

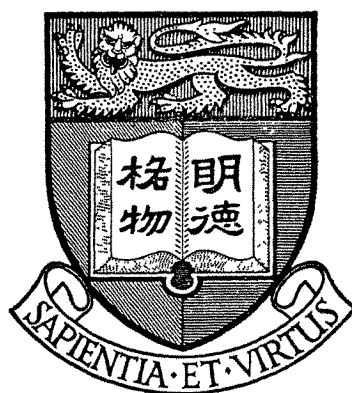
Faculty of Dentistry - University of Hong Kong

Student's Guide
to the
4th Year Undergraduate Programme
in

Oral **R**ehabilitation

1997-98

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Preface

It is hoped that you will find this guide helpful while you prepare for the scheduled teaching sessions in Oral Rehabilitation.

The details included here are (we think) correct at the time of printing but may be subject to changes in response to feedback on the course which we hope to receive from both students and staff.

We will try to let you know about any (as yet unforeseen) changes in the programme as soon as possible.

Please let us know your views on the course and on this guide.

*J.E. Dyson
November 1997*

Contributors

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Scope of Oral Rehabilitation

Oral Rehabilitation is a new grouping of subjects within the undergraduate dental curriculum.

It is primarily concerned with the achievement and maintenance of oral health for individuals who have lost some (or all) of their natural teeth, associated structures or other oral and facial tissues.

The undergraduate programme in Oral Rehabilitation extends from the 2nd to the 5th years of the BDS course and includes the following subject areas:

- **removable prosthodontics**
the replacement of missing teeth (and other oral structures) by means of dentures (removable prostheses)
- **fixed prosthodontics**
the replacement of missing teeth *etc.* by means of bridges (fixed prostheses)
- **maxillofacial prosthodontics**
the replacement of missing maxillofacial structures by prostheses
- **gerodontology**
the dental care of elderly persons
- **implantology**
the replacement of missing teeth *etc.* by using devices which are surgically inserted into the bone and to which the prostheses are attached
- **occlusion**
the study of contacts between opposing teeth

- **craniomandibular dysfunction**

the study and treatment of disorders of function of the temporomandibular joint and associated parts of the masticatory apparatus

Amongst other related subjects, the course will also cover relevant aspects of the following:

- **infection control**

the prevention of transmission of infections between patients and between patients and dental personnel during the course of prosthodontic treatment

- **applied dental materials**

the application of dental materials to the practice of prosthodontic treatment

- **dental technology**

laboratory procedures relating to the practice of fixed and removable prosthodontics

Teachers and teaching groups

Full-time Teachers in Oral Rehabilitation

- Dr. M.G. Bothelo (*Coordinator for occlusion and bridge courses*)
- Dr. T.W. Chow (*Postgraduate Programme Director*)
- Dr. A.P.L.H. Dias (*3rd Year Course Coordinator,
4th floor Clinic Director*)
- Dr. J.E. Dyson (*5th Year Course Coordinator,
Undergraduate Programme Director, 4th floor Line Manager*)
- Dr. C.M. Leung (*2nd Year Course Coordinator*)
- Dr. H.N. Pow (*4th Year Course Coordinator*)

4th Year Group Teachers

- 4.1 Dr. H.C. Shum
- 4.2 Dr. A.D.L.H. Dias
- 4.3 Dr. C.M. Leung
- 4.4 Dr. J.E. Dyson
- 4.5 Dr. H.N. Pow
- 4.6 Dr. S.M. Pong
- 4.7 Dr. C.M. Leung

Overview of the 4th year programme

The 4th year undergraduate programme in Oral Rehabilitation includes:

- a laboratory course on complete denture construction
- lectures, seminars and clinical demonstrations on complete denture prosthodontics
- lectures/seminars on immediate replacement dentures, overdentures, implants, treatment of the elderly and maxillofacial prosthetics
- lectures and seminars on fixed prosthodontics
- clinical experience of the treatment of patients requiring complete dentures
- continued clinical experience on the treatment of patients requiring removable partial dentures
- a clinical/laboratory course on bridges
- a laboratory course on resin-bonded bridges
- clinical experience of treatment of patients requiring resin-bonded and conventional bridges
- a clinical/laboratory course on advanced occlusion and craniomandibular disorders

Aims of the 4th year programme

Complete denture course

By the end of the 4th year the student should be able to:

- assess the design, functional and aesthetic aspects of patients' existing complete dentures.
- make an assessment of the expected prosthetic difficulties of complete denture provision, based on the history and examination of the edentulous patient.
- identify the need for, and carry out modification of existing dentures (*e.g.* use of tissue conditioners, occlusal correction *etc.*) prior to construction of new dentures.
- carry out all the necessary clinical and chairside procedures associated with the construction of complete dentures (including provision of appropriate patient instructions).
- identify the need for, and carry out the clinical procedures of relining or rebasing complete dentures.
- carry out the clinical procedures associated with the repair, border modification and occlusal correction of complete dentures.
- identify pathological conditions associated with the wearing of complete dentures and to plan (and, if appropriate, carry out) suitable corrective action.
- describe the rationale for, and techniques associated with, the use of replicas of existing dentures in the construction of new complete dentures.

Students should also be able to describe the principles of:

- the general dental management of elderly patients
- implants
- overdentures

- immediate replacement dentures

Conventional and resin bonded bridge course

By the end of the 4th year the student should be able to:

- determine when the restoration of an edentulous space with bridgework is clinically needed.
- determine if the patient, and the abutment teeth are suited for a fixed prosthodontic appliance.
- diagnose and plan treatment for a patient for whom the provision of a fixed bridge may be the treatment of choice.
- describe the indications, contraindications, advantages and disadvantages of different forms of bridge design, e.g. fixed-fixed, fixed-movable, cantilever, resin bonded and conventional.
- the design considerations necessary for improving resistance and retention form of teeth for fixed prosthodontics.
- select suitable teeth for abutments and retainers for both conventional and resin-bonded bridges.
- select suitable designs of pontics.
- design and construct connectors for both fixed and removable bridges.
- prepare conventional bridge abutment preparation for teeth to receive a fixed bridge and the other clinical procedures for the provision of such restorations.
- describe the laboratory procedures for the construction of conventional and resin bonded bridges.
- advise patients on home care when a fixed prosthesis has been provided.

Advanced occlusion and craniomandibular disorder course

By the end of the 4th year the student should be able to:

- record accurate study models, face bow, jaw registration and mounting procedures on the denar articulator of the provision for bridges or occlusal analysis.
- know how to identify a patient with undesirable functional or parafunctional tooth contacts.

- describe the possible effects of such undesirable tooth contacts on the teeth, periodontal tissues and temporomandibular joints.
- manage undesirable tooth contacts.
- manage patient with acute craniomandibular disorders.

Students should also have achieved all the aims of the 2nd – 3rd year programmes. *i.e.* they should,

- have a good knowledge and competence in the the examination, treatment planning and denture design for partially dentate patients
- be competent in all the clinical procedures involved in the provision of removable partial dentures
- have an understanding of the relationship between removable partial denture prosthodontics and other clinical disciplines
- have an understanding of the clinical and laboratory procedures associated with the repair of removable partial dentures and the addition of teeth and other components to removable prostheses
- have an understanding of the importance of, and a competence in basic infection control measures in prosthodontic practice
- be able to identify the major surface anatomical landmarks of the dentate and partially dentate mouth
- be able to carry out a basic examination of dentate and partially dentate patients
- be able to make alginate impressions of dentate partially dentate patients with correct vestibular extension
- be able to pour and trim study casts from alginate impressions
- be able to make facebow records and interocclusal records and to mount study casts in the Dentatus and Denar articulators
- have an understanding of basic terms relating to articulators and occlusion
- be able to demonstrate occlusal contacts in the mouth and on articulated study casts
- have a basic understanding of the handling characteristics of those dental materials involved in the production of articulated study casts (impression compound, alginate, alginate adhesive, dental wax, dental plaster, dental stone, cobalt-chromium alloy and investment material)

- have an understanding of the principles of: treatment planning for patients with missing teeth, cast surveying, removable partial denture design, and tooth preparation to facilitate provision of a removable partial denture
- have an understanding of the laboratory procedures involved in the production of study casts and removable cobalt chromium framework partial dentures
- be able to carry out surveying of casts of a partially dentate patient
- be able to describe, in general terms, the consequences to the patient of tooth loss, and the principal advantages and disadvantages of the alternative means of replacing missing teeth
- be able to describe the potential harmful effects of removable partial dentures and the means by which these may be avoided

