

# PREVENTIVE DENTAL HYGIENE CARE

Lamar Institute of  
Technology

DHYG 1227

Course Syllabus  
FALL 2018

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LECTURE SCHEDULE

Date	Lecture
Week 1	Discuss Syllabus
Week 2	Ch. 1- Intro to Primary Preventive Dentistry
Week 2	Ch. 2 - Cultural Health Influences
Week 3	Ch. 3 - Dental Hygiene Science
Week 3	Ch. 4 – Dental Plaque Biofilm
<b>Week 4</b>	<b>Exam 1 - Chap. 1-4</b>
Week 4	Ch. 5 Carious Lesions
Week 5	Ch. 6- Periodontal Disease
Week 5	Guest Speaker (Chapter 10/11)
Week 6	Ch. 8 Dental Trauma
Week 6	Ch. 9 Host Defense Mechanisms
<b>Week 7</b>	<b>Exam 2 – 5,6,8,9</b>
Week 7	Ch. 11 – Dentifrices, Mouth rinses, and Chewing Gums (discuss ch. 10)
Week 8	Ch. 12 – Self-Care Adjuncts
Week 8	Ch. 14 – Community Water Fluoridation
Week 9	Ch. 15 – Topical Fluoride Therapy
Week 9	Guest Lecture
Week 10	Ch. 19 Health Education and Promotion
Week 10	Ch. 20 – Tobacco Cessation
<b>Week 11</b>	<b>Exam 3 Test</b>
Week 11	Wilkins Ch. 21-22
Week 12	Writing a Care Plan
Week 12	Writing a Care Plan
Week 13	Patient Education
Week 13	Patient Education
<b>Week 14</b>	<b>Patient Education Simulation (CARE PLANS ARE DUE)</b>
Week 14	Writing a Lesson Plan
Week 15	Writing A lesson Plan
Week 15	THANKSGIVING

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<b>Week 15</b>	<b>Lesson Plans</b>
<b>Week 16</b>	<b>Lesson Plans Due by Noon</b>
<b>Week 16</b>	<b>Final TBA</b>

## COURSE INFORMATION

### COURSE DESCRIPTION

The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts to disease management, health promotion, communication, and behavior modification.

### GOALS

Upon the completion of this course, the student will be able to:

1. Describe the role of a dental hygienist as a therapeutic oral health care provider.
2. Develop a patient education plan for periodontal disease.
3. Explain the concepts of dental disease management.
4. Develop a lesson plan for health promotion.

### CREDIT HOURS

Class: 50 minutes/2 days a week  
Credit: 2 semester hours

### LECTURE TIME

The class will meet on Tuesday and Thursday from 10:45 – 11:35 am  
Room: TBA

### INSTRUCTOR

Renee Sandusky, RDH, BS, Instructor I.  
Office 214 Multipurpose Center, 880-8856

Students should make an appointment to discuss issues with the instructor. This assures the instructor is available.

### COURSE POLICIES

#### 1. Attendance Policy

##### A. Absenteeism

In order to ensure the students in the dental hygiene program achieve the necessary didactic and clinical competencies outlined in the curriculum, it is necessary that the student complete all assigned lecture classes, clinical and laboratory hours.

If you are unable to attend lecture class, clinic or lab, it is **mandatory that you call the appropriate instructor prior to the scheduled class, clinic or lab time**. The student is responsible for all material missed at the time of absence. Extenuating circumstances will be taken into account. Extenuating circumstances might include: funeral of immediate family member, maternity, hospitalization, etc.

It is expected that students will appear to take their exams at the regularly scheduled examination time. Make-up examinations will be given **only** if the absence is due to illness (confirmed by a physicians' excuse), a death in the immediate family, or at the discretion of the instructor.

Dental hygiene students will be allowed **two** absences in any lecture, clinic or lab. Absences must be accompanied by a written excuse on the next class day. In the event that a student misses class, clinic or lab beyond the allowed absences, the following policy will be enforced:

- 2 absences = verbal warning
- 3 absences = written warning with the Disciplinary Action Form (DAF)
- 4 absences = grade will be lowered one full letter grade

#### **B. Tardiness**

Tardiness is disruptive to the instructor and the students in the classroom. It is expected that students will arrive on time for class, clinic or lab, and remain until dismissed by the instructor. If tardiness becomes an issue, the following policy will be enforced:

- Tardy 1 time = verbal warning
- Tardy 2 times is considered an absence.

