GUIDE BOOK 3rd YEAR

JINNAH MEDICAL AND DENTAL COLLEGE

DEPARTMENT OF PROSTHODONTICS
JUNIOR PROSTHODONTICS

ACADEMIC YEAR: 2022-2023

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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.

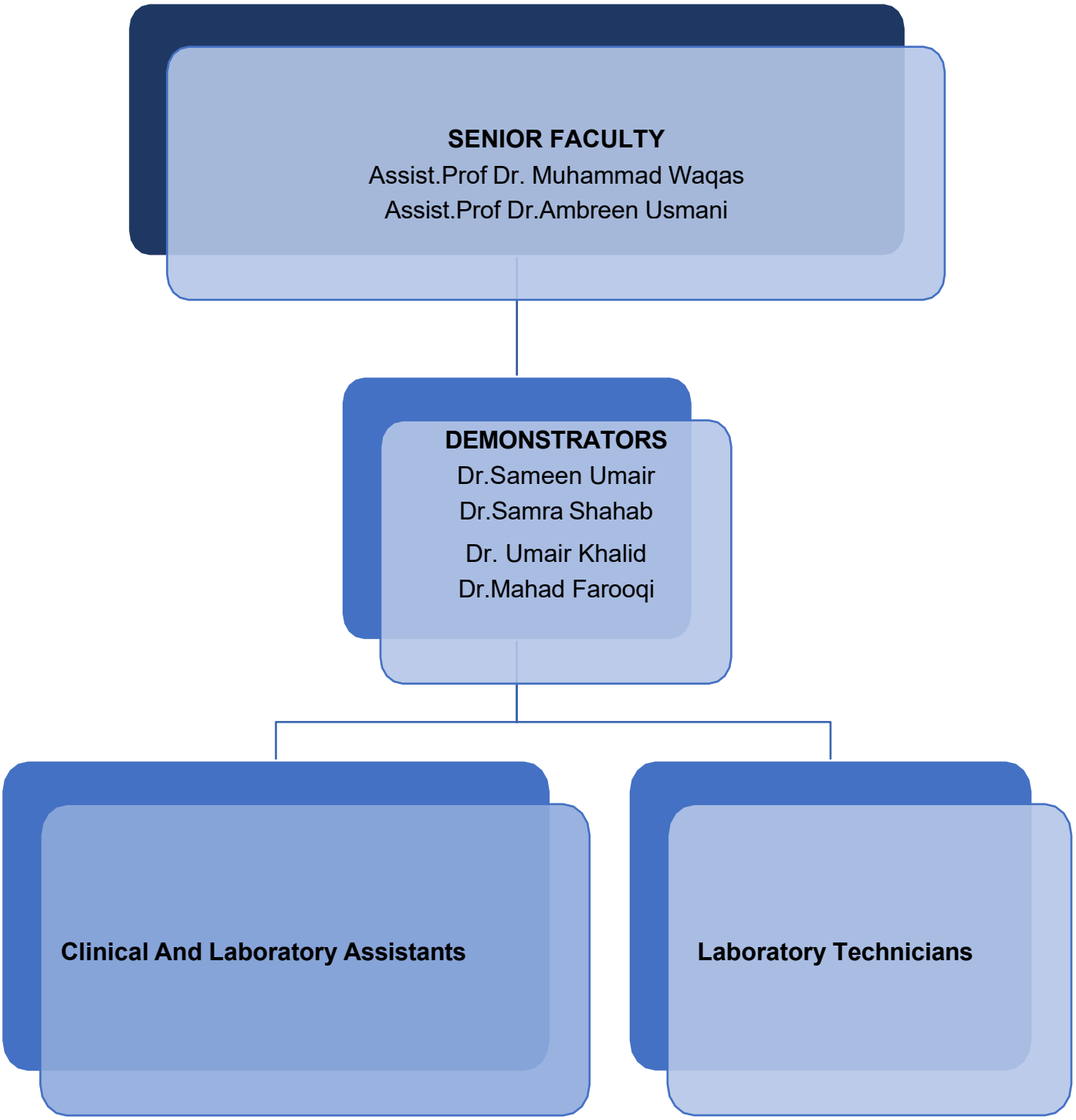
Prosthodontics Department deals with replacement of missing teeth and tissues of the stomatognathic system by **removable or fixed restorations** to rehabilitate the patient's **aesthetics, speech and masticatory function.** The patients here are treated with utmost care and empathy with standard protocols 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

