

**Periodontology II (ADS 364)**  
**Department of Preventive Dentistry**  
**Faculty of Dentistry**  
**Jordan University of Science and Technology**



**2nd Semester**

**Course coordinator: Dr. Wesam Azar**



Jordan University of Science and Technology  
Faculty of Applied Medical Sciences  
Department of Applied Dental Sciences  
Second Semester  
Periodontology II (ADS 364)  
Course Syllabus

<b>Course Information</b>	
<b>Course Title</b>	Periodontology II for Dental Hygiene Student
<b>Course Code</b>	ADS 364
<b>Prerequisites</b>	ADS 363 Periodontics I
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<b>Course Description</b>
<p>This is a 2-credit hour course (1 theoretical; 1 practical) designed to emphasize the rationale and evidence base for nonsurgical and surgical periodontal therapies and periodontal maintenance therapy to the dental hygiene students. This course aims at giving dental hygiene students the knowledge about diagnosis of periodontal diseases; treatment planning; adjunctive therapies such as local and systemic chemotherapeutics; treatment of acute periodontal conditions; the relation of periodontal health with other medical conditions. Also this course will provide the student with information about the role of the dental hygienist and dental assistant in periodontics. The practical part of this course emphasizes the team approach in diagnosis, treatment planning, patient education, nonsurgical therapy and surgical periodontal therapy, implantology, and periodontal maintenance care.</p>

<b>Textbook</b>	
<b>Title</b>	Foundations of Periodontics for the Dental Hygienist
<b>Author(s)</b>	Nield- Gehrig and Willmann
<b>Publisher</b>	Lippincott Williams and Wilkins
<b>Year</b>	2011
<b>Edition</b>	Third Edition
<b>Other references</b>	<ul style="list-style-type: none"> <li>▪ Michael G. Newman, Henry H. Takei, Fermin A. Carranza. Carranza's Clinical Periodontology 10th ed. Elsevier Saunders, 2008</li> <li>▪ Darby M and Walsh M. Dental Hygiene: Theory and Practice, 3rd ed. Elsevier Saunders, 2009</li> </ul>

<b>Modes of Assessment</b>			
Assessment		Percentage	Expected Due Date
Total		100%	
Theoretical Part		50%	
	Midterm Exam	30%	TBA
	Final Exam	20%	TBA
Practical Part		50%	
	Continuous	30% (20% Midterm, 10% POIs)	TBA
	Final	20%	TBA

<b>Learning Objectives &amp; Outcomes</b>	
<b>1</b>	<p><b>Clinical Periodontal Assessment and Radiographic Analysis</b></p> <ol style="list-style-type: none"> <li>1. Describe clinically healthy and non-healthy gingiva in regards to color, consistency, contour, and stippling</li> <li>2. Describe clinical and radiographic manifestations of periodontal diseases.</li> <li>3. Describe and define clinical parameters commonly used to detect periodontal disease to include:               <ol style="list-style-type: none"> <li>a. Probing</li> <li>b. Recession</li> <li>c. Clinical Attachment Loss (CAL)</li> <li>d. Furcation</li> <li>e. Mobility</li> <li>f. Muco-gingival involvement</li> </ol> </li> </ol>

