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Other Contributor(s)	University of Hong Kong. Faculty of Dentistry.
Author(s)	Bothelo, M. G.; Dyson, John Edwin
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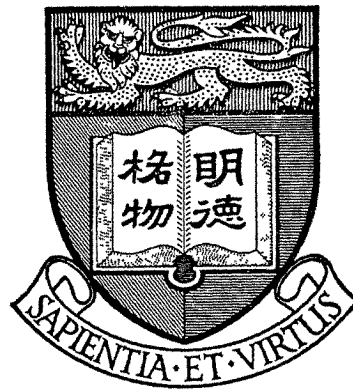
Faculty of Dentistry - University of Hong Kong

Student's Guide
to the
2nd 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

M.G. Bothelo
T.W. Chow
A.P.L.H. Dias
J.E. Dyson (ed.)
C.M. Leung
H.N. Pow

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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 will include the following subject areas:

- **removable prosthodontics**

the replacement of missing teeth (and other oral structures) by means of dentures (removable prostheses – *i.e. devices which replace missing parts and which can be removed by the patient*)

Note: “Prostheses” (singular: “prosthesis”) are any artificial devices constructed to replace missing parts of the body. These could include artificial limbs, artificial heart valves, artificial hip joints *etc.*

“Prosthodontics” is the discipline within dentistry concerned with the provision of artificial replacements for missing teeth and other oral and surrounding structures

- **fixed prosthodontics**

the replacement of missing teeth *etc.* by means of bridges (fixed prostheses – *i.e. devices to replace missing teeth etc. which are attached [cemented] to the natural teeth and which cannot be removed by the patient*)

- **maxillofacial prosthodontics**

the replacement of missing maxillofacial structures by prostheses

- **gerodontics**
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

Amongs 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*)

2nd Year Group Teachers

- | | |
|-----|------------------------------|
| 2.1 | Dr. C.M. Leung |
| 2.2 | Dr. A.P.L.H. Dias |
| 2.3 | Dr. H.N. Pow |
| 2.4 | Dr. H.N. Pow |
| 2.5 | Drs. Y.T. Lee and J.E. Dyson |
| 2.6 | Drs. W.Y. Wong and W.F. Yau |

Overview of the 2nd year programme

The 2nd year undergraduate programme in Oral Rehabilitation includes:

- a clinical and laboratory introductory course on production of articulated study casts and occlusion
week 3 of clinical skills period I
4 sessions total
- a problem centered learning exercise on consequences of tooth loss and treatment options for a patient requiring extractions
weeks 1 – 3 semester 1
6 sessions total
- a clinical/laboratory course in removable partial denture design and construction
weeks 4-14 semester 1, weeks 1-6 semester 2
30 sessions total
- a clinical course providing experience in diagnosis, treatment planning and removable partial denture design for patients with missing teeth
weeks 7 – 14 semester 2, weeks 1-5 clinical skills period II
12 sessions total
- a further introductory course on occlusion
weeks 1 – 2 clinical skills period II
2 sessions total

Aims of the 2nd year programme

By the end of the 2nd year the student should:

- 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

Clinical and course requirements

By the end of the 2nd year the student should have:

- satisfactorily completed the Introductory Course, the Student Learning Exercise, the Phantom Head Course on Removable Partial Dentures and the Introduction to Occlusion II Course
- treatment planned and designed removable partial dentures for 4-5 partially dentate patients (subject to availability of a sufficient number of suitable cases).

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.

