bone. He also introduced dental braces to correct the position of teeth using gold wires and silk threads.

A **Prosthodontist** is a dentist who:

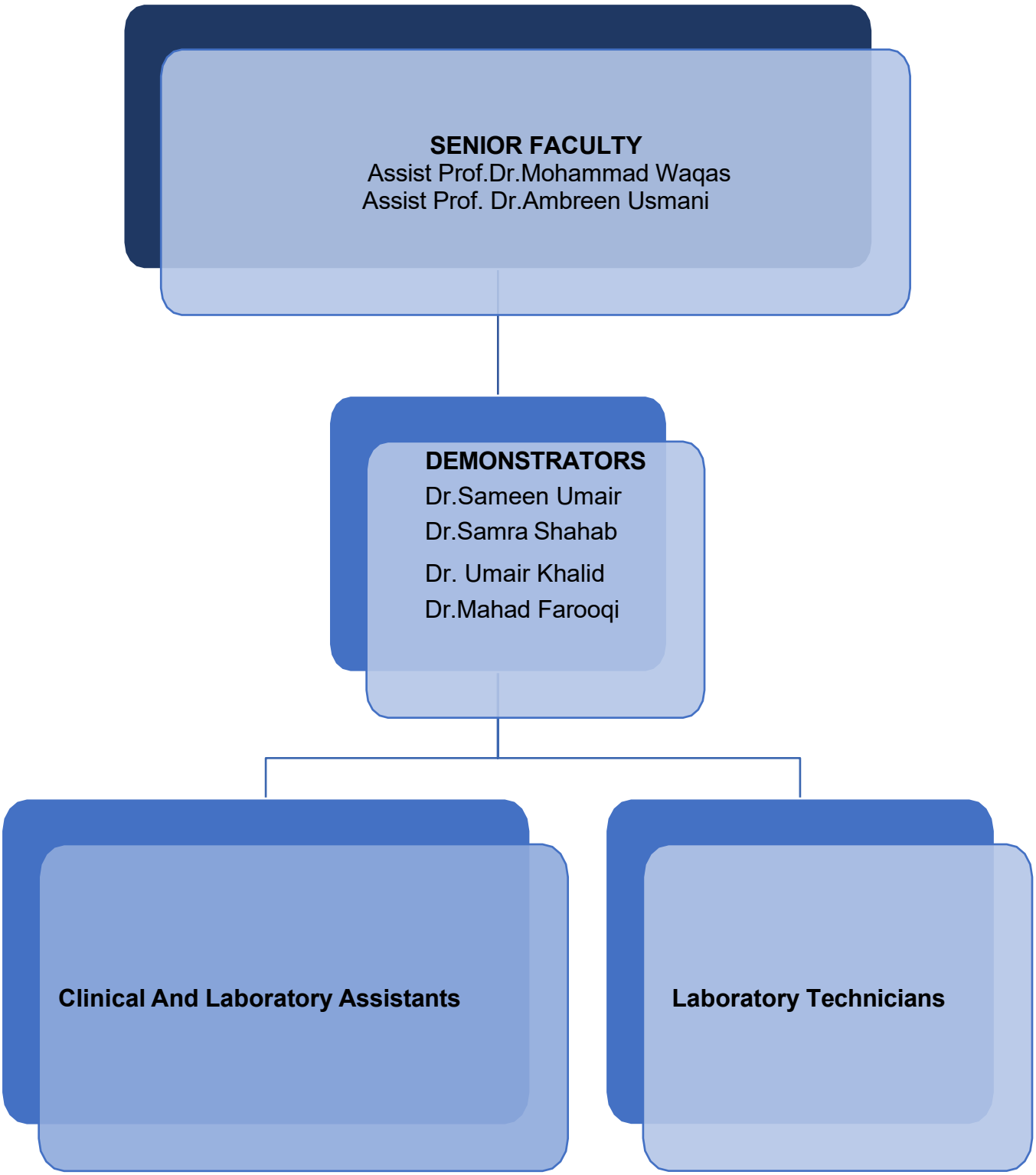
- Specializes in the **aesthetic (cosmetic) restoration and replacement of teeth.**
- Receives three to four years of additional training after dental school
- **Restores optimal appearance and function to your smile**. The planning, surgical placement (sub-crestal prosthodontics) and **restoration of implants** and **rehabilitation of occlusion with prostheses** all fall under the field of prosthodontics.