	<ol style="list-style-type: none"> <li>4. Identify the clinical signs of the periodontal pocket &amp; differentiate various types of periodontal pockets: pseudopockets, periodontal pocket, infrabony, and suprabony pockets.</li> <li>5. Discuss the significance of pocket measurements &amp; list several factors that can affect the accuracy of probe readings.</li> <li>6. Calculate loss of attachment given appropriate clinical parameters and explain the significance of measuring attachment loss.</li> <li>7. Explain the significance of bleeding in periodontal disease.</li> <li>8. Differentiate between various furcation involvements</li> <li>9. Differentiate between the attached gingiva and alveolar mucosa &amp; define an adequate width of attached gingiva in a healthy and non-healthy state.</li> <li>10. Demonstrate the proper technique for determining tooth mobility.</li> <li>11. Relate recession, pocket depth and gingival margin level to clinical loss of attachment.</li> <li>12. Formulate preliminary diagnosis of a client's periodontal condition based upon dental, radiographic and periodontal data collected during the oral examination.</li> <li>13. Differentiate between gingivitis and periodontitis</li> <li>14. Describe why radiographs are considered a periodontal road map.</li> <li>15. Identify radiographic signs of slight, moderate and advanced periodontitis.</li> <li>16. Given radiographs identify vertical vs. horizontal bone loss.</li> <li>17. Identify radiographic changes in furcation involvement.</li> <li>18. Correlate AAP Periodontal Classes with radiographic evidence of bone loss.</li> <li>19. Calculate the quantity of bone loss as a percentage.</li> <li>20. List the limitations of dental radiographs in diagnosis of periodontal disease</li> <li>21. Identify what oral structures cannot be seen on a radiograph.</li> <li>22. Recognize periodontal conditions based on clinical and radiographic examinations while aware of the limitations of each technique.</li> </ol>
<p><b>2</b></p>	<p><b>Rational/Evidence-base for Periodontal Therapy &amp; Decision Making During Treatment Planning for Patient With Periodontal Diseases</b></p> <ol style="list-style-type: none"> <li>1. Identify 3 components of evidenced based decision making.</li> <li>2. Appraise clinical evidence and determine its usefulness in clinical decision-making.</li> <li>3. Make evidence based decisions about periodontal care.</li> <li>4. Explain decision making as it relates to periodontal disease diagnosis</li> <li>5. Give rationale, goals, and sequencing of periodontal treatment planning.</li> <li>6. Realize the importance of providing comprehensive periodontal therapy to clients.</li> <li>7. Consider all possible etiologic factors in treatment planning for the periodontally involved patient.</li> <li>8. Utilize knowledge of periodontal disease, its etiology and therapy to design an efficient treatment plan for the periodontal client.</li> <li>9. Perform a radiographic interpretation of periodontal conditions from a full-mouth survey, for treatment planning.</li> <li>10. Appreciate the need for informing clients of their periodontal condition and making</li> </ol>

	<p>appropriate referrals and be able to make such recommendations.</p> <ol style="list-style-type: none"> <li>11. Consider all possible etiologic factors in treatment planning for the periodontal client.</li> <li>12. Discuss the 4 phases of treatment planning and the dental hygienists role in each.</li> <li>13. Utilize effective components of communication to ensure informed consent.</li> <li>14. Utilize the 4 R's (recognize, record, report, react) to ensure effective periodontal disease care planning.</li> <li>15. Identify and uphold in clinic the standard of skill and care in providing health care.</li> <li>16. Recognize the characteristics and legal implications of a well-kept client record.</li> <li>17. Advocate the patient's role in self-care as a part of non-surgical periodontal therapy</li> <li>18. Identify the considerations for sequencing dental hygiene treatment in Phase I and Phase IV of periodontal treatment.</li> <li>19. Discuss ways the periodontal therapy appointments differ from a prophylaxis.</li> <li>20. Describe informed consent and its importance to periodontal treatment planning.</li> </ol>
<p><b>3</b></p>	<p><b>Patient's role in Periodontal Therapy</b></p> <ol style="list-style-type: none"> <li>1. Discuss the role of plaque as the primary etiologic factor in periodontal disease.</li> <li>2. Discuss the role of local risk factors such as occlusion, overhangs, iatrogenic factors, crown contours and margins, mouth-breathing and poor oral hygiene to periodontal disease.</li> <li>3. Explain how each etiologic factor is related to the initiation, progression and severity of periodontal disease.</li> <li>4. Explain how a patient's immune system relates to the initiation and progression of periodontal disease.</li> <li>5. Educate patients about their risk for periodontal disease after identifying individual patient risk factors.</li> <li>6. Assess the advantages and disadvantages of a genetic marker test to assess risk for periodontal disease.</li> <li>7. Explain how periodontal disease can serve as a risk for pre-term, low birth weight babies, coronary heart disease, diabetes and respiratory disease.</li> <li>8. Recognize the role of patient behavior change in Treatment plan</li> <li>9. Explain the goal of motivational interviewing and describe how hygienists often approach patient education</li> <li>10. Be able to identify the elements of the motivational interviewing philosophy and give examples of specific motivational interviewing methods and how they are used to enhance patient motivation.</li> <li>11. Discuss the concept of self-care and the roles of the patient and provider.</li> <li>12. In the clinical setting, recommend and teach power brushing to an appropriate patient.</li> <li>13. State the rationale for tongue cleaning.</li> <li>14. Explain why interdental care is of special importance for a patient with periodontitis.</li> <li>15. Define the term gingival embrasure space and explain its importance in selecting effective interdental aids.</li> <li>16. Define the term root concavity and explain its importance in selecting effective</li> </ol>