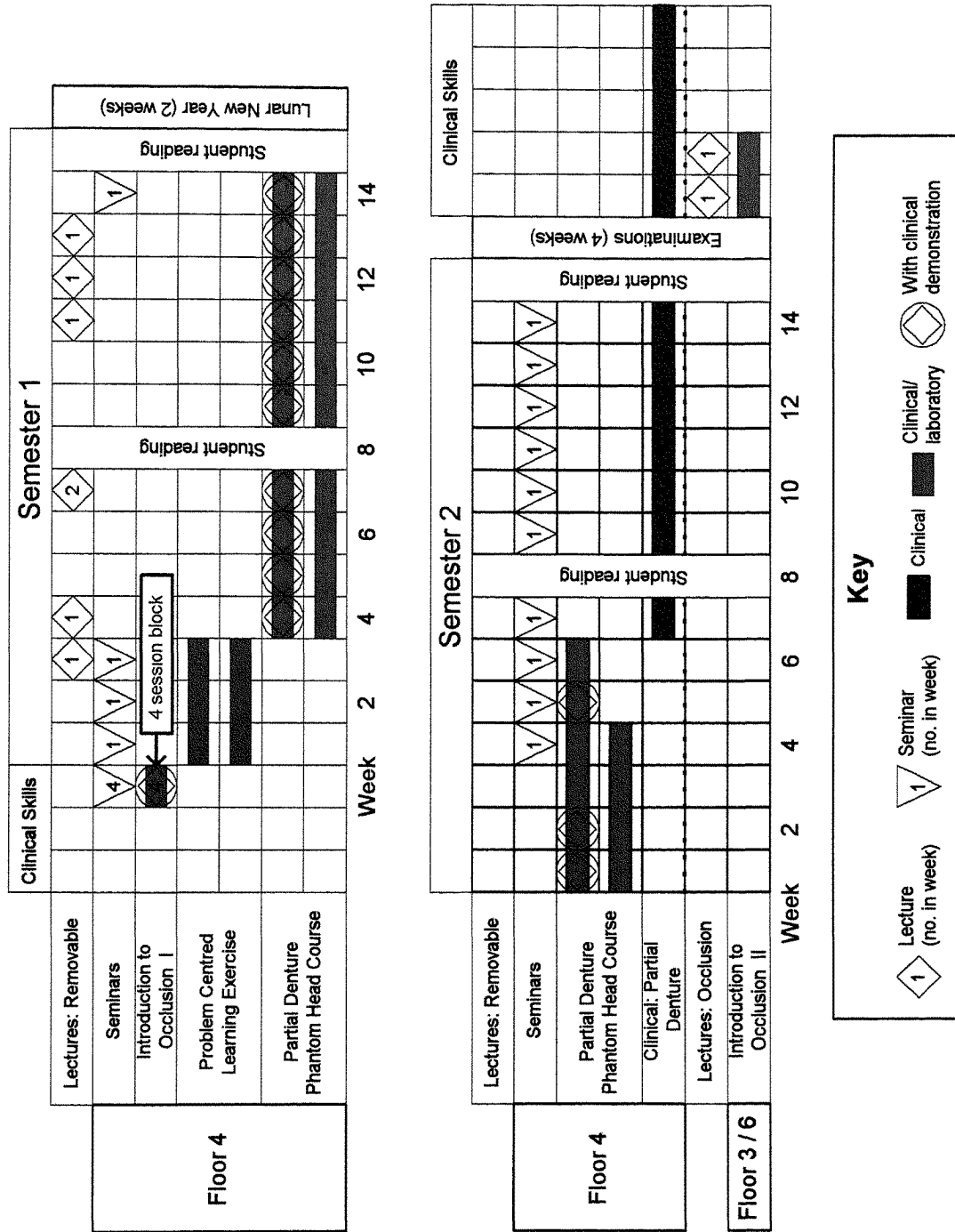
- a) Give a general description and classification of the various types of precision attachments.
- b) Demonstrate an understanding of the principal advantages/ indications and disadvantages/contraindications of precision attachments in fixed and removable prosthodontics.

16. Sectional dentures.

- a) Describe the general principles of sectional dentures.

Timeline Chart of 2nd Year Programme

2nd Year Undergraduate Programme in Oral Rehabilitation 1997-98



Recommended texts

Textbooks

- McCracken's Removable Partial Prosthodontics
McGivney and Castleberry, 9th edition. Mosby, 1994
- Fenn, Liddelow and Gimson's Clinical Dental Prosthetics
MacGregor, 3rd edition. Wright, 1989.

General Reading

- Glossary of terms in fixed and removable prosthodontics
Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong
- Academy of denture prosthetics : Principles, concepts, and practices in prosthodontics.
J Prosthet Dent 61(1) : 88-109, 1989.

Supplementary Reading

- Dental technology.
Blakeslee R.W. Mosby, 1980.
- Clinical removable partial prosthodontics.
Steward K.L., Rudd K.D. & Kuebber W.A. St. Louis : Ishiyaku EuroAmerica, 1992.
- Partial removable prosthodontics.
Kratochvil F.J. Philadelphia : Saunders, 1988.
- Partial dentures.
Neill D.J. & Walter J.D. Oxford : Blackwell, 1983.
- Removable denture prosthodontics.
Grant A.A. Edinburgh : Churchill Livingstone, 2nd ed., 1992.
- Color atlas of removable partial dentures.
Davenport J.C., Basker R.M., Heath J.R. & Ralph J.P. Mosby-Wolfe, 1988
- Removable partial prosthodontics : a case-orientated manual of treatment planning.
Lechner S.K. & MacGregor A.R. Wolfe, 1994.

