

DENT-1420: PERIODONTICS I

Cuyahoga Community College

Viewing: DENT-1420 : Periodontics I

Board of Trustees:

January 2024

Academic Term:

Fall 2024

Subject Code

DENT - Dental Hygiene

Course Number:

1420

Title:

Periodontics I

Catalog Description:

Study of the anatomy and histology of the periodontium in health and disease. Focus on the pathogenesis of the various classifications of gingival and periodontal diseases: microbiological, host response, local and systemic risk factors. Contemporary periodontal adjuncts considered.

Credit Hour(s):

2

Lecture Hour(s):

2

Lab Hour(s):

0

Other Hour(s):

0

Requisites

Prerequisite and Corequisite

DENT-1300 Preventative Oral Health Services I.

Outcomes

Course Outcome(s):

Apply foundational knowledge of periodontal tissues: histological, clinical and radiographic manifestations, when assessing periodontal health and disease.

Objective(s):

1. Discuss the functions of the periodontium.
 2. Identify and describe the anatomy of the periodontium, in health and disease, on a patient, drawing, photograph or narrative description.
 3. Identify and describe the histology of the periodontium, in health and disease, on a drawing, slide, photograph or narrative description.
 4. Relate the histological changes in disease to the associated clinical and radiographic manifestations.
 5. Identify and describe radiographic landmarks and recognize variations in the radiographic appearance in health and disease.
 6. Differentiate between slight, moderate and severe bone loss.
 7. Differentiate between horizontal and vertical bone loss and their associated disease pathways and clinical manifestations.
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Course Outcome(s):

Correlate the microbiology of periodontal health/disease and the inflammatory/immune response to biofilm associated with the pathogenesis of periodontal diseases.

Objective(s):

1. Define inflammation and describe the sequence of events in the inflammatory process.
2. Discuss the role of the immune system in the periodontal disease process.
3. Describe the characteristics of oral biofilm.

Course Outcome(s):

Distinguish the commonalities and differences among periodontal health, gingival diseases, and periodontal diseases specifically the etiology, manifestations, risk factors, and treatment of gingival and periodontal diseases.

Objective(s):

1. Compare and contrast periodontal health, gingival diseases, and periodontal diseases in a distinctive features chart.
2. Compare and contrast periodontitis, necrotizing periodontal diseases, and periodontitis as a manifestation of systemic diseases in a distinctive features chart.
3. Compare and contrast acute and chronic periodontal conditions in a distinctive features chart.

Course Outcome(s):

Associate local and systemic risk factors for periodontal diseases.

Objective(s):

1. Describe tobacco's effect on the periodontium.
2. Describe iatrogenic factors' effect on the periodontium.
3. Describe calculus' effect on the periodontium.
4. Describe nutrition's effect on the periodontium.
5. Describe tooth anatomy's effect on biofilm accumulation.
6. Describe patient habits' effect on the periodontium.

Course Outcome(s):

Incorporate knowledge of the periodontal disease process to an increased risk for systemic conditions.

Objective(s):

1. Discuss the bi-directional relationship between periodontal disease and diabetes.
2. Discuss periodontal disease as a potential risk factor for cardiovascular disease.
3. Discuss periodontal disease as a potential risk factor for adverse pregnancy outcomes.
4. Discuss periodontal disease as a potential risk factor for respiratory conditions.
5. Discuss periodontal disease as a potential risk factor for: cancers, Alzheimer's, rheumatoid arthritis, kidney disease, and transplant rejection.

Course Outcome(s):

Analyze the concepts of nonsurgical periodontal therapy (NSPT).

Objective(s):

1. Describe the goals, techniques and limitations of NSPT.
2. Discuss and differentiate the chemotherapeutic agents: mouth rinses, locally delivered agents and/or host modulating available for NSPT.

Course Outcome(s):

Apply the knowledge from this course to clinical practice.

Essential Learning Outcome Mapping:

Information Literacy: Acquire, evaluate, and use information from credible sources in order to meet information needs for a specific research purpose.

Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

Objective(s):

1. Organize, in a term paper, the course's concepts to demonstrate comprehension of the material.
2. Utilize knowledge of biofilm, the inflammatory/immune response and risk factors to the periodontal disease process in patient education.

