

Periodontology

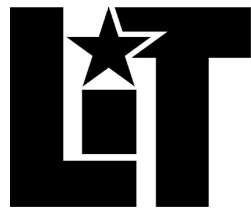
Lamar Institute of
Technology

DHYG 1311

Course Syllabus

Revised FALL 2021

Taught by:
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DHYG 1311 Periodontology

DHYG 1311: Periodontology (Hybrid)
 Course Schedule: Wednesday, 10:30–11:45 AM
 Room: MPC 112
 Hybrid content delivered through Blackboard

WEEK	TOPIC	ASSIGNMENT
START HERE	Go to the “Start Here” link on Blackboard Course introduction Review Periodontal Care Plan instructions	Review Course information & syllabus Submit Course Contract
Week 1	Periodontium: The Tooth-Supporting Structures Microscopic Anatomy of the Periodontium	Gehrig/Shin/Willmann, Ch 1, 2 Hybrid learning content
Week 2	Overview of Diseases of the Periodontium Classification of Periodontal and Peri-Implant Diseases and Conditions Clinical Attachment Levels	Gehrig/Shin/Willmann, Ch 3, 4 Gehrig/Shin/Willmann, pgs. 418-419 Hybrid learning content
Week 3	Clinical Features of the Gingiva Peri-implant Diseases	Gehrig/Shin/Willmann, Ch 5 Gehrig/Shin/Willmann, Ch 9 Hybrid learning content
Week 4	Unit 1 Exam LockDown Browser & Respondus Monitor Required	G/S/W Ch 1-5, Ch 9
Week 4	Periodontal Health, Gingival Diseases and Conditions Periodontitis	Gehrig/Shin/Willmann, Ch 6, 7 Hybrid learning content
Week 5	Other Conditions Affecting the Periodontium Clinical Decision-Making for Periodontal Care Clinical Periodontal Assessment TMJ/ TMD Disorders	Gehrig/Shin/Willmann, Ch 8 Gehrig/Shin/Willmann, Ch 10, 20 Hybrid learning content
Week 6	Radiographic Analysis of the Periodontium Best Practices for Periodontal Care	Gehrig/Shin/Willmann, Ch 21, 22 Hybrid learning content

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Week 7	Unit 2 Exam LockDown Browser & Respondus Monitor Required	G/S/W Ch 6-8, 10, 20-22, TMJ/TMD
Week 7	Etiologic Factors: Risk for Periodontal Disease Oral Biofilms	Gehrig/Shin/Willmann, Ch 12, 13 Hybrid learning content
Week 8	Basic Concepts of Immunity and Inflammation Host Immune Response to Plaque Biofilm Nutrition, Inflammation, and Periodontal Disease	Gehrig/Shin/Willmann, Ch 14, 15 Gehrig/Shin/Willmann, Ch 18 Hybrid learning content
Week 9	Systemic Risk Factors that Amplify Susceptibility to Periodontal Disease	Gehrig/Shin/Willmann, Ch 16 Hybrid learning content
Week 10	Local Factors Contributing to Periodontal Disease	Gehrig/Shin/Willmann, Ch 17 Hybrid learning content
Week 11	Unit 3 Exam LockDown Browser & Respondus Monitor Required	Gehrig/Shin/Willmann, Ch 12-18
Week 11	Patient's Role in Nonsurgical Periodontal Therapy Chemical Agents in Periodontal Care Host Modulation Therapy	Gehrig/Shin/Willmann, Ch 25 Gehrig/Shin/Willmann, Ch 27, 28 Hybrid learning content
Week 12	Nonsurgical Periodontal Therapy	Gehrig/Shin/Willmann, Ch 24 Hybrid learning content
Week 13	Periodontal Surgical Concepts for the Dental Hygienist	Gehrig/Shin/Willmann, Ch 29 Hybrid learning content
Week 14	Acute Periodontal Conditions Maintenance for the Periodontal Patient	Gehrig/Shin/Willmann, Ch 30 Gehrig/Shin/Willmann, Ch 33 Hybrid learning content
Week 15	Impact of Periodontitis on Systemic Health Future Directions for Management of Periodontal Patients	Gehrig/Shin/Willmann, Ch 34 Gehrig/Shin/Willmann, Ch 36 Hybrid learning content
Finals week	Unit 4 Exam LockDown Browser & Respondus Monitor Required	G/S/W Ch 24, 25, 27-30, 33, 34, 36

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PREREQUISITE: DHYG 1301, 1227, 1431, 1304, 1207, 1219, 1235, 1260 & 2301

CO-REQUISITE: DHYG 1339, 2261 & 2331

COURSE DESCRIPTION

Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics.