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 2

Introductory course – Production of study casts – introduction to occlusion I
Year 2 Week 3 Clinical Skills Period

Session	Clinical		Technology	
	Demonstration / seminar	Practical	Demonstration / seminar	Practical
1	a) Introductory talk b) Tour of the clinic c) Examination of patient e) Impression making	d) Examination of partner	f) Pouring of casts	
2		g) U/L impressions of partner		
3	i) Facebow record	j) Facebow record of partner		h) Pour casts
4	m) Examination of occlusion and identification of tooth contacts	n) Examination of occlusion and identification of tooth contacts	k) Mounting of casts	l) Mount casts

Student Learning Exercise

Week	Session	Discussion Period	Self-study
1	1	<p style="text-align: center;"><i>(First hour)</i></p> <ol style="list-style-type: none"> 1. Problem is given to group (sheet 1) 2. Group discussion of problem and identification of further information required. 3. Further information on the problem is given to the group (sheet 2) 	<p style="text-align: center;"><i>(Rest of session)</i></p> Students disperse to seek information
	2		Information seeking continues
2	1	<p style="text-align: center;"><i>(First hour)</i></p> <ol style="list-style-type: none"> 1. Discussion of the problem in the light of initial findings – identification of learning objectives 2. Learning objectives are given to the group (sheet 3) 	<p style="text-align: center;"><i>(Rest of session)</i></p> Students disperse to continue seeking information
	2		Information seeking continues
3	1		
	2	<p style="text-align: center;"><i>(Final hour)</i></p> <ol style="list-style-type: none"> 1. Group presentation of findings 2. Assessment grades given for Group and individual performance 	<p style="text-align: center;"><i>(First two hours)</i></p> Preparation for presentation


N.B. Some groups will unavoidably have fewer sessions due to public holidays.

Week	Session	Lecture	Clinical		Technology
			Demonstration (PT=patient, PH=phantom head)	Practical (phantom head)	
3		Introduction to the principles of removable partial denture design			
4	1	Components of removable partial dentures	U/L impressions (PH)		Pour and trim casts
	2			U/L impressions	
5	1		Face bow record and jaw relationship records (PH)	Face bow record and jaw relationship records	Mount casts
	2				
6	1		Examination, diagnosis, treatment planning, preliminary impressions, JR records (PT)		Anterior tooth index
	2				
7	1	a) Clinical and laboratory stages in RPD construction b) Survey final design and tooth preparation	Survey and design (PT)	Survey and design	
	2				
8	Student reading				

Removable partial denture course
Year 2 Semester 1 (continued)

Week	Session	Lecture	Clinical		Technology
			Demonstration (PT=patient, PH=phantom head)	Practical (phantom head)	
9	1			Survey and design (continued)	
	2		Tooth preparation and working impressions (PT)	Tooth preparation and working impressions	
10	1				
	2				
11	1	Anterior saddle partial dentures	Framework try-in (PT)	Resurvey and finalize design	
	2				
12	1	Free-end saddle partial dentures	Trial insertion in wax (PT)		Block out, duplicate, make wax pattern, add sprue, invest, cast, adjust framework, polish framework
	2				
13	1	Removable partial denture problems	Delivery (PT)		
	2				
14	1	Seminar: Infection control problems in prosthodontic practice	Review (PT)		
	2				
15	Student reading				

Removable partial denture course (continued)
Semester 2

Week	Session	Seminars	Clinical		Technology
			Demonstration	Practical	
1	1		Framework trial insertion (PH)	Framework trial insertion (PH)	Set teeth, wax-up, flask, process, deflask, polish, finish
	2				
2	1				
	2				
3	1				
	2				
4	1	Components of removable partial dentures	Fit denture to phantom head, adjust occlusion (PH)		
	2				
5		Survey and design			
6		Problems of the free-end saddle		Fit denture, adjust occlusion (PH)	
7		Partial denture with anterior saddle		Patient treatment	
8	Student Reading				
9		Mandibular movements, jaw relations and occlusion		Patient treatment 	
10		Anatomy of the maxilla and mandible in relation to impressions			
11		Selection of impression materials			
12		Partial denture aesthetics			
13		Oral hygiene and sequelae of partial denture wearing			
14		Interim, transitional and overlay dentures			
15	Student Reading				