2. **Electronic Devices** Electronic devices are a part of many individual's lives today. Devices such as tape recorders, radios, telephones, and paging devices, however, may be disturbing to faculty and classmates. Students, therefore, must receive the instructor's permission to operate all electronic devices in the classroom and clinic. Texting on cell phones or computers **will not be allowed** during class. I will take any cell phone and hold it until the end of class. Multiple violations with this could end with student receiving a written warning.
3. **Late coursework.** Assignments must be completed by the due date. Late assignments will not be accepted and will result in a zero for that assignment.
4. **Examination and Quiz Policy:**  
Quizzes and examinations will be based on objectives, lecture notes, handouts, assigned readings, audiovisual material and class discussions. Major examinations will consist of multiple choice, true/false, and short answer.

Students are expected to complete examinations as scheduled. Make-up examinations will be given **ONLY** if the absence is due to illness (confirmed by a physicians' excuse), a death in the immediate family, or at the discretion of the Instructor. All make-up examinations must be taken within two (2) weeks from the scheduled exam date. All examinations will be kept on file by the Instructor. Students may have access to the examination by appointment during the Instructor's office hours. Exams may be reviewed up to three (2) weeks following the exam date. The student will not be allowed to make-up any quizzes missed.

Faculty has the authority to modify the above policies if unusual circumstances mandate a change.

#### **DISABILITIES STATEMENT**

The Americans with Disabilities Act of 1992 and Section 504 of the rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities.

If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator, Rebecca Cole, at 409-880-1737 or visit her office located in the Cecil Beeson Building, room 116B.

### TEACHING METHODS

1. Lecture
2. Discussion
3. Individualized instruction
4. Student participation
5. Collaborative Learning

### REQUIRED TEXT

Harris, N.O. & Garcia-Godoy, F. (2009) Primary Preventive Dentistry (8th Ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Wilkins, E.M. (2013) Clinical practice of the dental hygienist (11<sup>th</sup> Ed.). Philadelphia: Lippincott Williams & Wilkins.

### COMPUTER WEB SITES

Dentalcare.com

### REFERENCES

Darby, M. & M.W. Walsh. (2003) Dental hygiene theory and practice. Philadelphia: W.B. Saunders Co.

Daniel, S.J. & Harfst, S.A. (2008). Mosby's dental hygiene concepts, cases, and competencies (2<sup>nd</sup> Ed.) St. Louis: Mosby.

### COURSE REQUIREMENTS

Requirements for this course include 4 tests, one Care Plan, one Lesson Plan, one Behavior Modification Project and four outside assignments.

### COURSE EVALUATION

Final	10%
Exam Grades: (6) Includes: 3 Exams, 1 Lesson Plan, 1 Care Plan, Flip Book	70%
Class Participation	10%
Behavior Modification Project	10%

**GRADING SCALE**

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92 -100	A
83 - 91	B
75 - 82	C
74 and below	F



## CONTENT OUTLINE

1. Introduction to Primary Preventive Dentistry
  - a. Historical Aspect of Preventive Dental Care
  - b. Dental Diseases and Systemic Health
  - c. Health Defined and Primary Preventive Care
  - d. Categories of Oral Diseases
  - e. Risk Assessment
  
2. Cultural Health Influences
  - Owning Culture
  - Cultural Group Representation
  - Moving Beyond Diversity to Inclusiveness
  - Cultural Beliefs and Preventive Dental Care
  - Cultural Competence and Health Outcomes
  
3. Dental Hygiene Science
  - a. Evidence-Based Care
  - b. Dental Hygiene Process of Care
  - c. Individualized Dental Hygiene Care
  - d. Population-Based Dental Hygiene/Dental Public Health Activities
  
4. Dental Plaque Biofilm
  - a. Dental Plaque: A Microbial Biofilm
  - b. Bacterial Colonization of the Mouth
  - c. The Acquired Pellicle
  - d. Dental Plaque Formation
  - e. Molecular Mechanisms of Bacterial Adhesion
  - f. Bacteria in the Dental Plaque
  - g. Dental Plaque Matrix
  - h. Dental Plaque Metabolism
  - i. Dental Calculus
  
5. Carious Lesions
  - a. Multifactorial Disease Process
  - b. Description of Carious Lesions
  - c. Physical and Microscopic Features of Incipient Caries
  - d. Cariogenic Bacteria
  - e. Adherence of Bacteria to Teeth
  - f. Ecology of Caries Development
  - g. Demineralization and Remineralization Principles
  
