Des Moines Area Community College

Course Information – EFFECTIVE FL 2013-01

Acronym/Number  DHY 141  
Title  General and Oral Pathology  
Historical Ref  DHY 141

Credit Breakout  3  3  0  0  0  
(credit  lecture  lab  practicum  work experience)

PREREQUISITE(S):  BIO 164, DHY 121, DHY 114

COURSE DESCRIPTION:
Basic concepts of disease process and the oral manifestations of inflammation, degenerative changes, neoplasms and developmental anomalies of the oral cavity.

COURSE COMPETENCIES:
During this course, the student will be expected to:

1. Differentiate between lesions and normal tissue.
   1.1 Define each of the terms in the vocabulary list.
   1.2 List and define the eight diagnostic categories that contribute to the diagnostic process.
   1.3 Name a diagnostic category and give an example of a lesion, anomaly, or condition for which this category greatly contributes to the diagnosis.
   1.4 List and describe the clinical characteristics and identify a clinical picture of rhomboid glossitis and ectopic geographic tongue.
   1.5 Describe the clinical and histologic differences between leukoedema and linea alba.

2. Examine the process of inflammation and repair and our body's ability to heal.
   2.1 Define words listed in vocabulary section.
   2.2 List the five classic signs of inflammation that occur locally at the site of inflammation.
   2.3 List three systemic signs of inflammation.
   2.4 List the types of white blood cells that participate in inflammation and describe how each is involved.
   2.5 Describe the differences between acute and chronic inflammation.
   2.6 Define and contrast hyperplasia, hypertrophy and atrophy.
   2.7 Describe and contrast attrition, abrasion, and erosion.
   2.8 Describe the pattern of erosion seen in bulimia.
   2.9 Describe the relationship between bruxism and abrasion.
   2.10 Describe the difference between a mucocele and a ranula.
   2.11 Describe the clinical features, radiographic appearance, and histologic appearance of a periapical abscess, a periapical granuloma, and a periapical (radicular) cyst.
   2.12 Describe and contrast internal and external tooth resorption.
3. Describe the immune reaction.
   3.1 Define each of the words in the vocabulary list.
   3.2 Describe the primary difference between the immune response and the inflammatory response.
   3.3 List and describe the two main types of lymphocytes, their origins, and their activities.
   3.4 List the activities of macrophages.
   3.5 Describe, using the cells involved, the difference between the humoral immune response and the cell-mediated immune response.
   3.6 Describe the difference between passive and active immunity.
   3.7 List and describe four types of hypersensitivity reactions, and give an example of each.
   3.8 Define autoimmunity, and describe how it results in disease.
   3.9 Describe and contrast the clinical features of each of the three types of aphthous ulcers.
   3.10 Describe and compare the clinical features of urticaria, angioedema, contact mucositis, fixed drug eruption, and erythema multiforme.
   3.11 Describe the clinical and histologic features of lichen planus.
   3.12 Name the two cells that histologically characterize angerhans cell disease. Describe the acute disseminated form, chronic disseminated form, and chronic localized form and state the names that have traditionally been used for each of these conditions.
   3.13 Describe the clinical features of desquamative gingivitis, and list three diseases in which it may occur.

4. Recognize infectious diseases and compare specific infections.
   4.1 State the difference between the inflammatory and immune response to infection.
   4.2 Describe the factors that allow opportunistic infection to develop.
   4.3 List two examples of opportunistic infections that can occur in the oral cavity.
   4.4 For each of the following infectious diseases, name the organism causing it, list the route or routes of transmission of the organism and the oral manifestations of the disease, and describe how the diagnosis is made; impetigo, tuberculosis, actinomycosis, syphilis (primary, secondary, tertiary), verruca vulgaris, condyloma acuminatum, and primary herpetic gingivostomatitis.
   4.5 Describe the relationship between streptococcal tonsillitis and pharyngitis and the need for antibiotic prophylaxis for dental hygiene treatment.
   4.6 List and describe four forms of oral candidiasis.
   4.7 Describe the clinical features of herpes labialis.
   4.8 Describe the clinical features of recurrent intraoral herpes simplex infection, and compare them with the clinical features of minor aphthous ulcers.
   4.9 Describe the clinical characteristics of herpes zoster when it affects the skin of the face and oral mucosa.
   4.10 List two oral infectious diseases for which a cytologic smear may assist in confirming the diagnosis.
   4.11 List four diseases associated with the Epstein-Barr virus.
   4.12 List two diseases caused by coxsackieviruses that have oral manifestations.
4.13 Describe the spectrum of human immunodeficiency virus (HIV) disease, including initial infection and the development of acquired immunodeficiency syndrome (AIDS).
4.14 List and describe the clinical appearance of five oral manifestations of HIV infection.