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DIAGNOSIS

(House Officer, Demonstrator)

↓

TREAMENT

(Demonstrator)

REMOVABLE PARTIAL DENTURE DEPARTMENT

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DIAGNOSIS

(House Officer, Demonstrator)

↓

TREATMENT

(House Officer, Demonstrator)

UNDER SUPERVISION OF SENIOR FACULTY

LEARNING OUTCOMES FOR 3rd YEAR BDS

By the end of third year in Prosthodontics Department , the student should be able to :

REMOVABLE PARTIAL DENTURE

PARTIALLY EDENTULOUS EPIDEMIOLOGY, PHYSIOLOGY AND TERMINOLOGY

- Define the following:

- Abutment
- Retainer
- Extra coronal partial denture
  tooth and tooth-tissue supported RPD
- temporary RPD
- Interim, transitional and treatment dentures
- Treatment denture
- Centric relation and centric occlusion
- Eccentric relation
- Support, retention and stability
- Reciprocation;
- Bracing;
- Appliance
- Saddle area

- Discuss the Clinical application of anatomy of oral cavity.

CLASSIFICATION OF PARTIALLY EDENTULOUS ARCHES

- Discuss the requirements of an acceptable method of classification.
- Discuss Bailyn, Skinner, Cummer and Kennedy's Classification and Applegate's Rules

ORAL MANIFESTATION OF LOCAL AND SYSTEMIC DISEASES

- Discuss the problems related to xerostomia, poor healing, osteoporosis, osteopenia and autoimmune diseases

PATIENT EVALUATION AND PROBLEM-ORIENTED TREATMENT PLANNING

- 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)
- Abutment Evaluation
- Radiographic examination (crown to root ratio, periapical pathology, retained residual roots, thickness of mucosa, bone support and quality, root configuration of abutment teeth)

BIOMECHANICS OF REMOVABLE PARTIAL DENTURES

- Discuss the bio mechanical consideration for removable partial dentures
- Discuss the vertical, horizontal and torsional stress considerations in partial dentures
- Discuss the factors influencing magnitude of stress
- Discuss the differential support mechanisms in partial dentures
- Discuss the role of periodontal ligaments in removable partial dentures
- Differentiate among the various types of levers

MAJOR AND MINOR CONNECTORS

- Classify major and minor connectors.
- Discuss the location, types, functions, indications, contraindication and design considerations of minor and major connectors.
- Discuss the ideal requirements for minor and major connectors.
- Discuss tissue stops and finishing lines.
- Justify the selection of the type of connector

REST AND REST SEATS

- Classify rest and rest seats
- Discuss the types, form, support and design of rests and rest seats
- Discuss the role of rest and rest seats in control of prosthesis movement

DIRECT RETAINERS

- Define direct retainers.
- Discuss role of direct retainer in prosthesis movement control.
- Classify different types of direct retainers.
- Discuss:

- Analysis of tooth contours for retentive clasps
- Functional requirements of clasps

- List basic parts of clasp assembly.
- Discuss:

- basic principles of clasp design
- types of clasp assemblies

INDIRECT RETAINERS

- Define indirect retainers
- Classify different types of indirect retainers
- Discuss the factors influencing effectiveness of indirect retainers
- Discuss the forces acting on the denture
- Describe the fulcrum line
- Discuss the auxiliary functions of indirect retainers

- rugae support

- Discuss various indirect retainers (Auxiliary occlusal rests, canine rests; canine extension from occlusal rests, cingulum bars (continuous bars) and linguoplates;

- Modification areas.