6. Periodontal Disease
  - a. The Periodontium

- b. The Gingival Sulcus
  - c. Periodontal Microflora
  - d. The Developing Gingival Lesion
  - e. The Deepening Pocket
  - f. Cellular Defense in the Periodontal Disease Process
    - g. Classifications of Periodontal Diseases
    - h. Risk Factors
    - i. Primary Prevention of Periodontal Diseases
7. Dental Trauma
- a. Etiology
  - b. Initial Examination
  - c. Soft Tissue Injuries
  - d. Categories of Traumatic Dental Injuries
  - e. Injury to Primary Teeth
  - f. Injury to Permanent Teeth
  - g. Public Education on Dental Trauma
  - h. Research on Dental Trauma
8. Host Defense Mechanisms in the Oral Cavity
- a. Anatomic Barriers: The Oral Epithelium
  - b. Normal Oral Flora
  - c. The Immune System in the Oral Cavity
  - d. Saliva and Its Role in Promoting Oral Homeostasis
9. Toothbrushes and Toothbrushing Methods
- a. History of the Toothbrush
  - b. Manual Toothbrush Designs
  - c. Toothbrush Profiles
  - d. Nylon versus Natural Bristles
  - e. Bristle Shape and Texture
  - f. Handle Designs
  - g. Manual Toothbrushing Methods
  - h. Powered Toothbrushes
  - i. Toothbrush Efficiency and Safety Evaluations
  - j. Toothbrushing Time and Frequency
  - k. Clinical Assessment of Toothbrushing
  - l. Toothbrush Replacement
  - m. Tongue Brushing
  - n. The American Dental Association Acceptance Program
10. Dentifrices, Mouthrinses, and Chewing Gums
- a. Safety and Efficacy
  - b. Dentifrices
  - c. Mouthrinses
  - d. Chewing Gum
11. Self-Care Adjuncts

- a. Oral Health and Self-Care
  - b. Frequency of Self-Care
  - c. Dental Floss
  - d. Other Interdental Aids
  - e. Rinsing and Irrigation
  - f. Chewing Gum
  - g. Oral Malodor and the Tongue
12. Community Water Fluoridation
- a. Definition and Background
  - b. History of Community Water Fluoridation
  - c. Mechanisms and Action of Fluoride
  - d. Benefits and Effectiveness of Fluoridation
  - e. Effects of Discontinuation of Water Fluoridation
  - f. Enamel Fluorosis
  - g. Reduction of the Risk for Enamel Fluorosis
  - h. Optimal Fluoride Levels
  - i. Engineering Aspects: Chemicals and Technical Systems
  - j. The Monitoring and Surveillance of Fluoridation
  - k. Cost of Community Water Fluoridation
  - l. Other Fluoride Vehicles
13. Topical Fluoride Therapy
- a. Mechanisms of Action of Topical Fluoride Treatments
  - b. Effects of Fluoride on Plaque and Bacterial Metabolism
  - c. Topical Fluoride Applications
  - d. Efficacy of Topical Fluoride Therapy
  - e. Root Caries
  - f. Recommendations: Topical Fluoride Treatments
  - g. Fluoride Varnishes
  - h. Initiation of Therapy
  - i. Disadvantages of Fluoride Treatments
  - j. Fluoride-Containing Prophylactic Pastes
  - k. Multiple Fluoride Therapy
  - l. Fluoride Rinses
  - m. Fluoride Gels for Oral Self-Care
  - n. Fluoride-Releasing Dental Materials
  - o. Toxicology of Fluoride
14. Health Education and Promotion Theories
- a. History of Health Education
  - b. Health Belief Model
  - c. Transtheoretical Model and Stages of Change
  - d. Theory of Reasoned Action
  - e. Social Learning Theory

- f. Locus of Control
  - g. Sense of Coherence
  - h. Implementation of Health Education Models
  - i. Adult Health Education
  - j. Motivating Patients
  - k. Motivational Interviewing
  - l. Oral Health Application
15. Tobacco Cessation
- a. Tobacco Use: Morbidity, Mortality, and US Population Trends
  - b. Tobacco-Related Oral Diseases and Lesions
  - c. Tobacco Types, Toxins, and Carcinogens
  - d. Nicotine Use: A Biochemical Dependence
  - e. Tobacco Use: A Behavioral and Social Addiction
  - f. Components of an Effective Tobacco Dependence Intervention
  - g. Levels of a TDI
16. Planning for Dental Hygiene Care
- a. Assessment Findings
  - b. The Periodontal Diagnosis
  - c. The Dental Hygiene Diagnosis
  - d. The Dental Hygiene Prognosis
  - f. Considerations for Providing Care
  - g. The Written Dental Hygiene Care Plan
17. Writing an Oral Health Lesson Plan
- a. Teaching Oral Health to a Group
  - b. Researching Your Topic
  - c. What Will You Teach
  - d. How Will You Teach

## **COURSE OBJECTIVES**

### **Chapter 1 Introduction to Primary Preventive Dentistry**

1. Define and apply the following key terms: *primary, secondary, and tertiary prevention*.
2. Describe the historical aspect of preventive dental care.
3. Describe the state of dental health in the United States.
4. Describe categories that aid in classifying diseases.
5. Describe risk assessment in dental care delivery.

