

SYLLABUS

COURSE: DHCT 3304/DHBS 4304 Periodontology
SEMESTER: Fall
CREDIT HOUR: 3.0

REVISED: 2009
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COURSE DIRECTOR: Joanna Allaire, RDH, BSDH

GOAL

Periodontology is an essential part of dental hygiene practice. This course builds on the knowledge obtained in the first year dental hygiene curriculum. The course will cover the foundations of periodontal diseases, assessment of periodontal conditions, treatment modalities and results of periodontal treatment. The content will be evidence-based and will prepare the dental hygiene student for clinical practice.

In addition to lectures, learning activities will include outside reading assignments and a comprehensive periodontal case study.

OBJECTIVES

I. BACKGROUND/HISTORY OF DENTAL HYGIENE AND PERIODONTOLOGY

1. Define the differences in the practices of restorative dentists and periodontists.
2. Discuss the evolution of modern periodontology.
3. Describe the technological progress in periodontal care from magical cures to the use of ultrasonic and microultrasonic instruments.
4. Discuss the expanding role of the dental hygienist.
5. Explain the lag between oral health research findings and their application to dental practice.

II. PERIODONTIUM: ANATOMIC CHARACTERISTICS AND HOST RESPONSE

1. Name the tissues of the periodontium.
2. Name and describe the anatomy and clinical characteristics of the tissues of the periodontium.
3. Differentiate among the three types of oral epithelial surfaces: keratinized, parakeratinized and nonkeratinized.
4. Name the principal fiber bundles of the gingiva.
5. List the functions of the periodontal ligament.
6. Describe clinically normal gingival in terms of color, size, contour, texture, and consistency.
7. Describe the interactions of the major elements in the host response.
8. Define the protective roles of gingival fluid and saliva.

III. EPIDEMIOLOGY OF PERIODONTAL DISEASES

1. Compare and contrast the plaque, calculus, bleeding, and periodontal indices that are used to quantify conditions in the oral cavity.
2. List the major risk factors and determinants that are related to periodontal diseases.
3. Describe the disease prevalence trends revealed for gingival and periodontal diseases.

IV. MICROBIOLOGY OF PERIODONTAL DISEASES

1. Describe and compare the development and composition of supragingival and subgingival plaque biofilms.
2. Describe the role of salivary factors in pellicle formation.
3. Define the mechanism for bacterial plaque biofilm adherence to tooth surfaces.
4. Describe the influence of bacterial surface components (eg, capsules, appendages) on bacterial colonization and coaggregation.
5. Discuss microbial succession in terms of oxygen and nutrient requirements and bacterial adherence.
6. Compare the nonspecific and specific plaque hypotheses.
7. Describe and classify the specific bacteria associated with the major periodontal infections.
8. Define the bacterial characteristics that contribute to their virulence.
9. Describe the significance of dental plaque biofilm to dental hygiene practice.

V. CALCULUS AND OTHER DISEASE-ASSOCIATED FACTORS

1. Describe the role of dental calculus and other disease-associated factors in the initiation and perpetuation of gingival and periodontal diseases.
2. Describe the formation and attachment of supragingival and subgingival calculus in the oral environment.
3. Compare the composition, distribution, and attachment of supragingival and subgingival calculus.
4. Explain how anticalculus agents work in reducing calculus formations in humans.
5. List the variety of factors that are linked to periodontal disease.
6. Describe hygienic restorations.
7. Explain the role of the dental hygienist in recognition and provision of care for patients with disease-associated factors.

VI. GINGIVAL DISEASES

1. Define the types of gingivitis
2. Relate the clinical signs and symptoms of gingivitis to the pathogenesis of each stage of disease.
3. List the similarities and differences in the clinical presentation, treatment, and healing of dental plaque biofilm-induced gingivitis and other gingival conditions.

4. Identify the medications that can cause gingival hyperplasia in patients.
5. Describe examples of bacterial, viral, and fungal infections that affect the gingival.
6. Define necrotizing ulcerative gingivitis.
7. List the relatively common systemic conditions that have gingival manifestations.
8. Describe the role of the dental hygienist in the treatment of gingivitis.