COURSE GOALS

Upon completion of the curriculum, the student should be able to:

1. Relate the normal histological and anatomical structure of the periodontium to the pathophysiology of the periodontal disease process.
2. Identify risk factors, periodontal bacteria, and level of virulence in periodontal disease.
3. Identify and describe the diseases of the gingiva and periodontium including the etiology and pathogens.
4. Recognize the pathological physiology of systemic disease and its relationship to oral health and dental hygiene treatment.
5. Describe the biological basis of occlusal function and its role in occlusal trauma and periodontal disease.
6. Define the goals and rationale for surgical and non-surgical periodontal therapy.
7. Describe the methods and relationships of assessment tools in periodontal disease.
8. Identify the sequence, effectiveness, and objectives of nonsurgical periodontal therapy.
9. Apply knowledge of the etiology and process of periodontal disease to the essentials of a treatment plan necessary to restore health to these tissues.
10. Develop a value system stressing the importance of prevention, the knowledge base and skills required to assess periodontal health and disease in the individual patient.
11. Demonstrate a synthesis and application of knowledge of periodontology in the recognition and treatment of diseases.

CREDIT HOURS

3 credit hours

CLASS MEETING TIME

Wednesday, 10:30 – 11:45, MPC 112

Hybrid content delivered through Blackboard

INSTRUCTOR

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409-981-6814

Virtual office hours: by appointment

COURSE POLICIES

1. Attendance Policy

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. It is the responsibility of the student to attend class, clinic or lab. The instructor expects each student to be present at each session.

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.

If students 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. An absence will be considered unexcused if the student fails to notify the course faculty prior to the start of class, clinic, or lab. Attendance through Blackboard Collaborate is considered an absence. The course instructor must be notified at least one hour prior to the beginning of class/lab if the student plans to attend through Blackboard Collaborate.** The student is responsible for all material missed at the time of absence. Extenuating circumstances will be taken into account to determine if the absence is excused. Extenuating circumstances might include but are not limited to: funeral of immediate family member, maternity, hospitalization, etc. If the student has surgery, a debilitating injury, or an extended illness, a doctor's release will be required before returning to clinic.

Fall/Spring Semesters:

Dental hygiene students will be allowed **two excused 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 must miss class, clinic or lab beyond the allowed absences, the following policy will be enforced:

- Student is expected to monitor their attendance in Starfish.
- 2 absences = notification in Starfish
- Beginning with the third absence, **2 points** will be deducted from the final course grade for each absence thereafter.
- Two (2) points will be deducted from the final course grade for each unexcused absence.

Tardiness

Tardiness is disruptive to the instructor and the students in the classroom. A student is considered tardy if not present at the start of class, clinic, or lab. 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:

- Student is expected to monitor their tardy(s) in Starfish
- Tardy 1 time = notification in Starfish
- Tardy 2 times = considered an unexcused absence (see definition of unexcused absence)
- If a student is more than 15 minutes late to any class period, it will be considered an unexcused absence

Students should plan on attending classes, labs and clinic sessions as assigned throughout the semester. Family outings, vacations and personal business should be scheduled when school is

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not in session and will not be considered excuses for missing assignments, examinations, classes, labs or clinic time.

2. Examination and Quiz Policy:

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, matching, short answer, and case study questions. No questions will be allowed during exams.

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 two (2) weeks following the exam date. **You may not copy, reproduce, distribute or publish any exam questions.** A grade of "0" will be recorded for all assignments due on the day of absences unless prior arrangements have been made with the Instructor.

Respondus Lockdown Browser and Respondus Monitor will be used for examinations therefore, a webcam is required to take the test. The student is required to show the testing environment at the beginning of the exam to assure the instructor that it is clear of any study materials. Failure to do so will result in a 10-point exam grade deduction.

If a student requires technical assistance during a Blackboard exam, they are to contact Blackboard Technical Support (available 24/7) at 409-951-5701

3. Mandatory Tutoring

If a student receives a failing grade on any major exam, the student will be required to meet with the course instructor within 2 weeks of the failed exam.

4. Academic Integrity

It shall be considered a breach of academic integrity (cheating) to use or possess on your body any of the following devices during any examination unless it is required for that examination and approved by the instructor: cell phone, smart watch/watch phone, laptop, tablet, electronic communication devices (including optical), and earphones connected to or used as electronic communication devices. It may also include the following: plagiarism, falsification and fabrication, abuse of academic materials, complicity in academic dishonesty, and personal misrepresentation.