Contents of lectures – Removable partial denture course - Year 2

Lecture: Year 2 Semester 1 Week 3
Title: Principles of Removable Partial Dentures
Lecturer: JE Dyson

Outline of the 2nd year course in removable partial denture prosthodontics

Reasons for tooth loss and its effects on appearance and function

Sequelae to tooth loss

- bone resorption (rate of bone loss following extraction)
- loss of support of facial musculature
- overeruption, tilting and drifting of teeth and their effects on occlusion

Alternative methods of managing edentulous spaces

- “masterly inactivity,” fixed prosthesis, removable prosthesis, implant retained prosthesis (principal advantages/disadvantages)

Objectives of RPD treatment

Specific indications for RPDs

- long edentulous span
- lost alveolar bone needs to be replaced
- patient preference, time/cost constraints
- where extensive tooth preparation/surgery are contraindicated

Potential harmful effects of RPDs

- caries, periodontal disease, alveolar bone loss, mucosal disorders

Minimizing potential harmful effects of RPDs

- replace only those teeth that need to be replaced
- minimal coverage of teeth and gingivae
- design to provide good *SUPPORT* and *STABILITY* (define)

General principles of design (mechanical)

- support, retention, stability (bracing)

Classification of saddles

- bounded / free-end (distal extension), flanged / flangeless (“gum-fitted”)

Classification of RPDs

- by support (tooth [why preferred], mucosa, tooth and mucosa)
- (principal problems of free end saddles)

Kennedy Classification with examples of classes I, II, III and IV (with modifications)

- principles of the system
 - ignore teeth not being replaced
 - most posterior saddle determines the classification
 - class IV must cross the midline (no modifications)

General principles of design - provision of:

- support
- retention
- stability (bracing)

Saddles

- bounded/free-end (distal extension)
- flanged/flangeless ("gum-fitted")

Connectors

- major/minor (define and demonstrate)
- need for rigidity
- bars/plates

Classification of major connectors

- upper (advantages/disadvantages, patient preference)
 - anterior palatal, mid-palatal, posterior palatal
- lower (advantages/disadvantages, patient preference)
 - lingual bar, lingual plate, sublingual bar, dental bar ("Kennedy bar" when used in combination with lingual bar), buccal bar

Rests

- principles of design
- types - occlusal (marginal ridge) rests, cingulum rests, incisal rests

Retainers

- direct and indirect retention
- terminology - "clasp", "clasp arm", "clasp assembly"
- general principles of clasp assembly design - retention, reciprocation, bracing, encirclement, support, passivity
- gingivally approaching (bar arm) clasps vs. occlusally approaching (circumferential) clasps -
- indications/contraindications

Bracing components

- reciprocal arms, plate connectors, mesial/distal grips

Preliminary ("ideal") design

- path of insertion/removal
- procedure:
 - outline saddles
 - connect saddles
 - provide resistance to movement towards the tissues (support)
 - provide resistance to movement away from the tissues (retention)
 - provide resistance to antero-posterior and lateral movement (bracing)
 - provide resistance to rotations
 - simplify the design

(C1 = clinical stage, visit no. L = laboratory stage)

- (C1) History, examination and diagnosis
 - preliminary impressions
 - facebow record
- (L) study casts
- treatment options
 - no prostheses
 - fixed prostheses
 - removable prostheses
 - implant supported prostheses
 - overdentures with/without attachments
- preliminary design of RPD
- survey
- final design

- (C2) Tooth preparation, working impressions, working casts
 - resurvey working cast, prescription to technician
- (L) block undercuts, duplicate cast in refractory (+ stone cast)
- (L) preparation of cast for laying of wax pattern
- (L) wax pattern and addition of sprues
- (L) investing and casting
- (L) divesting, trimming and polishing framework

- (C3) framework try-in
 - (C + L) altered cast technique for free-end saddle RPDs
 - (L) addition of occlusal rims

- (C4) maxillo-mandibular relationship records
 - facebow record if required
 - selection of teeth, base shade
- (L) articulating casts, setting up teeth, waxing up

- (C4) try-in
 - protrusive record if required
- (L) occlusal adjustments (if required), flasking, packing, processing and finishing

- (C5) issue of RPDs
 - occlusal adjustments
 - instructions to patient

- (C6) recall in 1 wk
 - review RPD, adjustments as necessary
 - recall at regular intervals

