

SYLLABUS

COURSE: DENF 2701 General Pathology
SEMESTER: Fall
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GOAL

Pathology is defined as the study of disease. The basic response of cells and tissues to disease processes are covered in DENF 2701 General Pathology. Disease that affects specific organ systems are presented in DENS 2702 Systemic Pathology.

The pathology curriculum is designed so that each course will serve as a building block for subsequent courses, i.e. general pathology -- systemic pathology -- oral and maxillofacial pathology -- differential diagnosis.

The goal of this course is to provide the student with the opportunity to develop a sound knowledge of the etiology, pathogenesis, morphologic changes, and functional consequences of pathologic processes. General Pathology (fall semester) will encompass the general principles and mechanisms of disease.

OBJECTIVES

I. CELL INJURY

1. State the causes of cellular injury, death and adaptation.
2. Describe the mechanisms underlying cell injury, death, and adaptation.
 - 2.1 State the sequence of events resulting from acute hypoxic injury that characterizes reversible injury.
 - 2.2 List phenomena which characterize irreversible cell injury including important mechanisms of membrane injury.
 - 2.3 Name types of virally induced cellular changes.
3. Describe the morphology of cell injury.
 - 3.1 Name light microscopic patterns of reversible cell injury.
 - 3.2 Define necrosis and list types of necrosis.
 - 3.3 Define the following terms: karyolysis, pyknosis and karyorrhexis.
 - 3.4 List features characteristic of cells undergoing apoptosis or programmed cell death.
4. Describe the role of intracellular accumulations in cell function.
 - 4.1 State the processes that may result in abnormal intracellular accumulations.
 - 4.2 List categories and examples of intracellular accumulations.
5. Describe the subcellular alterations in cell injury with emphasis on mechanisms of heterophagocytosis and autophagocytosis.
6. Describe cellular adaptations.
 - 6.1 Define atrophy and state its causes.
 - 6.2 Define hypertrophy, state its etiology and list examples.
 - 6.3 Define hyperplasia and list differences between physiologic and pathologic forms.
 - 6.4 Define metaplasia and list examples of this reversible change.
7. Describe calcification.
 - 7.1 Define calcification and name two types.
 - 7.2 List sites in which dystrophic calcification occurs and give examples.
 - 7.3 State the cause of metastatic calcification.
 - 7.4 List sites in which metastatic calcification may occur.

II. INFLAMMATION AND REPAIR

1. Describe the mechanism of acute inflammation:
 - 1.1 Define inflammation.
 - 1.2 Name the major components of acute inflammation.
 - 1.3 List changes in blood flow.
 - 1.4 Define congestion, hyperemia, exudate, exudation and transudate.
 - 1.5 Name a critical function of inflammation.

