



Women Dental College, Abbottabad

Contents

Description:.....	2
Overview:.....	2
Faculty Responsible for Course Conduction:	2
Details Of Supporting Staff:	3
Objectives & Learning Strategies/TOS:	3
LEARNING RESOURCES:	37
Additional Learning Resources:	38
Assessment Methods:.....	38
Internal Assessment Criteria:.....	39
Examination Rules & Regulations:	40
Feedback On Examination:	40
Model Questions:	41
Multiple Choice Question	41
Short Answer Question:.....	41
Suggestions For Next Academic Year:	42
Prepared By:	42



STUDY GUIDE

Second year, Third year, Final year

Prosthodontics

Description:

This study guide is a content-oriented document with pertinent rules leading to degree in Bachelor of Dental Surgery from Women Dental College. This is an ongoing document in accordance with the contemporary needs and or any amendments made by PMDC or Khyber Medical University in future.

Overview:

Program	Bachelor of Dental Surgery
Course Name	Prosthodontics
Contact Hours	390 Hrs.
Infrastructure Requirements	Lecture Halls Faculty offices OPD with Dental Chairs Consultant Clinics Prosthodontic Laboratories

Faculty Responsible for Course Conduction:

Sr. No	Faculty	Designation
01	Dr. Majid Zia	Professor and Head, Department of Prosthodontics
02	Dr. Hassan Naveed Naqvi	Professor



Women Dental College, Abbottabad

Details Of Supporting Staff:

Sr. No	Staff	Designation
01	Muhammad Usman	DSA
02	Tahir	DSA
03	Sanallah	DSA
04	Muhammad Riasat	Dental Technologist
05	Usman Ghani	Dental Technologist
06	Siraj Ali	Laboratory Assistant
07	Umer Farooq	Ceramist
08	Adil Ali	Laboratory Assistant
09	Zafar Hussain	Laboratory assistant

Objectives & Learning Strategies/TOS:

JUNIOR PROSTHODONTICS BDS SECOND PROFESSIONAL					
TOTAL CONTACT HOURS: 70 HRS					
S. No	Topic	Learning Outcomes	Teaching Hours	Mode of Teaching	Assessment Tools
1	Preclinical Prosthodontics and its scope	<ul style="list-style-type: none"> Summarize the scope of Preclinical Prosthodontics Name the various instruments and equipment to be used in the labs 	2 hrs.	IL SGD Laboratory Demonstrations	OSPE
2	Wire bending and wrought wire clasp	<ul style="list-style-type: none"> Identify the type of pliers Demonstrate the correct grip of pliers Perform straightening of a given wire piece Perform bending of wires into given shapes and alphabets Construct well adapted clasps on canines, premolars 	10 hrs.	IL SGD Laboratory Demonstrations	OSPE



Women Dental College, Abbottabad

		and molars without acute bends and proper tag at the end			
3	Gypsum	<ul style="list-style-type: none"> • Differentiate between hard and soft plaster • Dispense appropriate amount of plaster for required work • Manipulate with water • Achieve a desired consistency of the mixture • Fabricate a plaster slab of given dimensions • Trim the slab up to required size • Perform pouring of ideal moulds for complete dentures. • Fabricate the ideal casts without bubbles • Fabricate the base with soft plaster • Evaluate the amount of time for setting • Conduct trimming of the cast on the model trimmer 	5 hrs.	IL SGD Laboratory Demonstrations	OSPE
4	Removable partial denture exercise	<ul style="list-style-type: none"> • Identify various parts of an RPD • State the uses of RPDs • Classify the given casts according to Kennedys classification • Identify different parts of dental surveyor • Perform surveying on ideal partially dentate casts • Prepare a wax pattern of uniform thickness on the given cast • Fabricate the bite rims • Construct well adapted clasps without any acute bends and proper tags • Arrange artificial teeth in the edentulous segments at occlusal level • Identify the heat-cured acrylic 	23 hrs.	IL SGD Laboratory Demonstrations	OSPE



Women Dental College, Abbottabad

		<p>resin powder and its liquid monomer</p> <ul style="list-style-type: none"> • Dispense and manipulate heat cured acrylic resin • Perform packing of acrylic dough • Execute trial closure on bench press • Execute final closure on bench press • Outline and execute the curing procedure • Conduct devesting of flasks • Perform finishing and polishing of the processed denture 			
5	Impression Making	<ul style="list-style-type: none"> • Name and identify different impression materials • Identify different types of impression trays • Select an appropriate impression tray for a given case • Perform material dispensing and mixing according to manufacturers' instructions • Demonstrate proper loading of the impression tray • Insert the loaded tray in the mouth • Perform border molding where required • Identify the set material • Demonstrate tray removal • Identify and inspect for any faults • Fabricate the hard plaster cast without bubbles • Fabricate the soft plaster base • Retrieve the cast from the impression • Conduct trimming of the cast on the model trimmer 	10 hrs.	IL SGD Laboratory Demonstrations	OSPE



Women Dental College, Abbottabad

6	Complete Denture	<ul style="list-style-type: none">• Name the parts and surfaces of a complete denture• Fabricate the casts from ideal Moulds• Outline the steps of complete denture fabrication• Identify the types of articulators• Enumerate the various parts of an articulator• Identify the self-cured acrylic resin and its liquid monomer• Construct a well-adapted record base with self-cured acrylic resin• Prepare occlusal rims according to the ideal dimensions• Perform mounting of record bases on hinge type articulators• Perform anterior tooth setup of upper arch according to ideal parameters• Perform posterior tooth setup of upper arch according to ideal parameters• Perform tooth setup of lower arch in occlusion with the upper arch• Perform final wax up and festooning	20 hrs.	IL SGD Laboratory Demonstrations	OSPE
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Women Dental College, Abbottabad

BDS THIRD PROFESSIONAL

TOTAL CONTACT HOURS: 70 HRS. THEORY: 25 Hrs. CLINICAL: 45 Hrs.