Designing RPD

- preliminary design - (very brief revision)
- survey
- final design

Survey

- cast surveyor and its accessories
- determining tilt of occlusal plane
 - path of insertion and removal of RPD
 - path of displacement

use of

- analyzing rod
- carbon marker
- undercut gauges

tripodding cast

final design

- modify preliminary design if required following information from surveying cast
- list tooth preparation required

tooth preparation

- altering survey lines
- guiding planes
- occlusal/cingulum rest seats
- embrasure widening

working impressions

resurveying

finalizing design

Options to replace anterior teeth:

- implant
- bridge
- RPD

Kennedy classification - class IV

- definition
- limitations and peculiarity of definition

Difficulties

- retention, stability (rotation)
 - design features
 - guiding planes
 - posterior tilt - labial undercut for flange
 - indirect retention (re: class I/free-end saddles cases)
 - rotational path of insertion
- aesthetics - dead spaces
 - design features
 - flangeless denture
 - no direct retainers next to saddle
 - rotational path of insertion

Rotational path of insertion

- principles
- 2 tilts : 0° tilt
 - posterior tilt
- versatility of rest/clasp/reciprocal complex
- difficulties when
 - flange required
 - additional saddle

Kennedy classification

- class I
- class II

Difficulties

- support
- retention
- stability

Two rotations considered

1) towards ridge

- problems to : teeth/bone
- design features : maximum coverage
Applegate technique
narrow occlusal table
RPI/RPA

2) away from ridge

- problems to : teeth/retention
- design features : indirect retention
RPI/RPA

Distal movement

- MD grips – advantages and disadvantages

RPI system

- I-bar/Akers clasps
- contra-indications/indications

Sequelae of denture wearing

Destiny of partial denture

RPD failure

- aesthetic failure - patient's expectation
poor design of components
- design failure - poor tooth selection/set-up
inadequate/over design
- technical failure - inadequate support/retention/resistance/stability
inadequate mouth preparation
poor impression technique
processing faults
- mechanical failure - tooth/base bonding failure
fatigue failure of components
casting defects
- biological failure - caries of abutment teeth
periodontal disease
accelerated residual ridge resorption

Procedures to prevent failure

- adequate ODTP
- good study models
- survey and design
- adequate patient/mouth/teeth preparation
- well executed techniques
- good communication with technician

Contents of seminars – Removable partial denture course - Year 2

Seminar/Demonstrations: Year 2 Clinical Skills Period Week 3 Session 1 Title: Introduction, Examination and Impression Making

Introduction to the subject, scope of oral rehabilitation, tour of the clinic, reception, clinical units, store

Examination of patient

basic infection control procedures, surface anatomy of the mouth

Selection of impression trays, metal trays/disposable trays, selection of size

Materials for making an impression

alginate (Blueprint™/Jeltrate™ fast-set), alginate adhesive
impression compound, beading wax (not recommended where the
vestibular tissues need to be recorded accurately)

Clinical procedures in making an impression

patient position, patient preparation, tray modification, impression taking
impression removal, impression disinfection, impression handling

Requirements of impressions for study casts

Recommended reading

- 1.* 2nd Year BDS Introductory Course Student Manual.
Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong.

* = key reference

Seminar: Year 2 Clinical Skills Period Week 3 Session 3 Title: Dentatus Facebow and Articulator

Use of Dentatus facebow, components of the facebow

'U' shaped bow, condylar rods, bite fork, orbital pointer

Procedures in facebow registration

locate the hinge axis, maxillary teeth imprint, facebow attachment
orbital pointer

Limitations of Dentatus articulator

Recommended reading

- 1.* 2nd Year BDS Introductory Course Student Manual.
Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong.

* = key reference

Seminar: Year 2 Clinical Skills Period Week 3 Session 4
Title: Basic Jaw Relationships and Identification of Tooth Contacts

Positioning of casts in ICP

Mandibular movements and positions

TMJ movement (hinge/rotational, sliding/translatory)

ICP, RCP

protrusion, lateral excursion

Standard method of jaw relationship registration

ICP, RCP

Identification of occlusal contacts

articulating paper (red/blue), shimstock

Recommended reading

- 1.* 2nd Year BDS Introductory Course Student Manual.
Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong.

* = key reference

Seminar: Year 2 Semester 1 Week 14
Title: Infection Control Problems in Prosthodontic Practice

Revision of infection control procedures on the 4th floor clinic.