Prosthodontics Department deals with replacement of missing teeth and tissues of the stomatognathic system by **removable or fixed restorations** to rehabilitate the patient's **aesthetics, speech and masticatory function.** The patients here are treated with utmost care and empathy with standard protocols following cross-infection control and quality treatments. we have equipped the department with the most advanced technology and highly skilled doctors to give patient the best and advanced treatment options for their problems.

At the under-graduate level, we teach our students regarding the basic material handling, patient management, team-work and help them to develop clinical and laboratory skills in removable prosthodontics.

The house officers and post-graduates are also facilitated in our department for their clinical rotation. We provide them with optimal environment in order to help them develop their clinical skills through clinical group discussions, patient management, patient handling, crow preparations and different clinical steps of removable prosthodontics.

We also have acrylic and casting lab equipped with advanced technology for in house fabrication of acrylic partial dentures, fixed partial dentures and cast restorations to provide the quality and cost-effective care to our patients.



HIERARCHY OF THE DEPARTMENT

PATIENT FLOW CHART → RECEPTION DESK

Patient is asked about the **fixed** or **Removable** prosthesis

CROWN AND BRIDGE DEPARTMENT

DIAGNOSIS

(House Officer, Demonstrator)

TREAMENT

(Demonstrator)

REMOVABLE PARTIAL DENTURE DEPARTMENT

DIAGNOSIS

(House Officer, Demonstrator)

TREATMENT

(House Officer, Demonstrator)

UNDER SUPERVISION OF SENIOR FACULTY

LEARNING OUTCOMES FOR 2ND YEAR BDS PROSTHODONTICS

INTRODUCTION :

This course is designed to teach the students about the basic definitions, principles and techniques of four major branches of prosthodontics (removable, fixed, & implant prosthodontics and dental occlusion)

OUTCOMES :

By the end of the Prosthodontics course, BDS graduates will be able to demonstrate skills in rehabilitating the oral function of the patients by restoring chewing, esthetics and phonetics through the use of veneers, crowns and/or dental prostheses.

RATIONALE **:**

This science is taught to dental undergraduates in order to equip them with the basic clinical and laboratory skills performed on partially and completely edentulous patients. This course will help the students to obtain the basic knowledge before they are exposed to more in-depth courses

COURSE OBJECTIVES

By the end of the 2nd year, the students will be able to:

COMPLETE DENTURE

Define the following terms:

- Conventional denture
- Immediate denture
- Overdenture
- Single complete denture
- Implant supported CD
- Stability

- Discuss extra- and intra-oral landmarks of prosthetic importance
- Discuss the border structures that limit the periphery of the denture in the maxilla and the mandible
- Classify tongue form according to House.
- Describe Selection of occlusion depending on tongue condition:
  - Tongue position;
  - Examination of floor of mouth posture;
  - Tongue biting.
- Discuss the importance of saliva in complete denture retention considering the following:
  - salivary flow and viscosity
  - medical conditions affecting the salivary flow and viscosity

- xerostomia
- Discuss the salivary factors contributing to complete denture retention
- Discuss the management of edentulous patients with altered salivary flow
- Discuss history-taking of edentulous patients based on the prescribed format
- Discuss the following examinations of edentulous patients according to the recommended method:
- *General Examination* (gait, complexion and personality, cosmetic index, mental attitude of patient)
- *Extra Oral examination* including facial features, facial form, facial profile, lower facial height, muscle tone, complexion, lip competency
- TMJ examination (including muscles of mastication, deviation, deflection, clicking/crepitation of TMJ and mouth opening)
- Neuromuscular examination
- *Intra Oral Examination*
- existing teeth (number of teeth, tilting, drifting, supra-eruption, rotation, undercuts)
- mucosa (color, condition, thickness)
- tongue examination including frenal attachment
- saliva [consistency (normal, thick, ropy), xerostomia]
- occlusion (canine guided, group function, mutually protective, inter-arch space)
- others (midline mouth opening, occlusal stops, periodontal condition, residual alveolar ridge classification, residual roots, tooth surface loss, prosthesis, gag reflex)
- Radiographic examination (crown to root ratio, periapical pathology, retained residual roots, thickness of mucosa, bone support and quality, root configuration of abutment teeth)
- Discuss the intra- and extra-oral soft and hard tissue conditions pertinent to edentulous patients.
- Discuss the treatment plan for edentulous patients requiring complete denture
- Justify the treatment plan for edentulous patient requiring complete denture
- Discuss the residual ridge configuration given by Atwood
- Discuss the parallelism of ridges and ridge relations
- Discuss the objectives of impression making
- Define the basic terminologies of occlusion
- Describe the different types of occlusion
- Discuss characteristics, importance, general considerations and types of balanced occlusion
- Discuss advantages, disadvantages, indications, contraindications of types of occlusion
- Discuss labial form of occlusal rims considering the facial landmarks, fullness of upper lip, philtrum, nasolabial fold and oral commissures
- Construct maxillary and mandibular occlusal rims on ideal edentulous model
- Discuss function, types, uses, advantages and disadvantages, purpose and requirements of an articulator.
- Identify different types of articulators on pictures