- 1.6 State the sequence of white cell events.
 - 1.7 Define margination, pavementing, emigration, diapedesis, and chemotaxis.
 - 1.8 State the sequence of emigration of specific types of leukocytes.
 - 1.9 Name major chemotactic factors for neutrophils.
 - 1.10 State steps in phagocytosis.
 - 1.11 List components of the major antimicrobial system in neutrophils.
 - 1.12 Name the major types of defects in leukocyte function.
 - 1.13 List groups of chemical mediators and their major functions.
 - 1.14 State vascular effects of histamine and its richest source.
2. Describe the mechanism of chronic inflammation:
 - 2.1 List the characteristics of chronic inflammation, and compare to those of acute inflammation.
 - 2.2 List examples of chronic inflammation as a primary process.
 - 2.3 List the mononuclear cells characteristic of chronic inflammation.
 - 2.4 List the fates of blood monocytes in tissue.
3. Describe the morphologic patterns of acute and chronic inflammation:
 - 3.1 State distinctive features of acute and chronic inflammation and list examples.
 - 3.2 Define pus, abscess, resolution, granuloma, ulcer and organization.
 - 3.3 List types of granuloma and factors that determine their formation.
4. Describe the role of lymphatics, lymphoid tissue and the mononuclear-phagocyte system (MPS) in the inflammatory reaction:
 - 4.1 List a function of lymphatics.
 - 4.2 State the effects of inflammation on lymphatic flow.
 - 4.3 State the role of lymphatics as a secondary line of defense from infection.
 - 4.4 Name the factor that leads to the MPS to constitute the main line of defense.
5. Describe the clinical manifestations of acute and chronic inflammation:
 - 5.1 List the cardinal signs of inflammation and their causes.
 - 5.2 State the major systemic manifestations of inflammation.
 - 5.3 Define leukocytosis, leukemoid reaction, granulocytosis, lympho-cytosis, eosinophilia and leucopenia.
6. Describe the process of parenchymal regeneration:
 - 6.1 Define parenchymal cell regeneration.
 - 6.2 List groups of cells based on their regenerative capacity.
 - 6.3 State the requirements for parenchymal repair.
7. Describe the process of connective tissue repair:
 - 7.1 Define repair by connective tissue.
 - 7.2 List components of repair by connective tissue.
 - 7.3 Define granulation tissue and angiogenesis.
 - 7.4 Define primary and secondary union.
8. Describe the process of bone repair with special emphasis on factors which either facilitate or impede bone repair.
9. Describe the process of collagenization and wound strength with emphasis on the role of

suture in wound strength.

10. Describe the factors that modify the quality and adequacy of the inflammatory-reparative response.
 - 10.1 State the role of nutrition and hormones in repair.
 - 10.2 List hematologic derangements that affect repair.
 - 10.3 State the influence of diabetes on the inflammatory-reparative response.
 - 10.4 List aberrations of wound healing.

III. FLUID AND HEMODYNAMIC DERANGEMENTS

1. Describe the mechanism of edema:
 - 1.1 Define edema and anasarca.
 - 1.2 Compare inflammatory and non-inflammatory edema.
 - 1.3 State major factors in the pathogenesis of edema.
 - 1.4 List examples of localized and generalized edema and the sites where they occur.
2. Describe the mechanism of hyperemia and contrast active hyperemia and passive congestion.
3. Describe the mechanism of hemorrhage with special emphasis on the definitions of hematoma, petechiae, purpura, ecchymoses.
4. Describe the mechanism of thrombosis.
 - 4.1 Define thrombosis, thrombus, embolus, thromboembolism, and infarction.
 - 4.2 State the major contributors to normal hemostasis and their functions.
 - 4.3 List three factors which predispose to thrombus formation.
 - 4.4 Name the dominant influence in thrombogenesis.
 - 4.5 List fates of a thrombus.
 - 4.6 Name the most common location for the formation of venous thrombi.
 - 4.7 Name the clinical settings which increase the hazards of venous thrombosis.
 - 4.8 Name the clinical settings in which arterial thrombi are likely to develop.
 - 4.9 Name the sites to which aortic and cardiac thrombi may embolize.
5. Describe the mechanisms of embolism:
 - 5.1 Define embolism and thromboembolism.
 - 5.2 Name the most common source of venous emboli.
 - 5.3 Name the most serious form of thromboembolic disease.
 - 5.4 Name the most common source of arterial emboli.
 - 5.5 State the etiology of fat embolism, Caisson's disease and amniotic fluid embolism.
6. Describe the mechanism of infarction:
 - 6.1 Define infarct.
 - 6.2 name the most common cause of infarcts.
 - 6.3 List types of infarcts and examples.
 - 6.4 Name the most important factor in determining whether occlusion of a vessel will cause damage.
 - 6.5 Name the two most common anatomic sites for infarctions.

7. Describe the mechanism of shock:
 - 7.1 Define shock.
 - 7.2 State the major categories of shock and their etiologies.
 - 7.3 List clinical manifestations of shock.