VII. PERIODONTAL DISEASES

1. Describe the pathogenesis of periodontitis.
2. Define periodontal disease activity.
3. List and describe the American Academy of Periodontology categories of periodontal diagnosis.
4. Identify the five case types of periodontal disease.
5. Define clinical attachment loss and its relationship to periodontitis.
6. Compare and contrast the following forms of periodontitis as to demographics and clinical and microbiologic characteristics:
 - a. chronic periodontitis
 - b. aggressive periodontitis
 - c. prepubertal periodontitis
 - d. early-onset periodontitis
 - e. juvenile forms of aggressive periodontitis
 - f. refractory periodontitis
 - g. necrotizing ulcerative periodontitis
 - h. periodontitis as a manifestation of systemic disease
7. Identify the systemic diseases and genetic factors associated with periodontal disease.
8. State the role of systemic antibiotic treatment, locally delivered controlled-release antibiotic treatment and enzyme suppression treatment in periodontitis.
9. Describe the role of the dental hygienist in treating periodontal disease.

VIII. CLINICAL ASSESSMENT

1. Describe the connection between patients' overall health and their dental and periodontal health.
2. Define the aspects of clinical assessment in the dental hygiene process of patient care.
3. Describe the components of each assessment in the clinical examination.
4. List and describe the indices used to report plaque accumulation, periodontal status, furcations involvement, tooth mobility, dental caries, root caries, and tooth wear.

5. Describe the normal and abnormal clinical presentation of the periodontium and dentition.
6. Identify the radiographic changes seen in periodontal diseases.
7. Describe the normal and abnormal clinical and radiographic presentation of the periodontal structures surrounding dental implants.

IX. TREATMENT PLANNING FOR THE PERIODONTAL PATIENT

1. Define the role of the dental hygienist in determining the dental hygiene care plan.
2. Describe the goals and rationale for periodontal treatment planning.
3. Describe the phases of dental treatment included in the comprehensive care plan.
4. Describe the major classifications of periodontal disease.
5. Identify the considerations for sequencing dental hygiene treatment with periodontal diseases.
6. Identify the patient factors to be considered when establishing the treatment plan sequence.
7. Define informed consent and its importance to patient care.

X. OCCCLUSION AND TEMPOROMANDIBULAR DISORDERS

1. Define the role of the dental hygienist in the detection of occlusal abnormalities and jaw dysfunction.
2. Describe the biologic basis of occlusal function and the adaptive capability of the oral system.
3. Compare and contrast the classification of primary and secondary traumatic occlusion in periodontal diagnosis and treatment.
4. Describe the cause and list the common signs and symptoms of temporomandibular disorders.
5. Describe the procedures for clinically assessing jaw function and occlusion in a screening examination.
6. Identify the various modalities used to treat temporomandibular disorders.

XI. PLAQUE AND DISEASE CONTROL FOR THE PERIODONTAL PATIENT

1. List the goals for plaque biofilm control for the periodontal patient.
2. Describe the role of plaque biofilm removal as an essential element in dental hygiene.
3. Describe why plaque biofilm removal is more complex for periodontal patients than for those with no clinical attachment loss.

4. Describe what interproximal plaque biofilm removal techniques that permit access to root surface concavities and furcations.
5. Define effective methods for tooth brushing and interproximal plaque biofilm removal for patients with periodontal disease.
6. Compare the effectiveness and uses for supragingival and subgingival irrigation.

XII. NONSURGICAL PERIODONTAL THERAPY

1. Define nonsurgical periodontal therapy.
2. List the elements of nonsurgical periodontal therapy.
3. Describe the short-term and long-term goals of nonsurgical periodontal therapy.
4. Identify the techniques and application for nonsurgical periodontal therapy procedures.
5. Describe the process of healing after periodontal debridement procedures, scaling, and root planning.
6. Explain the limitations of calculus removal and the expectations for clinician proficiency.
7. Define the role of laser use in nonsurgical therapy.
8. Describe the contributions of magnification with use of loupes, endoscopy, and microscopes to nonsurgical therapy.