REMOVABLE PARTIAL PROSTHODONTICS

S. No	Topic	Learning Outcomes	Teaching Hours	Mode of Teaching	Assessment Tools
1	Tooth loss and aging	<ul style="list-style-type: none"> Recall the demands of patients after tooth loss Recall the consequences of tooth loss Explain the benefits of restoration of the missing teeth 	2 hrs.	IL	MCQs, SAQs, OSCE
2	Classification of partially edentulous arches	<ul style="list-style-type: none"> Recall the requirements of a universally acceptable classification system List a few classification systems in use Summarize the salient features of Kennedys classification List the Applegate rules (in correct order) Identify the given casts according to Kennedy's classification 			
3	Major connectors	<ul style="list-style-type: none"> Define the term "Major connector" Describe the guidelines for designing the major connectors List the mandibular major connectors Describe the features of different mandibular major connectors 	2 hrs.	IL	MCQs, SAQs, OSCE
		<ul style="list-style-type: none"> List the maxillary major connectors Describe the features of different maxillary major connectors 			
		<ul style="list-style-type: none"> Describe the designing of mandibular major connectors Describe a systematic approach for designing the maxillary major connectors 			



Women Dental College, Abbottabad

4	Minor connectors	<ul style="list-style-type: none"> Define the term “Minor connector” Recall the functions of a minor connector Describe the form and location of minor connectors Discuss the role of tissue stops Describe the finishing lines 	1 hr.	IL	MCQs, SAQs, OSCE
5	Rests and rest seats	<ul style="list-style-type: none"> Define the terms “Rest” and “Rest seat” List the functions of a rest Recall the form of an occlusal rest and rest seat Explain the concept of an extended occlusal rest Discuss the features of the interproximal rest seats Describe the application of intra coronal rests Recall the support for occlusal rests Discuss the application of lingual rests on anterior teeth Discuss the application of incisal rests 	2 hrs.	IL	MCQs, SAQs, OSCE
6	Direct retainers	<ul style="list-style-type: none"> Define the term “Direct retainer” Summarize the role of direct retainer in prevention of movement in prosthesis Classify the direct retainers used in partial dentures 	2 hrs.	IL	MCQs, SAQs, OSCE
		<ul style="list-style-type: none"> Perform analysis of tooth contours for retentive clasps Discuss the factors affecting the amount of retention of clasps Recall the main types of clasp assemblies 			
		<ul style="list-style-type: none"> Outline the criteria for selecting a given clasp Recall the basic principles of 			



Women Dental College, Abbottabad

		clasp design <ul style="list-style-type: none"> Recall the basic principles of clasp design 			
7	Indirect retainers	<ul style="list-style-type: none"> Define the term "Indirect retainer" Recall the functions of an indirect retainer Recall the factors affecting the effectiveness of indirect retainers Classify the forms of indirect retainers 	1 hr.	IL	MCQs, SAQs, OSCE
8	Denture base considerations	<ul style="list-style-type: none"> Recall the functions of denture bases Enumerate the methods of attaching the denture bases to framework Describe the ideal denture base material Discuss the advantages and disadvantages of metal denture bases 	1 hr.	IL	MCQs, SAQs, OSCE
9	Principles of partial denture design	<ul style="list-style-type: none"> Describe the design principles of Kennedy's Class I, II, III and IV situations Outline the strategies for controlling the amount of stress transmitted to the abutment teeth Outline the essential steps in designing the partial denture 	2 hrs.	IL	MCQs, SAQs, OSCE
		<ul style="list-style-type: none"> Explain the components of partial denture design Perform designing of partial dentures 			
10	Surveying	<ul style="list-style-type: none"> Define the terms: Surveying, Surveyor, undercut, survey line, guiding planes, retention, stability and support. 	2 hrs.	IL	MCQs, SAQs, OSCE



Women Dental College, Abbottabad

		<ul style="list-style-type: none"> Describe the parts of a dental cast surveyor Outline the purpose of surveyors 			
		<ul style="list-style-type: none"> Remember the factors that determine the path of placement and removal Illustrate the step-by-step procedure of surveying the diagnostic cast Perform the Tripoding Perform the surveying of the master cast 			
11	Diagnosis and treatment planning	<ul style="list-style-type: none"> Define the terms "Diagnosis" and "Treatment planning" Perform a detailed history taking Perform a detailed clinical examination Order and interpret appropriate radiographs Explain the role of diagnostic casts in treatment planning Formulate a list of differential diagnosis Formulate a treatment plan for a given case 	2 hrs.	IL	MCQs, SAQs, OSCE
12	Preparation of the mouth for removable partial dentures	<ul style="list-style-type: none"> Identify the mouth preparations required for a given case Order the oral surgical preparation Implement procedures to manage/condition abused and irritated soft tissues Recall the need for periodontal preparation Recall the need for abutment teeth preparation 	1 hr.	IL	MCQs, SAQs, OSCE
13	Preparation of the abutment teeth	<ul style="list-style-type: none"> Classify the abutment teeth according to need of 	1 hr.	IL	MCQs, SAQs, OSCE



Women Dental College, Abbottabad

		<p>modifications</p> <ul style="list-style-type: none"> • Describe the sequence of abutment preparations • Plan the abutment preparations on sound enamel or existing restorations • Plan the abutment preparations using conservative restorations • Plan the abutment preparations using complete coverage crowns • Identify the need for splinting abutment teeth • Plan using isolated teeth as abutments 			
14	Impression materials and procedures for removable partial dentures	<ul style="list-style-type: none"> • Summarize the properties of available impression materials • Recall the precautions to be observed in handling hydrocolloid impressions • Perform the step-by-step procedure for making hydrocolloid impressions • Perform the step-by-step procedure for making a stone cast • Explain the possible causes of an inaccurate or weak cast • Fabricate custom impression trays from self-cure acrylic resin 	1 hr.	IL	MCQs, SAQs, OSCE
15	Support for the distal extension denture base	<ul style="list-style-type: none"> • Recall the requirements of support for the distal extension base • Outline the factors that influence the support of a distal extension denture base • Plan for recording the anatomic form of impression • Plan for recording the functional form of impression 			