IV. RESPONSE TO INFECTION

1. Describe the major properties of organisms that cause infectious diseases.
 - 1.1 viruses that cause infectious diseases
 - 1.2 bacteriophages, plasmids, and transposons that cause infectious diseases
 - 1.3 bacteria that cause infectious diseases
 - 1.4 chlamydia, rickettsia, and mycoplasma that cause infectious diseases
 - 1.5 fungi that cause infectious diseases
 - 1.6 protozoan parasites that cause infectious diseases
 - 1.7 helminths that cause infectious diseases
 - 1.8 ectoparasites that cause infectious diseases
2. Describe how the skin serves as a barrier to infection and how infectious agents breach this barrier.
3. Describe how the respiratory tract serves as a barrier to infection and how infectious agents breach this barrier.
4. Describe how the intestinal tract serves as a barrier to infection and how infectious agents breach this barrier.
5. Describe the methods by which microbes spread throughout the body.
6. Describe how microbes are released from the body.
7. Describe how infectious agents cause disease.
 - 7.1 Describe mechanisms of virus-induced injury.
 - 7.2 Describe mechanisms of bacteria-induced injury.
8. Describe the inflammatory response to infectious agents.
 - 8.1 Describe polymorphonuclear inflammation.
 - 8.2 Describe mononuclear inflammation.
 - 8.3 Describe cytopathic-cytoproliferative inflammation.
 - 8.4 Describe necrotizing inflammation.
 - 8.5 Describe chronic inflammation and scarring.

V. GENETIC DISEASES

1. Define and contrast hereditary, familial and congenital.
2. List the three major categories of genetic disorders.
 - 2.1 basic inheritance patterns and probabilities
3. State the major features and inheritance pattern of Marfan's syndrome.
 - 3.1 oral manifestations

4. State the major features and inheritance pattern of familial hypercholesterolemia.
 - 4.1 frequency
5. State the major features and inheritance pattern of neurofibromatosis.
 - 5.1 oral manifestations
 - 5.2 *café au lait* spots
6. State major features and inheritance pattern of cystic fibrosis.
 - 6.1 frequency
7. State the major features and inheritance pattern of phenylketonuria.
8. State the major features and inheritance pattern of galactosemia.
9. State the major features and inheritance pattern of albinism.
10. State the major features and inheritance pattern of the glycogen storage disorders (glycogenoses).
11. State the major features and inheritance pattern of the lysosomal storage diseases.
 - 11.1 Gaucher's disease
 - 11.2 Neimann-Pick disease
 - 11.3 Tay Sachs disease
12. State the major features and inheritance pattern of the mucopolysaccharidoses.
13. State the major features and inheritance pattern of X-linked disorders.
 - 13.1 vitamin D-resistant rickets
 - 13.2 hemophilia A and B
14. State the major features and inheritance pattern of gout.
15. State the major features and inheritance pattern of Ehlers-Danlos syndrome.
16. State the two different categories of cytogenetic disorders.
17. State the major features of Down's syndrome.
 - 17.1 karyotype
 - 17.2 relationship to maternal age
 - 17.3 relationship to leukemia
18. State the major features of Klinefelter's syndrome.
 - 18.1 karyotype
19. State the major features of Turner's syndrome.
 - 19.1 karyotype
20. State the two advantages of using recombinant DNA technology to diagnose inherited

disease.

21. State three areas where recombinant DNA technology is useful in the diagnosis of non-inherited diseases and conditions.