Methods of Evaluation:

1. Tests
2. Midterm and Final Examination
3. SoftChalk Activities
4. Term Paper
5. Distinctive Features Charts
6. Required Textbook Chapter Questions
7. Essays
8. Periodontal Disease Visual Aid

Course Content Outline:

1. The periodontium
 - a. Types of gingiva
 - b. Types of epithelium
 - c. Gingival and periodontal fibers
 - d. Cementum
 - e. Alveolar bone
2. Microbiology of periodontal diseases
 - a. Acquired pellicle
 - b. Initial and secondary colonizers
 - c. Characteristics of biofilm
 - d. Specific bacteria associated with health, gingivitis and periodontitis
3. Inflammatory and immune response
 - a. Polymorphonuclear leukocytes, macrophages, lymphocytes
 - b. Lipopolysaccharide
 - c. Cytokines
 - d. Enzymes
 - e. Prostaglandins
4. Pathogenesis of gingival diseases
 - a. Classification of gingival diseases
 - b. Stages of biofilm induced gingivitis
 - c. Histological and corresponding clinical manifestations of chronic gingivitis
 - d. Gingival diseases modified by systemic factors, medications and malnutrition
 - e. Non biofilm induced gingival diseases
5. Pathogenesis of periodontal diseases
 - a. Classification of periodontal diseases
 - b. Periodontitis: histological, clinical and radiographic manifestations
 - c. Staging and grading of periodontitis
 - d. Periodontitis as a manifestation of systemic diseases
 - e. Necrotizing periodontitis

6. The oral-systemic link
 - a. Periodontal disease and cardiovascular disease
 - b. Periodontal disease and diabetes
 - c. Periodontal disease and adverse pregnancy outcomes
 - d. Periodontal disease and respiratory conditions
 - e. Periodontal disease and other various systemic conditions
7. Nonsurgical periodontal therapy
 - a. Principles of nonsurgical periodontal therapy
 - b. Goals of nonsurgical periodontal therapy
8. Risk factors associated with periodontal disease
 - a. Impact of tobacco use on the immune response to periodontal pathogens
 - b. Impact of tobacco use on periodontal therapy
 - c. Local and systemic risk factors
9. Chemotherapeutics for self care
 - a. Characteristics of current chemotherapeutics
 - b. Indications and contraindications of current chemotherapeutics
10. Adjuncts for periodontal therapy
 - a. Locally delivered antimicrobials
 - b. Modulating host response agents

Resources

Gehrig, J.S., Willmann, D.E. (2023) *Foundations of Periodontics for the Dental Hygienist*, Philadelphia: Wolters Kluwer.

Boyd, L.D., Mallonee, L.F., & Wyche, C. J. (2021) *Wilkins' Clinical Practice of the Dental Hygienist*, Philadelphia: Wolters Kluwer.

Perry, Dorothy, Beemsterboer, Phyllis. (2014) *Periodontology for the Dental Hygienist*, Philadelphia: Saunders Elsevier.

Weinberg, Mea, Westphal, Cheryl. (2015) *Comprehensive Periodontics for the Dental Hygienist*, Upper Saddle River: Pearson Education, Inc.

Resources Other

1. www.aaosh.org: American Academy for Oral Systemic Health
2. www.nidr.nih.gov: National Institute of Dental Research
3. www.perio.org: American Academy of Periodontology
4. <http://libguides.tri-c.edu/dental/>: Dental Hygiene related web site addresses
5. www.adha.org: American Dental Hygienists' Association - Journal of Dental Hygiene & Access journal
6. <http://owl.english.purdue.edu/owl/resource/589/1/>: Purdue Online Writing Lab
7. <http://owl.english.purdue.edu/owl/section/2/10/>: Purdue APA information
8. www.ahrq.gov: Agency for Healthcare Research and Quality
9. www.cochrane.org: Systematic review of dental related research
10. www.ohiolink.edu: OhioLINK Central Library catalog
11. www.periodeducation.com: Research articles, videos etc. on periodontal issues
12. <http://scholar.google.com>: Broad search engine for scholarly literature
13. www.pubmed.com: National Library of Medicine
14. www.usc.edu/hsc/nml/lib-services/tutorial/ebm.html: Evidenced based medicine tutorial
15. www.dentalcare.com: Crest Dental ResourceNet
16. www.dimensionsofdentalhygiene.com: Dimensions of Dental Hygiene

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