Use of such devices during an examination will be considered academic dishonesty. The examination will be considered over and the student will receive a zero for the exam. Students with special needs and/or medical emergencies or situations should communicate with their instructor regarding individual exceptions/provisions. It is the student's responsibility to communicate such needs to the instructor.

5. Disability Statement

The Americans with Disability Act of 1990 and Section 504, Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the American with Disability Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps

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foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)839-2018. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](http://www.lit.edu/special-populations)

6. Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Policies and Procedures*. The *LIT Policies and Procedures* may be accessed at <https://www.lit.edu/information/policies-and-procedures> or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Policies and Procedures* supersedes all other versions of the same document

7. Technical Requirements (for Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at: https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

8. Leaving Class During a Lecture

You should be prepared to remain in class for the entire class period. Any personal business should be taken care of prior to or after class. If a medical problem exists or an emergency occurs please inform the instructor.

9. Starfish

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or My LIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT. For more information click: <https://lit.edu/student-success/starfish>

10. Late Work. Assignments will not be accepted if submitted after the due date.

Faculty has the authority to modify the above policies if unusual circumstances mandate a change. Please refer to the Student Handbook for a complete listing of program policies.

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TEACHING METHODS

Lecture, discussion, student presentations, web tools, case studies, care plans, Blackboard learning activities, and Periodontal Office observation

REQUIRED TEXT

- Gehrig JS, Shin DE, and Willmann DE. Foundations of Periodontics for the Dental Hygienist, 5th edition, Lippincott, Williams & Wilkins, 2019. ISBN 978-1-4963-8402-7
- LIT Dental Hygiene Student Handbook/ Risk Management Policy and Procedures Manual

REFERENCES

- Newman, MG, Takei, H, Klokkevold, PR, and Carranza, FA, Carranza's Clinical Periodontology, 13th edition, W. B. Saunders. 2019.
- Bowen DM, Pieren JA. Darby and Walsh Dental Hygiene Theory and Practice, 5th edition, Elsevier, 2020.

Websites

- American Academy of Periodontology: www.perio.org
- Pubmed: <http://www.pubmed.gov>
- American Dental Association Center for Evidence-based Dentistry: <http://ebd.ada.org/>

COURSE REQUIREMENTS

Hybrid Learning

Includes Blackboard reading, assignments, quizzes, and learning activities.

Periodontal Office Observation

Students observe in the office of Dr. Burd, Periodontist, then complete a critique of the experience.

Periodontal Care Plans

A periodontal patient care plan is completed consisting of a Part I and a Part II write-up.

Periodontal Article Review

Students will review and report on a current periodontal journal article.

Examinations (4)

Criteria, instructions, and grade rubrics for all course requirements are posted on Blackboard.

EVALUATION CRITERIA

Exams (4)	60%
Periodontal Care Plans (2)	20%
Periodontal Article Review	5%
Periodontal Office Observation & Critique	5%
Hybrid learning content	<u>10%</u>
	100%

GRADE SCALE:

A = 92 - 100
B = 83 - 91
C = 75 - 82
D = 60 - 74
F = 59 and below

REMEDIATION POLICY: See student handbook for remediation policy.

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CONTENT OUTLINE

Requirements and Introduction to Periodontology

Root Morphology Applications

- a. Width and length of the root
- b. Shape of the root in buccolingual and mesiodistal direction
- c. Clinical attachment level relative to the root length
- d. Curvature of CEJ in anterior and posterior teeth
- e. Size of embrasive area
- f. Length of contact area
- g. Factors which influence crestal alveolar bone
- h. Smoothness of CEJ
- i. Furcations

Periodontium: The Tooth-Supporting Structures

- a. Tissues of the periodontium
- b. Nerve supply, blood supply, and lymphatic system

Microscopic Anatomy of the Periodontium

- a. Histology of the body tissues
- b. Histology of the gingiva
- c. Histology of root cementum and alveolar bone

Overview of Diseases of the Periodontium

- a. The Periodontium in health and disease
- b. Pathogenesis of Bone Destruction
- c. Periodontal pockets
- d. Theories of disease progression
- e. Epidemiology of the diseases of the periodontium

Classification of Periodontal and Peri-Implant Diseases and Conditions

- a. Disease classification systems
- b. The 2017 Classification of periodontal and peri-implant diseases and conditions

Clinical Features of the Gingiva

- a. Clinical features of healthy gingiva
- b. Clinical features of gingival inflammation
- c. Extent and distribution of inflammation