VI. ENVIRONMENTAL DISEASES

1. Define pollutant.
2. State six factors which determine the lung injury by air pollutants.
3. State the air pollutant associated with the highest prevalence of disease.
4. State three pulmonary diseases associated with cigarette smoking.
5. State the major features of pneumoconiosis.
 - 5.1 definition
 - 5.2 common etiologic agents
 - 5.3 relationship of asbestosis to malignancy
6. State the relationship between:
 - 6.1 estrogen therapy and endometrial carcinoma
 - 6.2 contraceptives and thromboembolism
 - 6.3 oral contraceptives and hypertension
 - 6.4 acetaminophen and hepatic necrosis
7. State the major features of:
 - 7.1 salicylism
 - 7.2 lead poisoning
 - 7.2.1 oral manifestations
 - 7.3 carbon monoxide poisoning
 - 7.4 alcohol abuse
 - 7.5 cocaine use
 - 7.6 heroin use
 - 7.7 marijuana use
8. List five soft tissue wounds which can result from mechanical trauma.
9. State the major complications resulting from severe thermal burns.
 - 9.1 Identify the bacteria that most commonly cause secondary burn infection.
10. List three complications of hyperthermia.
11. State two injuries which may result from electrical injury.
12. State the effects of ionizing radiation on cells and tissues.
13. State the effects of ionizing radiation on organ systems.
 - 13.1 Identify the organ systems that are most susceptible to radiant injury.

14. State three fatal acute radiation syndromes.

VII. IMMUNOPATHOLOGY I: BASIC IMMUNOLOGY

1. State the major cells of the immune system.
 - 1.1 relative proportions
 - 1.2 anatomic location
 - 1.3 primary role in the immune response
2. State the major features of Type I hypersensitivity.
 - 2.1 synonym
 - 2.2 target cells
 - 2.3 chemical mediators and their effects
 - 2.4 clinical manifestations
3. State the major features of Type II hypersensitivity.
 - 3.1 complement-mediated cytotoxicity
 - 3.2 antibody-dependent cell-mediated cytotoxicity
 - 3.3 antibody-mediated cellular dysfunction
4. State the major features of Type III hypersensitivity.
 - 4.1 systemic immune complex disease
 - 4.2 local immune complex disease
5. State the major features of Type IV hypersensitivity.
 - 5.1 delayed type hypersensitivity
 - 5.2 T cell-mediated cytotoxicity
6. State the major features of transplant rejection.
 - 6.1 T cell-mediated
 - 6.2 antibody-mediated
 - 6.3 methods of increasing graft survival
 - 6.4 liver transplantation
 - 6.5 bone marrow transplantation
7. Define self-tolerance.
8. State the major mechanisms which permit self-tolerance.
9. State two mechanisms which can result in the loss of self-tolerance.
10. State three lines of evidence which indicate a role for genetic factors in autoimmunity.
11. State three ways in which microorganisms may trigger autoimmune reactions.

VIII. IMMUNOPATHOLOGY II: IMMUNOLOGICALLY MEDIATED DISEASES

1. State the major features of systemic lupus erythematosus.

- 1.1 epidemiology
 - 1.2 etiology and pathogenesis
 - 1.3 clinical manifestations
2. State the major features of rheumatoid arthritis.
 - 2.1 epidemiology
 - 2.2 etiology and pathogenesis
 - 2.3 clinical course
 3. State the major features of Sjogren's syndrome.
 - 3.1 primary versus secondary
 - 3.2 etiology and pathogenesis
 - 3.3 clinical course
 4. State the major features of systemic sclerosis (scleroderma).
 - 4.1 epidemiology
 - 4.2 diffuse versus limited
 - 4.3 etiology and pathogenesis
 - 4.4 clinical course
 5. State the major features of polymyositis (dermatomyositis).
 - 5.1 epidemiology
 - 5.2 etiology and pathogenesis
 - 5.3 clinical course
 6. State five primary immunodeficiency diseases.
 - 6.1 basic defects
 - 6.2 clinical manifestations
 7. State the major etiologies of secondary immunodeficiencies.
 8. State the major features of AIDS.
 - 8.1 epidemiology
 - 8.2 etiology
 - 8.3 pathogenesis
 - 8.4 clinical course
 - 8.5 clinical features
 9. State the major features of amyloidosis.
 - 9.1 physical nature
 - 9.2 chemical nature
 - 9.3 classification
 - 9.4 pathogenesis
 - 9.5 clinical correlation