Women Dental College, Abbottabad

16	Occlusal relationships for removable partial dentures	<ul style="list-style-type: none"> Describe the desirable occlusal contact relationships Enumerate the methods of establishing occlusal relationships Select appropriate materials for posterior teeth Recall the jaw relations for a mandibular removable partial denture opposing a maxillary complete denture 	1 hr.	IL	MCQs, SAQs, OSCE
17	Initial placement, adjustment and servicing of the removable partial denture	<ul style="list-style-type: none"> Identify any adjustments to the bearing surfaces of denture bases Identify any interference from denture framework Adjust the occlusion in harmony with natural and artificial dentition Propose necessary instructions to the patients 	2 hrs.	IL	MCQs, SAQs, OSCE
18	Repairs, additions and relines to removable partial dentures	<ul style="list-style-type: none"> Recall addition of prosthetic tooth/teeth where necessary Recall chair side/Laboratory relining procedures Discuss loss of an abutment tooth necessitating its replacement and making a new direct retainer on selected abutment 			
19	Temporary removable partial dentures	<ul style="list-style-type: none"> Outline the scope of temporary dentures Discuss different designs of temporary partial dentures Recall the effects on appearance, space maintenance and occlusal relationships Implement procedures to condition the patient for wearing a partial denture 	2 hrs.	IL	MCQs, SAQs, OSCE



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		<ul style="list-style-type: none"> Recall the procedure for placement of temporary dentures 			
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BDS FINAL PROFESSIONAL

TOTAL CONTACT HOURS: 250 HRS., THEORY: 95 Hrs. CLINICAL: 155 Hrs.

REMOVABLE COMPLETE PROSTHODONTICS, TOTAL THEORY CONTACT HOURS: 45 Hrs.

S. No	Topic	Learning Outcomes	Teaching Hours	Mode of Teaching	Assessment Tools
1	Introduction to Prosthodontics	<ul style="list-style-type: none"> Define Prosthodontics Discuss the objectives and divisions of prosthodontics Define <ul style="list-style-type: none"> Conventional complete denture Overdenture Single complete denture Immediate complete dentures Implant supported complete dentures Retention Stability Support 	1 hr.	IL	MCQs, SAQs
2	Applied anatomy and physiology of complete denture	<ul style="list-style-type: none"> Discuss the anatomy and physiology of extraoral landmarks of prosthodontics importance <ul style="list-style-type: none"> Inter-pupillary line Ala-tragus line Canthus-tragus line Nasolabial angle Nasolabial fold Vermillion border Philtrum Modiolus Angle of the mouth Describe anatomical landmarks common to both maxillary and mandibular 	3 hrs.	IL	MCQs, SAQs OSCE



Women Dental College, Abbottabad

		<p>arches (intraoral)</p> <ul style="list-style-type: none"> ○ In Maxilla: <ul style="list-style-type: none"> - Residual ridge - Maxillary tuberosity - Palate - Mid-palatine raphe - Incisive papilla - Palatine rugae - Torus palatinus - Fovea palatinae - Post palatal seal - Hamular notches - Cuspid eminence - Zygomatic process ○ In Mandible: <ul style="list-style-type: none"> - Residual ridge - External oblique ridge - Buccal shelf area - Mental foramen - Retromolar pad area - Mylohyoid ridge - Torus mandibularis - Internal oblique ridge - Genial tubercle <ul style="list-style-type: none"> ● Identify various anatomic landmarks located in maxilla ● Identify various anatomic landmarks located in mandible ● Define and List primary and secondary denture stress bearing areas ● Discuss the relief areas ● Describe the border structures that limit the periphery of the denture, 			
		<p>MAXILLA</p> <ul style="list-style-type: none"> ○ Labial frenum ○ Labial vestibule ○ Buccal frenum ○ Buccal vestibule 			



Women Dental College, Abbottabad

		<ul style="list-style-type: none"> ○ Hamular notch ○ Posterior palatal seal ○ Muccogingival fold ○ Fovea palatinae <p>MANDIBLE</p> <ul style="list-style-type: none"> ○ Labial frenum ○ Labial vestibule ○ Buccal frenum ○ Buccal vestibule ○ Lingual frenum ○ Alveolo-lingual sulcus ○ Retromolar pad ○ Pterygomandibular raphe 			
3	Classifications of various anatomical structures	<ul style="list-style-type: none"> ● Classify frontal face form and lateral face form ● Classify Residual ridge according to contour and morphology ● Classify lip according to Length, thickness, mobility, support ● Classify the tongue according to size and position ● Classify frenal and border muscle attachments ● Classify hard and soft palate 	2 hrs.	IL	MCQs, SAQS OSCE
4	Identification and evaluation of patients	<ul style="list-style-type: none"> ● Record history ● Examine the Patient clinically with reference to, <p>Extraoral examination:</p> <ul style="list-style-type: none"> ● Symmetry ● Face form ● Deviation/ deflection ● Lip ● Smile line ● Lateral face form ● Mouth opening ● Rest vertical dimension ● TMJ ● Muscles of mastication ● Lymph nodes 	2 hrs.	IL	MCQs/OSCE



Women Dental College, Abbottabad

		<p>Intraoral Examination</p> <ul style="list-style-type: none"> • Oral cavity • Oral mucosa • Tongue • Saliva • Maxillary arch (Shape/ form, Contour/ cross section, Frenal and border muscle attachment, Palatal vault, soft palate (classification), Tuberosity, Median palatine raphe and tori) • Mandibular arch (Shape/ form, Contour/ cross section, Frenal and border muscle attachment, retro mylohyoid fossa, floor of the mouth and tori) • Inter-arch space • Bony prominences • Gag reflex • Undercuts • Ridge relationships • Formulate a Treatment Plan • Discuss Adjunctive care • Discuss Prosthodontic phase of treatment 			
5	Systemic health aspects and nutritional considerations for edentulous patients	<ul style="list-style-type: none"> • Describe oral-systemic considerations that may influence an adaptive prosthodontic experience • Discuss Mucosal conditions • Describe Salivary dysfunction • Explain Xerostomia • Explain Sjogren's syndrome • Discuss Diabetes mellitus • Discuss the Nutritional Guidelines for Patients Undergoing Removable 	1 hr.	IL	MCQs, SAQS OSCE