DENTURE BASE CONSIDERATIONS:

- Describe denture base
- Discuss:

- ideal requirements and functions of different types of denturebases (tooth supported partial denture bases, distal extension partial denture base)
- methods of attaching a denture base to metal framework

- Discuss denture base materials including their advantages and disadvantages
- Discuss the following methods of attaching various types of artificial teeth on denture base:

- porcelain or acrylic resin teeth attached with acrylic resin
- porcelain or resin tube teeth and facings cemented directly to metal bases
- resin teeth processed directly to metal bases
- metal teeth
- chemical bonding

- Justify the need for relining of denture bases
- Discuss stress breakers
- Attach artificial teeth to denture bases

PRINCIPLES OF REMOVABLE PARTIAL DENTURE DESIGN

- Classify removable partial dentures
- Discuss difference in prosthesis support and the influence on design
- Differentiate between the two main types of removable partial denture based on their support,

impression registration and clasp designs

- Discuss the following essential considerations pertinent to partial denture design:

- tooth support
- ridge support
- guiding plane

- Discuss clinical factors related to metal alloys used for metal framework.
- Explain examples of systematic approach to design
- Justify the partial denture design for different Kennedy's classesDiscuss the following components of partial denture design:

- Major and minor connectors
- Direct retainer for tooth supported partial denture
- Direct retainer for distal extension partial denture
- Stabilizing components
- Indirect retainers

OCCLUSION

- Describe factors influencing balanced occlusion
- Describe compensatory curves (Curve of Monsoon, Curve of Spee and Curve of Wilson)

SURVEYING

- Define surveying
- Discuss purpose, different types and parts of dental surveyors
- Describe the various types of survey lines and their purposes
- Discuss the factors that determine path of placement and removal of partial dentures
- Discuss the procedure of surveying a diagnostic cast and a master cast
- Justify the final path of placement
- Discuss the relation of cast to surveyor

PREPARATION OF MOUTH FOR REMOVABLE PARTIAL DENTURES

- Discuss the intra- and extra-oral soft and hard tissue considerations pertinent to mouth preparation for pre-prosthetic surgical procedures.
- Justify the management of various intra- and extra-oral conditions pertinent to mouth preparation for removable partial dentures (including the use of various tissue conditioning materials)

- Recall maintenance.

- Discuss occlusal disharmony, pain, discomfort and endodontic treatment.

PREPARATION OF ABUTMENT TEETH

- Classify abutment teeth
- Discuss the intra-oral hard and soft tissue considerations pertinent to abutment teeth preparation

- Discuss the:

- sequence of abutment preparation on sound teeth and existing restorations
- Preparation of guide planes and rest seats;
- Technique to create undercut;
- Abutment preparation using crowns;
- Abutment preparation using conservative restoration;
- Splinting of abutment teeth;
- Use of isolated teeth as abutments;
- Missing anterior teeth;
- Temporary crowns when a removable partial denture is being worn

IMPRESSION TECHNIQUES AND MODIFICATION

- Name the types of impression materials used for removable partial dentures
- Describe the anatomic or functional forms of impressions
- List the indications of functional impressions
- Discuss the following impression techniques:

- Mclean's physiologic impression technique
- functional relining method
- selective pressure impression
- altered cast technique and its modifications

- Justify the selection of impression techniques based on the following considerations:

- Mouth opening
- Types of trays used
- Theories of impression
- Purpose of impression

  Material used

TRIAL OF METAL FRAMEWORK

- Discuss examination of the framework
- Discuss steps of fitting frame work to teeth, supporting structures and opposite occlusion
- Describe correction of discrepancies by indicating media and soft tissue impingements and finishing the framework

OCCLUSAL RELATIONS FOR REMOVABLE PARTIAL DENTURE

- Discuss the desirable occlusal contact relationship with trial metal framework for removable partial denture using facebow and various articulators
- Explain the methods for establishing occlusal relationship
- Determine jaw relations for removable partial denture on models
- Justify the established maxillo-mandibular relations for removable partial dentures during trial

phase

SELECTION OF TEETH

- Justify anterior teeth selection according to size, form and color of teeth on the basis of various patient factors
- Justify the posterior teeth selection according to size, form and color of teeth on the basis of various patient factors

LABORATORY PROCEDURES FOR REMOVABLE PARTIAL DENTURES

- Discuss duplicating materials, flasks and duplicating procedures.

INSERTION AND POST INSERTION INSTRUCTIONS AND RECALL

- Justify the management of post-insertion complaints of removable partial denture patients

RELINING, REBASING AND REPAIR OF RPD

- Discuss the relining, rebasing and repair of removable partial dentures.