XIII. PERIODONTAL SURGERY

1. Describe the rationale for periodontal surgical treatment.
2. Recognize the clinical conditions that are most likely to benefit from periodontal surgery.
3. List and define the most common types of periodontal surgery.
4. Briefly describe healing of tissues after periodontal surgery.
5. Identify the role of the dental hygienist in the surgical treatment of periodontal diseases including postoperative procedures, postoperative instructions and plaque biofilm instructions given to patients after periodontal surgery.

XIV. DENTAL IMPLANTS

1. Describe the common types of dental implants
2. Discuss the indications and contraindications for dental implant therapy
3. Explain why titanium is the best biomaterial available for use in dental implants
4. Define the concept of osseointegration.

5. Compare and contrast the bone and soft tissue interfaces of implants and natural dentition.
6. List the criteria for success used in implant therapy.
7. Describe the maintenance protocol and elements of appropriate home care regimens for patients with implants

XV. PERIODONTAL EMERGENCIES

1. Define the role of the dental hygienist in the recognition and treatment of periodontal emergencies.
2. Describe the etiology of periodontal abscesses.
3. Describe the distinguishing features of necrotizing ulcerative gingivitis.
4. List the identifying features of pericoronitis.
5. Outline the treatment for necrotizing ulcerative gingivitis.
6. Describe the symptoms and oral lesions of acute herpetic gingivostomatitis and outline the supportive treatment for oral herpetic lesions.

XVI. SYSTEMIC FACTORS INFLUENCING PERIODONTAL DISEASES

1. Understand systemic factors that influence dental hygiene care.
2. Describe conditions that require consultation with a patient's physician.
3. Describe changes in oral tissues observed with systemic diseases and conditions.
4. List modifications needed to best treat patients with systemic conditions.

XVII. PERIODONTAL MAINTENANCE AND PREVENTION

1. Explain the effectiveness of periodontal therapy in the prevention of disease, disease progression, and tooth loss.
2. Describe the elements of a successful maintenance program.
3. State the five major objectives of periodontal maintenance.
4. Recognize the importance of patient compliance with periodontal maintenance, and describe strategies to improve compliance with recommended maintenance intervals and oral hygiene regimens.
5. List the principal aims and components of the maintenance appointment.
6. Recognize the signs of recurrent periodontitis, and assess the potential contributing factors that contribute to its development.
7. Describe the causes of root surface caries and therapeutic approaches to prevent development of this common problem.

8. Explain the theories, causes, and management of dentin hypersensitivity.
9. Describe the role of the dental hygienist in providing periodontal treatment.

XVIII. PROGNOSIS AFTER PERIODONTAL THERAPY

1. Define prognosis.
2. Describe the difference between overall prognosis and tooth prognosis.
3. Compare the elements of overall prognosis with the elements of tooth prognosis.
4. List and describe the factors associated with overall prognosis.
5. List and describe the factors associated with individual prognosis.

RESOURCES

I. Media Resources

A. Printed media

1. Required textbook

Perry, D. et. al.,
Periodontology for the Dental Hygienist
3rd edition (2007)

2. Supplemental textbooks

Weinberg, et. al.,
Comprehensive Periodontics for the Dental Hygienist
3rd edition (2009)

Nield-Gehrig, Willmann
Foundations of Periodontics for the Dental Hygienist
2nd edition (2008)

II. Human Resources

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STUDY PLAN AND REQUIREMENTS

The study of this course primarily consists of lectures, textbook assignments and class activities. The supplemental textbooks provide additional resources on the topics presented. Students are required to attend scheduled lectures and read the required textbook assignments. **Attendance is required. Students are expected to be present and prompt for all lectures and labs.**

Quizzes may be given on the assigned readings. Unannounced quizzes may be given and make-up quizzes will not be given.

Students are expected to complete examinations as scheduled. If you must be absent when an exam is to be given, follow the procedure for any absence by calling the secretary (713-500-4086) or the course director (713-500-4068). Make-up exams will only be given for **excused absences** (after consultation with the course director). A written doctor's excuse is required for an absence due to illness. The make-up exam will be given during finals week.

