Monday, March 3, 2008

DENT 5909 & 5910
Complete Denture Module

COURSE PURPOSE
The purpose of the course is to present the biological, mechanical, and occlusal principles that govern the design and fabrication of removable prostheses to replace teeth for partially edentulous and completely edentulous patients.

COURSE OBJECTIVES
Upon successful completion of this course, the student should be able to:

• Identify the clinical procedures necessary for the replacement of teeth with a removable partial or complete denture.
• Identify the laboratory procedures for the fabrication of a removable partial or complete denture.
• Identify the morphological and functional characteristics of natural and prosthetic occlusal schemes.
• Identify the signs and symptoms of occlusal pathology and their clinical application.

Lecture 5909

1. Initiation Chps. 1, 2, 3, 4, 7, 11
2. Anatomy 13, 14
3. Impressioning 13, 14
4. Jaw Relation Records 18
5. 6. and 7. Prosthetic Teeth 17
8. Trial Insertion 18
9. Insertion 20, 22
10. Post Insertion 22
11. and 12. Occlusion
13. Repairs and Relines 24

SCHOOL OF DENTISTRY COMPETENCIES ADDRESSED BY COURSE

Major competency addressed in this course is:

1.12 Managing the replacement of teeth for the partially or completely edentulous patient.

Managing the loss of natural human oral tissues (teeth, alveolar bone, periodontal structures and suspension mechanisms - pdl and gingiva) by utilizing an unnatural substance (gingival-colored and tooth-colored methylmethacrylate resin) that is worn in the mouth and not only replaces - but surpasses the volume of missing human tissue.
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A denture is a prosthetic, artificial, simulated, man-made, plastic, sculpture-like, camouflaged temporary “tooth and gum” substitute.
A denture is made WITH - ON - RELATIVE TO:

1. Extra- and Intra-oral measurements (some quantitative - some educated guess - some arbitrary)
2. Simulations of the patients oral structure
3. Specific mechanical requirements and compromises
4. Functional and esthetic concerns

Lab 5910

COURSE PURPOSE
The purpose of the course is to enhance the student’s knowledge of basic Prosthodontic principles by providing a simulated clinical and laboratory environment in which the student is guided in the manipulation of dental materials, design and fabrication of removable prostheses, and the performance of related dental procedures.

Target Goal
The student will gain an initial understanding of the principles that influence the spatial placement of prosthetic teeth.

Lab 5910

Secondary Goals
The student will:
① Acquire general knowledge about the restoration of missing dentition utilizing a complete denture prosthesis.
② Be familiarized with selected segments of the complete denture fabrication process.

Lab 5910

COURSE OBJECTIVES
• Demonstrate proper manipulation of the dental materials used in the fabrication of Removable Prostheses.
• Demonstrate the ability to direct the fabrication of Removable Partial and Complete Dentures.
• Identify the clinical procedures necessary for the replacement of teeth with a removable partial or Complete Denture.
• Identify the laboratory procedures used in the fabrication of a removable partial or Complete Denture.
• Demonstrate the laboratory techniques used in the setting of prosthetic teeth.
Initial Appointment - Interview

Establish Communication - Get to know your patient

- Personal background, experiences, expectations
- Medical history
- Dental history
- Examination - Diagnosis - Prognosis
- Treatment Plan
  - Dental Procedures
  - Appointment Expectations - Schedule
  - Financial Plan

Observations Affecting Diagnosis

- Age
  - Young person - more adaptable, esthetics very important, good health, high tolerance levels
  - Middle age - be more aware of psychological and physiological changes
  - Advanced age - less tolerant of change, reduced coordination, communication may be more difficult, soft and hard tissue changes
Observations Affecting Diagnosis

- **Gender**
  - Female - may be more demanding than males
  - Males - indifferent towards appearance and place more emphasis on comfort and function

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General Health

- May or may not correlate with patients age
- Observe patients posture and entrance into office
- Communication/listening
- Friendly questioning usually stimulates patient to readily volunteer information
- Consultation with Physician

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The House Classification

- **Dr. Milus House**
  - 4 General classifications based on extensive clinical experience of complete denture patients' mental attitudes.

