

**Virginia Western Community College**  
**DNH 146**  
**PERIODONTICS FOR THE DENTAL HYGIENIST**

**Prerequisites**

DNH 111; DNH 115; DNH 120; DNH 130 and DNH 141

**Course Description**

Introduces the theoretical and practical study of periodontal disease applying the dental hygiene process of care and evidence-based decision making. Presents etiology, microbiology, histopathology, diagnosis, treatment, and prognosis of periodontal disease entities.

**Semester Credits: 2 Lecture Hours:2 Lab/Clinical/Internship Hours: 0**

**Required Materials****Textbook:**

Nield-Gehrig, Jill S., and Willmann, Donald E. Foundations of Periodontics for the Dental Hygienist. Lippincott, Williams & Wilkins, 2016. ISBN: 978-1-4511-9415-9

**Other Required Materials:**

Wilkins, Esther, Clinical Practice of the Dental Hygienist, 8thed., Lea & Febiger. ISBN: 0-7817-6322-3

**Course Outcomes**

**At the completion of this course, the student should be able to:**

1. Recall the histologic basis of the structures of the periodontium and apply this knowledge when identifying health and periodontal disease entities.
2. Begin to incorporate the dental hygiene process of care into a personal philosophy of clinical practice.
3. Relate the dental hygiene process of care to planning and implementing oral health care services for individual clients.
4. Develop an appreciation of the collaborative interaction between the patient, dental hygienist, and the dentist necessary to achieve oral wellness.

5. Recognize the ethical responsibility of the dental hygienist in providing accurate information regarding patient oral wellness status to the client and the client's dentist/members of the health care delivery team.
6. Recognize the ethical responsibility of the dental hygienist to develop and implement appropriate treatment modalities for individual patients; and to make appropriate referrals to other health care providers as indicated.
7. Comprehend scientific findings reported in journals and in electronic media to begin to effectively apply evidence-based decision making to patient care.
8. Recognize the significance to practice of maintaining currency with research through scientific literature and electronic media.
9. Use evidence gathered during assessment to make therapeutic and treatment decisions.
10. Use case studies to build a knowledge base for clinical practice.
11. Apply previously acquired and concurrently acquired knowledge of human anatomy, microbiology, dental hygiene sciences, and general pathology to this course to facilitate understanding of concepts presented.
12. Demonstrate comprehension and application of theoretical concepts from this course to your clinical caseload.

## **Topical Description**

### UNIT 1: MAKING A PRESUMPTIVE DIAGNOSIS – WEEKS 1-3

1. Recall and apply knowledge of the histology of the periodontium to the concepts presented during this unit of instruction.
2. Recall and apply knowledge from DNH 141 related to plaque and the normal periodontium to this unit.
3. Differentiate between normal and disease states from a histological and clinical standpoint.
4. Differentiate between microflora present in health and disease.
5. Compare the clinical and histological changes in each stage of disease progression from the initial lesion (gingivitis) to the advanced lesion (periodontitis).
6. Use knowledge from this unit to assist in identifying normal and disease states in your clinical client caseload.
7. Recognize the various periodontal disease entities and the characteristics of those entities, i.e. clinical and radiographic appearance, histologic changes and presence of defense cells, oral microflora, systemic and local factors.
8. Identify the predominant oral microflora associated with periodontal disease entities.