### **Chapter 2 Cultural Health Influences**

1. Define *culture* and explain its relevance to the contemporary healthcare professions.
2. Describe influences of culture on aspects of US society that impact preventive healthcare to underserved populations.
3. Identify health beliefs among different cultural groups.
4. Describe how cultural beliefs influence preventive dental care.
5. Explain the relationship between cultural competence and health outcomes.

### **Chapter 3 Dental Hygiene Science**

1. Describe the dental hygiene process of care.
2. Describe the integration of the dental hygiene process of care into the dental hygiene appointment.
3. Compare and contrast dental hygiene therapy for patients with and without attachment loss.
4. Describe the elements of the dental hygiene appointment.
5. Describe the use of the CDT in creating a dental hygiene care plan.
6. Define *dental public health*.

### **Chapter 4 Dental Plaque Biofilm**

1. Differentiate between organic coatings of endogenous and exogenous origin.
2. Explain why dental plaque is not unique among naturally occurring microbial layers.
3. Describe the mechanisms proposed to explain bacterial adhesion to the acquired pellicle.
4. Distinguish between primary and secondary bacterial colonizers in dental plaque, and cite examples of each.
5. Identify the primary sites of calculus formation, explain how calculus forms, and detail the differences between supragingival and subgingival calculus.
6. Describe the basis for the involvement of the acquired pellicle, bacterial dental plaque, and dental calculus in caries and the inflammatory periodontal diseases.

### **Chapter 5 Carious Lesions**

1. Describe the four types of carious lesions that are found on the different surfaces of teeth.
2. Describe the histologic characteristics of enamel and dentin that facilitate fluid flow throughout a tooth.
3. Describe the four zones of an incipient carious lesion.
4. Describe the conduits that directly conduct acid from the bacterial plaque to the body of the lesion.
5. List the bacteria most often implicated in the caries process, and indicate when each is present in the highest number during the caries process.
6. Describe the series of events in a cariogenic plaque and subsurface lesion from the time of bacterial exposure to sugar until the pH returns to a resting state.
7. Describe the characteristics of root caries, and explain the differences and similarities to coronal caries.
8. Describe why the profession takes so much time in treating secondary caries.

9. Describe the relationship between pH and the saturation of calcium and phosphorus ions in caries development.
10. Describe the protective relationship of calcium fluoride to hydroxyapatite and fluorhydroxyapatite during an acidogenic attack.

### **Chapter 6 Periodontal Disease**

1. Name and describe the functions of the four components of the periodontium.
2. Describe the normal gingival sulcus.
3. Differentiate between gingivitis and periodontitis.
4. Describe the role of clinical attachment loss in making the correct diagnosis between gingivitis and periodontitis.
5. Describe characteristic microflora associated with periodontal health, gingivitis, and periodontitis.
6. Starting with a healthy periodontium and ending with advanced periodontitis, describe how periodontal disease progresses.
7. Describe the relationship of supragingival plaque and subgingival plaque biofilm to periodontal diseases.
8. Describe the role of the host defenses involved in periodontal disease.
9. Discuss the purposes of a classification system for periodontal diseases.
10. Describe the classification system categories for gingivitis and periodontitis.
11. Define a "risk factor" for periodontal diseases.
12. List the risk factors associated with periodontal diseases.

### **Chapter 8 Dental Trauma**

1. Define dental trauma.
2. Describe the etiology of dental trauma.
3. Describe the assessment of trauma.
4. List and describe the categories of dental trauma.

### **Chapter 9 Host Defense Mechanisms in the Oral Cavity**

1. List the four host defense mechanism operational in the oral cavity.
2. Describe how the epithelium functions as a microbial barrier in the mouth.
3. Describe how an ideal dentition functions as a defense mechanism.
4. Describe the cycle of enamel demineralization and remineralization and assess its presence in patients.
5. Evaluate caries treatment plans to include a medical model of disease prevention and non-surgical treatment.
6. Incorporate systemic assessments of host defense mechanisms into periodontal therapy.
7. Explain the significance of plaque pH.
8. Differentiate between cellular and humoral immunity.
9. Describe the role of granulocytes in host defense.
10. List the major salivary glands and functions of saliva.
11. Prescribe appropriate therapies for a patient with compromised salivary function.
12. Discuss the function of immunoglobulin.
13. Integrate concepts of host defense mechanisms into patient treatment plans.