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**The House Classification**

- **The Philosophic Patient**
  - Accepting of dentist, oral condition
  - Ideal attitude for successful treatment provided the biomechanical factors are reasonable

- **The Indifferent Patient**
  - Little concern for oral health, or the dentist
  - Treatment insisted on by a significant other
  - Gives up easily

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**The House Classification**

- **The Critical Patient**
  - Finds fault with everything
  - They want to direct treatment
  - Usually have poor health leading to poor personality
  - Medical consultation advisable before treatment

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**The House Classification**

- **The Skeptical Patient**
  - Previous bad experience with dentist / dentures and doubtful anyone can help them
  - Poor health and unfavorable oral conditions for fabrication of dentures
  - Often have a series of personal tragedies
  - A lot of TLC
Histories, Exam & Assessment

Medical and Dental Histories
Questionnaires, Conversation

Extra- and Intra-oral Exam
Detection, assessment, and treatment of lesions, disease, prosthesis

Prosthodontic Assessment
(Restorability Potential)
- Clinical factors influencing stability, retention, and support of complete dentures
- Denture assessment
- Prognosis

Medical and Dental History

Discover & Document
Helps determine
– diagnosis
– prognosis
– fee

Medical and Dental History

• Medical Condition
  – Diabetic, psychological state, hypertension, heart problems, allergies, chronic diseases
• Medications
  – Anti-depressants, anti-anxiety, anti-inflammatory, diuretics, antihypertensive, vasodilator
• BONE

Medical and Dental History

Effects of Smoking
Predisposition to oral cancer
Predisposition to periodontal disease
Success – failure rates of osseointegrated implants
Medical and Dental History

Dental

• Length of time patient has been edentulous?
• How long has patient had the current dentures?
• What is the patient’s chief complaint?
  – This will help you determine if you can help the patient, how successful you will be, and your fee for the service.

Medical and Dental History

DENTAL ASSESSMENT

Assessment of existing dentures

• Retention
• Stability
• Vertical dimension of occlusion
• Centric relation
• Esthetics

Medical and Dental History

Documentation

COMPLETE DENTURE PROSTHODONTICS
ORAL HISTORY AND DIAGNOSIS

Patient______________________________ExaminationDate___________

Student_____________________________Instructor_________________

Procedure: CD/ICD/CD/ICD

PREVIOUS DENTURE EXPERIENCE:

How many dentures (sets):____________
How long have you worn your current dentures _____ years.

Patient Evaluation of current dentures:
When first inserted:_______________ Current____________________________
Evaluation:_________________________________________________________________
___________________________________________________________________________

Student evaluation of current dentures:
Esthetics ____________________________________________________
Vertical dimension____________________________________________
Centric relation_______________________________________________
Maxillary denture tissues coverage________________________________
Mandibular denture tissue coverage_________________________________
Retention ___________________________________________________
Stability ______________________________________________________

DENTURE ASSESSMENT

Posterior teeth
• Tooth forms
• Materials
• Wear
DENTURE ASSESSMENT

Testing maxillary denture retention

Apply a tipping force to the incisors in an attempt to break seal.

DENTURE ASSESSMENT

Testing maxillary denture stability

Apply unilateral force to posterior occlusal surface of denture.

DENTURE ASSESSMENT

Testing stability and retention of mandibular denture

Alternately apply unilateral force to posterior occlusal surfaces.