Students are expected to complete all assignments by the due date and turned in at the beginning of the class period on the date due. Due dates will be announced in class. There will be a **ten-point deduction** for **each day late**. This includes assignments submitted during or after class on the due date. This includes electronic submissions of assignments, where applicable.

Students scoring below 75% on any examination will be required to have a conference with the course director.

Grading scale is as follows:

93 – 100	A
84 – 92	B
75 – 83	C
70 – 74	D
< 70	F

**DHCT 3304/DHBS 4304 PERIODONTOLOGY
2009 Fall Semester Lecture Schedule**

Lecture: Wednesday 3-3:50 pm, Friday 11:30 am -1:20 pm; Room 446
Exams in Room 340.

Date	Session Topic	Reading Assignment
Wed, Aug 19	Course Introduction	Syllabus
Fri, Aug 21	Historical perspectives on dental hygiene and periodontology Peridontium	Perry, Chapter 1, Perry, Chapter 2
Wed, Aug 26	Peridontium, cont.	Perry, Chapter 2
Fri, Aug 28	Host response- Dr. Gayle Bradshaw	Perry, Chapter 2
Wed, Sep 2	Epidemiology and Intro. to case study	Perry, Chapter 3
Fri, Sep 4	Microbiology of periodontal disease- Dr. Gina Tribble	Perry, Chapter 4
Wed, Sep 9	Calculus and other disease-associated factors	Perry, Chapter 5
Fri, Sep 11	Calculus and other disease-associated factors, cont. <i>Discussion board open (Periodontal Treatment Protocol for the General Dental Office)</i>	Journal articles as assigned
Wed, Sep 16	Gingival diseases	Perry Chapter 6
Fri, Sep 18 11:30 am– 12:50 pm	EXAM 1 (Chapters 1-5)	Room 340
Wed, Sep 23	Gingival diseases and periodontal diseases	Perry Chapter 6
Fri, Sep 25	TDHA Annual Session <i>No class</i>	
Wed, Sep 30	periodontal diseases, cont.	Perry Chapter 7
Fri, Oct 2	Clinical Assessment	Perry, Chapter 8
Wed, Oct 7	Clinical Assessment, cont.	
Fri Oct 9	Radiographs related to periodontal disease <i>Presentations on current topics in perio</i> Simulation Center	
Wed, Oct 14	Treatment planning for the periodontal patient	Perry, Chapter 9
Fri, Oct 16	Occlusion and temporomandibular disorders- Mrs. Holly Rice	Perry, Chapter 10
Wed, Oct 21	EXAM 2 (Chapters 6-10)	Room 340
Fri, Oct 23	Plaque and disease control for the periodontal patient	Perry, Chapter 11
Wed, Oct 28	Work on periodontal case study	

Date	Session Topic	Reading Assignment
Fri, Oct 30	Periodontal surgery- Dr. Kavitha Parthasarathy	Perry, Chapter 13
Wed, Nov 4	Non-surgical periodontal therapy	Perry, Chapter 12
Fri, Nov 6	LAB- adjuncts to nonsurgical therapy Prognosis after periodontal therapy and case study examples Simulation Center	Perry, Chapter 10, 18;
Wed, Nov 11	Dental implants- Dr. James Katancik	Perry, Chapter 14
Fri, Nov 13	Periodontal Emergencies	Perry, Chapter 15
Wed, Nov 18	Periodontal maintenance and prevention	Perry, Chapter 17
Fri, Nov 20	Systemic factors influencing perio - Dr. Gayle Bradshaw. Review if time allows	Perry, Chapter 16
Wed, Nov 25	<i>No class</i>	
Fri, Nov 27	<i>Thanksgiving Holiday</i>	
Wed, Dec 2	Present periodontal case studies Room B81	
Fri, Dec 4	Present periodontal case studies Room B81 Review	
Thu, Dec 10 9-11:00 am	FINAL EXAM (Comprehensive)	Room 340

EVALUATION METHODS

Students will be evaluated according to the following:

Exam 1		20%
Exam 2		20%
Final exam (comprehensive)		20%
Discussion boards		10%
Classroom activities and quizzes		10%
Periodontal case study	Written	15%
	Oral	5%