Overall objectives of the undergraduate programme in Oral Rehabilitation

The undergraduate programme in Oral Rehabilitation extends from the 2nd to the 5th years of the BDS curriculum and is designed to develop in the student a competence in achieving and maintaining oral health of individuals who have lost some (or all) of their natural teeth, associated structures or other oral/ facial tissues. In particular it is intended to provide the student with a knowledge of the principles and practice of:

1. Assessment of occlusion and mandibular function of dentate patients.
2. Diagnosis and treatment planning for partially dentate and edentulous patients taking into account the inter-relationship between fixed and removable prosthodontics and other disciplines.
3. The clinical and laboratory use of dental materials relevant to fixed and removable prosthodontics.
4. Removable partial dentures prosthodontics.
5. Conventional and resin bonded fixed prosthodontics.
6. Complete denture prosthodontics.
7. Overdenture treatment.
8. Immediate replacement denture treatment.
9. Dental technology procedures related to fixed and removable prosthodontics.
10. The planning of minor surgical procedures related to the provision of prostheses.
11. Management of occlusal and temporomandibular joint disorders.
12. Infection control measures in fixed and removable prosthodontics.

and an understanding of the basic principles of:

13. Implants.
14. Prosthetic treatment of patients with congenital and post-surgical defects involving oral and maxillo-facial structures.
15. Precision attachments.
16. Sectional dentures.

By the end of the 5th year of the course the student is expected to be able to:

1. Assessment of occlusion and mandibular function of dentate patients.

- a) Describe the occlusal and mandibular functions of "normal" dentate individuals.
- b) Perform a basic clinical examination, and detect the presence of disturbances of temporo-mandibular joint function.
- c) Make impressions of dentate arches with correct vestibular and posterior extension.
- d) Pour and trim study casts.
- e) Make jaw relationship records to enable the casts to be mounted in a semi-adjustable articulator and to allow the articulator to be correctly adjusted.
- f) Mount casts in the articulator and make appropriate articulator adjustments.
- g) Assess the occlusion of articulated study casts and identify and describe occlusal contacts.
- h) Describe the design of occlusal overlay appliances, overlay dentures and their role in the management of occlusal problems and protection of the dentition.

2. Diagnosis and treatment planning for partially dentate and edentulous patients.

- a) Obtain an appropriate history and carry out suitable extra-oral and intra-oral examination of partially dentate and edentulous patients with regard to their oral health and prosthetic needs.
- b) Plan and carry out (or when appropriate, refer for) further necessary diagnostic investigations.
- c) Identify conditions relevant to the management of patients requiring prostheses.
- d) Recognize and understand the significance of anatomical features, pathological, functional and psychological conditions (including those associated with aging) which may affect the provision or outcome of prosthetic treatment.
- e) Plan treatment to achieve and maintain oral health, setting out the prosthodontic and other items of treatment required in an appropriate order.
- f) Recognize those prosthodontic or other problems that are beyond the scope of their ability to treat and to arrange appropriate specialist referral.

3. The clinical and laboratory use of dental materials relevant to fixed and removable prosthodontics.

- a) State the principal constituents, clinical applications and behaviour of the types of materials commonly used in fixed and removable prosthodontics.
- b) Explain the reasons for selection of particular types of material for particular applications in prosthetic treatment.
- c) Correctly handle the materials commonly used in fixed and removable prosthodontics and explain the underlying reasons for manufacturers' instructions.
- d) Recognize and account for errors, faults and discrepancies due to behavioral and structural aspects of materials used.

4. Removable partial dentures prosthodontics.

- a) Survey study casts and prepare appropriate cast cobalt chromium framework and acrylic denture designs (including provisional and transitional denture designs) for partially dentate patients.
- b) Design restorations for abutment teeth that provide for optimal placement of partial denture components.
- c) Plan and execute tooth preparation procedures necessary to accomplish the proposed denture design.
- d) Demonstrate an ability to provide appropriate motivational and post-insertion instructions to patients.
- e) Carry out all the clinical procedures associated with the construction of cast cobalt chromium framework and acrylic dentures.
- f) Carry out the clinical procedures associated with repairs, relining and modification (by artificial tooth addition [including immediate additions], clasp repair and addition *etc.*) of partial dentures.
- g) Recognize problems associated with design, aesthetic and functional aspects of existing partial dentures.

5. Conventional and resin bonded fixed prosthodontics.

- a) Determine when the restoration of an edentulous space with bridgework is clinically needed.
- b) Identify risk factors of the patient, their oral health and the abutment teeth with respect to suitability of providing a fixed prosthodontic appliance.
- c) Diagnose and plan treatment for a patient for whom the provision of a fixed bridge may be the treatment of choice.
- d) Describe the indications, contraindications, advantages and disadvantages of different forms of bridge design, e.g. fixed-fixed, fixed-movable, cantilever, resin bonded and conventional.
- e) The design considerations necessary for improving resistance and retention form of teeth for fixed prosthodontics.

- f) Select suitable teeth for abutments and retainers for both conventional and resin-bonded bridges.
- g) Select suitable designs of pontics.
- h) Design and construct connectors for both fixed and removable bridges.
- i) Carry out conventional bridge abutment preparation on teeth to receive a fixed bridge and the other clinical procedures for the provision of such restorations.
- j) Describe the laboratory procedures for the construction of conventional and resin bonded bridges.
- k) Advise patients on home care when a fixed appliance has been provided.
- l) Produce accurate study casts, face bow record, and jaw relationship records to mount the casts on the Denar articulator for the planning and provision of bridges.

6. Complete denture prosthodontics.

- a) Assess design, functional and aesthetic aspects of patients' existing complete dentures.
- b) Make an assessment of the expected prosthetic difficulties of complete denture provision, based on the history and examination of the edentulous patient.
- c) Identify the need for, and carry out modification of existing dentures (e.g. use of tissue conditioners, occlusal correction *etc.*) prior to construction of new dentures.
- d) Carry out all the necessary clinical and chairside procedures associated with the construction of complete dentures (including provision of appropriate patient instructions).
- e) Identify the need for, and carry out the clinical procedures of relining or rebasing complete dentures.
- f) Carry out the clinical procedures associated with the repair, border modification and occlusal correction of complete dentures.

- g) Identify pathological conditions associated with the wearing of complete dentures and to plan (and, if appropriate, carry out) suitable corrective action.
- h) Describe the rationale for, and techniques associated with, the use of replicas of existing dentures in the construction of new complete dentures.

7. Overdenture treatment.

- a) Identify patients who would be appropriately treated by complete overdentures and provide appropriate counseling.
- b) Select suitable teeth for use as overdenture abutments.
- c) Carry out the preparation of teeth as domed overdenture abutments.
- d) Describe the advantages, disadvantages and use of precision attachments and magnets in overdenture treatment.
- e) Carry out the clinical procedures associated with the construction of complete overdentures on domed abutments.

8. Immediate replacement denture treatment.

- a) Identify patients who would be appropriately treated by provision of partial or complete immediate replacement dentures.
- b) Carry out the clinical procedures (including cast trimming) associated with the construction, insertion and maintenance of partial and complete immediate replacement dentures (where few natural teeth are immediately replaced and alveolotomy is not required).
- c) Demonstrate an ability to provide patients with appropriate pre-treatment and post-insertion counseling.
- d) Describe the indications for, contraindications to, and procedures of alveolotomy and alveolectomy in the context of immediate replacement denture treatment.

9. Dental technology procedures related to fixed and removable prosthodontics.

- a) Describe the laboratory procedures related to the construction and maintenance of bridges, partial and complete dentures (including overdentures and immediate replacement dentures).
- b) Write clear laboratory instructions.
- c) Carry out chairside procedures appropriate to general clinical practice including:
 - Pouring casts
 - Mounting/remounting casts in a semi-adjustable articulator
 - Making adjustments to the positions of teeth in wax dentures or to the contours of trial wax-ups
 - Carrying out chairside occlusal and other necessary adjustments of prostheses

10. The planning of minor surgical procedures relating to the provision of bridges and dentures.

- a) Recognize anatomical and pathological conditions that require surgical treatment prior to construction of prostheses.
- b) Describe, in general terms, the minor surgical procedures which may be necessary prior to prosthesis construction.
- c) Counsel the patient on matters relating to pre-prosthetic surgery.
- d) Prepare appropriate records (study casts, surgical template or wax up of artificial teeth *etc.*) and write referral notes which will effectively communicate the intended treatment to the oral surgeon.