5. Distinguish and define developmental disorders.
5.1 Define each of the words in the vocabulary list.
5.2 Define inherited disorders.
5.3 Recognize developmental disorders of the dentition.
5.4 Describe the embryonic development of the face, oral cavity, and teeth.
5.5 Define each of the developmental anomalies discussed in this chapter.
5.6 Identify (clinically, radiographically, or both) the developmental anomalies discussed in this chapter.
5.7 Distinguish between intraosseous cysts and extraosseous cysts.
5.8 Describe the differences between odontogenic and nonodontogenic cysts.
5.9 Name four odontogenic cysts that are intraosseous.
5.10 Name two odontogenic cysts that are extraosseous.
5.11 Name four nonodontogenic cysts that are intraosseous.
5.12 Name four nonodontogenic cysts that are found in the soft tissues of the head, neck, and oral region.
5.13 List and define three anomalies that affect the number of teeth.
5.14 List and define two anomalies that affect the size of teeth.
5.15 List and define five anomalies that affect the shape of teeth.
5.16 Define and identify each of the following anomalies affecting tooth eruption: impacted teeth, embedded teeth, and ankylosed teeth.
5.17 Identify the diagnostic process that contributes most significantly to the final diagnosis of each developmental anomaly discussed in this chapter.

6. Define and describe genetic anomalies.
6.1 Define each of the vocabulary words.
6.2 State the purpose of mitosis.
6.3 State the purpose of meiosis.
6.4 Explain what is meant by the Lyon hypothesis and give an example of its clinical significance.
6.5 Explain what is meant by a gross chromosomal abnormality and give three examples of syndromes that result from gross chromosomal abnormalities.
6.6 List the four inheritance patterns.
6.7 Explain what is meant by X-linked inheritance.
6.8 State the inheritance pattern and describe the oral manifestations and, if appropriate, the characteristic facies for each of the following: cyclic neutropenia, Papillon-Lefèvre syndrome (PLS), cherubism, chondroectodermal dysplasia (Ellis-van Creveld syndrome), mandibulofacial dysostosis (Treacher Collins syndrome), osteogenesis imperfecta, hereditary hemorrhagic telangiectasia (Osler-Rendu-Parkes Weber syndrome), Peutz-Jeghers syndrome, white sponge nevus (cannon disease), hypohidrotic ectodermal dysplasia, hypophosphatasia, and hypophosphatemic vitamin D resistant rickets.
6.9 State the inheritance pattern, the oral or facial manifestations, and the type and location of the malignancy associated with each of the following syndromes: Gardner syndrome; nevoid basal cell carcinoma syndrome (Grolin syndrome); multiple mucosal neuromas, medullary carcinoma of the thyroid gland, and pheochromocytoma syndrome (multiple endocrine neoplasia type 2B [MEN 2B]); and neurofibromatosis of von Recklinghausen.

6.10 State the location and malignant potential of the intestinal polyps in Peutz-Jeghers syndrome and Gardner syndrome.

6.11 List the four types of amelogenesis imperfecta.

6.12 Briefly compare and contrast dentinogenesis imperfecta, amelogenesis imperfecta, and dentin dysplasia, including the inheritance patterns, the clinical manifestations, and the radiographic appearance of each.