- Describe facebow and its types.
- Describe the objectives, general considerations and methods in teeth selection
- Discuss try-in in complete denture fabrication

FIXED PROSTHODONTICS

- Define the basic terminologies pertinent to fixed prosthodontics
- Discuss the applied anatomy and physiology for temporomandibular joint, muscles of mastication and dentition
- Describe Posselt's Envelop of Motion
- Identify Kennedy's Class (including modifications) on models and pictures of dentures and dentition

CROWN AND FIXED PARTIAL DENTURE(INDIRECT RESTORATIONS)

- Define the basic terminologies pertinent to fixed partial dentures
- Discuss the various components and types of fixed partial dentures
- Discuss the indications and contraindications for fixed partial dentures
- Discuss the various partial and full coverage indirect restorations
- Describe the principles of tooth preparation for indirect prosthesis
- Discuss the indications, contraindications, required clinical assessment and steps of preparation for provision of inlay and on-lay.
- Discuss the materials, impression techniques, clinical and laboratory procedures for the fabrication of indirect prosthesis
- Describe the latest innovations including CAD-CAM Technology

Procedural skills

- Identify extra- and intra-oral landmarks of prosthetic importance on models
- Identify the border structures that limit the periphery of the denture in the maxilla and the mandible of patients presenting to OPD
- Obtain history of edentulous patients presenting to prosthodontic OPD based on the prescribed format
- Perform the following examinations on edentulous patients presenting to prosthodontic OPD according to the recommended method:
  - General Examination (gait, complexion and personality, cosmetic index, mental attitude of patient)
  - Extra Oral examination including facial features, facial form, facial profile, lower facial height, muscle tone, complexion, lip competency
  - TMJ examination (including muscles of mastication, deviation, deflection, clicking/crepitation of TMJ and mouth opening)
  - Neuromuscular examination

- Intra Oral Examination
- existing teeth (number of teeth, tilting, drifting, supra-eruption, rotation, undercuts)
- mucosa (color, condition, thickness)
- tongue examination including frenal attachment
- saliva [consistency (normal, thick, ropy), xerostomia]
- occlusion (canine guided, group function, mutually protective, inter-arch space)
- others (midline mouth opening, occlusal stops, periodontal condition, residual alveolar ridge classification, residual roots, tooth surface loss, prosthesis, gag reflex)
- Radiographic examination (crown to root ratio, periapical pathology, retained residual roots, thickness of mucosa, bone support and quality, root configuration of abutment teeth)

- Construct maxillary and mandibular occlusal rims on ideal edentulous model
- Describe the objectives, general considerations and methods in teeth selection
- Identify Kennedy's Class (including modifications) on models and pictures of dentures and dentition

INTERNAL ASSESSMENTS

10% (Pre-professional Examination, Midterm Examination, Assignments and Class Presentations)

ANNUAL EXAMINATION

90% (MCQS, OSPE)