Problems related to:

disinfection of impressions, casts and laboratory work
waterbaths

surveyors and articulators used during a clinical appointment

equipment which cannot be autoclaved or sterilized by dry heat

(Stanley knives, Fox's plane guide, tooth selection guides etc)

bench procedures in the clinic

polishing prostheses

Recommended reading

- 1.* Infection Control Manual, Prince Philip Dental Hospital, Hong Kong.
- 2.* Student's Guide to the 2nd Year Programme in Oral Rehabilitation, Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong. p. 53-54.

* = key references

General principles of design
support – retention - stability (bracing)

Saddles
bounded/free-end (distal extension)
flanged/flangeless (“gum-fitted”)

Connectors
major/minor (define and demonstrate)
need for rigidity
bars/plates

Classification of major connectors
upper (advantages/disadvantages, patient preference)
anterior palatal, mid-palatal, posterior palatal
lower (advantages/disadvantages, patient preference)
lingual bar, lingual plate, sublingual bar, dental bar (“Kennedy bar”
when used in combination with lingual bar), buccal bar

Rests
principles of design
types - occlusal (marginal ridge) rests, cingulum rests, incisal rests

Retainers
direct and indirect retention
terminology - “clasp”, “clasp arm”, “clasp assembly”
general principles of clasp assembly design - retention, reciprocation,
bracing, encirclement, support, passivity
gingivally approaching (bar arm) clasps vs. occlusally approaching
(circumferential) clasps -
indications/contraindications

Bracing components
reciprocal arms, plate connectors, mesial/distal grips

Recommended reading

- 1.* MacGregor A.R. : Clinical Dental Prosthetics. 3rd ed. 1989
Chapter 20 : Component parts of a partial denture. p.218-240.
- 2.* Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed.
1991. Chapters 8 & 9 : The design of structural units. p.148-190.
3. Chow T.W., Clark R.K.F. & Ho G.F.C.: A new ring clasp design.
J Prosthet Dent 59(5) : 638-639, 1988.

* = key references

Preliminary ("ideal") design
path of insertion/removal
procedure

Surveying the study casts
the surveyor
instruments
 analyzing rod
 undercut gauges (0.25 mm, 0.5 mm, 0.75 mm)
 graphite marker
 wax knife
procedure of surveying
dead space
guide planes
retentive undercuts

Finalizing the design

Planning tooth preparation
improvements to occlusal plane
rest seat preparation
alter survey lines
create undercuts
guide planes
embrasure widening

Design should be
simple
limited to one path of insertion/removal (except Kennedy Class IV)
hygienic
aesthetic

Recommended reading

- 1.* McGivney G.P. & Castleberry D.J. : McCracken's removable partial prosthodontics. 9th ed. 1995.
Chapter 9 : Principles of removable partial denture design.
Chapter 10 : Surveying.
2. Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed. 1991.
Chapter 5 : The cast surveyor - the surveying procedure. p.99-113.
Chapters 8 & 9 : The design of structural units. p.148-190.

* = key reference

Problems of the free-end saddle vs. bounded saddle

Problems of the free-end saddle

support (rotation towards the ridge)

prevented by :

wide extension of base

maximize support by using altered-cast technique (muco-displacing impression)

use teeth with small bucco-lingual width and small occlusal area

RPA/RPI

principles of action

difference to conventional clasp-rest-reciprocal system

advantages/limitations/contraindications

retention (rotation away from the ridge)

prevented by :

indirect retention

lateral/distal movement

Recommended reading

- 1.* McGivney G.P. & Castleberry D.J. : McCracken's removable partial prosthodontics. 9th ed. 1995.
Chapter 15 : Support for the distal extension denture base.
2. Krol A.J. : Clasp design for extension-base removable partial dentures.
J Prosthet Dent 29(4) : 408-415, 1973.
3. Eliason C.M. : RPA clasp design for distal-extension removable partial dentures.
J Prosthet Dent 49(1) : 25-27, 1983.
4. Lechner S.K. : The distal extension saddle partial denture - a review.
Aust Prosthodont J 1 : 59-64, 1987.