### **Chapter 10 Toothbrushes and Toothbrushing Methods**

1. Describe the history of the toothbrush.
2. Describe manual toothbrush designs including size, shape, and texture.
3. Demonstrate toothbrushing methods and techniques.
4. Describe the rationale for each toothbrushing method.

5. Describe design, methods and uses of powered toothbrushes.
6. Describe toothbrush efficiency and safety evaluations.
7. Recommend appropriate toothbrushing time and frequency.
8. Determine appropriate time for toothbrush replacement.
9. Demonstrate brush care for dentures, orthodontic appliances and tongues.

#### **Chapter 11 Dentifrices, Mouthrinses, and Chewing Gums**

1. Differentiate between a cosmetic and therapeutic dentifrice, mouthrinse, and chewing gum.
2. Explain the three phases of research necessary when applying to investigate a new drug.
3. Discuss how approval or non-approval of a new product by the FDA differs from acceptance or rejection by the ADA.
4. List and define the purpose of each dentifrice ingredient including percentage quantities.
5. Explain the various reasons that the same abrasive material in toothpaste can cause different levels of abrasion on tooth structure.
6. Define the three types and amounts of fluoride compounds commonly used in dentifrices.
7. Identify the agents used in dentifrices to produce anticaries, anticalculus, whitening, and antihypersensitivity effects.
8. Explain the active ingredients in antiplaque and antigingivitis mouthrinses sold over the counter and as a prescription item.
9. Describe the advantages and disadvantages of mouthrinses containing alcohol.
10. Describe the benefits of chewing gum and the ingredients used to help reduce oral disease.

#### **Chapter 12 Self-Care Adjuncts**

1. Describe the reasons that adjuncts to toothbrushing are needed to supplement oral health self-care.
2. Identify factors in addition to oral conditions that influence selection of self-care adjunctive devices and techniques.
3. Identify the process of developing an oral health self-care plan.
4. State the purposes, indications, contraindications, techniques, advantages, and limitations of various adjunctive oral hygiene devices and procedures.

#### **Chapter 14 Community Water Fluoridation**

1. Define *community water fluoridation*.
2. Explain the role of community water fluoridations and the impact of multiple sources of fluoride on the decline of dental caries.
3. Describe the effect of the discontinuation of water fluoridations in a community on caries prevalence.
4. Describe fluorosis classifications and characteristics by severity and the need to monitor exposure to fluoride.
5. Describe the economic aspects of water fluoridation.

#### **Chapter 15 Topical Fluoride Therapy**

1. List the fluoride compounds used to control caries and indicate their relative effectiveness.
2. Describe how topical fluorides work to prevent caries.
3. Identify what percentages of sodium fluoride, acidulated phosphate fluoride and stannous fluoride are available for office and home care.
4. Describe how topical fluoride is applied to the teeth.
5. Describe safety considerations with topical fluoride.
6. State the expected decreases in caries formation following use of dentifrices and

- mouthrinses containing fluoride.
7. Describe fluoridated varnishes and fluoride-releasing dental restorative materials and the potential of these materials to inhibit demineralization and enhance remineralization.
  8. Describe safety considerations with topical fluoride.

#### **Chapter 19 Health Education and Promotion Theories**

1. Define *patient autonomy*.
2. Explain the elements of the major health education theories.
3. Apply appropriate health education models to cases.
4. Identify principles of adult learning.
5. Use motivational interviewing techniques to devise a patient education strategy.

#### **Chapter 20 Tobacco Cessation**

1. Identify tobacco types, toxins, and carcinogens.
2. Identify the components of an effective tobacco dependence intervention.
3. Define levels of a TDI.

#### **Chapter 23 Planning for Dental Hygiene Care**

1. Analyze and synthesis assessment findings of a patient.
2. Analyze and synthesis patient data to determine the periodontal diagnosis.
3. Apply appropriate information to determine the dental hygiene diagnosis.
4. Explain the dental hygiene prognosis.
5. Use patient information to determine considerations for providing care.
6. Identify the parts of the written Dental Hygiene Care Plan.

#### **Writing an Oral Health Lesson Plan**

1. Identify the components of a Lesson Plan.
2. Apply oral health instruction to a specific group.
3. Identify innovative ways to teach oral health to a specific group.