COURSE EVALUATION

This course will be evaluated as per JSMU & HEC policy

PRE-CLINICAL ROTATIONS

PROSTHODONTICS ROTATION OF SECOND YEAR BDS

S.NO.	PROCEDURE SKILLS	TEACHING METHODOLOGY	ASSESSMENT TOOLS
	By the end of rotation, the 2nd year students should be able to demonstrate on ideal molds the following:	Teaching via laboratory demonstration Teaching on the ideal models poured in the agar molds	The students will be assessed mid-rotation and end-of rotation test
1.	Instruments and lab protocol		Direct observation of procedural skills Will be assessed during: 1.daily supervision 2.Mid-roation test 3.End of rotation test
2	Complete denture lab fabrication steps over-view		
3	Maxilla and Mandible model pouring (ideal molds)		
4	Wax-up for base plate formation		
5	Investment of the wax up in the flasks		
6	De-waxing and packing with heat cure acrylic polymer		
7	Fabrication of Maxillary and Mandibular wax occlusal rims		
8	Articulation and mounting of the Maxillary and Mandibular occlusal rims		
9	Selection of anterior and posterior teeth		
10	Arrangement of anterior and posterior teeth		

RECOMMENDED BOOKS (Latest Edition):

REMOVABLE PARTIAL DENTURE:

McCRACKEN'S REMOVABLE PARTIAL PROSTHODONTICS, THIRTEENTH EDITION
Alan B. Carr

David T. Brown

FIXED PARTIAL DENTURE:

CONTEMPORARY FIXED PROSTHODONTICS, FIFTH EDITION
Stephen F. Rosenstiel
Martin F. Land Junhei
Fujimoto

COMPLETE DENTURE

PROSTHODONTIC TREATMENT FOR EDENTULOUS PATIENTS: COMPLETE DENTURES AND IMPLANT-SUPPORTED PROSTHESES

George Zarb, John A. Hobkirk, Steven E. Eckert,
and Rhonda F. Jacob

DRESS CODE POLICY

All Students are responsible for maintaining clean, neat, and well-fitting clothing. Students not engaged in direct patient care but presenting in clinic, for whatever reason, must maintain infection control and safety standards and present themselves in a professional manner.

A. Personal Hygiene and Hair

1. Hair should be clean and well groomed.
2. Beards and mustaches must be clean, neatly trimmed, and well groomed.
3. Hair must be kept out of the field of operation so that it does not require handling during treatment procedures.
4. Personal cleanliness and good oral hygiene must be maintained.
5. Body hygiene is required so that offensive body odor is avoided.
6. Strong perfumes, colognes, or after-shave lotions must be avoided.
7. Hands and fingernails must be kept clean.
8. Fingernails must be kept trimmed and well-manicured.

B. Jewelry

1. All jewelry should be kept to a minimum and out of the field of operation.
2. Jewelry should not affect one's ability to wear gloves, masks or gowns.

C. Attire

Professional attire or scrubs shall be worn in all classes and laboratories. Scrubs are required in clinic. In clinic and in lab, students must ensure that their attire meets infection control regulations as outlined in the Infection Control Manual.

When representing the JMDC at community service events, students must wear their JMDC scrubs or professional attire with Lab-coat along with their nametag. Students must abide by all infection control and safety standards with regards to dress.

1. Professional Attire (examples)

a. Dress pants/slacks
b. Khakis
c. Dress shirts (e.g., oxford cloth)
d. Knit or polo shirts with collars
e. Blouses
f. Closed-toed shoes (required for clinic and lab only)

2. Scrubs specifications

a. Scrub colors are limited to Carolina Blue, surgical green, black, gray, or navy blue.
b. Scrubs should be neat and clean with a scrub top and bottom.
c. Scrub top and bottom must be a solid color, with no pattern.

d. Scrub top and bottom must be a matched set.
e. Scrubs must be worn with socks and closed-toe shoes.
f. If worn, athletic shoes must be clean.
g. A clean, plain T-shirt may be worn under scrubs.
h. If long-sleeved, the T-shirt must be plain, with no pattern or other design.

3. Unacceptable attire in class, clinic, or laboratory settings (examples)

a. Shorts, sweats, gym attire
b. Jeans
c. Bare feet
d. Halter tops, tube tops/strapless tops, tank tops with straps <2 inches
e. Low-cut tops
f. See-through clothing
g. Visible undergarments when sitting or standing
h. Head gear (excluding headbands and ties to hold back hair)

D. General Considerations

Each student is expected to keep locker areas, clinical facilities, and preclinical labs in order. All used gowns and trash should be placed in their respective receptacles. Students will be notified of any updates or changes to the JMDC Dress Code policy.

THE END