IX. NUTRITIONAL DISORDERS

1. State four common causes for nutritional disease in the United States.

2. State the major features of kwashiorkor.
3. Compare and contrast anorexia nervosa and bulimia.
4. State the major features of:
 - 4.1 vitamin A deficiency
 - 4.2 vitamin C deficiency (scurvy)
 - 4.3 vitamin D deficiency
 - 4.4 vitamin E deficiency
 - 4.5 vitamin K deficiency
 - 4.6 thiamine deficiency
 - 4.7 riboflavin deficiency
 - 4.8 niacin deficiency
 - 4.9 pyridoxine deficiency
 - 4.10 zinc deficiency
 - 4.11 obesity
5. State three examples of systemic diseases which are affected by diet.
6. State three mechanisms by which diet may affect the incidence of malignancy.
7. List three dietary components (antioxidants) that may be anticarcinogenic.

X. NEOPLASIA - GENERAL FEATURES

1. Define neoplasia, neoplasm or tumor, cancer, oncology, carcinogenesis, and metastasis.
2. Describe the genetic basis of multistep carcinogenesis:
 - 2.1 Define the classes of cellular genes implicated in cancer development.
 - 2.2 Define genetic changes that contribute to cancer.
 - 2.3 State the effect of oncogene activation.
 - 2.4 State the effect of tumor suppressor gene inactivation.
 - 2.5 Give examples of oncogenes and tumor suppressor genes.
3. Discuss presently known features of the mutational events required for multistep carcinogenesis.
 - 3.1 Describe the pattern of mutational events.
 - 3.2 Describe variables regarding the timing of the sequence of mutations.
 - 3.3 Define differences in the mutational events between different types of tumors.
 - 3.4 State oncogenes and tumor suppressor genes that are potentially important in the development of oral tumors.
4. Describe potential clinical applications of understanding the genetic alterations that give rise to cancer.
5. Describe the various types of non-neoplastic cell growth.
 - 5.1 Define hyperplasia.
 - 5.2 Distinguish between hyperplasia, hypertrophy, metaplasia.
 - 5.3 Distinguish between physiologic, hormonal, compensatory, and pathologic hyperplasia and give examples.
 - 5.4 Identify the clinical significance of hyperplasia.
 - 5.5 Define metaplasia and give examples of two types of tissue that may undergo

- metaplasia and reversibility.
 - 5.6 Define anaplasia.
 - 5.7 Identify the most disorderly type of non-neoplastic proliferation.
 - 5.8 State the etiology and reversibility of dysplasia.
 - 5.9 List the histologic characteristics of dysplasia.
6. Describe the nomenclature of neoplasms.
- 6.1 State the definitions of "benign" and "malignant".
 - 6.2 State the definitions of "neoplasm" and "tumor".
 - 6.3 Identify the two basic tissue components of all tumors, and the component that determines a tumor's biologic behavior.
 - 6.4 Recognize the use of the suffix "-oma" and the suffix "sarcoma" in the naming of tumors.
 - 6.5 State the definitions of "carcinoma" and "sarcoma".
 - 6.6 State the definition of "papilloma".
 - 6.7 State the condition of a "mixed tumor" or "pleomorphic adenoma".
 - 6.8 State the definitions of "teratoma" and "hamartoma".
7. State the correct name for benign and malignant tumors arising in each of the following tissues:
- 7.1 fibrous tissue
 - 7.2 adipose tissue
 - 7.3 cartilage
 - 7.4 bone
 - 7.5 blood vessels
 - 7.6 lymph vessels
 - 7.7 stratified squamous epithelium
 - 7.8 epithelium of glands
 - 7.9 smooth muscle
 - 7.10 striated muscle
8. Describe the characteristics of benign and malignant neoplasms.
- 8.1 Define "differentiation", "anaplasia", "desmoplasia".
 - 8.2 Compare the features of "well-differentiated" with "undifferentiated" neoplasms.
 - 8.3 Compare the relative rates of growth of benign tumors versus malignant tumors; well-differentiated versus undifferentiated tumors.
 - 8.4 Identify factors that affect the growth rate of tumors.
 - 8.5 Define "carcinoma-in-situ".
 - 8.6 Correlate the encapsulation of a tumor with its invasive potential.
 - 8.7 Define "metastasis".
 - 8.8 Contrast the pathway of dissemination of carcinoma versus sarcoma.
 - 8.9 Define "skip-metastases".
9. Describe the microscopic grading of cancer.
10. Describe the clinical staging of cancer using the TNM system.
11. State the reason that the clinical staging of a cancer has a significant effect on the prognosis and cure rate of the cancer.
12. Identify the malignant disease that is associated with the Philadelphia (Ph1) chromosome.
13. Define the term "carcinogen" and identify three different types.