* = key reference

Problems of Kennedy class IV

aesthetics

flanged/flangeless saddles

avoid clasping anterior abutment teeth

tendency to rotate in function

upwards & forwards when biting with anterior teeth

downwards & backwards when chewing sticky food

difficulty in selecting the path of insertion

labial undercut

dead space

Rotational path of insertion

principle

surveying procedure

Indirect retention

Kennedy classes I, II & III situations with anterior modifications

Selection of abutment teeth for support

Recommended reading

- 1.* Clark R.K.F. : An introduction to clinical prosthodontics.
Chapter 7 : Partial dentures replacing missing anterior teeth. p.49-56.
2. Zarb G.A., Bergman B., Clayton J.A. & Mackay H.F. : Prosthodontic treatment for partially edentulous patients. 1978
Chapter 38 : The design of removable partial dentures. p.458-462.
3. Chow T.W., Clark R.K.F., Clarke D.A. & Ho G.F.C. : A rotational path of insertion for Kennedy IV removable partial denture.
Br Dent J 164(6) : 180-183, 1989.
4. Chow T.W., Clark R.K.F. & Clarke D.A. : Improved designs for removable partial dentures in Kennedy Class IV cases.
Quintessence Int 19(11) : 797-800, 1988.

* = key reference

Mandibular movement

- hinge (rotatory)/translatory (sliding)
- border movement
 - sagittal plane
 - Posselt's envelope
 - horizontal plane
 - gothic arch, Bennett shift, Bennett angle
- frontal plane
 - Christensen phenomenon

Jaw relations

- ICP/RCP (definitions, when to use)
- vertical dimension
- methods of registering jaw relationships

Articulators

- types of articulators - functions and limitations
 - hinge
 - fixed value (average value)
 - semi-adjustable
- facebows

Occlusion

- types of occlusion
 - bilateral balanced occlusion
 - group function (Unilateral balanced occlusion)
 - canine guided (Mutually protected occlusion)
- positioning the artificial teeth

Recommended reading

- 1.* McGivney G.P. & Castleberry D.J. : McCracken's removable partial prosthodontics. 9th ed. 1995.
Chapter 16 : Occlusal relationships for removable partial dentures.
2. Ramfjord S.P. & Ash M.M. : Occlusion. 3rd ed. 1983
Chapter 4 : Clinical occlusion. p.128-174.
3. Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed. 1991.
Chapter 13 : Intermaxillary relations. p.211-230.

* = key reference

Maxilla

- surface structures
- residual ridge
- buccal sulcus
- labial and buccal fraena
- incisive papilla
- hamular notch
- maxillary tuberosity
- vibrating line
- fovea palatini
- torus palatinus

Mandible

- residual ridge
- buccal sulcus
- retromolar pad
- external oblique ridge
- mental foramen
- mentalis eminences
- lingual sulcus
- sublingual folds
- genial tubercles
- torus mandibularis

Musculature

- mylohyoid muscle
- buccinator
- orbicularis oris
- levators and depressor anguli oris
- superior and inferior incisivi labii
- levator labii superioris and depressor labii inferioris
- mentalis
- intrinsic and extrinsic muscles of the tongue
- superior constrictor of the pharynx

Recommended reading

- 1.* Zarb G.A., Bolender C.L. & Carlsson G.E. : Boucher's prosthodontic treatment for edentulous patients. 11th ed. 1997.
Chapter 9 : Developing an analogue / substitute for the maxillary denture-bearing area. p.141-149.
- 2.* *ibid* Chapter 10 : Developing an analogue / substitute for the mandibular denture-bearing area. p.162-173.

* = key references

Types of impression materials

- thermoplastic impression material
 - impression wax
 - impression compound
- rigid impression material
 - impression plaster
 - impression paste
- elastic impression material
 - hydrocolloids
 - agar (reversible)
 - alginate (irreversible)
 - synthetic elastomers
 - polysulphide rubber
 - polyether
 - silicone rubber

Requirements of impression materials

Considerations of selection of individual impression material

- properties
- advantages
- limitations
- uses

Factors influencing tissue displacement

- displaceability of tissues
- confinement of impression material in tray (spacing, perforations, extension)
- viscosity (setting, time related)
- rate of insertion

Recommended reading

- 1.* McGivney G.P. & Castleberry D.J. : McCracken's removable partial prosthodontics. 9th ed. 1995. Chapter 14 : Impression materials and procedures for removable partial dentures.
2. Combe E.C. : Notes on dental materials. 6th ed. 1992
Section III : Impression materials. p.115-130.
3. Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed. 1991.
Chapter 4 : Obtaining the impression. p.69-88.