Periodontal Health, Gingival Diseases, and Conditions

- a. Periodontal health
- b. Dental plaque-induced gingival conditions
- c. Non-plaque-induced gingival diseases

Periodontitis

- a. Periodontitis
- b. Periodontitis Staging and Grading System

Other Conditions Affecting the Periodontium

- a. Necrotizing periodontal diseases
- b. Mucogingival deformities and conditions around teeth

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- c. Tooth and prosthesis-related predisposing factors

Peri-Implant health and diseases

- a. Anatomy of the dental implant and surrounding peri-implant tissues
- b. Peri-implant health, diseases, and conditions
- c. Recognition of peri-implant diseases
- d. Clinical monitoring of peri-implant health and diseases
- e. Clinical guidelines for maintenance of patients with dental implants

Clinical Decision-Making for Periodontal Care

- a. Guidelines for arriving at a periodontal diagnosis
- b. Guidelines for periodontal treatment sequencing
- c. The need for ongoing decision making

Temporomandibular joint disorders

- a. The temporomandibular joint
- b. TM dysfunction/pathology

Etiologic Factors: Risk for Periodontal Disease

- a. What is oral health?
- b. Risk factors for periodontal disease
- c. Balance between periodontal health and disease
- d. Periodontal risk assessment

Oral Biofilms

- a. Microbial biofilms
- b. The Structure and colonization of oral biofilms
- c. The role of bacteria in periodontal disease

Basic Concepts of Immunity and Inflammation

- a. The body's defense system
- b. Leukocyte migration, chemotaxis, and phagocytosis
- c. The inflammatory process

Host Immune Response to Plaque Biofilm

- a. The host response in periodontal disease
- b. Histologic stages in the development of periodontal disease
- c. The impact of host response on bone homeostasis

Systemic Risk Factors that Amplify Susceptibility to Periodontal Diseases

- a. Systemic conditions as risk factors for periodontitis
- b. Systemic medications with periodontal side effects

Local Factors Contributing to Periodontal Disease

- a. Introduction to local contributing factors
- b. Local factors that increase biofilm retention
- c. Dental restorations as local factors
- d. Local factors that cause direct damage

Nutrition, Inflammation, and Periodontal Disease

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- a. Association between obesity and periodontal disease
- b. Micronutrients, antioxidants and periodontal disease
- c. Macronutrients and periodontal disease

Clinical Periodontal Assessment

- a. The comprehensive periodontal assessment
- b. Periodontal screening examination
- c. Supplemental diagnostic tests

Radiographic Analysis of the Periodontium

- a. Radiographic appearance of the periodontium
- b. Use of radiographic images for periodontal evaluation

Best Practices for Periodontal Care

- a. What is best practice?
- b. Role of evidence-based decision making in best practice
- c. Finding clinically relevant information
- d. Lifelong learning skills for best practice

Nonsurgical Periodontal Therapy

- a. Overview of nonsurgical periodontal therapy (NSPT)
- b. Mechanical nonsurgical therapy
- c. Decisions following nonsurgical therapy

Patients Role in Nonsurgical Periodontal Therapy

- a. Patient self-care in nonsurgical therapy
- b. Self-care challenges for patients with periodontitis
- c. Tongue cleaning as an adjunct

Chemical Agents in Periodontal Care

- a. Introduction to chemical agents in biofilm control
- b. Use of systemic antibiotics to control biofilm
- c. Use of topically delivered chemical agents
- d. Educating patients on the use of unconventional dental products/ remedies

Host Modulation

- a. Introduction to host modulation therapy
- b. Potential host modulating therapies in periodontal patients
- e. Host modulation therapy as part of comprehensive periodontal patient management

Periodontal Surgical Concepts for the Dental Hygienist

- a. Introduction to periodontal surgery
- b. Understanding the periodontal flap
- c. Description of common types of periodontal surgery
- d. Biological enhancement of surgical outcomes
- e. Patient management following periodontal surgery

Acute Periodontal Conditions

- a. Introduction to acute periodontal conditions
- b. Abscesses of the periodontium
- c. Necrotizing periodontal diseases

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- d. Primary herpetic gingivostomatitis

Maintenance for the Periodontal Patient

- a. Introduction to periodontal maintenance therapy
- b. Planning periodontal maintenance
- c. Periodontal disease recurrence
- d. Patient compliance with periodontal maintenance
- e. Root caries as a complication during periodontal maintenance

Impact of Periodontitis on Systemic Health

- a. Linking periodontitis with systemic disease
- b. Systemic conditions associated with periodontitis