11. Management of occlusal and temporomandibular joint disorders.

- a) Produce accurate study casts, face bow record, jaw relationship records and to mount the casts on the Denar or Dentatus articulator for the purpose of carrying out occlusal analysis.
- b) Carry out diagnosis and treatment planning for the purpose of achieving a 'functional' occlusion.
- c) Carry out occlusal adjustments to facilitate the provision of fixed or removable prostheses.
- d) Know how to identify a patient with undesirable functional or parafunctional tooth contacts.
- e) Describe the rationale of occlusal equilibration
- f) Describe the possible effects of undesirable tooth contacts on the teeth, periodontal tissues and temporomandibular joints.
- g) Know how to manage undesirable tooth contacts.
- h) Manage patient with acute craniomandibular dysfunction.

12. Infection control measures in fixed and removable prosthodontics.

- a) Demonstrate an awareness of infection control problems in fixed and removable prosthodontics and a competence in standard infection control procedures.

13. Implants.

- a) Describe the principles of osseointegration in relation to dental implants.
- b) Describe, in general terms, the restorative aspects and role of osseointegrated dental implants in fixed and removable prosthodontics.

14. Prosthetic treatment of patients with congenital and post-surgical defects involving oral and maxillo-facial structures.

- a) Demonstrate a basic knowledge of the role of the prosthodontist in the treatment of patients with congenital and post-surgical defects involving oral and maxillo-facial structures.

15. Precision attachments.

- a) Give a general description and classification of the various types of precision attachments.
- b) Demonstrate an understanding of the principal advantages/ indications and disadvantages/contraindications of precision attachments in fixed and removable prosthodontics.

16. Sectional dentures.

- a) Describe the general principles of sectional dentures.

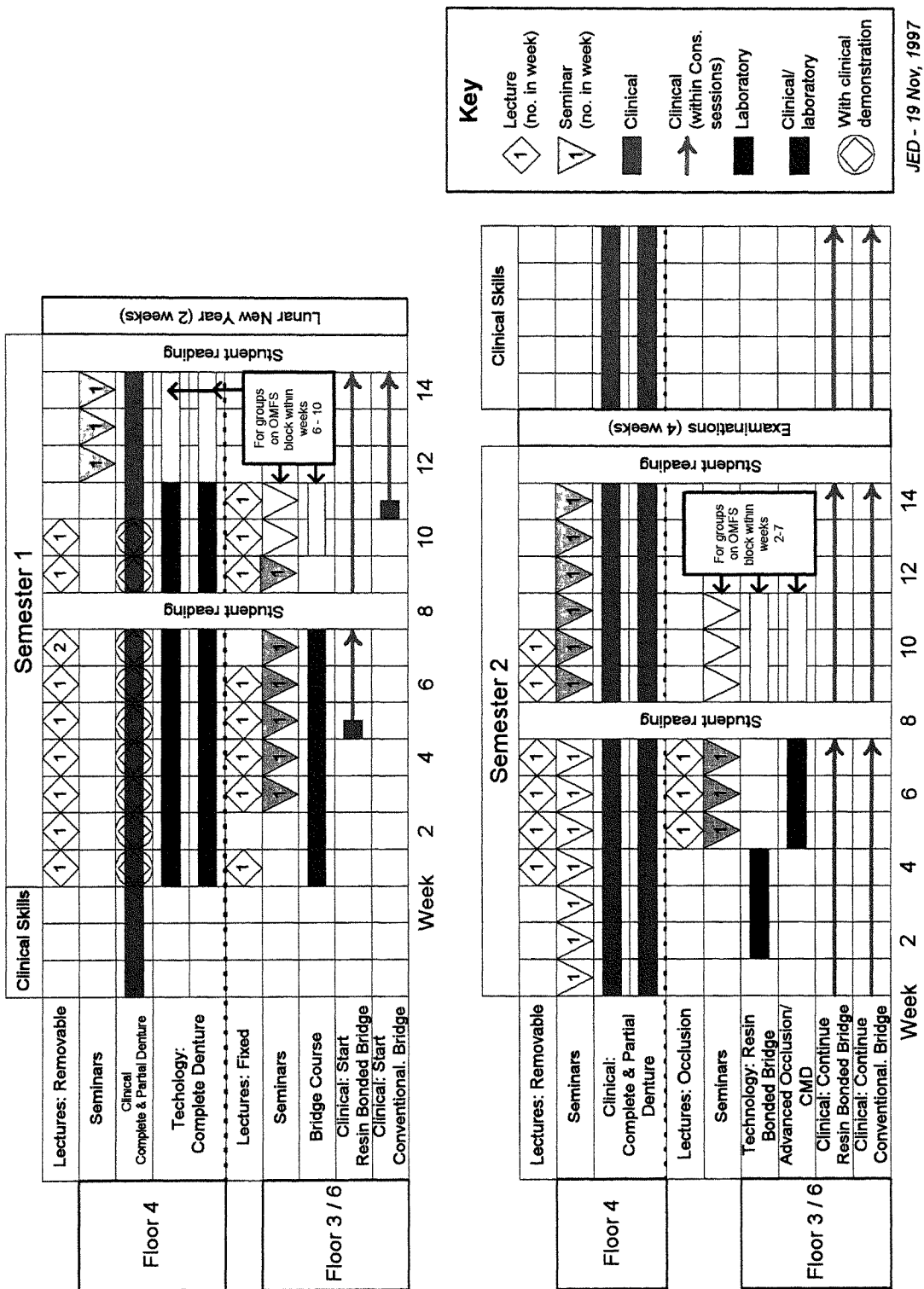
Clinical and course requirements

By the end of the 4th year the student should have:

- satisfactorily completed the 2nd and 3rd year programmes and have passed the written Compulsory Class Examination in Oral Rehabilitation and the 3rd year class test in surveying and removable partial denture design
- satisfactorily completed the individual clinical and laboratory courses which make up the 4th year programme in Oral Rehabilitation
- completed the treatment of at least 3 patients requiring provision of complete dentures
- completed the treatment of 4-5 patients requiring provision of removable partial dentures
- started the treatment of at least one patient requiring provision of a resin-bonded bridge and one patient requiring a conventional bridge

Timeline Chart of 4th Year Programme

4th Year Undergraduate Programme in Oral Rehabilitation 1997-98



Recommended texts

Removable prosthodontics

- McCracken's removable partial prosthodontics
McGivney and Castleberry, 9th edition. Mosby, 1995.
- Fenn, Liddelow and Gimson's clinical dental prosthetics
MacGregor, 3rd edition. Wright, 1989.
- Boucher's prosthodontic treatment for edentulous patients
Zarb, Bolendar and Carlsson, 11th edition. Mosby, 1997.

Fixed Prosthodontics

- Fundamentals of fixed prosthodontics
Shillingburg, latest edition (? 3rd) Dental library acc. no. d17.62 s55.
- Planning and making crowns and bridges
Smith, 2nd edition. Dental library acc. no. d617.624 s6 d
- Periodontal and occlusal factors in crown and bridge procedures
Pameijer.
- Contemporary Fixed Prosthodontics
Rosenstiel, 2nd edition.
- Resin-bonded bridges – a practitioner's guide
Tay. Dental library acc. no. d617.625 t2
- A colour atlas to resin bond retained prostheses
Walker, Dimmer, Newsome and Ngai. Dental library acc. no. d617.62 w1
- Failure in the restored dentition. management and treatment
wise. Quintessence

Craniomandibular disorders etc.

- Temporomandibular disorders. Guidelines for classification, assessment and
management
McNeill, Quintessence

Gerodontology

- Textbook of geriatric dentistry
Holm-Pederson and Løe. Munksgaard, 1996
- Gerodontology
Barnes and Walls. Wright, 1994.

General Reference

- Glossary of terms in fixed and removable prosthodontics
Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong

Supplementary Reading

- Dental technology.
Blakeslee R.W. Mosby, 1980.
- Complete denture prosthetics
Neilland Nairn, 3rd edition. Butterworth-Heinemann, 1991
- Essentials of complete denture prosthodontics
Winkler, 2nd edition. Ishiyaku EuroAmerica
- Partial removable prosthodontics.
Kratochvil, 1988. Saunders.
- Partial dentures.
Neill & Walter, 1983. Blackwell.
- Removable denture prosthodontics.
Grant: 2nd edition, 1992. Churchill Livingstone,.
- Color atlas of removable partial dentures.
Davenport , Basker, Heath & Ralph, 1988, Mosby-Wolfe.
- Removable partial prosthodontics : a case-orientated manual of treatment planning.
Lechner & MacGregor, 1994 Wolfe.
- Introduction to clinical prosthetics
Clark (ed), 1988, University of Hong Kong.