	<p>interdental aids.</p> <p>17. Explain, and demonstrate appropriate interdental aids to a patient and assist the patient in selecting an appropriate interdental aid that the patient is willing to use on a daily basis.</p>
<b>4</b>	<p><b>Non-Surgical Periodontal Therapies</b></p> <ol style="list-style-type: none"> <li>1. Discuss the hygienists' role in periodontal therapy and as a periodontal co-therapist.</li> <li>2. Define nonsurgical periodontal therapy.</li> <li>3. Describe the steps involved in nonsurgical periodontal therapy programs.</li> <li>4. Analyze the benefits of various mechanical modalities for plaque removal</li> <li>5. Discuss philosophical differences in scaling vs. root planing vs. debridement.</li> <li>6. Identify the indications and contraindications for root debridement.</li> <li>7. Demonstrate hand instrumentation for root planing in terms of instrument selection, grasp, fulcrum, and number, length, direction and pressure of working strokes.</li> <li>8. Demonstrate direct instrument adaptation as related to tooth root morphology.</li> <li>9. Assess the importance of irrigation as part of root debridement.</li> <li>10. Discuss criteria used for evaluating the success of root debridement procedure (both short and long term).</li> <li>11. Compare and contrast the differences between initial therapy, active therapy, evaluation and maintenance stages of dental hygiene therapy.</li> <li>12. Discuss complicating factors that may affect the implementation of root debridement and give ways of eliminating or responding to them.</li> <li>13. Perform root planing/debridement procedures effectively to provide a deposit-free, smooth root surface with minimal tissue trauma in clinical setting.</li> <li>14. Identify the limitations of subgingival scaling in relation to curet efficiency.</li> <li>15. Assess the effects of utilizing dull and sharp instruments while root debridement.</li> <li>16. Identify those clients for whom ultrasonic scaling is or is not an appropriate choice.</li> <li>17. Describe the advantages and disadvantages of ultrasonic debridement.</li> <li>18. Describe how the ultrasonic scaler removes deposits.</li> <li>19. Identify precautions that must be taken to minimize cross-contamination during ultrasonic debridement.</li> <li>20. Describe the best sequence and stroking pattern to produce a smooth surface with an ultrasonic scaler.</li> <li>21. Contrast ultrasonic instrumentation principles with those employed with hand instruments.</li> <li>22. Utilize proper treatment planning so each area (quadrant) is completed before proceeding.</li> <li>23. Utilize appropriate post-op instructions for clients following root debridement/planing.</li> <li>24. Advocate the use of non-surgical periodontal therapies to manage periodontal disease within the scope of dental hygiene practice.</li> </ol>
<b>5</b>	<p><b>Chemotherapeutics in Periodontal Care-Antimicrobials, Local Drug Delivery, Antibiotics and Mouth rinses</b></p> <ol style="list-style-type: none"> <li>1. Identify antibiotic regimens commonly used in treating periodontal diseases.</li> </ol>