9. Differentiate between microbes directly implicated in periodontal disease, and those microbes which may play a role in disease progression.
10. Recognize the impact of environment, genetics, immune status/reaction, and type of microflora on the etiology and progression of periodontal diseases.
11. Discuss the impact of intra-oral host factors, and systemic factors on the etiology and progression of periodontal diseases.
12. Begin to utilize knowledge of the role of systemic and host factors to information on the medical and dental history as a mechanism for periodontal risk assessment.
13. Begin to apply knowledge of etiologic, intra-oral, and systemic factors to your clinical caseload to facilitate the dental hygiene diagnosis, recognize risk factors, and plan and implement dental hygiene actions.
17. Identify aspects of periodontal conditions which do and do not manifest radiographically.
18. Identify radiographic changes indicative of periodontal disease.
19. Identify radiographic exposures (Full mouth, Bitewings, Panelipse) which provide optimal assessment of periodontal changes.
20. Utilize human skulls and radiographs to identify changes in alveolar bone related to periodontal disease entities.
21. Begin to identify the need for appropriate radiographs, and to use client radiographs as an adjunct to client education.
22. Describe the role of occlusal trauma in the progression of periodontal disease.
23. Identify clinical and radiographic changes in the periodontium associated with occlusal trauma.
24. Discuss the impact of furcation invasions, mobility, fremitus, recession, on periodontal disease severity, progression, treatment, and homecare.

## UNIT 2: WHAT IS IT? – WEEKS 4-6

1. Recall and apply knowledge of the histology of the periodontium to the concepts presented during this unit of instruction.
2. Recall and apply knowledge from DNH 141 related to plaque and the normal periodontium to this unit.
3. Differentiate between normal and disease states from a histological and clinical standpoint.
4. Use knowledge from this unit to assist in identifying normal and disease states in your clinical client caseload.

5. Recognize the various periodontal disease entities and the characteristics of those entities, i.e. clinical and radiographic appearance, histologic changes and presence of defense cells, oral microflora, systemic and local factors.
6. Identify the predominant oral microflora associated with periodontal disease entities.
7. Recognize the impact of environment, genetics, immune status/reaction, and type of microflora on the etiology and progression of periodontal diseases.
8. Discuss the impact of intra-oral host factors, and systemic factors on the etiology and progression of periodontal diseases.
9. Begin to utilize knowledge of the role of systemic and host factors to information on the medical and dental history as a mechanism for periodontal risk assessment.
10. Begin to apply knowledge of etiologic, intra-oral, and systemic factors to your clinical caseload to facilitate the dental hygiene diagnosis, recognize human needs deficits, and plan and implement dental hygiene actions.
11. Differentiate between acute and chronic disease entities.
12. Differentiate between presumptive, dental hygiene, and definitive diagnosis of periodontal disease entities.
13. Identify aspects of periodontal conditions which do and do not manifest radiographically.
14. Identify radiographic changes indicative of periodontal disease.
15. Identify radiographic exposures which provide optimal assessment of periodontal changes.
16. Utilize human skulls and radiographs to identify changes in alveolar bone related to periodontal disease entities.
17. Begin to identify the need for appropriate radiographs, and to use client radiographs as an adjunct to client education.
18. Discuss the impact of furcation invasions, mobility, fremitus, recession, and endo-perio syndrome on periodontal disease severity, progression, treatment, and homecare.
19. Compare available probing technologies for assessing pocket depth and attachment loss.
20. Discuss the advantages and disadvantages of the PSR system.
21. Discuss the use of indices as mechanisms for assessing and evaluating disease.
22. Recognize the value of various radiographic techniques and methods in assessing periodontal disease status.
23. Recognize the elements of a valid dental hygiene diagnosis.