Women Dental College, Abbottabad

		<p>Prosthodontic Treatment</p> <ul style="list-style-type: none"> Describe the Risk Factors for Malnutrition in Patients with Dentures 			
6	Role of saliva in completely edentulous patients	<ul style="list-style-type: none"> Discuss the following <ol style="list-style-type: none"> Salivary flow Viscosity Medical conditions affecting the salivary flow and viscosity Xerostomia Describe the role of saliva in completely edentulous patients Explain the Management of altered salivary flow 	1 hr.	IL	MCQs, SAQS OSCE
7	Biomechanics of complete denture prosthodontics	<ul style="list-style-type: none"> Discuss the Factors that affect the successful denture fabrication Define Retention Explain the factors by which retention can be achieved in complete dentures (anatomic, physical, physiological, mechanical, muscular, dislodging forces) Define stability Discuss the factors affecting the stability of complete dentures Define support Discuss the factors affecting the support of complete dentures 	2 hr.	IL	MCQs, SAQS
8	Sequalae caused by wearing complete denture	<ul style="list-style-type: none"> Discuss the Sequalae Caused by Wearing Removable Prosthesis List, discuss and manage the etiological factors causing cheek biting List the etiological factors causing traumatic ulcers Discuss the management of 	3 hrs.	IL	MCQs, SAQS OSCE



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		<p>traumatic ulcers</p> <ul style="list-style-type: none"> ● Define Denture induced stomatitis ● Describe the etiological factors causing Denture induced stomatitis ● Discuss the Factors predisposing to candida associated Denture induced stomatitis ● Explain its management and preventive measures ● Describe Kelly's Syndrome, discuss its features ● Manage the sequelae caused by the use of Complete Dentures 			
9	Mouth preparations including pre-prosthetic surgery	<ul style="list-style-type: none"> ● Describe in detail the nonsurgical methods to improve the patient's denture foundation <ul style="list-style-type: none"> ○ Rest for denture bearing area ○ Occlusal correction ○ Nutrition ○ Conditioning of patient's musculature ● List the pre-prosthetic surgical methods to improve the patient's denture foundation ● Discuss the Indications for maxillary tori removal ● Manage pressure on mental foramen in case of extreme residual ridge resorption ● Explain various methods used for the enlargement of the Denture bearing areas <ul style="list-style-type: none"> ○ Vestibuloplasty ○ Ridge augmentation 	2 hr.	IL	MCQs, SAQs OSCE
10	Impressions, theories and techniques	<ul style="list-style-type: none"> ● Define impression materials ● Discuss various materials suitable for recording complete 	2 hrs.	IL	MCQs, SAQs OSCE



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		<p>denture impressions</p> <ul style="list-style-type: none">● Discuss the optimal qualities for prosthodontic impression material● Classify impression material on the basis of setting reaction and elasticity● Discuss impression materials used for Complete dentures● Discuss the disinfection of various impression materials● Define impression tray● Describe requirements of an ideal impression tray.● Classify the impression tray used for Complete denture impression● Discuss the requirements of a custom tray● List the objectives and principles of an impression for complete dentures● Define primary impression and discuss the steps involved in recording the primary impression● Define secondary impressions.● Define border molding● List the steps involved in secondary impression procedure (including border molding movements)● Describe different Impression techniques for Complete dentures including techniques,<ul style="list-style-type: none">○ Based on mouth opening○ Based on types of trays used○ Based on theories of impression○ Based on purpose of impression○ Based on material used● List lab steps involved after			
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		taking secondary impressions			
11	Maxillomandibular relations	<ul style="list-style-type: none"> ● Define maxillo-mandibular relation. ● Discuss mandibular movements in the frontal, sagittal and horizontal planes. (Posselt's Envelope of motion) ● Discuss the anatomic determinants of mandibular movements. ● Define the Centric relation, Centric occlusion, rest position, muscular position, intercuspal position, retruded contact position, Excursive movements (working, non- working) ● Define rest vertical dimension and occlusal vertical dimension. ● Define the terms record base and occlusal rim. ● Discuss the materials used for record base and occlusal rims ● Discuss construction and specifications of maxillary and mandibular occlusal rims ● Establish the following <ul style="list-style-type: none"> ○ Labial form of occlusal rims ○ occlusal plane ● Define Orientation relations ● Describe the recording procedure of orientation relation ● Define Vertical relations ● Discuss methods of determining vertical relation ● Define Horizontal relations ● Discuss methods of determining centric relation 	4 hrs.	I.L.	MCQs, SAQs OSCE
12	Articulations and articulators	<ul style="list-style-type: none"> ● Define articulators ● Discuss the uses and purpose of articulators 	2 hrs.	I.L.	MCQs, SAQs OSCE



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		<ul style="list-style-type: none"> ● Discuss various types of articulators ● Classify articulators on the basis of, <ul style="list-style-type: none"> ○ Adjustability ○ Theories of occlusion ○ Simulation of jaw movements ● Differentiate between arcon and non arcon types of articulators. ● List parts of a semi adjustable articulator 			
13	Facebows	<ul style="list-style-type: none"> ● Define face bow ● Describe its uses. ● Describe various types of face bows. ● List the parts of a facebow ● Discuss the transfer of face bow record on to semi adjustable articulator and mounting the casts on a semi adjustable articulator 	1 hr.	I.L,	MCQs, SAQs OSCE
14	Selection and arrangement of teeth	<ul style="list-style-type: none"> ● Define neutral zone. ● Define over jet and overbite. ● Define incisal guidance. ● Explain the different parameters of smile ● Discuss factors responsible for size, shape, color and shade of teeth selection ● Discuss the different materials used for denture teeth ● Discuss the landmarks used for complete denture teeth setup. ● Discuss anterior and posterior teeth setup in detail ● Discuss the significance of compensating curves in teeth setup ● Discuss the setup for retrognathic and prognathic facial skeletons. 	3 hrs.	I.L.	MCQs, SAQs OSCE



Women Dental College, Abbottabad

		<ul style="list-style-type: none"> ● Explain the advantages and disadvantages of anatomic teeth and non-anatomic teeth 			
15	Concepts of Occlusion in complete dentures	<ul style="list-style-type: none"> ● Define different terms used in occlusion ● Discuss the concepts of occlusion in removable complete dental prosthesis ● Describe the Importance of balanced occlusion ● Describe the Advantages, disadvantages, indications, contraindications of different types of occlusions ● Discuss the various Factors influencing balanced occlusion <ul style="list-style-type: none"> ○ Condylar guidance ○ Incisal guidance ○ Occlusal plane ○ Cuspal angulation ○ Compensatory curves 	4 hrs.	I.L.	MCQs, SAQs OSCE
16	Try in and insertion	<ul style="list-style-type: none"> ● Define try in ● List the objectives of the try in stage ● Evaluate the individual trial denture in mouth ● Discuss in detail the final processing of the complete dentures ● Discuss in detail the materials used as denture base in complete dentures ● Describe different types of curing cycles 	2 hrs.	I.L.	MCQs, SAQs OSCE