7. Describe the dynamics of circulation and pathologic disturbances that can occur in the human body.

7.1 Discuss the common causes of edema of tissues and spaces.

7.2 Explain the etiology and pathogenesis of left heart failure.

7.3 Explain the etiology and pathogenesis of right heart failure.

7.4 List common causes of hemorrhage based on interference with the mechanisms of clotting.

7.5 Define hypertension.

7.6 Define the subtypes of hypertension.

7.7 Discuss the theories of pathogenesis of hypertension.

7.8 List the types of antihypertensive drugs and match them to their actions.

7.9 List the common morbid sequelae of hypertension.

7.10 Identify the causes of shock.

7.11 Describe the cause and pathogenesis of syncope.

7.12 List the major and minor risk factors for atherosclerosis.

7.13 Explain the pathogenic mechanisms of atherosclerosis and correlate them to risk factors.

7.14 Differentiate atherosclerosis from arteriosclerosis by cause and by sequelae.

7.15 Define thrombosis and embolism.

7.16 List common factors which predispose to thrombosis.

7.17 List the usual and morbid sequelae of thrombosis and embolism.

7.18 Explain passive congestion.

7.19 Predict the routes of travel of emboli of venous and arterial origin.

7.20 Define ischemic heart disease and distinguish the subtypes.

7.21 Recognize valvular heart conditions which predispose to bacterial endocarditis.

7.22 Select conditions of heart valves which should be premedicated before dental treatment.

7.23 Define ischemia and infarction of tissues and list the common sequelae.

8. Compare neoplastic to normal cell growth.

8.1 Define each of the vocabulary words.

8.2 Explain the difference between a benign tumor and a malignant tumor.

8.3 Define leukoplakia and erythroplakia.
8.4 Define the following neoplasms, describe the clinical features of each, and explain how they are treated: papilloma, squamous cell carcinoma, verrucous carcinoma, basal cell carcinoma, pleomorphic adenoma, monomorphic adenoma, adenoid cystic carcinoma, mucoepidermoid carcinoma, ameloblastoma, calcifying epithelial odontogenic tumor (CEOT), adenomatoid odontogenic tumor (AOT), odontogenic myxoma, central cementifying and ossifying fibromas, benign cementoblastoma, ameloblastic fibroma, ameloblastic fibro-odontoma, odontoma, peripheral ossifying fibroma, lipoma, neurofibroma and schwannoma, granular cell tumor, congenital epulis, rhabdomyosarcoma, hemangioma, lymphangioma, Kaposi sarcoma, melanocytic nevi, malignant melanoma, torus, exostosis, osteoma, osteosarcoma, chondrosarcoma, leukemia, lymphoma, multiple myeloma, and metastatic jaw tumors.

9. Describe and define various bone lesions and disorders of the maxilla and mandible.
9.1 Define benign fibro-osseous lesions.
9.2 Define dysplasia as it relates to bone diseases and differentiate the term from epithelial dysplasia.
9.3 Describe the clinical, radiographic, and microscopic features of periapical cemento-osseous dysplasia, focal cemento-osseous dysplasia, and florid cemento-osseous dysplasia.
9.4 Compare and contrast periapical cemento-osseous dysplasia, focal cemento-osseous dysplasia, and florid cemento-osseous dysplasia.
9.5 List the benign fibro-osseous lesions that occur in the jawbones.
9.6 Compare and contrast monostotic fibrous dysplasia with polyostotic fibrous dysplasia.
9.7 Compare and contrast the radiographic appearance, histologic appearance, and treatment of fibrous dysplasia of the jaws with those of ossifying fibroma of the jaws.
9.8 Compare and contrast the three types of polyostotic fibrous dysplasia.
9.9 Describe the histologic appearance of Paget disease of bone and describe its clinical and radiographic appearance when the maxilla or mandible is involved.
9.10 State the cause of osteomalacia and rickets.

10. Describe the etiology, and pathogenesis of dental caries and dental pulpal disorders.
10.1 List the common etiologic factors which contribute to dental caries.
10.2 Compare and contrast the pathogenesis of enamel, dentinal and cemental caries.
10.3 Explain the role of saliva in caries control.
10.4 Compare the clinical signs and symptoms of reversible and irreversible pulpitis.
10.5 Describe the pathogenesis of periapical abscess, cyst, and granulomas.
10.6 List important and morbid sequelae of periapical infection and inflammation.
10.7 Explain the interrelationship of periapical pathoses to each other.
10.8 Recognize the appearance and significance of a parulis.