Future Directions for Management of Periodontal Patients

- a. Contemporary and evolving diagnostic technology
- b. Periodontal disease/systemic disease connections
- c. Research in dental implantology
- d. Treatment modalities in periodontal care

LEARNER OBJECTIVES

Upon completion of unit the student will be able to:

ROOT MORPHOLOGY

1. Relate the shape of the clinical instrument to root morphology.
2. Describe axial positioning and its importance in instrumentation.
3. Recognize the factors which influence the shape of crestal alveolar bone.
4. Evaluate the level of clinical attachment relative to the length of the tooth.
5. Identify and discuss the anatomical characteristics of root surfaces that affect instrument selection and instrument use, including root shape, root proximity, width, and length; curvature of the CEJ; contact areas; furcation location, width, vertical and horizontal dimensions, and relationship of gingival.
6. Discuss the variation of the CEJ and its clinical importance.

THE PERIODONTIUM IN HEALTH

1. Describe the nerve and blood supply to the periodontium.
2. Explain the role of the lymphatic system in the health of the periodontium.
3. Demonstrate knowledge of the tissues of the periodontium by applying concepts to patient cases.
4. Discuss the importance of the periodontium in the study of periodontology.
5. Compare and contrast the component tissues, their characteristics, and the functions of the periodontium.
6. Compares the microscopic anatomy of the gingival epithelium, junctional epithelium, and gingival connective tissue.
7. Compares the microscopic anatomy of the periodontal ligament, periodontal attachment apparatus, cementum, and alveolar bone.
8. Compare and contrast the terms desmosome and hemidesmosome.
9. Relates keratinization to the gingiva, alveolar mucosa, buccal mucosa, and palate.
10. Explain the factors that influence gingival contour, consistency, surface, and position.
11. Compare and contrast the principle fibers of the periodontal ligament and their functions.
12. Describe the function of the cementum and alveolar bone in the periodontium.

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13. Describe the function the function of the gingival connective tissue and the supragingival fiber bundles.

OVERVIEW OF DISEASES OF THE PERIODONTIUM

1. Compare and contrast the clinical and histologic characteristics of the periodontium in health, gingivitis, and periodontitis
2. Distinguish clinically the signs of health, gingivitis and periodontitis
3. Describe the position of the crest of the alveolar bone in health, gingivitis, and periodontitis
4. Describe the position of the junctional epithelium in health gingivitis, and periodontitis.
5. Describe the epithelial-connective tissue junction in health, gingivitis, and periodontitis.
6. Explain the significance of intact transseptal fibers in severe bone loss.
6. Describe the progressive destruction of alveolar bone loss that occurs in periodontitis.
7. Compare and contrast horizontal and vertical bone loss.
8. Describe the pathway of inflammation that occurs in horizontal and vertical bone loss.
9. Define the terms active disease site and inactive disease site.
10. Compare and contrast the types of pockets seen in periodontal disease.
11. Describe variables associated with periodontal disease that an epidemiologist might Include in a research study.
12. Identify prevalence and incidence as measurements of periodontal disease within the population.
13. Describe how clinical dental hygiene practice can be affected by epidemiologic research.
14. Describe the theories of disease progression.

CLASSIFICATION OF PERIODONTAL AND PERI-IMPLANT DISEASES AND CONDITIONS

1. Explain the importance of a classification system for periodontal disease.
2. Name the three major categories of periodontal diseases and conditions.
3. Explain why clinicians need to be familiar with terminology from the 1999 disease classification, such as chronic periodontitis and aggressive periodontitis.
4. Be able to discuss some differences between the 2017 and 1999 Classification Systems.
5. Name the four subcategories of the Peri-Implant Diseases and Conditions category.

CLINICAL FEATURES OF THE GINGIVA

1. Describe characteristics of gingiva in health.
2. List clinical signs of gingival inflammation.
3. Explain the difference in color between acute and chronic inflammation.
4. Compare and contrast clinical features of healthy and inflamed gingival tissue.

PERIODONTAL HEALTH, GINGIVAL DISEASES, AND CONDITIONS

1. Define periodontal health and be able to describe the clinical features that are consistent with signs of periodontal health.
2. Name and define the two major subdivisions of gingival disease as established by the American Academy of Periodontology.
3. Compare and contrast etiologic factors of dental biofilm-induced gingival diseases and non-plaque-induced gingival lesions.
4. Describe how systemic factors can modify the host response to plaque biofilm and lead to gingival inflammation.