Women Dental College, Abbottabad

		<ul style="list-style-type: none"> Describe the role of pressure indicating pastes in adjustment of prosthesis Discuss and manage the factors responsible for errors in occlusion List post insertion instructions Discuss post insertion follow up and post insertion complaints 			
17	Speech considerations with complete dentures	<ul style="list-style-type: none"> Discuss the role of teeth and other structures in speech production Describe the methods for speech analysis 	1 hr.	I.L.	MCQs, SAQs OSCE
18	Relining, Rebasing and repair	<ul style="list-style-type: none"> List indications and contraindication of relining and rebasing. Differentiate between relining and rebasing. Describe lab and clinical steps involved in relining and rebasing. Describe chairside technique of relining List causes of denture fracture. Describe different methods of denture repairing and tooth addition. 	2 hrs.	I.L.	MCQs, SAQs OSCE
19	Overdentures	<ul style="list-style-type: none"> Define over dentures. List types of over dentures. List advantages and disadvantages of over dentures. List indications and contraindications of over dentures. Discuss the treatment planning for overdenture Describe clinical and 	2 hrs.	I.L.	MCQs, SAQs OSCE



Women Dental College, Abbottabad

		<p>laboratory procedures related to over dentures.</p> <ul style="list-style-type: none"> Describe insertion, follow up and maintenance of over dentures. 			
20	Immediate Dentures	<ul style="list-style-type: none"> Define immediate denture. List types of immediate denture. List indications of immediate dentures. List contraindications of immediate denture. Discuss Clinical and laboratory procedures related to immediate dentures Discuss the pre-op and post-op instructions given to the patients Discuss multi-disciplinary approach including care during surgery related to immediate denture. Describe insertion, follow up and maintenance of immediate dentures 	2 hrs.	I.L.	MCQs, SAQs OSCE
21	Single complete dentures	<ul style="list-style-type: none"> Define single complete dentures Discuss the problems related to the single complete denture Discuss the common occlusal disharmonies and ways to adjust them. Describe the methods to achieve balanced occlusion in single complete denture Explain the tooth modifications techniques to harmonize occlusion in single complete denture patient List the Occlusal materials for single complete dentures. 	1 hr.	I.L.	MCQs, SAQs OSCE
22	Management of special prosthodontic conditions	<ul style="list-style-type: none"> Define Combination syndrome List its etiological factors Propose a diagnosis and manage 	2 hrs.	I.L.	MCQs, SAQs OSCE



Women Dental College, Abbottabad

		<p>the case</p> <ul style="list-style-type: none"> ● Define xerostomia. List its etiological factors. What is the general and prosthodontic management of a xerostomia patient ● Discuss the various Factors affecting the resorption of residual ridge ● Manage a case with extreme residual ridge resorption ● Discuss the management of an edentulous patient having diabetes. ● Discuss the management of an edentulous patient having hypertension. 			
FIXED PROSTHODONTICS, TOTAL THEORY CONTACT HOURS: 40 Hrs.					
1	An introduction to fixed Prosthodontics	<ul style="list-style-type: none"> ● Define the following terms: <ul style="list-style-type: none"> ○ Fixed prosthodontics ○ Crown ○ Fixed dental Prosthesis ○ Fixed Partial denture ○ Inlay ○ Onlay ○ Veneers ○ Partial coverage crowns ○ Full coverage crowns ○ Retainers ○ Connectors ○ Pontics ○ Abutment ○ saddle area ● Enumerate indications and contraindications for crowns ● Enumerate indications and contraindications for FDPs ● Describe the different components of FDP 	2 hrs.	I.L.	MCQs
2	History, Examination, Diagnosis and	<ul style="list-style-type: none"> ● Discuss how history will be recorded ● Explain and demonstrate 	2 hrs.	I.L.	MCQs, SAQs OSCE



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	treatment planning	<p>extra and intraoral examination</p> <ul style="list-style-type: none"> ● Discuss the key points of radiographic examination that include: <ul style="list-style-type: none"> ○ Crown to root ratio ○ periapical pathology ○ thickness of mucosa ○ bone support and quality ○ root configuration teeth ● Discuss the cast examination in detail ● Discuss differential diagnosis in fixed prosthodontics 			
3	Treatment planning of fixed dental prosthesis (FDP)	<ul style="list-style-type: none"> ● Describe the adjunctive care prior to fixed replacements: <ol style="list-style-type: none"> i. Elective endodontic procedure ii. Crown lengthening procedure iii. Restorations iv. Correction of occlusal plane v. Scaling and root planning ● Discuss the various fixed treatment options ● Discuss the Design consideration for individual conditions in FDP ● Discuss the various factors involved in the treatment planning of FDP ● Explain the criteria for the selection of retainers <ol style="list-style-type: none"> a. Alignment of abutment teeth and retention b. Appearance c. Condition of abutment teeth d. Cost e. Preservation of tooth structure ● Discuss the criteria for the selection of abutments <ol style="list-style-type: none"> a. Location, condition and position of tooth 	3 hrs.	I.L.	MCQs, SAQs OSCE



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		<ul style="list-style-type: none"> b. Root configuration c. Crown root ratio d. Root support e. Periodontal ligament area f. Assessment of pulpal health ● Discuss the different types of abutments <ul style="list-style-type: none"> ○ Healthy/ideal abutments ○ Cantilever abutments ○ Pier abutments ○ Tilted abutments ○ Extensively damaged abutments ○ Implant abutments 			
4	Classifications and types of fixed partial dentures	<ul style="list-style-type: none"> ● Classify fixed partial dentures ● Describe FDP on the basis of abutment teeth ● Discuss FDP on the basis of design in detail ● Discuss fixed partial denture on the basis of material 	2 hrs.	I.L.	MCQs, SAQs OSCE
5	Principles of tooth preparation	<ul style="list-style-type: none"> ● List various partial and full coverage indirect restorations. ● Explain the principles tooth preparation in reference to: <ul style="list-style-type: none"> a. Biological consideration b. Mechanical consideration c. Esthetic consideration 	6 hrs.	I.L.	MCQs, SAQs OSCE
6	Partial coverage restorations	<ul style="list-style-type: none"> ● List various partial and full coverage indirect restorations. ● Describe the indications and contraindications for provision of, <ul style="list-style-type: none"> a. Inlay a. Onlay ● Describe the clinical assessment required and the steps of preparation for inlay and Onlay ● List materials available for these restorations. ● Discuss indications and contraindications for veneers 	4 hrs.	I.L.	MCQs, SAQs OSCE