	<ol style="list-style-type: none"> <li>2. Discuss the use of oral antimicrobial therapies, in periodontal therapy.</li> <li>3. Discuss the mechanism of action of oral antimicrobial agents on sub and supra-marginal biofilm</li> <li>4. Discuss the indications, contraindications and limitations for oral antimicrobial agents.</li> <li>5. Discuss the modes of application for oral antimicrobial agents.</li> <li>6. Discuss the theory of using oral antimicrobial agents as a pre and post-surgical adjunct procedure.</li> <li>7. Evaluate oral rinses and agents characteristics &amp; benefits</li> <li>8. Explain the difference between substantive and non-substantive antimicrobial agents.</li> <li>9. Discuss patient selection criteria for Arrestin®, Perio Chip®, Atridox® and Periostat®.</li> <li>10. Identify the basic armamentarium needed for placement of the periodontal fiber, chlorhexidine chip and doxycycline hydroxylate.</li> <li>11. Describe the steps involved in correct placement of Arrestin®, Perio Chip® and Atridox®.</li> <li>12. Describe the composition of the tetracycline periodontal fiber, Perio Chip® and Atridox®.</li> <li>13. Identify post-op instructions after Arrestin®, Perio Chip® and Atridox® placement.</li> <li>14. Describe the composition of Periostat® and recommended treatment.</li> <li>15. Analyze the benefits of local drug delivery therapy vs. irrigation vs. rinses and systemic delivery.</li> <li>16. Differentiate between host modulation therapy and therapies that reduce the bacterial load.</li> </ol>
<p><b>6</b></p>	<p><b>Periodontal Emergencies</b></p> <ol style="list-style-type: none"> <li>1. Describe and recognize pericoronitis and its etiology.</li> <li>2. Discuss appropriate treatment or referral options for pericoronitis.</li> <li>3. Define and differentiate between periodontal and periapical abscesses.</li> <li>4. Describe treatment modalities for periodontal abscesses and provide treatment if within dental hygienists' scope of practice.</li> <li>5. Discuss etiology, clinical characteristics and treatment of the NUG patient.</li> <li>6. Plan treatment and education for NUG patients to restore periodontal health.</li> <li>7. Differentiate between NUG and primary herpes in terms of etiology, diagnosis and treatment.</li> <li>8. Differentiate between the clinical signs and symptoms of NUG and primary herpes.</li> <li>9. Compare and contrast the clinical and radiological signs of a periapical abscess and cyst.</li> <li>10. Differentiate between a lateral periodontal abscess and a periapical abscess.</li> <li>11. Implement appropriate dental hygiene therapies for a patient with an acute periodontal abscess emergency</li> <li>12. Distinguish between a periodontal abscess and lesion of endodontic origin.</li> <li>13. Value the role of dental hygienists in managing periodontal emergencies within their scope of practice.</li> </ol>
<p><b>7</b></p>	<p><b>Periodontal Surgical Concepts</b></p>

	<ol style="list-style-type: none"> <li>1. Describe the role of the dental hygienist and dental assistant in the surgical treatment of periodontal diseases.</li> <li>2. Recognize the clinical conditions that are most likely to benefit from periodontal surgery.</li> <li>3. Describe the advantages and disadvantages of periodontal surgery</li> <li>4. Explain the term relative contraindications for periodontal surgery.</li> <li>5. List and define the types of periodontal surgery to include flaps, grafts, gingivectomy, guided tissue regeneration, bone grafting, gingivoplasty, osseous surgery and implants.</li> <li>6. Describe when and why a surgeon may choose to perform periodontal flaps to treat periodontitis.</li> <li>7. Describe the types of defects which offer the best and least potential for bony regeneration.</li> <li>8. Provide a description of guided tissue regeneration surgical procedures.</li> <li>9. Describe free gingival grafts.</li> <li>10. Describe post-operative instructions and procedures to patients.</li> <li>11. Explain how healing of the periodontium takes place subsequent to surgical intervention.</li> <li>12. Differentiate between new attachment, reattachment regeneration and repair.</li> <li>13. Explain the difference between healing by primary intention and healing by secondary intention.</li> <li>14. Name two broad categories of materials used to suturing periodontal wounds</li> <li>15. List general outlines for suturing removal</li> <li>16. Describe the technique for periodontal dressing placement</li> <li>17. List general guidelines for periodontal dressing management</li> <li>18. Explain important topics that should be covered in postsurgical instructions</li> <li>19. List steps in typical post-surgical visit</li> </ol>
<p><b>8</b></p>	<p><b>Maintenance for periodontal patients</b></p> <ol style="list-style-type: none"> <li>1. Explain the term periodontal maintenance</li> <li>2. List three objectives of periodontal maintenance</li> <li>3. Describe how periodontal maintenance relates to other phases of periodontal treatment</li> <li>4. Name usual procedures performed during a patient appointment for periodontal maintenance</li> <li>5. Determine the term baseline data</li> <li>6. Describe the criteria for establishing a maintenance program to prevent recurrent disease.</li> <li>7. Plan a periodontal maintenance program and modify it as needed.</li> <li>8. Plan effective instructional/motivational techniques for periodontal patients.</li> <li>9. Describe basic principles associated with periodontal treatment and maintenance therapy</li> <li>10. Explain the goals of non-surgical therapy in relation to re-care appointments</li> <li>11. Discuss the role of the patient in periodontal disease treatment success.</li> <li>12. Identify conditions indicating failing periodontal maintenance and when patient should be referred to the periodontist.</li> </ol>