14. List three environmental carcinogens.
15. List three dietary carcinogens.
16. Describe oncogenic viruses and identify two classes of them.
17. List three proven or probable viral human neoplasms.
18. Identify the virus associated with AIDS.
19. Identify two malignant diseases linked to the Epstein-Barr virus (EBV).
20. Describe the radiation carcinogenesis and identify four sources.
21. List three cancers that develop in sun-damaged skin.
22. State the malignant disease that - after a lengthy latent period - affected many survivors of the atomic bomb blasts of World War II.
23. List two cancers that are known to develop in patients who have had therapeutic irradiation to the thyroid gland or spine.
24. Describe the biology of tumor growth, angiogenesis, progression, and the mechanism of local and distant spread.

XI. CLINICAL ASPECTS OF NEOPLASIA

1. Describe the effects of tumors on the host.
 - 1.1 List four ways that tumors (both benign and malignant) can cause significant clinical problems.
 - 1.2 State the definition and symptoms of cachexia.
 - 1.3 Define paraneoplastic syndrome and give examples.
2. Contrast environmental and host factors in an individual's predisposition to neoplasia.
 - 2.1 Correlate environmental factors related to the work place, food, and personal practices.
 - 2.2 Identify individual factors of age, sex, race, and heredity.
 - 2.3 List three hereditary cancerous or precancerous disorders.
 - 2.4 List three clinical conditions (precancerous disorders) that are known to develop into cancers.
 - 2.5 State the most common cancers in males and females based on both incidence and mortality.
 - 2.6 List the types of cancer which are increasing in incidence and/or death rate.
 - 2.7 List the types of cancer which are decreasing in incidence and/or death rate.
 - 2.8 State the peak age range of cancer incidence and correlate certain types of cancer with age.
 - 2.9 Identify the most common cancers in childhood.
3. Describe the laboratory diagnosis of cancer.
 - 3.1 List three modalities used in the laboratory diagnosis of cancer.
 - 3.2 Define "Pap smear" and state the anatomic site where it is most commonly used.
 - 3.3 State the advisability of surgically manipulating a neoplasm for the purpose of diagnosis.

- 3.4 State the relative reliabilities of histopathologic examination of tissue and exfoliative cytology.
- 3.5 List substances in the serum ("tumor markers") that are indicative of certain types of malignancy.
4. Recognize malignancies that are associated with circulating "tumor markers":
 - 4.1 State the carcinomas that may be detected by high serum levels of carcinoembryonic antigen (CEA).
 - 4.2 State the carcinomas that may be detected by high serum levels of alphafetoprotein (AFP).
 - 4.3 state the carcinoma that is associated with increased serum levels of acid phosphatase.
5. Describe major mesenchymal and skin tumors.
 - 5.1 State the usual locations of a lipoma.
 - 5.2 Define leiomyoma and state its most common site of involvement.
 - 5.3 State the most common form of malignant neoplasia.
 - 5.4 List predisposing factors for squamous cell carcinoma of the skin.
 - 5.5 Identify common mucosal and cutaneous sites for squamous cell carcinoma.
 - 5.6 List predisposing factors and state the metastatic potential of basal cell carcinoma of the skin.
 - 5.7 List the types of pigmented (melanocytic) nevi and compare their relationship to melanomas.
 - 5.8 List the types of melanoma (lentigo maligna, superficial spreading, and nodular) and compare their metastatic potential.
 - 5.9 List the clinical features that are useful in the differentiation of malignant melanoma from nevi.
 - 5.10 Identify the type of malignant melanoma that is the most aggressive (has the poorest prognosis).