Examination, Diagnosis and Treatment Planning

Extra- and Intra-oral Exam

Extra- and Intra-oral Exam
Conduct a complete extra- and intra-oral exam using visualization and digital palpation

- Lips and cheeks
- Lateral border of the tongue
- Base of tongue
- Floor of the mouth
- Tonsillar region & soft palate
- Oropharynx
- Neck
- TMJ

Extra- and Intra-oral Exam

Extra-oral

- View overall facial appearance
- Lip support
- Lip thickness
- Lip length
- Lip fullness
- Facial profile and tone
- Vertical face length

Extra-oral

- Lips & cheek

Extra-oral

- Lymphatics
  - The first sign of oral cancer is often a palpable lymph node

Extra-oral

- Neck

Extra-oral

- Temporomandibular Joints
  - Palpate the TMJ
  - Clicking
  - Popping or crepitus
  - Pain
Tone of facial tissues
- Age and health affect intrinsic structures of facial tissues
- Poor tone indicates limitations on what can be done (we are not plastic surgeons)
- Facial tissues can only be supported to their original position

Extra-oral Exam

Extra-oral

• Pathoses
  • Maxillary and mandibular arches
  • Oral tissues
  • Saliva

Intra-oral Exam

Intra-oral

• Oral tissues
  - Mucosa, tongue, soft/hard palate, cheeks, floor of mouth, throat
  - Abrasion, ulcerations, tori, cuts, malignancies, hyperplasia, epulis fissuratum, papillary hyperplasia, lichen planus, leukoplakia
  - Mucosal health is related to its color
  - MUST be healthy prior to impressioning procedures

Intra-oral

Examine the denture bearing surfaces, the soft palate, tonsillar region, the vestibules and the buccal mucosa

Note the hamular notch and definition of tuberosities

Tonsilar region, soft palate, & oropharynx

Examine the lateral borders of the tongue

Examine the ventral surface of the tongue and the floor of the mouth

Tongue & floor of mouth

Wickham’s striae

Oral Lichen Planus

Erosive lesions and subsequent scarring in the buccal shelf area limit denture extension in this region and make it difficult for some patients to tolerate their dentures.

Result - Compromised support and tolerance of the mandibular denture.
Chronic ulceration with subsequent scarring of the oral mucosa.

Result - Limited denture extensions compromising support, stability, retention and tolerance of complete dentures.

Pemphigoid Lesions

Extra- and Intra-oral Exam

Chronic Candidiasis

Low saliva flow rates lead to increased numbers of fungal organisms leading to a high incidence of chronic candidiasis.

Clinical Manifestations

Burning and irritation of the denture bearing mucosa, making tolerance of complete dentures difficult. In addition the fungus is keratolytic, further compromising support and tolerance.

Variety of Maxillary Arches

The good - the bad - & the ugly.

Extra- and Intra-oral Exam

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Extra- and Intra-oral Exam

Intraoral Examination

- Uniform layer of soft tissue over bone which is firm but resilient
- Well defined tuberosities and hamular notches, low frenum attachments
- Broad U-shaped arches are ideal
- Ideal Palatal vault form is of medium depth with well defined rugae

Normal tongue size
- Saliva of moderate flow and serous content is ideal
- Ideal muscle tone and coordination
- Free flowing jaw movements
- Lack of pathological TMJ dysfunction
- Lack of severe gag reflex

Extra- and Intra-oral Exam
13

**Intra- and Extra-oral Exam**

*Radiographic*

30-40% will have a positive radiographic finding

- foreign bodies
- radioluencies
- retained root tips
- radiopacities
- unerupted teeth

**Assessment**

**PROGNOSIS**

**BASED UPON:**

- ✔ Bearing surface anatomy, tongue position and floor of mouth posture
- ✔ Neuromuscular control
- ✔ Denture history
- ✔ Psychological classification

**Treatment Planning**

Discuss:
- The length of time estimated to complete the procedures • and any unforeseen difficulties that may arise;
- The cost of treatment; and
- The expected outcome.

**Treatment Planning**

- After obtaining all information pertaining to the initial examination - a treatment plan is devised

Questions:
- Is treatment indicated considering the patients present medical and/or psychological health ?
- Will treatment improve or maintain health ?
- Do you as the dentist feel comfortable with the patient and the proposed treatment ?

- Who will benefit from the treatment ?

**Monday, March 3**

**For the Lab Session:**

1. Dr. Olin will speak to you during the first portion of the period concerning the RPD Module.

2. I will meet with the attending faculty while Dr. Olin is speaking. Then, at approx. 2:30, I will give a presentation on the lab schedule, projects, and expectations.