	<ol style="list-style-type: none"> <li>13. Discuss risk factors in periodontal disease as related to the periodontal treatment plan for periodontal maintenance therapy.</li> <li>14. State the rationale for combining oral self-care and professional therapy during periodontal care.</li> <li>15. Identify the usual length of periodontal maintenance appointments.</li> <li>16. Utilize knowledge of preliminary diagnosis and prognosis to discuss referrals for periodontal therapy.</li> <li>17. Assess patient's oral health knowledge and homecare skill level prior to delivering special oral health instructions during periodontal maintenance therapy appointments.</li> <li>18. Promote the dental hygienist as the key dental professional to manage initial and maintenance periodontal therapy appointments.</li> </ol>
<p><b>9</b></p>	<p><b>Dental Implant Maintenance</b></p> <ol style="list-style-type: none"> <li>1. Define the term dental implant and describe component of a typical dental implants and restoration.</li> <li>2. Differentiate between dental implants and the natural dentition</li> <li>3. Classify bone types, types of implants, biomaterials used and implant success rates.</li> <li>4. Define the term osseointegration and biomechanical forces as they apply to dental implants and explain how osseointegration is essential for long term success of implants.</li> <li>5. Describe the role of the dental hygienist and dental assistant in implant therapy.</li> <li>6. Assess the health of the dental implant and supporting structures</li> <li>7. Identify the procedures for monitoring and maintaining dental implants.</li> <li>8. Demonstrate oral hygiene techniques and proper oral hygiene devices for use with implants.</li> <li>9. Design a continuing-care program specific for the needs of the implant patient.</li> <li>10. Using radiographs differentiate between a healthy and failing implant.</li> <li>11. Discuss the special considerations for periodontal instrumentation of a dental implant.</li> <li>12. Identify peri-implant diseases and compare and contrast the terms peri-implant mucositis and peri-implantitis.</li> <li>13. Describe an appropriate maintenance interval for a patient with dental implants.</li> <li>14. In the clinical setting, select appropriate self-care aids for a patient with dental implants.</li> </ol>

<b>Practical / Clinical Part of (ADS 364) course</b>	
Dental hygiene students will rotate through the Periodontics Clinic and work as a team member with the graduate MS students studying to become periodontists. Schedule will be provided. In clinic, students will:	
<b>1</b>	Collaborate with the perio students to see how patients with periodontal disease are assessed, diagnosed, treatment and appointment planned, treated surgically and non-surgically, evaluated after therapy, and maintained.
<b>2</b>	Assist in periodontal surgeries such as flaps, grafts, gingivectomy, guided tissue regeneration, bone grafting, gingivoplasty, and dental implants.
<b>3</b>	Perform services within the scope of dental hygiene care, e.g., patient assessment, documentation of findings, patient education, nonsurgical mechanical or antimicrobial therapies, patient evaluation, and ultrasonic instrumentation
<b>4</b>	Identify the instruments, armamentarium, and procedures used in periodontal and implant surgery.
<b>5</b>	Observe patient outcomes from periodontal and implant surgery.
<b>6</b>	Participate as a valued member of the dental team in periodontal patient care.