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		<ul style="list-style-type: none"> Describe the diagnostic procedures involved in treatment planning in esthetic zone Explain the importance of quality and quantity of enamel for predictable bonding. Describe tooth preparation, soft tissue management and impression making for veneers. 			
7	Tooth preparation (Complete coverage)	<ul style="list-style-type: none"> Describe the indications and contraindications for the following types: <ul style="list-style-type: none"> Porcelain fused to metal crown All metal crowns All ceramic crown Describe the advantages and disadvantages for the following types: <ul style="list-style-type: none"> Porcelain fused to metal crown All metal crowns All ceramic crowns Describe the clinical assessment required and the steps of preparation for: <ul style="list-style-type: none"> Porcelain fused to metal crown All metal crowns All ceramic crown 	8 hrs.	I.L.	MCQs, SAQs OSCE
8	Restoration of endodontically treated teeth	<p>Discuss,</p> <ul style="list-style-type: none"> Core materials Core vs Post and core Ferrule and Ferrule effect Classification of posts Prefabricated and Custom posts Post length and diameter Post and core fabrication techniques Treatment planning 	2 hrs.	I.L.	MCQs, SAQs OSCE
9	Tissue management and impression making	<ul style="list-style-type: none"> Explain the prerequisites of recording impression for Fixed 	2 hrs.	I.L.	MCQs, SAQs OSCE



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		<p>dental prosthesis</p> <ul style="list-style-type: none"> ● Discuss the various techniques for fluid control and soft tissue management ● Discuss various methods of tissue displacement in detail ● List the various impression materials used in FDP ● Discuss different impression materials in fixed prosthodontics ● Describe the following Impression procedures <ol style="list-style-type: none"> a. Double mix technique b. Single mix technique c. Triple tray technique ➤ Discuss disinfection of various impression materials 			
10	Temporization and provisional restorations	<ul style="list-style-type: none"> ● Discuss the various factors to be considered in making an interim restoration <ul style="list-style-type: none"> ○ Biological ○ Mechanical ○ esthetics ● List the ideal requirements of provisional restorations ● Describe different materials used to fabricate provisional restorations ● Discuss different techniques used to fabricate provisional restorations ● Differentiate between direct and indirect techniques of Provisionalizations for anterior and posterior teeth 	2 hrs.	I.L.	MCQs, SAQs OSCE
11	Lab procedures involved in fabrication of FDP	<ul style="list-style-type: none"> ● List different laboratory steps in construction of FDP ● Describe the following Lab procedures 	2 hrs.	I.L.	MCQs, SAQs OSCE



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		<ul style="list-style-type: none"> ○ Waxing ○ Spruing ○ Investing ○ Burnout ○ Casting ○ Soldering ○ Ceramic veneering ● Discuss the different die materials used for fixed dental prosthesis ● List different die and casts system ● Describe fabrication of working casts and dies ● Discuss wax pattern fabrication casting and soldering 			
12	Pontic design	<ul style="list-style-type: none"> ● Define Pontic ● Classify ridge defects according to seibert ● Discuss the factors effecting pontics design <ol style="list-style-type: none"> a. Available space b. Contour of ridge c. Amount of occlusal load ● Discuss various biological, mechanical and esthetics considerations for successful pontics design ● Classify pontics and discuss in detail all its types 	2 hrs.	I.L.	MCQs, SAQs OSCE
13	Shade selection	<ul style="list-style-type: none"> ● Discuss factors influencing shade selection. ● Describe guidelines for accurate shade matching. ● Discuss various methods of shade selection. 	1 hr.	I.L.	MCQs, SAQS OSCE
14	Dental cements and crown, bridge cementation	<ul style="list-style-type: none"> ● Define and classify different luting agents ● Describe properties of an ideal luting agent 	1 hr.	I.L.	MCQs, SAQS



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		<ul style="list-style-type: none"> Describe indications of different luting agents Discuss different cementing materials (properties, merits and demerits of materials) Discuss the latest innovations including CAD-CAM technology Discuss factors to assess at try-in stage Describe the clinical procedure for cementation of inlay, Onlay, veneers and full coverage restorations Discuss the importance of Post cementation follow up Discuss the possible complications and its management Explain failures in fixed partial dentures 			
15	Resin bonded fixed dental prosthesis	<ul style="list-style-type: none"> Define resin bonded bridge Identify resin bonded bridge and its types Give its indications and contraindications Discuss the advantages and disadvantages Describe the types of resin bonded bridges 	1 hr.	I.L.	MCQs, SAQS, OSCE
IMPLANT PROSTHODONTICS, TOTAL THEORY CONTACT HOURS: 2 HRS.					
1	Introduction to implants	<ul style="list-style-type: none"> Define Dental implants Discuss the advantages, disadvantages, indications and contraindications of dental implants. Discuss different types of implants Describe the components of dental implant Describe different biocompatible 	2 hrs.	I.L	MCQs OSCE



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		<p>implant materials</p> <ul style="list-style-type: none"> ● Discuss limitations of dental implants ● Identify different types of implants and its components 		
2	Osseointegration and biocompatibility.	<ul style="list-style-type: none"> ● Describe osseointegration and discuss Mechanism of osseointegration. ● Discuss the different stages of osseointegration. ● Discuss the Theories of bone to implant interface <ol style="list-style-type: none"> 1. Fibro-osseous integration 2. Osseointegration ● Describe the various Factors influencing the osseointegration (patients and surgical related) ● Discuss the Advantages, disadvantages, indications and contraindications of hydroxyapatite crystal and titanium plasma coating ● List the different Methods to check osseointegration. <ol style="list-style-type: none"> 1. Percussion test 2. Radiographs 3. Probing depth 		
3	Prosthetic options	<ul style="list-style-type: none"> ● Describe various implant supported restorations that can be used for replacement of missing teeth ● Explain briefly the clinical and laboratory procedure of implant placement ● Describe the impression techniques used for dental implants ● Discuss advantages and 		