* = key reference

Framework

major connector

clasp

minimizing the effect on appearance by:

concealment

camouflage

omission

substitution

rest

occlusal

cingulum

incisal

undercut

mesio-buccal vs. distal-buccal

Base material

flange

characterization

shade

flangeless

papillae

Artificial teeth

size

shade

mould

material

position

characterization

Alternative denture designs (brief introduction)

precision attachments

sectional dentures

rotational path of insertion

Recommended reading

- 1.* Watt D.M. and MacGregor A.R. : Designing partial dentures. 1984. Chapter 15 : Appearance of partial dentures. p.184-199.
2. Murray A.D. : Aesthetic considerations in removable partial denture design. Dental Annual 1989 : p.201-210.
3. Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed. 1991. Chapter 14 : Selection and arrangement of teeth - the denture base. p.231-238, 244-250.

* = key reference

Denture maintenance

Denture stomatitis

 fungal agent

 aetiology

 management procedures

 antifungal therapy

 correction of ill-fitting dentures

 efficient plaque control

Denture cleansing methods

 brushing

 immersion

 hypochlorite, alkaline peroxide, chlorhexidine

 (action, usage, advantages and disadvantages)

Effects of partial dentures on caries and periodontal disease

 rate of caries and periodontal disease of abutment teeth

 studies

 mechanism

 acrylic resin vs. cobalt chromium alloy

 prevention

Changes to the denture supporting alveolar process

 bone resorption

 prevention

Recommended reading

- 1.* Watt D.M. and MacGregor A.R. : Designing partial dentures, 1984.
Appendix I : Oral hygiene. p.200-204.
2. Bergman B. : Periodontal reactions related to removable partial dentures :
a literature review.
J Prosthet Dent 58(4) : 454-458, 1987.
3. Bergman B. and Ericson G. : Cross-sectional study of the periodontal
status of removable partial denture patients.
J Prosthet Dent 61(2) : 208-210, 1989.
4. Bergman B., Hugoson A. & Olsson C.O. : A 25 year longitudinal study of
patients treated with removable partial dentures.
J Oral Rehabil 22(8) : 595-600, 1995

* = key reference

Interim dentures

- “spoon” denture
- Every denture

Transitional dentures

- definition
- indications
- principles of design
(prevention, support, retention)
- stages in construction
- examples of commonly used transitional denture designs

Overlay dentures

- definition, indications, clinical procedures
- temporary vs. permanent overlay dentures

Recommended reading

a) Interim, Transitional and Overlay Dentures

- 1.* McGivney G.P. & Castleberry D.J. : McCracken's removable partial prosthodontics. 9th ed. 1995.
Chapter 22 : Temporary removable partial dentures.
2. Grasso J.E. & Miller E.L. : Removable partial prosthodontics. 3rd ed. 1991.
Chapter 19 : Removable partial overdenture. p.296-313.
Chapter 21 : The interim prosthesis and the treatment prosthesis. p.330--337.

* = key references

Contents of seminars – Introduction to occlusion II course

Seminar: Year 2 Clinical Skills Period 2 Week 1

Title: Proprioception and tooth contacts

The aim of this session is to:

- observe the proprioception of teeth
- observe how discrete (small) normal occlusal contacts are
- observe which marking papers (“articulating papers”) are most suitable for recording these contacts
- observe where occlusal contacts occur in the natural dentition

Recommended reading

- 1.* Introduction to occlusion II, Student manual. Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong.

* = key reference

Seminar: Year 2 Clinical Skills Period 2 Week 2

Title: Occlusal analysis of study casts

The aim of this session is to:

- revise tooth contact nomenclature
- discuss the parameters of an ideal occlusion
- identify and understand dynamic tooth contacts associated with mandibular excursive movements

This will include:

- incisal guidance
- group function
- canine guidance
- non-working side contact
- non-working side interference

Recommended reading

- 1.* Introduction to occlusion II, Student manual. Oral Rehabilitation, Faculty of Dentistry, University of Hong Kong.

* = key reference

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 certain sessions of the the Introductory Course, the Student Learning Exercise, the Phantom Head Course on Removable Partial Dentures and the Introduction to Occlusion II Course.

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.

Around April of the 3rd year of the course there will be a practical Class Test on surveying and removable partial denture design and a 3-hour written Compulsory Class Examination on all the subjects covered in Oral Rehabilitation up to that time. Further details of the Class Test and the written Compulsory Class Examination will be given to you at a later date.

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 2nd 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 Manager (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.

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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