NB: Recommended references for individual seminars are listed in a later section. Files containing copies of these references will be distributed to each group.

Sessional timetables - Removable Prosthodontics - Year 4


Semester 1

Week	Session	Lectures (LT1/2)	Clinical (4 th floor clinic)		Technology (4 th floor dental technology laboratory)	
			Demonstration	Practical	Demonstration	Practical
1	1	Introduction to complete denture prosthodontics	Primary impressions)		Pour primary impressions - 4 th floor production laboratory	
	2				Construct upper & lower close-fitting custom trays	Construct close-fitting lower custom tray
	3					
2	1	The complete denture base	Secondary impressions	Continue patient treatment (after demonstration)		
	2				Box impression and pour secondary cast. Construct permanent base. Add wax rims.	Add wax rims to bases. (bases provided)
	3					
3	1	Jaw relationships for complete dentures	Jaw relationship records, tooth selection	Continue patient treatment (after demonstration)		
	2				Mount bases in Dentatus articulator.	Mount bases in Dentatus articulator. (records provided)
	3					
4	1	Complete denture aesthetics	(Continue JR records if required)	Continue patient treatment (after dem. if any)		
	2				Set up teeth in flat plane	Set up teeth in flat plane
	3					
5	1	Complete denture occlusion	Flat plane trial insertion in wax, protrusive record	Start assigned complete denture patient (after dem.)		
	2					Continue setting up teeth
	3					

Removable Prosthodontics Year 4. Complete denture course. Semester 1 (continued)

Week	Session	Lectures (LT1/2)	Clinical (4 th floor clinic)		Technology (4 th floor dental technology laboratory)	
			Demonstration	Practical	Demonstration	Practical
6	1	Complete dentures opposed by natural standing teeth	Final trial insertion in wax	Continue complete denture patient (after dem.)		
	2				Set teeth in balanced occlusion	Set teeth in balanced occlusion
	3					
7	1	a) Management of dental problems in elderly patients	Check record and delivery	Continue complete denture patient (after dem.)		
	2	b) Maintenance of dentures - repairs, relining, rebasing				Continue setting teeth in balanced occlusion
	3				Finish wax up	Finish wax up of upper
8	Student reading					
9	1	Complete dentures using duplication techniques	First review	Continue complete denture patient (after dem.)		
	2				Flask, process, remount and adjust occlusion	Remount and adjust occlusion
	3					
10	1	Immediate replacement dentures	Review	Continue complete denture patient (after dem.)		
	2				Polishing	Polish upper
	3				Addition of post-dam	Addition of post-dam

**Removable Prosthodontics Year 4. Complete denture course. Semester 1
(continued)**

Week	Session	Seminars (4th floor)	Clinical (4th floor clinic)	
11	1		Continue complete and partial denture patients 	
	2			
	3			
12	1	Assessment of the complete denture patient		
	2			
	3			
13	1	Preparation of the mouth for complete dentures		
	2			
	3			
14	1	Factors relating to impressions		
	2			
	3			
15	Student reading			

Removable Prosthodontics Year 4. Complete denture course. Semester 2

Week	Session	Lectures (LT I/II)	Seminars (4 th floor seminar rooms)	Clinical (4 th floor clinic)			
1	1		Jaw relationships for complete dentures	Continue patient treatment ↓			
	2						
2	1		Tooth selection and appearance				
	2						
3	1		Complete denture occlusion				
	2						
4	1	Implants 1	Denture delivery and maintenance, relining and rebasing				
	2						
5	1	Implants 2	Denture complaints				
	2						
6	1	Implants 3	Duplication techniques in complete denture construction				
	2						
7	1	Implants 4	Overdentures				
	2						
8	Student reading						
9	1	Implants 5	Partial denture design and treatment planning workshop - 1	Continue patient treatment ↓			
	2						
10	1	Prosthetic treatment of cleft palates and post-surgical defects	Partial denture design and treatment planning workshop - 2				
	2						
11	1		Partial denture design and treatment planning workshop - 3				
	2						
12	1	Sessions to replace those occupied by OMFS block					
	2						
13	1						
	2						
14	1						
	2						
15	Student reading						

Contents of lectures – Removable prosthodontics - Year 4

Lecture: Year 4 Semester 1 Week 1

Title: Introduction to Complete Denture Prosthodontics

Lecturer: JE Dyson

Outline of the 4th year programme

Assessment of the complete denture patient

History taking

- complaints about existing dentures
 - looseness, chewing disability, pain, poor appearance
- dental extraction, reasons for tooth loss, denture history
- psychological, general physical and medical complications

Examination of the edentulous patient

extra-oral

- angular cheilitis, sunken cheeks, lip eversion

intra-oral

- arch form and resorption
- denture bearing area - mucosal type, flabby ridge
- anatomic landmarks and their significance
- pathology - papillary hyperplasia., denture granuloma
- assesment of existing dentures
- radiographs
 - bone quality, id nerve, retained roots, pathology

Diagnosis

Principles of treatment planning

preparation of the mouth

- removal of retained roots
- surgical corrections of anomalies/pathologies
- tissue conditioning
- constructing dentures using a "standard" vs. duplication technique

Prognosis

- predicting the outcome of treatment

Outline of the clinical and laboratory stages of complete denture construction

- preparing the patient, producing the denture bases
- recording jaw relationships, selecting artificial teeth, establishing artificial tooth positions

assesment of the trial wax dentures

- delivery of the dentures, advising the patient, maintenance of the dentures

Prescribing laboratory work

- communication with the technician

Requirements of the complete denture base (definitions)
retention
support
stability

Retention

outline of past theories
description of current concept of the mechanism of retention
need for border seal and close mucosal fit
means of achieving these
posterior border seal for mandibular and maxillary denture bases

Support

factors influencing support
quality of underlying tissues
anatomical considerations
area of coverage
displacement of tissues
impression technique
displaceability of tissues

Stability

(quality not only dependant on the bases)
destabilising forces
tongue, lips, cheeks *etc.*
characteristics of the ridge
use of overdenture abutments as aids to stability

Techniques in base construction

preliminary impressions
methods used and rationale
choice of materials
preliminary casts
design of custom trays
secondary impressions
methods used and rationale
choice of materials
production of secondary casts
production of acrylic base

Use of permanent base vs. temporary base for jaw relationship records and trial insertions

Posselt's envelope - revision

Changes when patient becomes edentulous

3 considerations:

antero-posterior (horizontal)

most retruded/most anterior/uppermost position of condyle
brief introduction of centric relation/centric occlusion
reproducibility/prosthetic convenience

transverse

brief discussion

vertical dimension (discussed in detail)

importance

problems related to incorrect VD

detailed discussion:

what is VD?

where is VD?

how to arrive at the 'correct' VD?

commonly used clinical methods

measurement

aesthetics - looks good

phonetics - sounds good

complete zone - feels good

others

} on right track

Objectives in establishing the patient's appearance
realism, "beauty", compatibility with functional aspects

Dental factors influencing appearance
soft tissue support, vertical dimension of occlusion, occlusal plane
tooth size, shape, shade, characterization, tooth arrangement
"gumwork" (contour, shade)

Use (and limitations) of pre-extraction records
photographs, study casts, previous immediate replacement dentures
radiographs

Concept of "harmony" in relation to appearance

Selection of artificial tooth mould
size
guides to selection:
interalar width = distance between tips of canines (arranged in arch)
bizygomatic width/16 = width of central incisor
distance between corners of mouth = distance between tips of
canines
shade
factors: colour (value, hue, chroma), gloss, opacity, fluorescence
shape
facial shape as guide to selection
J. Leon Williams classification - square, tapering, ovoid
(+ square-tapering, tapering ovoid, square-tapering-ovoid)
J.H. Lee classification - W/W, N/N, W/N, N/W

Arrangement of artificial teeth
guides - anatomical landmarks, relationship to ridges, incisive papilla
asymmetry - rotations, tilting, spacing

Relationship and perception of size, lightness and position of anterior teeth

Simulated soft tissues ("gumwork")
shade, contour (gingiva, interdental papillae, mucosa), characterization

Common problems with complete denture aesthetics (examples) and their
avoidance

"small white teeth"
teeth set too far back on ridge
regular, symmetrical tooth arrangement
"gumwork" without contour
"candy pink" acrylic
knife edged papillae
intact incisal edges

Definition of occlusion

Differences between natural and artificial occlusion

Jaw relationship - must be correct

While occlusion is tooth-to-tooth contact, tooth position re: biometric guide is important in setting of teeth.

