

DLT 118
CAST PARTIAL DENTURES

OUTLINE OF INSTRUCTION:

- I. Diseases that may be contracted in the dental laboratory
 - A. Lecture - review of infection control
 - 1) Presentation
 - (a.) Types of diseases that may be contracted
 - (b.) Various methods that can be taken to reduce the risk of disease
 - 2) Application
 - B. References
 - 1) Infection Control in the Dental Laboratory - R.R. Runnels
 - 2) NADL – Infection Control Program

- II. Introduction to removable cast partial dentures
 - A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Anatomical landmarks associated with cast partial dentures
 - (b.) Dental prescription
 - (c.) Definition of a removable partial denture
 - (d.) Purpose of a removable partial denture
 - (e.) Classification of removable partial dentures
 - (f.) Components of the removable partial denture
 - (g.) Surveyor components and how they are used
 - 1) Application
 - B. Laboratory demonstration - one-half hour
 - 1) Use of the surveyor and accessories
 - 2) Surveying techniques
 - (a.) Relating the cast to the surveyor
 - (b.) Purpose for surveying
 - (c.) Parts of a surveyor and accessories
 - C. References
 - 1) Removable Prosthodontic Techniques, pages 160-168
 - 2) Dental Laboratory Technology, AFM, Volume II, pages 138-161

- III. Fundamentals for surveying and preparing the master cast for duplication
 - A. Classroom lecture (demonstration) - two hours
 - 1) Presentation
 - (a.) Generating the RPD design
 - (1.) Analyzing the cast
 - (2.) Guides to tilting the cast
 - (3.) Path of insertion
 - (4.) Marking the survey lines
 - (5.) Gauging the desirable undercuts
 - (6.) Tripoding
 - (7.) Designing the framework
 - (b.) Blocking out undesirable undercuts
 - (c.) Ledging
 - (d.) Positioning the sprue cone
 - 2) Application
 - B. Laboratory demonstration included in classroom video demonstration
 - C. References
 - 1) Removable Prosthodontic Techniques, pages 179-191
 - 2) Dental Laboratory Technology

B. Laboratory demonstrations - one hour

- 1) Proper spruing procedure
- 2) Investing the pattern
 - (a.) Debubblizing
 - (b.) The paint-on
 - (c.) Full-flasking
 - (d.) Orienting the wax pattern in the flask
 - (e.) Trimming the mold

C. References

- 1) Ticonium Technique Manual, pages 13-22
- 2) Dental Laboratory Technology, AFM, Volume II, pages 221-227

VII. Burn-out and casting

A. Classroom lecture - one hour

- 1) Presentation
 - (a.) Burn-out
 - (1.) Purpose for burn-out
 - (2.) Phases
 - (a) Run-up
 - (b) Heat soak
 - (3.) Time and temperature
 - (4.) Loading the oven
 - (5.) The dater time clock
 - (b.) Casting
 - (1.) The Ticomatic casting machine
 - (2.) Induction casting
 - (3.) Function of parts
 - (4.) Casting procedures
- 2) Application

B. Laboratory demonstration - one hour

- 1) Loading the burn-out oven
- 2) Setting the Ti-Controller for burn-out
- 3) Casting procedures
 - (a.) Introducing the Ticomatic casting machine
 - (b.) Loading the ingot
 - (c.) Mounting the flask
 - (d.) Casting procedures
 - (e.) Shut down procedures
- 4) Casting freed of investment
 - (a.) Shell blaster
 - (b.) Sand blaster

C. References

- 1)

- (c.) Final polish
 - 2) Application
 - B. Laboratory demonstration - one and one-half hours
 - 1) Finishing procedure
 - (a.) Sprue removal
 - (b.) Rough finish
 - (c.) Sand blast
 - 2) Ti-Lectro polisher
 - 3) Final finish
 - 4) Polish
 - C. Reference:
 - 1) Ticonium Technique Manual, pages 51-54
 - 2) Dental Laboratory Technology, AFM, Volume II, pages 229-233
- IX. Seating the cast metal framework
- A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Preserving model accuracy
 - (b.) Adjusting the framework
 - (c.) Verifying proper retention
 - (d.) Identifying prematurities
 - 2) Application
 - B. Laboratory demonstration - one hour
 - 1) Seating the casting to observe the following
 - (a.) Prematurities
 - (b.) Retention
 - (c.) Fit
 - C. Final polishing.
- X. The parts and function of a clasp
- A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Definitions
 - (b.) Clasp classifications
 - (c.) Parts and function
 - 2) Application
 - B. No laboratory demonstration due to nature of lesson
 - C. References
 - 1) Removable Prosthodontic Techniques, pages 166-174
 - 2) Dental Laboratory Technology, AFM, Volume II, pages 140-149
- XI. Fundamentals for designing removable partial dentures
- A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Factors in planning the design
 - (1.) Clinical phase
 - (2.) Laboratory phase
 - (3.) Primary objective
 - (4.) How dislodging forces can be counteracted
 - (5.) Indirect retention
 - (b.) How much undercut for retention
 - (c.) Requirements of a clasp