11. Describe physical and chemical injuries to the hard and soft dental tissues.
11.1 Define factitial and iatrogenic injury.
11.2 Distinguish attrition, erosion and abrasion by cause and clinical features.
11.3 Recognize dental injuries suggestive of perimyolysis.
11.4 Discuss common causes of resorption of teeth.
11.5 List common extrinsic and intrinsic stains of teeth.
11.6 Relate common forms of physical injury to the clinical presentation of those conditions.
11.7 Recognize common clinical lesions suggestive of chronic mucosal injury.
11.8 Use appropriate questioning to determine or rule out the cause of suspect injurious lesions.
11.9 Refer lesions that are not readily explainable for further diagnosis.
11.10 Recognize the significance and treatment of pyogenic granuloma, epulis granulomatous, and fibroma.
11.11 List common denture-related tissue injuries and discuss the etiology and treatment of each.
11.12 Recognize aspirin burn, dilantin hyperplasia and amalgam tattoo based on clinical appearance and history.
11.13 Distinguish certain oral lesions which are caused by allergic reactions systemic medicine or topical agents.
11.14 Recognize that cancer chemotherapy and radiotherapy will likely predispose to numerous oral morbid conditions.
11.15 Help prevent and manage oral lesions in patients undergoing chemotherapy and radiotherapy.
11.16 Help prevent osteoradionecrosis.
11.17 Use special regimen in patients who have radiation xerostomia to prevent caries and periodontal infection.

12. Analyze the oral manifestations of systemic diseases and nutritional deficiencies.
12.1 Define each of the vocabulary words.
12.2 Describe the difference between gigantism and acromegaly and list the physical characteristics of each.
12.3 State the oral manifestations of hyperthyroidism.
12.4 Describe the difference between primary and secondary hyperparathyroidism.
12.5 List the oral manifestations that occur in the uncontrolled diabetic state.
12.6 List the major clinical characteristics of type 1 and type 2 diabetes.
12.7 Define Addison disease and describe the changes that occur on the skin and oral mucosa in a patient with Addison disease.
12.8 Compare and contrast the cause, laboratory findings, and oral manifestations of each of the following: iron-deficiency anemia, pernicious anemia, folic acid deficiency, and vitamin B deficiency.
12.9 Compare and contrast the definitions and oral manifestations of thalassemia major and sickle cell anemia.
12.10 Define celiac sprue.
12.11 Describe the difference between primary and secondary aplastic anemia.
12.12 Describe the oral manifestations of polycythemia.
12.13 Explain why platelets may be deficient in polycythemia vera.
12.14 Describe the most characteristic oral manifestations of agranulocytosis.
12.15 Describe and contrast acute and chronic leukemia.
12.16 State the purpose of each of the following laboratory tests: platelet count, bleeding time, prothrombin time (PT), partial thromboplastin time (PTT), and international normalized ratio (INR).

12.17 List two causes of thrombocytopenic purpura.

12.18 Describe the oral manifestations of thrombocytopenia and nonthrombocytopenic purpura.

12.19 Define hemophilia and describe its oral manifestations and treatment.

12.20 Describe the difference between primary and secondary immunodeficiency.

12.21 Describe the oral problems that would be expected to occur in a patient with radiation-induced xerostomia.

12.22 List two drugs that are associated with gingival enlargement.

13. Analyze diseases affecting the temporomandibular joint.

13.1 Label the following on a diagram of temporomandibular joint: glenoid fossa of the temporal bone, articular disk, mandibular condyle, joint capsule, and superior belly of the lateral pterygoid muscle.

13.2 State the function of the muscles of mastication.

13.3 State three factors that have been implicated in the cause of temporomandibular disorders (TMDs), and three questions that would be appropriate to ask of a patient suspected of having a TMD.

13.4 List at least two symptoms that are suggestive of temporomandibular dysfunction.

13.5 State the function of radiographs in the evaluation of a patient with symptoms suggestive of temporomandibular dysfunction.

13.6 List five types of TMDs.

13.7 List and describe the two main categories of treatment of TMDs.

13.8 State the names of one benign and one malignant tumor that may affect the temporomandibular joint area.
DHY 141

COMPETENCIES REVIEWED AND APPROVED BY: Deborah Penney

DATE: March 2012

FACULTY:

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Effective date ________________

by: Dr. Marvin Freeburg, DDS

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extension: 6582

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