- upper occlusal plane

 - level

 - orientation

- lower occlusal plane

 - level - tongue control

'Balanced' occlusion/articulation

- concept

- determinants

 - Hanau's quint

 - Thielmann's "equation"

 - clinical significances

 - Bull rule

- 'unilateral balance' (group function) – a type of this used in this hospital

- protrusive balance

 - concept

 - limitations

Occlusion for patients with skeletal

- class II

- class III

Lecture: Year 4 Semester 1 Week 6
Title: Complete Dentures Opposed by Natural Standing Teeth
Lecturer: TW Chow

- includes consideration of opposing bridges and RPDs

Difficulties

- stability
- aesthetics
- support/occlusal forces

Maxillary natural dentition vs. mandibular complete denture

emphasis - extremely difficult

treatment options:

- mandibular implant support overdenture
- mandibular implant support bridge
- maxillary clearance and C/-
- refer

Single maxillary complete denture vs. mandibular natural dentition

concept/technique/procedures based on Winkler

except 'unilateral balance' rather than 'bilateral balance'.

occlusal analysis

- mounted casts
- occlusal plane analysis

diagnostic wax up

template for tooth reduction

Limitations should be recognized

Lecture: Year 4 Semester 1 Week 7 (Lecture 1)
Title: The Management of Dental Problems in Elderly Patients
Lecturer: JE Dyson

World population statistics, Hong Kong's elderly population

General problems of the elderly
social, physical, psychological

Problems of obtaining dental services in Hong Kong

Existing treatment programmes for the elderly overseas

Perceived treatment needs vs. normative needs and realistic needs

Special considerations when treating elderly living in a residential community
organizational aspects
treatment priorities (waiting lists)
group perception of the treatment programme ("reputation")

Common dental problems of the elderly
tooth wear
root caries
advanced periodontal conditions
neglect, persistent use of unsatisfactory dentures

Patient and carer education
staff training programmes

Treatment planning considerations
general health, medical status, medications
psychological aspects, expectations and motivation
physical limitations, handicaps

Problems of delivery of dental care to institutionalized and housebound elderly

Basic equipment requirements

Minimizing the problem of equipment
use appropriate techniques, utilize on-site "equipment", improvise
plan ahead

Appropriate restorative techniques
glass ionomer cements

Appropriate prosthetic techniques
partial denture types and designs
complete dentures using duplication techniques

Case examples

Role of patient

- regular and efficient cleaning of prostheses
- keeping periodic review appointments
- consult clinician if and when problems arise

Role of clinician

- regular check of:
 - prosthesis
 - oral hard and soft tissues
 - remedy, identified problems, reinforce OHI *etc.*

repairs

- fractured base
- dislodged/fractured teeth
- assess prosthesis for suitability for repair

reline

- assessment of prosthesis for reline
- reline
 - clinical procedure
 - laboratory procedure

Lecture: Year 4 Semester 1 Week 9

Title: Complete Dentures using Duplication Techniques

Lecturer: JE Dyson

Rationale for using a duplication technique

- enables desirable features in existing dentures to be selectively reproduced
- more predictable outcome
- reduced number of clinical appointments

Disadvantages

- ?laboratory work more demanding
- ?cost
- may be difficult if the previous dentures are grossly unsatisfactory

Specific indications

- dentures are worn down but otherwise satisfactory
- particular features of existing dentures are identified as desirable
- replacement for immediate replacement dentures
- elderly patients with poor adaptability
- convenience in domiciliary treatment

Techniques (clinical and laboratory stages)

- assessment of existing dentures
- methods of production of replicas
 - silicone moulds, agar, alginate
 - use of flasks, impression trays, soap box for duplication
 - production of replicas in cold cured acrylic, wax or acrylic + wax teeth
- impressions
 - modification of borders
 - open vs. closed-mouth ("functional") impressions
- modifications to occlusal plane, lip support, VD
- jaw relationship records
 - CJR
 - ?situations where ICP of old dentures can be accepted
- tooth selection
 - shade and mould
- setting the teeth
 - use of index
- wax try-in
 - assessment of trial dentures
- delivery

Case presentations

Indications, where all remaining teeth have very limited prognosis

Alternative approaches to treatment

- clearance followed by 3 month healing period
- transitional partial dentures later converted to complete dentures
- overdentures

Advantages of immediate replacement dentures against 3 month healing period

- no period of "toothlessness"
- prevention of development of abnormal habits
- appearance of natural teeth can be reproduced
- protection of extraction sites
- (jaw relationship of natural teeth can be reproduced) - not valid advantage

Disadvantages

- 3 month period without posterior teeth
- no period of denture wearing experience prior to insertion
- multiple extractions in one (final) stage
- technical requirements
- cost

Technique (c = clinical, l = laboratory stages)

- (c) preparation
 - clearance of posterior teeth
- (c) preliminary impressions
- (l) pour casts, clinician designs custom trays, construction of custom trays
- (c) secondary impressions (ZnO/E, ZnO/E + alginate, elastomeric material)
- (l) pour casts, construct wax rims on stabilized bases
- (c) contour rims, jaw relationship records
- (l) mount, set up posterior teeth in wax
- (c) try in posterior teeth
- (l) cut teeth off cast and replace, clinician trims casts and plans surgery, complete
 - flange, process and finish
- (c) extractions, surgery, denture insertion, patient instruction

Follow-up and patient instructions

- 24 hours
 - inspection and adjustment
- 1 week
 - inspection and adjustment, suture removal, check record
- over next 3 months
 - periodic inspection and adjustment, use of tissue conditioner
- after 3 months
 - localised relines or rebase

Case examples

The course covers essential aspects of modern implantology using some of the teaching materials by Nobel Biocare (formerly Nobelpharma) and the cases treated in the Hospital. The course is designed to give the undergraduate an overview and understanding of osseointegrated implants. Technical details are mentioned to illustrate principles

A) Introduction

History

Discovery of Ti

Histology - bone/Ti oxide interface

Surgical and prosthodontic principles

System : Brånemark

components : fixture (wide/narrow/regular platforms)

abutment - various types

prosthesis = suprastructure

bridge

overdenture

single tooth

surgery: 2-stage technique

prosthodontic : various, new components constantly evolving
screw retained/cemented

B) Treatment planning

Medical history

importance

absolute contraindications

relative contraindications

Reminder

reasons for replacement of teeth

options: none/bridge/RPD/implants

others: orthodontics/surgery

Diagnostics wax up - work backwards!

Ridge (bone) assessment:

The 2 "Q"s

quality

quantity

Radiographs/imaging techniques

OPG

PA

Scanora

CT scan

C) Implants for edentulous patients

Initial assessment

Make a good set of dentures first

Final assessment

Biomechanical considerations

Surgical stent
video on surgery
video on prosthodontics procedures
+ commentary by lecturer

D) Implants for partially dentate patient

Emphasis on treatment planning
Assessment of ridge/saddle/space
Surgical stent
Anatomical precautions
video on surgeries in maxilla and mandible
video on prosthodontic procedures
+ commentary by lecturer

E) Single tooth implant

Importance of correct treatment planning
System - Ceraone
Surgical and prosthodontic aspects discussed in some detail to illustrate
the difficulties and the level of care necessary.
Illustrated by cases treated in the Hospital

F) Maintenance

Plaque control extremely important
Gadgets/aids for cleaning

G) Complications

Briefly mentioned. Importance in adhering to protocol emphasized.
Reinforced the message: obtain proper training before attempting
implants, start off with specialists.