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		disadvantages of screw retained and cement retained prosthesis			
MAXILLOFACIAL PROSTHODONTICS, TOTAL THEORY CONTACT HOURS: 2 HRS					
1	Introduction to maxillofacial prosthodontics	<ul style="list-style-type: none"> ● Define maxillofacial prosthodontics ● Classify and types of congenital and acquired defects ● Describe Principles governing treatment and management of patients presenting with various defects ● Define obturators. Discuss the different types of obturators ● Discuss different methods of retention of an obturator ● Discuss cleft palate prosthesis ● Discuss Speech aid prosthesis ● Discuss various facial prosthesis 	2 hrs.	IL	MCQs, OSCE
OCCCLUSION, TOTAL THEORY CONTACT HOURS: 2 HRS					
1		<ul style="list-style-type: none"> ● Define Occlusion ● Define CR, MIP, CO ● Describe Interferences ● Describe optimum functional occlusion ● Discuss various Occlusal schemes <ol style="list-style-type: none"> I. Canine guided II. Group function III. Mutually protected ● Describe Determinants of occlusal morphology <ol style="list-style-type: none"> I. Posterior controlling factors (condylar guidance) II. Anterior controlling factors 	2 hrs.	IL	MCQs



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		(anterior guidance) III. Vertical determinants of occlusal morphology IV. Horizontal determinant of occlusal morphology			
TEMPOROMANDIBULAR DISORDERS, TOTAL THEORY CONTACT HOURS: 2 HRS					
1	Concept, etiology, treatment planning and options	<ul style="list-style-type: none"> • Discuss Etiology of Temporomandibular disorders • List and describe different Temporomandibular disorders • Describe Treatment options available for the management of Temporomandibular disorders • Discuss different Occlusal splints and its indications 	2 hrs.	IL	MCQs, OSCE
GERODONTOLOGY, TOTAL THEORY CONTACT HOURS: 2 HRS					
1		<ul style="list-style-type: none"> • Discuss the Impact of edentulism in old age (Mucosa, Bone, Saliva, Jaw movement, Taste and smell sensations, Nutrition) • Describe the consequences of bone loss in edentulous patients (anatomical, soft tissue, esthetics, psychological) • Discuss various effects of medication • Discuss various medical conditions having oral manifestation • Explain the Principles of prosthodontics procedures in geriatric patients 	2 hrs.	IL	MCQs, OSCE



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CLINICAL ROTATIONS

By the end of the course students will be able to

TOTAL CLINICAL CONTACT HOURS: 200 HRS.

s. no	Topics	ILO	Teaching Hours	Mode of teaching	Assessment tools
01	Removable Partial Denture	<ol style="list-style-type: none"> 1. Identify manifestation of various sequelae in the oral cavity 2. Record a thorough history of partially edentulous patient. 3. Perform extra-oral and intra- oral examination 4. Identify arches according to Kennedys classification 5. Propose a treatment plan 6. Identify and manipulate various dental materials 7. Record primary impression of an edentulous patient 8. Pour an impression 9. Design a cast partial denture for a partially dentate patient on model/cast 10. Identify parts of a surveyor 11. Perform surveying of study cast 12. Perform mouth preparation on artificial teeth/typodont 13. Identify the different components of cast partial dentures 14. Perform cast duplication procedure 15. Perform block out on study cast 16. Manipulate the wax pattern for the selected cast partial denture design 17. Perform investment of wax pattern 18. Perform finishing of metal framework 19. Fabricate wax rims 20. Select and perform teeth setup 21. Perform curing and polishing of cast partial denture 	45 hrs.	S.G.D Clinical Demonstration Laboratory Demonstration	OSCE/OSPE VIVA
02	Complete Denture	<ol style="list-style-type: none"> 1. Identify manifestation of various sequelae in the oral cavity 2. Record a thorough history of an edentulous patient. 3. Perform extra-oral and intra- oral examination of an edentulous patient. 4. Propose a treatment plan 5. Identify and manipulate various dental 	80 hrs.	S.G.D Clinical Demonstration Laboratory Demonstration	OSCE/OSPE VIVA



Women Dental College, Abbottabad

		<p>materials used in fabrication of dentures</p> <ol style="list-style-type: none"> 6. Record primary impression of an edentulous patient 7. Pour an impression and produce a master cast 8. Fabricate a custom tray for an edentulous patient 9. Perform border molding for a maxillary and mandibular arch. 10. Record secondary impression for an edentulous patient. 11. Fabricate maxillary and mandibular occlusal rims 12. Record jaw relation of an edentulous patient 13. Perform articulation of occlusal rims on a semi-adjustable articulator 14. Perform complete upper and lower tooth setup for an edentulous patient 15. Perform try-in on an edentulous patient 16. Check the phonetics and differentiate between correct and incorrect speech sounds 17. Perform insertion of a complete denture 18. Instruct a patient about post-insertion 19. Fabricate a single complete denture 20. Perform tooth preparation for overdenture on abutment tooth 			
03	Fixed Dental Prosthesis	<ol style="list-style-type: none"> 1. Record history for a prospective fixed prosthesis patient 2. Perform examination of fixed prosthesis patient 3. Perform shade selection for tooth colored restoration/crown 4. Perform complete cast crown preparation on a typodont 5. Perform metal- ceramic crown preparation on a typodont 6. Perform all- ceramic crown and veneer preparation on a typodont 7. Perform placement of retraction cords 8. Identify and manipulate various dental materials 9. Record impression with elastomeric impression material 	75 hrs.	S.G.D Clinical Demonstration Laboratory Demonstration	OSCE/OSPE VIVA



Women Dental College, Abbottabad

Required preclinical/clinical Quota in Third year/Final Year

S. No	Clinical Tasks	Quota
1.	Three (03) removable complete dental prostheses cases (whether conventional, over- or immediate denture), with all clinical and laboratory steps of fabrication.	03 Range: 03-05
2.	Three Removable partial dental prostheses, with all clinical and laboratory steps of fabrication.	03 Range: 03-08
3.	Three (03) posterior crown preparations on phantom heads/Typodonts (at preclinical level) to give exposure to clinical procedures of fixed prosthodontics	03 Range: 03-06
4.	Three (03) anterior crown preparations on phantom heads/Typodonts (at preclinical level) to give exposure to clinical procedures of fixed prosthodontics	03 Range: 03-06