24. Differentiate between the dental hygiene diagnosis and the overall diagnosis made by the dentist.

### UNIT 3: NOW THAT I KNOW WHAT IT IS, WHAT DO I DO? Part 1 – WEEKS 7-9

1. Identify the stages in the disease process and relate these stages to plaque induced gingivitis and chronic periodontal diseases.
2. Recognize the first, second, and third line of host defense and describe the interrelationships of these mechanisms.
3. Identify the cellular and biochemical defenses that protect the host against plaque microbes, and describe how microbes are capable of bypassing these defenses.
4. Trace the stages of the inflammatory process from injury to healing, and relate these stages to disease progression and chronicity in gingivitis & chronic periodontitis.
5. Recognize the roles and interrelationships of the various cells, complement, and biochemical mediators involved in the inflammatory process.
6. Differentiate between acute and chronic inflammatory responses.
7. Relate the cardinal signs of inflammation to clinical changes manifested in the tissues of the periodontium during disease.
8. Relate phagocytic cell kill mechanisms to chronicity and tissue destruction in gingivitis and periodontitis.
9. Recall the components of the lymphoid system and the roles of these components in the immune system.
10. Recall the definition of immunity, and differentiate between natural and acquired immunity.
11. Relate the significance of the immune response to the initiation and progression of periodontal diseases.
12. Recognize the roles and interrelationships of immunocompetent cells, immunoglobulins, biochemical mediators, and complement in the immune response.
13. Differentiate between humoral and cell-mediated immunity.
14. Compare the classical and alternate pathways of complement activation, and relate activation of complement to microbes associated with gingivitis and periodontal disease.
15. Trace the immune response from introduction of an antigen to antigen elimination.
16. Compare and contrast Type I, II, III, and IV hypersensitivity reactions.
17. Discuss the impact of hypersensitivity reactions on the periodontium.
18. Describe the interactions between the inflammatory process and the immune response.

19. Relate host factors which modify the immune and the inflammatory response to the various periodontal disease entities.
20. Recognize the beneficial and injurious effects of the inflammatory and immune response on the host.
21. Apply knowledge of the immune and the inflammatory response to your clinical caseload to assist in developing the presumptive dental hygiene diagnosis and to select appropriate dental hygiene actions.

#### UNIT 4: NOW THAT I KNOW WHAT IT IS, WHAT DO I DO? Part 2 – WEEKS 10-14

1. Discuss mechanisms which have proven effective for you in actively involving the clients in your caseloads as partners in non-surgical periodontal therapy.
2. Share your personal strategies for collaborative goal-setting with your clinic clients to assist others with successful strategies and resolve frustrations with non-successful strategies.
3. Begin to develop decision-making skills needed to plan, implement, and evaluate effective client-centered treatment.
4. Given hypothetical and web-based case studies, and using previously acquired knowledge, formulate a presumptive dental hygiene diagnosis and appropriate treatment plan, providing a rationale for the decision you have reached.
5. Recall and apply knowledge of various homecare techniques and adjunctive aids to select appropriate plaque control protocols for hypothetical cases as well as clients in your clinic caseload discussed in class.
6. Begin to develop an understanding of the CDT codes applicable to dental hygiene treatment, and apply the codes to hypothetical cases.
7. Analyze your communication style and assess your effectiveness in communicating with clients.
8. Compare and contrast scaling, root planing, and periodontal debridement.
9. Discuss the advantages and disadvantages of hand and ultrasonic instrumentation as treatment modalities in periodontal therapy.
10. Identify the desirable outcomes of successful periodontal therapy.
11. Discuss the impact of "overtreatment" during periodontal therapy.
12. Given hypothetical cases, select appropriate treatment modalities for the disease entity given.

#### UNIT 5: WE FOLLOWED THE PLAN, NOW WHAT'S THE OUTCOME – WEEKS 15-16

1. Recognize the significance of short and long term evaluation of client response and identify appropriate supplemental interventions.
2. Recognize the goals for use and the role of systemic and topical antimicrobials used in the treatment of periodontal diseases.
3. Identify the principle antimicrobials used to treat periodontal diseases and the microbes targeted by each.
4. Discuss the ideal characteristics of antimicrobials used to treat periodontal diseases.
5. Compare the mechanism of action, modes of delivery, effectiveness, and side effects of antimicrobials used in periodontal therapy.
6. Given hypothetical cases, select appropriate antimicrobials for specific periodontal disease entities.
7. Recognize the need for establishing appropriate recare/maintenance intervals for persons with periodontal diseases.
8. Begin to utilize one-month evaluations and recall/recare intervals to identify new and/or ongoing client needs.
9. Discuss the significance of one-month reassessment for clients in your clinical caseload.
10. Begin to establish appropriate recare/maintenance intervals for your clients.
11. Given hypothetical cases, indicate appropriate reassessment activities and follow-up treatment.
12. List objectives for periodontal surgery.
13. Explain the term relative contraindications for periodontal surgery.

### **Notes to Instructors**

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