XII. SKIN DISEASES - NON-NEOPLASTIC

1. Define dermatitis and eczema.
2. Define vesicle, bulla, spongiosis, acanthosis, and parakeratosis.
3. Distinguish between gravitational dermatitis, irritant contact dermatitis, and seborrheic dermatitis.
4. State the major clinical, causative and microscopic features of:
 - 4.1 lichen planus
 - 4.2 psoriasis
5. State the clinical features of *pityriasis rosea*.
6. List three skin infections that are caused by Herpes virus.
7. List two skin infections that are caused by Human Papillomavirus (HPV)
8. Identify one skin infection that is caused by POX virus.
9. List two dermatophytic (superficial) fungal infections.

10. Distinguish between impetigo, "boil", erysipelas, and cellulitis. Identify the bacteria associated with each.
11. Identify the causative agent in Scabies.
12. Distinguish between intra-epidermal bullae and give an example of each.
13. Describe four skin reactions to ingested drugs.
14. List two systemic diseases that may have cutaneous manifestations.
15. Describe the clinical features of seborrheic keratosis, keratoacanthoma, and cutaneous horn.
16. Define acne vulgaris and alopecia.
17. Distinguish between rosacea and rhinophyma.
18. Recognize the clinical appearance and cause of chronic leg ulcers.
19. Describe four techniques for skin biopsy.

XIII. DIAGNOSTIC TOOLS IN PATHOLOGY

1. List three examples of specific changes in tissue or cells that will permit a specific diagnosis by a pathologist.
2. Define "gross examination" of the body, organ, or tissue specimen.
3. List two different types of microscopy that are used in making a specific diagnosis.
4. Recognize the steps in preparing tissues for light microscopy:
 - 4.1 formalin fixation
 - 4.2 dehydration
 - 4.3 embedding in paraffin wax
 - 4.4 sectioning and mounting
 - 4.5 staining with hematoxylin and eosin
5. State the reason for using "frozen sections" in the surgical pathology laboratory.
6. Define the following terms:
 - 6.1 mortality
 - 6.2 morbidity
 - 6.3 iatrogenic disease
 - 6.4 nosocomial disease
 - 6.5 latent disease
 - 6.6 congenital disease
 - 6.7 acquired disease
7. List three common causes of death in:
 - 7.1 children and young adults
 - 7.2 elderly people

8. List three diseases that cause morbidity without killing the patient.

RESOURCES

I. Media Resources

A. Printed media

1. Required textbook

Kumar, V., Cotran, R.S., and Robbins, S.L.
Basic Pathology, 7th ed.
Philadelphia, W.B. Saunders Company, 2002

II. Human Resources

Dr. Jerry Bouquot, D.D.S., M.S.D., F.I.C.D., F.A.D.I.
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STUDY PLAN AND REQUIREMENTS

The study of this course consists primarily of a lecture series, written material on handouts, and textbook assignments. You should first read the appropriate chapters carefully prior to attending lectures. Pay particular attention to italicized statements, illustrations and tables. Next, you must carefully review the objectives. Refer back to the text as necessary to reinforce your understanding of the objectives until you have mastered the material in this course. In addition to the scheduled lectures, an estimated time to complete this course is 60 hours.

DENF 2701 General Pathology is a prerequisite for DENF 2702 Systemic Pathology (Spring Semester of the second year).

Students are required to read the required textbook/handout assignments and attend scheduled lectures. Please refer to the Fall Semester calendar for the dates and location of the scheduled lectures.

EVALUATION METHODS

Students will be evaluated on the basis of a two-hour, comprehensive final examination (60% of final grade) and a one-hour, mid-term examination (40% of final grade). All examinations will consist of multiple-choice questions.

Please refer to the Fall Semester calendar for the dates, times, and locations of the mid-term and final examinations.