<b>Useful Resources</b>	
<b>1</b>	American Academy of Periodontology, Journal of Periodontology: <a href="http://www.perio.org">http:// www.perio.org</a> .
<b>2</b>	European Federation of Periodontology: <a href="http://www.efp.net">http:// www.efp.net</a> .
<b>3</b>	British Society of Periodontology: <a href="http://www.derweb.ac.uk">http:// www.derweb.ac.uk</a> .
<b>4</b>	Irish Society of Periodontology: <a href="http://www.iob.re">http:// www.iob.re</a>
<b>5</b>	American Dental Hygienists' Association: <a href="http://www.adha.org">http:// www.adha.org</a>

<b>Teaching Methods</b>	
<ul style="list-style-type: none"> <li>• Power point presentation.</li> <li>• Homework, case studies, readings</li> <li>• Clinical application</li> </ul> <p><b>Teaching duration:</b></p> <ul style="list-style-type: none"> <li>• Duration: 14 weeks</li> <li>• Lectures: 14 lecture, 1hour each, including 2 hour examination</li> <li>• Clinical: 2 hours clinic/every other week per rotation schedule</li> </ul>	

### **Attendance Policy & other Requirements**

Students, to satisfactory pass this course are expected to:

1) Attend all clinics and lectures regularly in accordance with the university regulations.

2) Fulfil all clinical requirements satisfactorily

3) When evaluating student's clinical performance, the following will be evaluated:

- Knowledge and preparation
- Efficiency in carrying out roles and responsibilities
- Skill competencies
- Adherence to infection control principles
- Professionalism and ethics

4) The student is required to obtain 50% to pass

### **Feedback**

Concerns or complaints should be expressed in the first instance to the course instructor. If no resolution is forthcoming then the issue should be brought to the attention of the Department Chair and if still unresolved to the Dean. Questions about the material covered in the lecture, notes on the content of the course, its teaching and assessment methods can be also sent by e-mail: [wzazar@just.edu.jo](mailto:wzazar@just.edu.jo)

<b>No.</b>	<b>Lecture's Subject</b>	<b>Reference&amp; Assignment</b>
<b>1</b>	Introduction	
<b>2</b>	Clinical Periodontal Assessment, Radiographic Analysis & Patterns of Alveolar Bone Loss	Read: Neild-Gehrig Chapter 19, 20 Carranza Ch 27,28,35,36
<b>3</b>	Rational/Evidence-base for Periodontal Therapy & Decision Making During Treatment Planning for Patient With Periodontal Diseases	Read: Neild-Gehrig Chapter 22, 23 Carranza Ch 34, 35, 36
<b>4</b>	Patient's role in Periodontal Therapy (Patient Motivation & Education )	Read: Neild-Gehrig Chapter 25, 26 Carranza Ch 49, 50
<b>5</b>	Non-Surgical Periodontal Therapies-Advanced Periodontal Instrumentation	Read: Neild-Gehrig Chapter 24 p. 393-415 Carranza Ch 51, 54
<b>6</b>	Systemic Chemotherapeutics in Periodontal Therapy	Read: Neild-Gehrig Chapter 28, 29. Carranza Ch 52,53 Go to: <a href="http://www.perio.org">www.perio.org</a> . and download the AAP Position Paper on: Systemic Antibiotics in Periodontics
<b>7</b>	Local Chemotherapeutic in Periodontal Treatment (controlled release periodontal therapies, local drug delivery devices, mouth rinses) <ul style="list-style-type: none"> <li>• Arestin®,</li> <li>• Atridox®</li> <li>• PerioChip®</li> </ul>	Read: Neild-Gehrig Chapter 28,29 Go to: <a href="http://www.perio.org">www.perio.org</a> . and download the AAP Position Paper on: The Role of Controlled Drug Delivery Therapy for Periodontitis
<b>8</b>	<b>Midterm Exam</b>	Carranza Ch 52, 53
<b>9</b>	Palm Day	
<b>10</b>	Easter Holiday	
<b>11</b>	Periodontal Emergencies <ul style="list-style-type: none"> <li>• Periodontal abscess</li> <li>• Endo-perio lesion</li> <li>• Herpetic infections</li> <li>• Necrotizing periodontal diseases Pericoronitis</li> </ul>	Read: Neild-Gehrig Chapter 33 Carranza Ch 47, 48, 58
<b>12</b>	Dentine hypersensitivity	Read: Neild-Gehrig Chapter 24

<b>13</b>	Periodontal Surgical Concepts	Read: Neild-Gehrig Chapter 30 Carranza Ch 59, 60, 61, 64, 65
<b>14</b>	Maintenance for periodontal patients	Read: Neild-Gehrig Chapter 31 Carranza Ch 82, 83
<b>15</b>	<b>Final Exam</b>	