PERIODONTITIS

1. Define the term, clinical attachment loss and explain its significance in the periodontal disease process.

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2. Recognize and describe clinical and radiographic features of chronic periodontitis.
3. Describe the change or advancement – disease progression - typically seen in periodontitis.
4. In the clinical setting, explain to your patient the signs and symptoms of periodontitis.
5. List systemic factors that may be contributing factors to periodontitis.
6. Explain desired outcomes and determinants of long-term outcomes following treatment of periodontitis.
7. Define the meaning of the descriptors recurrent periodontitis and refractory periodontitis.

OTHER CONDITIONS AFFECTING THE PERIODONTIUM

1. Describe the clinical presentation of necrotizing periodontal diseases.
2. Describe the tissue destruction that occurs in necrotizing periodontal diseases.
3. Compare and contrast the clinical findings of necrotizing gingivitis and necrotizing periodontitis.
4. Compare and contrast the tissue destruction in periodontitis with that seen in necrotizing periodontitis.
5. Explain how local factors may contribute to the initiation and progression of periodontitis.
6. Explain the Miller and Cairo classification systems used to classify gingival recession.

PERI-IMPLANT HEALTH AND DISEASES

1. Describe the components of a conventional dental implant and restoration.
2. Compare and contrast the periodontium of a natural tooth with the peri-implant tissues that surround a dental implant.
3. Define and distinguish the key differences between peri-implant health, peri-implant mucositis, and peri-implantitis.
4. Define the terms osseointegration and biomechanical forces as they apply to dental implants.
5. Describe an appropriate maintenance interval for a patient with dental implants.
6. In the clinical setting, select appropriate self-care aids for a patient with dental implants.

CLINICAL PERIODONTAL ASSESSMENT

1. Explain which members of the dental team are responsible for the clinical assessment.
2. Compare and contrast a periodontal screening examination and a comprehensive periodontal assessment.
3. Describe how to evaluate each component of a comprehensive periodontal assessment.
4. Given several clinical scenarios determine the clinical attachment level.
5. List the components of a comprehensive periodontal assessment.

RADIOGRAPHIC ANALYSIS OF THE PERIODONTIUM

1. Compare and contrast radiographic characteristics of normal and abnormal periodontium.
2. Compare and describe early radiographic evidence of periodontal disease.
3. Differentiate between vertical and horizontal bone loss.
4. Recognize potential etiologic agents for periodontal disease radiographically.
5. Explain the difference between radiographic vertical and horizontal alveolar bone loss.

CLINICAL DECISION-MAKING FOR PERIODONTAL CARE

1. List the three fundamental diagnostic questions used when assigning a periodontal diagnosis.
2. List the two fundamental diagnostic questions used when assigning a peri-implant diagnosis.
3. Explain how to arrive at appropriate answers to each of the fundamental diagnostic questions.
4. Explain the difference between signs of a disease and symptoms of a disease.
5. Explain what is meant by the term silent disease.
6. List the phases of therapy treatment.

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7. Explain why a patient's diagnosis and treatment plan may require later modifications.

BEST PRACTICES FOR PERIODONTAL CARE

1. Define the term best practice.
2. Summarize how the explosion of knowledge is impacting practitioners and patients.
3. Identify the three components of evidence-based decision making.
4. Define a systemic review.
5. List locations for accessing systemic reviews.
6. Describe the role of the patient in the evidence-based model.
7. Identify the levels of evidence in scientific research.

TMJ/TMD 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. Describe the cause and list the common signs and symptoms of temporomandibular disorders.
4. Describe the procedures for clinically assessing jaw function and occlusion in a screening examination.
5. Identify the various modalities used to treat temporomandibular disorders.
6. State the factors which are implicated in the cause of TMD and appropriate follow-up questions to ask a patient suspected of having TMD.
7. List the symptoms suggestive of temporomandibular dysfunction.
8. List the types of TMDs.

ETIOLOGIC FACTORS: RISK FOR PERIODONTITIS

1. Define and give examples of "risk factors".
2. Define the term biologic equilibrium and discuss factor that can disrupt the balance between health and disease in the periodontium.
3. Discuss the importance of a periodontal risk assessment in periodontal treatment planning.
4. Define and give examples of patient contributing risk factors.

ORAL BIOFILMS

1. Explain the differences in cell envelope of a Gram-positive versus a Gram-negative bacterium.
2. Describe the components of the biofilm structure.
3. Explain the significance of extracellular protective matrix and fluid channels to a biofilm.
4. Explain why systemic antibiotics and antimicrobial agents are not effective in eliminating dental plaque biofilms.
6. Explain the significance of coaggregation in bacterial colonization of the tooth surface.
7. State the most effective ways to control dental plaque biofilms.
8. Define quorum sensing and explain its significance in coordinating and regulating microbial behavior and growth.
9. Name several reasons why newer microbe detection methods have brought Socransky's microbial complexes and the specific plaque hypothesis model into question
10. Discuss the hypothesis that plaque biofilm is necessary but not sufficient for periodontal destruction (microbial homeostasis-host response hypothesis).