Learning Resources:

Sr.No	Text/ Reference Books	Edition
1	McCraken (Removable Partial Prosthodontics by Alan B.Carr)	13 th
2	Stewarts Clinical Removable Partial Prosthodontics by Rodney D. Phoenix	4 th
3	Removable Complete/Partial Denture Manual by Robert W.Loney	2011/2019
4	A Colour Atlas of Complete dentures by J.A Hobkirk	Illustrated
5	A Colour Atlas of Removable partial dentures by J.C Davenport	Illustrated
6	Prosthodontic Treatment for Edentulous Patients Complete Dentures and Implant supported prostheses by George Zarb	13 th
7	Textbook of Complete Denture by Arthur O Rahn	6 th
8	Essentials of Complete Denture Prosthodontics by Sheldon Winkler	3 rd
9	Contemporary Fixed Prosthodontics by Stephen Rosensteil	6 th
10	Fundamentals of Fixed Prosthodontics by Herbert T Shillingburg	4 th



Women Dental College, Abbottabad

11	Management of Temporomandibular Disorders and Occlusion by Jeffery Okeson	8 th
12	Textbook of Geriatric Dentistry by Poul Holm-Pederson	3 rd
13	Contemporary Implant Dentistry Randolph R. Resnik	4 th

Additional Learning Resources:

Hands on	Typodont practice sessions for Fixed Prosthodontics according to the provided manuals
Skills Lab	Prosthodontic workstations in prosthodontic laboratory for Removable Prosthodontics
Videos	Procedural videos during Interactive Lecture sessions and clinical rotations
Internet Resources	PubMed, ResearchGate, Google books, Wikipedia, Journal of Prosthodontics, Journal of Prosthetic dentistry.

Assessment Methods:

MCQs: Multiple Choice questions of Single best Type

SAQs: Structured Answer Questions

OSPE/OSCE: Objective Structured Practical/Clinical examination

Multiple Choice Questions:

1. Single best type MCQs having four options with one correct answer and three distractors are part of assessment.
2. Correct answer carries one mark, and incorrect will be marked zero. Rule of negative marking is not applicable.
3. Students mark their responses on specified computer-based designed sheet.

SAQs: Twelve Structured answer questions shall be the assessment tool for cognitive domain.



Objective Structured Practical/Clinical Examination

1. Nine OSCE stations, comprising of 06 Interactive and 03 static stations are used for formative as well as summative assessment.
2. Time allocated for each station is five minutes as per Examination rules of Khyber Medical University, Peshawar.
3. All students are rotated through the same stations.
4. Stations used are unobserved, observed, interactive and rest stations.
5. On unobserved stations, models, lab reports, radiographs, flowcharts, case scenarios may be used to assess cognitive domain.
6. On observed station, examiners don't interact with candidate and just observe the performance of skills /procedures.
7. On interactive station, examiner ask questions related to the task within the allocated time.
8. On rest station, students are not given any task. They just wait to move to the next station.

Internal Assessment Criteria:

1. 10% weightage of Internal Assessment in professional exam is policy of Khyber Medical University.
2. This Internal Assessment will comprise of the following components
 - a) Attendance
 - b) Log books/Portfolios
 - c) Ward tests
 - d) Midterms
 - e) Pre-Prof
 - f) Attitude



Women Dental College, Abbottabad

Following is the policy for distribution of Internal assessment marks:

THEORY:

SCORING PARAMETER	MARKS OUT OF 10%
ATTENDANCE (<75% = 0; 75-79% = 2; 80-84% = 3; 85-89% = 4; 90-100% = 5)	5%
MID TERM EXAM (ABSENT = 0; FAIL = 1; PASS = 2)	2%
PRE-PROF EXAM (ABSENT = 0; FAIL = 1; 50-74% = 2; 75-100% = 3)	3%

PRACTICAL:

SCORING PARAMETER	MARKS OUT OF 10%
ATTENDANCE (<75% = 0; 75-79% = 1; 80-84% = 2; 85-89% = 3; 90-100% = 4)	4%
WARD TEST (Absent = 0; Fail = 1; 50-74% = 2; 75-100% = 3)	3%
Logbooks/Practical books/ Portfolio	2%
Attitude/Behavior	1%

Examination Rules & Regulations:

1. Mid-Term exam comprising 45 MCQs of single best type and 45 marks SAQs will be held in the middle of the session.
2. Pre-prof Exam comprising 45 MCQs of single best type and 45 marks SEQs will be conducted at the end of session before prep leaves.
3. The pattern of Mid-term & Pre-prof will be same as the Professional Exam taken by Khyber Medical University, Peshawar.
4. OSCEs/OSPEs will be conducted at the end of Mid-term & pre-prof Exam.

Feedback On Examination:

1. Students' feedback on assessment strategies will be taken in a preformed proforma for feedback twice a year i.e., Mid-term and pre-prof exams.
2. Feedback of theory as well as OSCE/OSPE & Viva will be taken.



Women Dental College, Abbottabad

3. Department of Medical Education & Quality Enhancement Cell in collaboration with Exam Cell of WDC is responsible to conduct this exercise.

Model Questions:

Multiple Choice Question

Question:

A patient who has recently received a pair of complete denture complains of difficulty in swallowing. The reason for this is most likely to be,

- a) Excessive VDO with resulting decrease in interocclusal space
- b) Interocclusal distance more than normal
- c) Alveolar ridge with bony spicules
- d) Candida Albicans colonizing the mouth causing discomfort

Structured Answer Question:

A 60 years old male edentulous patient desirous of replacement set of complete dentures for the primary complaint of inability to chew food. He has history of three sets of complete dentures in the past thirteen years. Clinical examination reveals excessive mandibular residual ridge resorption.

- a. Enumerate local factors responsible for residual ridge resorption.
- b. What can you do to minimize further resorption?



Women Dental College, Abbottabad

Suggestions For Next Academic Year:

A constant review of the content should be done annually in order to revise and update it according to the contemporary standards.

Prepared By:

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