- (d.) Rules for clasp construction
 - 2) Application
 - B. No laboratory demonstration due to nature of lesson
 - C. References
 - 1) Removable Prosthodontic Techniques, pages 179-181
 - 2) Dental Laboratory Technology, AFM, Volume II, pages 138-194
- XII. Fundamentals of circlet clasps design
- A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Advantages of circlet clasps
 - (b.) Disadvantages of circlet clasps
 - (c.) Types, indications, and structural details
 - 2) Application
 - B. No laboratory demonstrations due to nature of lesson
 - C. Reference: Removable Prosthodontic Techniques, pages 168-172
- XIII. Fundamentals of bar clasp design
- A. One hour classroom lecture
 - 1) Presentation
 - (a.) Advantages of bar clasps
 - (b.) Disadvantages of bar clasps
 - (c.) Types, indications, and structural details
 - 2) Application
 - B. No laboratory demonstration due to nature of lesson
 - C. Reference: Removable Prosthodontic Techniques, pages 172-174
- XIV. Fundamentals for designing major connectors
- A. Classroom lecture - one hour
 - 1) Presentation
 - (a.) Definitions
 - (b.) Requirements for major connectors
 - (c.) Types, indications and structural details
 - 2) Application
 - B. No laboratory demonstration due to nature of lesson
 - C. References
 - 1) Removable Prosthodontic Techniques, pages 175-178
 - 2) Dental Laboratory Technology, AFM, Volume II, pages 140-142, 166, 167
- XV. Partial denture record bases and articulation
- A. One hour lecture
 - 1) Presentation
 - (a.) Jaw relationship records
 - (b.) Record base materials
 - (c.) Articulating partial denture casts.
 - 2) Application
 - B. One hour demonstration
 - (a.) Fabricating jaw relationship records
 - (b.) Articulating partial denture casts
 - C. References
 - 1) Removable Prosthodontic Techniques, page 214-222

XVI. Tooth selection, tooth arrangement, and denture base wax-up

A. One hour lecture

1) Presentation

(a.) Tooth selection

(1.) Anterior

(2.) Posterior

(3.)

2) Removable Prosthodontic Techniques, pages 231-232

XIX. Recovering, finishing, polishing, and fitting the RPD to the master cast

A. One hour lecture/demonstration

1) Presentation

(a.) Recovering the RPD

(b.) Finishing and polishing the RPD

(c.) Fitting the denture to the master cast

2) Application

B. References

1) Dental Laboratory Technology, AFM, Volume II, pages 238-239

2) Removable Prosthodontic Techniques, pages 232-233

XX. Repairing cast partial dentures

A. Lecture – one hour

1) Presentation

(a.) Procedures for cast partial denture tooth repairs

(b.) Procedures for cast partial denture flange repairs

(c.) Procedures for cast partial denture clasp replacement

(d.) General considerations for types of cast partial denture repairs.

B. Application

1) Demonstration-one hour

2) Cast partial denture tooth repair

3) Cast partial denture flange repair

4) Cast partial denture clasp repair

C. References

1) Dental Laboratory Technology, AFM, Volume II, pages 247-253

2) Removable Prosthodontic Techniques, Chapter 30, pages 240-243.

REQUIRED TEXTBOOKS:

Sowter. Removable Prosthodontic Techniques. University of North Carolina.

Ticonium Technique Manual. Ticonium Company, Albany, New York.

Dental Laboratory Technology. AFM, Volume I, II, & III, 1991, Department of Air Force, Washington, D.C.

SUGGESTED REFERENCES:

Weinberg. Atlas of Removable Partial Denture Prosthodontics, C.V. Mosby, 1969.

Henderson. McCracken's Removable Partial Prosthodontics, sixth edition, C. V. Mosby, 1981. Rudd.

Removable Partial Dentures. C.V. Mosby, 1981.

Mosby. The Journal of Prosthetic Dentistry

NADL. Journal of Dental Technology

STATEMENT FOR STUDENTS WITH DISABILITIES:

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