TYPES OF PARTIAL DENTURE

Discuss the fabrication the various types of partial dentures (interim partial denture, every denture, spoon denture, swing lock denture)

PROCEDURAL SKILLS

PATIENT EVALUATION AND PROBLEM-ORIENTED TREATMENT PLANNING

- Obtain complete history based on prescribed format
- Perform the following examinations of patient 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)
- Abutment Evaluation
- Radiographic examination (crown to root ratio, periapical pathology, retained residual roots,

thickness of mucosa, bone support and quality, root configuration of abutment teeth)

- Plan the correct treatment for patients requiring partial dentures
- Justify the selection of partial denture type in patients requiring partial dentures
- Justify the treatment plan for patients requiring partial dentures
- Document the correct treatment plan for patients requiring partial dentures
- Discuss the treatment plan with patients requiring partial dentures following the ethical guidelines
- Refer partially dentate patients requiring complex prosthodontic treatment following the recommended guidelines

DIRECT RETAINER

- Justify the selection of clasp design on a model.

PRINCIPLES OF REMOVABLE PARTIAL DENTURE DESIGN

- Justify the partial denture design for different Kennedy's classes
- Design the following components of partial denture appropriately:

- Major and minor connectors
- Direct retainer for tooth supported partial denture
- Direct retainer for distal extension partial denture
- Stabilizing components
- Indirect retainers

IMPRESSION TECHNIQUES AND MODIFICATION

- Record impressions for patients requiring removable partial dentures

SURVEYING

- Identify types & parts of a surveyor

OCCLUSAL RELATIONS FOR REMOVABLE PARTIAL DENTURE

- Determine jaw relations for removable partial denture on models
- Verify the established maxillo-mandibular relations for removable partial dentures during trial phase

SELECTION OF TEETH

- Justify anterior & posterior teeth selection according to size, form and color of teeth on the basis of various patient factors

LABORATORY PROCEDURES FOR REMOVABLE PARTIAL DENTURES

- Discuss duplicating materials, flasks and duplicating procedures
- Perform wax-up and casting for removable partial denture following the correct protocol.
- Arrange anterior and posterior teeth on the wax framework following the correct protocol.
- Process the denture following the correct protocol.
- Finish the processed denture following the recommended guidelines

INSERTION AND POST INSERTION INSTRUCTIONS AND RECALL

- Insert the finished denture on the patient according to the recommended protocol.
- Communicate post-insertion instructions to the removable partial denture patient effectively
- Manage post-insertion complaints on removable partial denture patients on recall visit following the recommended guidelines

Justify the management of post-insertion complaints of removable partial denture patients

INTERNAL ASSESSMENT

Summative Assessment will be done throughout the rotation. This should be part of the 10% internal assessment

ANNUAL EXAMINATION

90% (MCQs, OSCE) in final year BDS

COURSE EVALUATION

This course will be evaluated as per JSMU & HEC policies

THIRD YEAR

CLINICAL ROTATION

PROSTHODONTICS ROTATION OF THIRD YEAR BDS

S.NO.	PROCEDURE SKILLS	TEACHING METHODOLOGY	ASSESSMENT TOOLS
	By the end of rotation, the 3rd year students should be able to demonstrate on the ideal molds/patient 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	Removable Partial Denture lab fabrication steps over-view		
3	Maxilla and Mandible model pouring (ideal molds)		
4	Marking of models for Kennedy class-I, II, III & IV		
5	Wax-up for base plate formation		
6	Fabrication of Maxillary and Mandibular wax occlusal rims		
7	Articulation and mounting of the Maxillary and Mandibular occlusal rims		
8	Selection of anterior and posterior teeth		
9	Arrangement of anterior and posterior teeth		
10	Final finishing (correction of denture base & tooth position)		
11	Carving and festooning		
12	Investment of the wax up in the flasks		
13	De-waxing and packing with heat cure acrylic polymer		
14	Finishing and polishing		

RECOMMENDED BOOKS (Latest Edition):

REMOVABLE PARTIAL DENTURE:

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

David T. Brown

OCCLUSION AND TMD'S

MANAGEMENT OF TEMPOROMANDIBULAR DISORDERS AND OCCLUSION 7 ED

Jeffrey P. Okeson, Dmd

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