BASIC CONCEPTS OF IMMUNITY AND INFLAMMATION

1. Define immune system and describe its function.

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2. Describe the role of PMNs, macrophages, B and T lymphocytes in the immune system.
3. Contrast the terms macrophage and monocyte.
4. Describe the main ways that antibodies participate in the host defense.
5. Define the term inflammatory mediator and give several examples of inflammatory mediators.
6. Define the complement system and explain its principal functions in the immune response.

HOST IMMUNE RESPONSE TO PLAQUE BIOFILM

1. Define the term host response and explain its primary function.
2. Name factors that can enhance the microbial challenge to the periodontium.
3. Define the term biochemical mediator and three types of mediators.
4. Describe the potential role of cytokines in the pathogenesis of periodontitis.
5. Describe the potential role of prostaglandins in the pathogenesis of periodontitis.
6. Describe the effects of increased levels of MMPs on periodontal tissues.
7. Name factors that affect host immune response.
8. For each of the histologic states of gingivitis and periodontitis name one change in the host response likely to be encountered.

SYSTEMIC RISK FACTORS THAT AMPLIFY SUSCEPTIBILITY TO PERIODONTAL DISEASE

1. Name several systemic diseases/conditions that may modify the host response to periodontal pathogens.
2. Recognize the importance of educating patients about the relationship between oral health and systemic diseases.
3. Discuss the potential implications of systemic conditions on the periodontium.
4. Describe the significance of the AGE-RAGE interactions and its role in amplifying periodontal inflammation.
5. Name three medications that can cause gingival enlargement.

LOCAL FACTORS CONTRIBUTING TO PERIODONTAL DISEASE

1. Describe local factors can contribute to increased plaque retention.
2. Explain what distinguishes a local contributing factor from a systemic contributing factor.
3. Identify and differentiate the location, composition, modes of attachment, mechanisms of mineralization, and pathologic potential of supra- and subgingival calculus deposits.
4. Describe the local contributing factors that can lead to direct damage to the periodontium.
5. Describe the role of trauma from occlusion as a contributing factor in periodontal disease.

NUTRITION, INFLAMMATION, AND PERIODONTAL DISEASE

1. Discuss the link between obesity and periodontal disease.
2. Discuss the role of polymorphonuclear leukocytes in the production of reactive oxygen species in response to plaque biofilm.
3. Discuss how antioxidants may influence periodontal disease onset and progression.
4. Describe the proposed role of micronutrients and macronutrients in periodontal disease

NONSURGICAL PERIODONTAL THERAPY (NSPT)

1. Explain the term nonsurgical periodontal therapy (NSPT).
2. Discuss the indication for, goals and components of nonsurgical periodontal therapy.
3. Explain the role of interdisciplinary collaborative care in NSPT.
4. Describe a typical treatment plan for NSPT for a patient with biofilm-induced gingivitis, and with generalized stage 1, grade A periodontitis.

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5. Describe the type of healing to be expected following successful instrumentation of root surfaces.
6. Describe a strategy for managing dental hypersensitivity during nonsurgical therapy.
7. Explain why reevaluation is a critical step during nonsurgical therapy.
8. List steps in an appointment for reevaluation of the results of nonsurgical therapy.

PATIENT'S ROLE IN NONSURGICAL THERAPY

1. Discuss the concept of self-care and the roles of the patient and provider in the periodontal patient.
2. Explain the special importance of interdental care for a patient with periodontitis.
3. Describe the term gingival embrasure space and explain its importance in selecting interdental aids.
4. Relate specific root concavities to the importance in selecting effective interdental aids.
5. In a clinical setting, recommend, explain, and demonstrate appropriate interdental aids to a patient with type I - III embrasures. Assist the patient in selecting and appropriate interdental aid that the patient is willing to use on a daily basis.
6. State the rationale for tongue cleaning and in the clinical setting, recommend and teach tongue cleaning to an appropriate patient.

CHEMICAL AGENTS IN PERIODONTAL CARE

1. Describe the difference between systemic delivery and topical delivery of chemical agents.
2. Explain the term systemic antibiotic.
3. Explain why systemic antibiotics are not used routinely in treatment of patients with plaque-associated gingivitis and chronic periodontitis patients.
4. Describe mouth rinse ingredients that can help reduce the severity of gingivitis.
5. List three antimicrobial agents that can be delivered using controlled-release delivery devices.
6. Explain why toothpastes are nearly ideal delivery mechanisms for chemical agents.
7. List toothpaste ingredients that can reduce the severity of gingivitis.
8. List current evidence behind charcoal-based dental products and oil pulling.