H) Concluding remarks

Maxillofacial prosthetics as a sub-specialty of prosthodontics

Team personnel

Origin and nature of defects

Cleft palate

- infant orthopaedics
- feeding appliance
- speech appliance
- definitive prosthetic rehabilitation

Immediate surgical prosthesis

- rationale - function/hygiene/psycho-social

Procedures

- preoperative guidelines
- intra-operative procedures
- post-operative guidelines

Hollow bulb obturator

Facial prostheses

Functional reconstruction

- titanium mesh
- implant supported prosthesis

Contents of seminars – Removable prosthodontics - Year 4

Seminar: Year 4 Semester 1 Week 12

Title: Assessment of the Complete Denture Patient

Complaints

- looseness
- inability to chewing
- pain
- poor appearance

History

dental-extraction, reasons of tooth loss, denture history, medical history

Examination

- extra-oral - angular cheilitis, sunken cheeks, lip eversion
- intra-oral - arch form and resorption
denture bearing area - mucosal type, flabby ridge
anatomic landmarks and their significance
pathology - papillary hyperplasia., denture granuloma
- radiographic - bone quality
id nerve
retained roots
pathology

Diagnosis

report of findings

Treatment plan

- removal of retained roots
- surgical corrections of anomalies/pathologies
- tissue conditioning
- new/duplication denture

Prognosis

prediction of outcome of treatment plan

Recommended reading

1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 57-87.

* = key reference

Seminar: Year 4 Semester 1 Week 13
Title: Preparation of the Mouth for Complete Dentures

Importance of physical and psychological preparation of patient

Psychological
 explanation of limitations

Biological
 soft tissue
 redness, swelling, ulcer, hyperplasia, denture stomatitis, flabby
 ridges
 high fraenal attachment, vertically enlarged (fibrous enlargement of)
 maxillary tuberosity, shallow sulcus
 hard tissue
 uneven bone, undercut, horizontally enlarged maxillary tuberosity,
 sharp mylohyoid ridge, mentalis eminences, genial tubercles

Management
 non-surgical
 removal of cause
 tissue conditioning
 surgical
 excision, recontouring, vestibuloplasty, ridge augmentation

Recommended reading

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 30-45, 88-108.
- 2.* Gonzalez JB. Use of tissue conditioner and resilient liners. Dent Clin N Am 1977; 21(2): 249-259.

* = key references

Seminar: Year 4 Semester 1 Week 13
Title: Impressions and the Complete Denture Base

Retention, support and stability

definition/importance/complaint of "looseness"

factors:

border seal, close mucosal contact
(neuromuscular control, surface tension, gravity, atmospheric pressure)

Support

ideal support

keratinized mucosa, resilient submucosa, firmly bound down to underlying cortical bone, area of muscle attachment

topography of maxilla (areas contributing to support, 1^o, 2^o, R, N/C)

topography of mandible (areas contributing to support, 1^o, 2^o, R, N/C)

Importance of good impression in relation to retention/support

Factors affecting the displacement of the mucosa

mucosa, viscosity of material, tray design, timing

Types (advantages and disadvantages)

"mucostatic"/mucodisplacing/selective pressure

Technique used in this hospital (rationale of each step)

preliminary impression (compound moulding, trimming of border, alginate wash)

outline of custom tray

secondary impression (check and modify custom tray, ZnO/E vs. plaster)

Problems during impression taking and the management

gagging, flabby ridge, undercuts

Recommended references

- 1.* Neill DJ, Nairn RI. Complete Denture Prosthetics. 3rd ed.: 6-21, 27-41.
2. Jacobson TE, Krol AJ. A contemporary review of the factors involved in complete dentures. Part III: Support. J Prosthet Dent 1983; 49(3): 306-313.
3. Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 400-411.
4. Faigenblum MJ. Retching its causes and management in prosthetic practice. Br Dent J 1968; 136: 485-490.

* = key reference

Seminar: Year 4 Semester 2 Week 1
Title: Jaw Relationships for Complete Dentures

Factors to be established

occlusal plane, vertical dimension, anteroposterior jaw relations

Importance of correct occlusal plane, consequences of errors
tilted laterally/anteroposteriorly, too high/low

Importance of correct vertical dimension, consequences of errors
too large/small

Importance of correct anteroposterior jaw relations, consequences of errors
types of error possible

Check base and wax rim before taking jaw relations

base: roughness, extension, fit, stability, rigidity, potential "heel clash"
wax rim: simulate tooth position, soft tissue support, "neutral zone"

Guides to establish occlusal plane (technique, advantages and disadvantages)

level - aesthetics, angle of mouth, yawn,

retromolar pad to corners of mouth, parotid papilla

lateral orientation - interpupillary line

anteroposterior orientation - Camper's line, tongue, ridges, retromolar pad
angle of mouth

Guides to establish vertical dimension (technique, advantages and disadvantages)

aesthetics, measurement, phonetics, swallowing, bite force,
comfort zone, ridges, old denture, pre-extraction record

Importance of establishing centric occlusion at centric relation

prosthetic convenience, reproducibility by dentist and patient

Factors influencing the centric jaw relationship records

Techniques (advantages and disadvantages)

manipulation, gothic arch tracing, swallowing, cephalometric

Materials - wax, ZnO/E, plaster

Recommended reading

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 183-219.
2. Nairn RI. The concept of occlusal vertical dimension and its importance in clinical practice. In Mastication. eds. Anderson DJ & Matthews B, J Wright & Sons 1976: 58-60

* = key reference

Seminar: Year 4 Semester 2 Week 2
Title: Tooth Selection and Appearance

Importance of anterior tooth positioning and selection

Anterior tooth positioning (advantages and disadvantages of the various techniques)

- aesthetics - lip, vermilion border, nasolabial angle, aesthetic plane
- biometric guide ("set the teeth where they grew")
 - maxillary: incisal edges 8-10mm in front of the incisive papilla, rugae, inclination of ridge crest, tips of canines on a straight line drawn through centre of incisive papilla
 - mandibular: angle of mouth, modiolus
- functional - phonetics, smiling line, neutral zone
- existing records – old dentures, study casts, photographs, radiographs

Anterior tooth selection

- size - interalar width, angle of mouth, face proportion, old dentures, pre-extraction record
- shade - single vs. variety of shades
 - age, personality, patient, relatives
 - ? hair, eye, skin colour
- characterization
- mould - inverted face, face proportion, arch shape, sex, personality, age

Importance of posterior tooth positioning and selection

Posterior tooth positioning (advantages and disadvantages)

- biometric guide ("set the teeth where they grew")
 - maxillary: palatal gingival remnants, cheek
 - mandibular: ridge crest
- functional - phonetics, neutral zone
- records - old dentures, pre-extraction record

Posterior tooth selection – size, cusp angle, no of teeth, shade, mould

(advantages and disadvantages of anatomical/nonanatomical)
30° vs. 20° vs. 0°

material (advantages and disadvantages) acrylic vs. porcelain

Recommended references

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 231-250.
 2. Clark RKF. Introduction to Clinical Prosthodontics. 1st ed.: 191-197.
- * = key reference

Seminar: Year 4 Semester 2 Week 3
Title: Complete Denture Occlusion

Importance of complete denture occlusion

Hanau's Quint (interrelationship)

condylar guidance, incisal guidance, cuspal angle, compensating curve, orientation

Occlusal scheme (advantages and disadvantages)

balanced occlusion, concept of "enter bolus exit balance", non-working side (balancing side) contacts becoming non-working side interferences in function

group function ("unilaterally balanced occlusion")

Recommended references

1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 262-331.

2. Clark RKF. Introduction to Clinical Prosthodontics. 1st ed.: 183-190.

* = key references

Seminar: Year 4 Semester 2 Week 8
Title: Denture Delivery, Maintenance, Relining and Rebasing

Final check

fit, extension, retention, stability, tooth positions, aesthetics, speech,
vertical dimension,
jaw relationship

Check record (rationale, technique, material)

Occlusal adjustment

centric occlusion (MUDL rule)
lateral excursion (BULL rule)
protrusion

Instructions to patient

problems may be encountered (loose, pain, speech, mastication)
denture care (advantages and disadvantages)
removal at night time
mechanical (brushing)
chemical (peroxide, acid, enzyme, hypochlorite, chlorhexidine
gluconate solution)
importance of review appointments

Relining/rebasing

indications and contraindications
clinical and laboratory procedures

Recommended references

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 358-381, 390-399.
2. Clark RKF. Introduction to Clinical Prosthodontics. 1st ed.: 198-205, 256-259.

* = key reference

Seminar: Year 4 Semester 2 Week 5
Title: Denture Complaints

Diagnosis

history (severity, timing, exclude other causes)
examination (patient, denture)
investigation

General causes

patient factor
 psychological/biological
denture factor
 tissue/polished/occlusal surface

Problems and management

pain of tissue
pain of muscle/TMJ
looseness
mastication
appearance
speech
others (tolerance, retching)

Modification vs. new dentures

extension (adjustment/addition)
fit (adjustment/reline)
retention (postdam)
teeth setting (reset)
jaw relationship (check record - reset)

Recommended references

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 381-389.
2. Clark RKF. The problem complete lower denture. Dent Update 1984; 21: 441-449.
3. Grant AA, Heath JR, McCord JF. Complete prosthodontics. 1st ed.: 39-87.