HOST MODULATION THERAPY

1. Explain the term host modulation.
2. Explain the potential importance of host modulation.
3. Identify some anti-inflammatory mediators.
4. Identify some proinflammatory mediators.
5. Identify and discuss some potential host modulating agents.
6. Explain the term sub-antibacterial dose.
7. Discuss the treatment strategies for a periodontitis patient that includes host modulation.
8. Explain why low-dose doxycycline are useful as host-modulating agents.

PERIODONTAL SURGICAL CONCEPTS FOR THE DENTAL HYGIENIST

1. Identify the objectives of periodontal surgery.
2. Explain the term relative contraindication for periodontal surgery.
3. Define the terms repair, reattachment, new attachment, and regeneration.
4. Explain the difference between healing by primary intention and healing by secondary intention.
5. Explain the term elevation of a flap.
6. Explain two methods for classification of periodontal flaps.
7. Describe two types of incisions used during periodontal flaps.
8. Describe healing following flap for access and open flap debridement.

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9. Describe the typical outcomes for apically positioned flap with osseous surgery.
10. Define the terms ostectomy and osteoplasty.
11. Define the terms osteoinductive and osteoconductive.
12. Explain the terms autograft, allograft, xenograft, and alloplast.
13. Identify two types of materials available for bone replacement grafts.
14. Explain why a barrier material is used during guided tissue regeneration.
15. Explain the term periodontal plastic surgery.
16. List two types of crown lengthening surgery.
17. List some disadvantages of a gingivectomy
18. Explain what is meant by biological enhancement of periodontal surgical outcomes.
19. List the general guidelines for suture removal.
20. List general guidelines for periodontal dressing management.
21. Explain the important topics that should be covered in postsurgical instruction.
22. List the steps of a typical postsurgical visit.

ACUTE PERIODONTAL CONDITIONS

1. Describe the types of abscesses of the periodontium.
2. Describe symptoms of primary herpetic gingivostomatitis.
3. Describe the possible causes of abscesses of the periodontium.
4. Compare and contrast the abscess of the periodontium and the pulpal abscess.
5. Outline the typical treatment steps for a gingival abscess and a periodontal abscess.
6. Describe the clinical situation that can result in a pericoronal abscess.
7. Outline the typical treatment for a pericoronal abscess.
8. Outline the typical treatment steps for necrotizing gingivitis.

MAINTENANCE FOR THE PERIODONTAL PATIENT

1. Explain the term periodontal maintenance.
2. List three objectives of periodontal maintenance.
3. Describe how periodontal maintenance relates to other phases of periodontal treatment.
4. Explain the procedures performed during a patient appointment for periodontal maintenance.
5. Define the term baseline data.
6. Describe the guidelines for determining whether the general or the periodontal practice should provide periodontal maintenance for a particular patient.
7. Describe how to establish an appropriate maintenance interval between appointments.
8. Recognize the clinical signs of recurrence of periodontitis and determine the potential contributing factors.
9. Explain the term compliance.
10. Explain the role of patient compliance with periodontal maintenance and describe strategies to improve compliance with recommended maintenance intervals and oral hygiene regimens.
11. Describe the recommendations for the use of fluorides in the prevention of root caries.

IMPACT OF PERIODONTITIS ON SYSTEMIC HEALTH

1. Contrast the terms “association” and “causation” between a given factor and a systemic disease.
2. Educate patients at risk for cardiovascular diseases about the possible impact of periodontal infection on cardiovascular health and encourage oral disease prevention and treatment services.
3. Educate pregnant women and those planning pregnancies regarding the possible impact of periodontal infection on pregnancy outcomes and encourage preventive oral care and treatment series.

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4. Educate patients with diabetes about the probable bidirectional association between periodontal disease and diabetes and encourage oral disease prevention and treatment services.
5. Educate family members and caregivers about the association between periodontal disease and pneumonia in health-compromised individuals in hospitals and long-term care facilities.
6. Establish collaborative relationships with other health care providers to ensure the highest standard of care for periodontal patients with systemic diseases and conditions.

FUTURE DIRECTIONS FOR MANAGEMENT OF PERIODONTAL PATIENTS

1. Describe strategies in the management of periodontal patients that are likely to evolve in the future.