* = key reference

Seminar: Year 4 Semester 2 Week 6

Title: Duplication Techniques in Complete Denture Construction

Denture duplication

indications and contraindications
clinical and laboratory procedures

Recommended references

- 1.* Davis DM. Copy denture technique: a critique. Dent Update 1994; 21: 15-20.

* = key reference

Seminar: Year 4 Semester 2 Week 7

Title: Overdentures

Advantages

preserve bone/proprioception
improve support/stability/(retention)/aesthetics
easy plaque control, less mobile, psychological, convertibility

Disadvantages

still susceptible to caries, periodontal disease, wear
undercut, over-contour, under-contour
interocclusal clearance (high occlusal plane, easy base fracture)
cost of endodontic therapy

Indications and contraindications

Use of magnets, bars and stud attachments

Clinical and laboratory procedures

Recommended references

- 1.* Zarb GA, Bolender CL, Carlsson GE. Boucher's Prosthodontic Treatment of Edentulous Patients. 11th ed.: 443-459.
2. Clark RKF. Introduction to Clinical Prosthodontics. 1st ed.: 211-219.

* = key reference

Seminar: Year 4 Semester 2 Week 9-11

Title: Partial Denture Design and Treatment Planning Workshops 1-3

Practical sessions on treatment planning, surveying and denture design using example cases

Practice of case presentation technique

Recommended references

Students are recommended to revise the relevant reading material from their second year course.

Contents of lectures – Fixed prosthodontics - Year 4

Lecture: Year 4 Semester 1 Week 1
Title: Resin bonded bridges
Lecturer: MG Bothelo

Types, history and development

Advantages and disadvantages

Latest developments - recommended design

Lecture: Year 4 Semester 1 Week 3
Title: Fixed prosthodontics I
Lecturer: MG Bothelo

Indications and contraindications for fixed appliances

Case selection

Advantages and disadvantages

Principles of design

Lecture: Year 4 Semester 1 Week 4
Title: Fixed prosthodontics II
Lecturer: MG Bothelo

Treatment planning - timing or treatment

Retainer and pontic design

Clinical procedures - temporization and occlusal registration

Lecture: Year 4 Semester 1 Week 5
Title: Fixed prosthodontics III
Lecturer: MG Bothelo

Diagnostic wax up

Provisional restorations

Movable joints

Lecture: Year 4 Semester 1 Week 6
Title: Fixed Prosthodontics IV
Lecturer: MG Bothelo

Occlusal registration & soldering

 Ideal material

 - physical properties relating to clinical demands and needs

Technique for jaw registration

Indications for soldering

Lecture: Year 4 Semester 1 Week 9
Title: Fixed Prosthodontics V
Lecturer: MG Bothelo

Assessment of finished bridgework

Try in and cementation

Seminars and practical classes in fixed prosthodontics

Semester 1, Week 3

Seminar

Questions and Answers/student presentation session relating to:

- Bonding technology
- Indications and advantages
- Contraindications and disadvantages
- Causes of failure

Practical class (AOT)

Preparation of anterior resin bonded bridges
Fixed-fixed and Cantilever

Semester 1, Week 4

Seminar

Treatment planning and designing of previously
Success/failure
prepared RBB's
Student presentation of clinical students on RBB's

Practical class (AOT)

Preparation of posterior RBB's
Long span or 4 unit fixed-fixed bridge
Cantilever
Pour model of prepared teeth and survey to assess path of insertion.
Take impression of posterior cantilever bridge for fabrication of metal work in
second semester

Semester 1, Week 5

Seminar

Questions and Answers/student presentation relating to

- Bridge flexure
- Pier abutments
- Movable connectors
- Tilted abutments
- retention and resistance form of abutments
- Ante's law?

Practical class (AOT)

Take putty index for temporary
Prepare anterior fixed-fixed bridge
Take alginate for model to assess path of insertion

Semester 1, Week 6

Seminar

Questions and Answers relating to:

- Questions above not answered.

Student presentation of clinical aspect relating to:

- Conventional prosthodontics
- Connectors
- Longevity of bridgework

Practical class (AOT)

Fabrication of indirect temporary for anterior preparations using cold cure acrylic in pressure pot
Fabrication of direct temporary - time permitting

Semester 1, Week 7

Seminar

Treatment planning of conventional bridges of previously prepared bridges

Practical class (AOT)

Putty indexes for temporization
Preparation of posterior fixed-fixed bridge
Prepare direct temporary
Prepare movable connector

Semester 1, Week 9

Seminar

Treatment planning of conventional bridges of previously prepared bridges
Jaw records

Practical class (AOT)

Finish bridge preparations
make Durallay bonnet/coping for jaw record

Semester 1, Week 10

Seminar

Treatment of planning of conventional bridges of previously prepared bridges

Practical class (AOT)

Finish all bridge work

Laboratory demonstration of soldering

Assessments and examinations

Continuous assessments

Grades are given on an A, B, C, D and F scale. These grades correspond to the following comments:

A = excellent, B = good, C = satisfactory, D = weak, F = very poor

Grades on this scale will be given by your Group Teacher for each patient appointment and for seminars. Grades will also be given by your Dental Technology Instructor for your performance on the laboratory course on repairs and additions.

Near the end of each Semester your Group Teacher and an additional full-time teacher will review your progress and your family of patients. They may also carry out a short chairside interview/oral test during the course of your normal clinical session. They will then award overall grades (on the above scale) for "academic progress", "practical ability", "professional qualities" and will note your attendance on the teaching sessions and any problems which you have had. These assessments will be discussed with you and then sent to the Faculty Office for entry in your student records.

If you have reason to disagree with the assessment grades given you should bring the matter to the attention of the Undergraduate Programme Director, Dr. J.E.Dyson.

Final BDS part I examination

The Final BDS part I examination will be held in June 1998.

Whilst the final details of the format of the examination are yet to be determined, it is expected that the written and practical parts of the examination will be as follows:

The written examination is scheduled to be held on June 12, 1998 and will be a 3-hour paper comprising 5 essay-type questions. Some of these questions will be split into 2 or more separate parts.

The practical/oral examinations will take place from June 22-26, 1998. For this part of the examination you will be asked to present a patient for whom you have constructed complete dentures up to the stage of final wax try-in. An edentulous patient will be assigned to you for this examination in the 2nd semester. If, for some particular reason, you do not think that the case assigned to you is suitable for the examination you should immediately contact one of the full-time teachers in Oral Rehabilitation for advice. No further assistance from staff or other students should be sought during the treatment of the case.

At the practical/oral examination you will be asked questions related to the case you have treated. You may also be asked other questions within the range of subjects covered in the Oral Rehabilitation course.

Final BDS Examination part II

At the end of the 5th year of the course you will be required to sit the Final BDS Examination part II. This is a multidisciplinary examination and will include some questions which require a knowledge of the subjects covered in the 2nd to 5th years of the Oral Rehabilitation course as well as their relationship to other clinical disciplines.

Further details of this examination will be given to you at a later date.

Clinical guidelines

Guidelines for Clinical Practice on the 4th floor clinic

The following guidelines and instructions apply specifically to work carried out on the 4th floor clinic. Students working on other clinics (whether or not they are carrying out treatment for a patient under supervision of Oral Rehabilitation Staff) must comply with the instructions and orders that apply to that clinic.

These guidelines are formulated to:

- ensure the best possible conditions for patient treatment
- ensure the smooth running of the Oral Rehabilitation clinics
- help students to complete their clinical requirements on time

General

Patients should be treated with care, politeness and consideration at all times.

Uniforms should be worn in the clinic at all times whether treating patients or carrying out bench procedures (such as treatment planning, surveying casts or designing prostheses).

Students should conduct themselves in the clinical areas in an orderly and professional manner. They should not congregate in treatment bays or other areas of the clinic in groups and should avoid conversing in a loud voice with each other or with supporting staff.

Treatment bays should be kept as clean as possible at all times.

Attendance

Attendance at all scheduled clinical sessions is compulsory. Leave of absence, may however, be granted by the Faculty (through application to the Dean) to enable students to participate in approved Faculty/University activities. Inability to attend for other reasons, such as illness or unavoidable personal circumstances, should be

communicated to the Faculty office and to the Group Teacher (or, if he/she is unavailable, the Oral Rehabilitation office). The 4th floor receptionist should also be informed so that patients can be rescheduled or alternative arrangements made for their treatment.

The clinical work that should be completed by the end of the 3rd year is set out in the "Clinical Requirements" section of this manual.

Allocation and referral of patients

Patients treated on the 4th floor clinic should be allocated by Oral Rehabilitation staff from the waiting lists or after appropriate referral from other clinics. Patients referred from other clinics should have a formal request for the referral entered in the patient's records and this should be signed by the referring staff member. The 4th floor clinical teacher must be consulted before treatment is commenced.

Failure to follow these procedures may result in the case not being credited towards the student's clinical requirements.

Patients allocated to students on the 4th floor clinic should not be taken to other clinics for consultation or treatment without the agreement of the 4th floor Group Teacher and the appropriate referral being entered and signed in the patient's records.

Booking/cancelling appointments

Students are advised to book patients appointments as early as possible. In most cases, each patient should have his/her next appointment arranged at the reception desk before leaving the Hospital. Other appointments should be booked through the 4th floor receptionists at least three (3) days before the attendance date. If telephone contact is not possible, the appointment will need to be sent by post and a period of more than 3 days may be necessary. The practice of students independently contacting patients at short notice is inconsiderate and is strongly discouraged. However, if exceptional circumstances make it necessary for a student to arrange or reschedule an appointment outside office hours the 4th floor receptionist should be informed as soon as possible so that the appointment can be

recorded, patient records retrieved from the records office, and a treatment bay reserved.

Similar procedures should be followed for cancellations of appointments. All cancellations must be recorded in the patients treatment records (see below) and the notes countersigned by the Group Teacher. It should be clearly stated in the records if the cancellation was at the request of the patient, the student or the Group Teacher. If there is doubt on this point the receptionist may verify the reason for the cancellation by contacting the patient.

Every effort must be made to see each patient at the appointed time. If a student is running late, the patient and the Group Teacher should be informed and an apology made to the patient.

Treatment bays and instruments

Bays will be allocated by the receptionist and Senior Dental Surgery Assistant on a first come, first served basis. The bays allocated to the respective groups will be indicated on the whiteboard outside the large seminar room. Students are requested to occupy only those bays allocated to their group. Last-minute booking of appointments may mean that a treatment bay is not available during that session resulting in potentially serious inconvenience to the patient. In such a situation, the Group Teacher must be immediately informed. In no circumstances should a patient be asked to leave the Hospital without treatment.

Instrument kits, handpieces etc. are available from the 4th floor store and should be checked and signed for when taken out. After use, all instruments should be cleaned, blades removed from Stanley knives/scalpels and returned to the store. Please make sure that all instruments have been checked by the storekeeper before leaving the clinic. Students will be required to pay the replacement cost of any missing instruments.

Supervision

Patients should not be treated without a supervising clinical teacher being present. If the teacher has not arrived within 15 min of the start of the session, the Secretary in the Oral Rehabilitation office must be informed.

Treatment

No patient should be brought into the clinic without the patient's treatment folder or without the knowledge of the receptionist. The patient should be personally escorted to the treatment bay by the student. No treatment should be started without approval of the treatment plan by the Group Teacher. The treatment proposed for that session should be discussed with the teacher at the start of the session to avoid the wastage of time which may result from any uncertainty about the procedures required.

No more than two patients should normally be booked for each session. If a student wishes to see more than two patients on a session, the Group Teacher's approval should be obtained in advance and the receptionist informed accordingly. Receptionists have been instructed not to book more than two patients per session without the respective teacher's prior approval.

Students should, as far as possible, seek approval of treatment plans/prostheses design *etc.* during clinical sessions. Sufficient time should be allocated on normal clinic session for routine case discussions. Teachers have other duties to perform, and only in exceptional circumstances should requests be made for detailed case discussions to be held outside their normal teaching sessions.

Treatment records

The following treatment records should be completed and countersigned by the Group Teacher immediately on completion of treatment.

- Patients treatment record (day sheet)
- Computer appointment sheet
- Laboratory prescription card (if required).

Teachers may have reason not to sign records that are produced at some later date.

Before discharging the patient the next appointment should be recorded on the day sheet and on the receptionist's appointment sheet. If laboratory work is required, this should also be noted on the laboratory card.

Treatment folders should not be retained by students. They may only be taken away from the clinic areas temporarily for the purpose of completing treatment details but should be returned to the reception desk before the end of the day.

No folder should, at any time, be kept in lockers or taken out of the hospital.

It should be remembered that treatment records are confidential documents and that there are legal obligations associated with their handling.

Discharge/Transfer

Patients allocated in years 2 - 5 should be reviewed at regular intervals and discharged as "treatment completed" only towards the end of year 5. However, all allocated patients should either be discharged (as having had their treatment completed) or transferred to another student for continuing care before the Final BDS Part II examination. Failure to make these arrangements may result in the student concerned failing to be certified as having completed all clinical requirements before being permitted to sit for the examination.

The decision to discharge a patient who was originally allocated to a student from the clinic of another discipline should normally be determined by a teacher in that discipline even if a prosthesis was provided on the 4th floor clinic as part of the treatment plan.

Chairside assistance

All students are encouraged to practice and become competent in preparing and mixing the materials used on the clinic. However, dental surgery assistants who are not otherwise occupied in their duties may be asked to provide help as required. Procedures such as the making of face-bow records or mixing of elastomeric impression materials (whilst attempting to maintain a dry field of operation) should not be attempted single handedly.

Disputes

Part of a student's training involves learning to develop good interpersonal relationships with patients and other members of the dental team (such as dental

surgery assistants, technicians, and reception staff). In most cases, interpersonal problems can be avoided by adopting a calm and professional approach in all discussions. However, if any disagreement or misunderstanding arises between a student and a patient or member of support staff, students should first discuss the problem with their teacher. They should not in any circumstances enter into an argument.

If any student has a problem in the course of their clinical work (or other aspects of study) which cannot be quickly resolved with the help of their Group Teacher they are encouraged to seek the advice of the Undergraduate Programme Director (Dr. J.E. Dyson) or the Clinic Director (Dr. A. Dias) without undue delay.

Clarification of Guidelines

If any of the above guidelines are found to be unclear or if there is any reason for difficulty in complying with them, please contact the Clinic Director, Dr. A. Dias or the Undergraduate Programme Director/Line Manager, Dr. J.E. Dyson.

Infection control

All clinical procedures carried out on the 4th floor clinic should be performed in accordance with the procedures set out in the latest edition of the *PPDH Infection Control Manual*.

Special procedures relating to the disinfection of impressions and equipment or appliances being transferred to or from the Dental Technology Laboratory are set out below.

Transfer of laboratory work and impressions

Laboratory work (e.g. casts, dentures, custom trays and wax rims) and impressions, can be adequately disinfected by immersing in a solution of 0.8% sodium hypochlorite for an appropriate period of time. This solution must be discarded at the end of each session.

From laboratory to clinic

All laboratory work to be handled at the clinical appointment must be disinfected in sodium hypochlorite solution in the clinic before patient treatment commences.

From clinic to laboratory

Impressions and all items of laboratory work which have been in direct or indirect contact with the patient must also be disinfected in the same way before transferring to the laboratory.

Surveyors and articulators

These items cannot be disinfected. Therefore, for infection control purposes, chairside procedures involving in the use of these devices should be considered as equivalent to laboratory procedures. The laboratory work involved must be disinfected, and gloves must be changed both before and after the chairside procedure.

Hydrocolloid, plaster and polyether impressions

- Rinse the impression under running water (avoid splashing) and shake off surface water.
- Dip the impression in sodium hypochlorite solution. (The impression and tray must be totally immersed in the solution but should be removed within 1-2 seconds).
- Rinse under running water and shake off surface water.
- Dip again in sodium hypochlorite solution.
- Cover the impression with gauze dampened with the sodium hypochlorite solution and leave for 10 minutes.
- Rinse well under running water and shake off surface water.
- Hydrocolloid impressions should be covered with gauze dampened with water and placed in a polythene bag.
- Attach a label indicating that the impression has been disinfected before dispatch to the laboratory.

All other impressions and items of laboratory work

- Rinse under running water and shake off surface water.
- Immerse in sodium hypochlorite solution for 3-5 minutes.
- Rinse well again under running water.
- Attach a label indicating that the impression/appliance has been disinfected before dispatch to the laboratory.

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