MECHANISMS OF HUMAN DISEASE COURSE is a learning experience for second year medical students that integrates concepts and factual information from various medical disciplines. The science of pathology forms the core of the course but it is offered in conjunction with other relevant topics in microbiology, virology, and clinical medicine. The overall purpose of the course is to establish a basic science foundation for the practice of medicine. A secondary purpose of the course is to create an environment that fosters active, independent learning and enables the students to acquire problem-solving skills.

PATHOLOGY, in the broadest sense, is the study of disease. It is “that” branch of the biological sciences which is concerned with the nature of disease and the effects of those diseases on structure and function of the body organs and tissues.”¹

As the foundation of clinical medicine, PATHOLOGY bridges the gap between the basic sciences and the practice of medicine. “Pathology occupies a pivotal position in the medical curriculum. Anatomy, biochemistry, physiology and bacteriology are prerequisites. Clinical medicine and surgery follow it. In pathology the student must learn to apply the facts and theories of anatomy, biochemistry, physiology, and bacteriology to an elucidation of the course, processes, and effects of disease. He/she must learn to study the causes of disease with a view to prevention and control. Finally, the students must gain a clear understanding of the alternations in form and disturbances in function that take place in disease, so as to be ready for the next step in his/her medical education – the so called ‘clinical years’.”²

In other words, if you are to become a competent physician, capable of making the correct diagnosis and prescribing the correct therapy, you must understand the nature of disease. “Pathology should form the basis of every physician’s thinking about his/her patients.”³

With this aim in mind, the MECHANISMS OF HUMAN DISEASE course attempts to help the student understand the pathogenesis of disease and learn the structural and functional changes which occur in cells and organs as a result of disease. A firm grasp of the concepts and facts of PATHOLOGY will allow you to proceed successfully through the next phase of your medical education, the clinical clerkships.

The MECHANISMS OF HUMAN DISEASE course also exposes the student to basic concepts and applied principles in microbiology, virology and the medical subspecialty of infectious diseases. As a practitioner, you will see many patients with diseases caused by infectious agents.

The MECHANISMS OF HUMAN DISEASE course features presentation of selected clinical topics by primary care and specialty physicians. Although basic science knowledge is the foundation of medical practice, these concepts are more meaningful when they are presented in the context of clinical problems.
REFERENCES:


7/17/06
COURSE GOALS AND OBJECTIVES

The specific educational objectives will be found with each learning exercise, e.g., a lecture or laboratory session. The general course goals are as follows:

- To learn basic pathologic processes (Medical Knowledge)
- To learn basic science concepts and principles that will serve as a foundation for understanding the basic pathologic processes (Medical Knowledge)
- To learn the etiology/pathogenesis including the genetic basis of disease (Medical Knowledge)
- To learn the morphology and abnormal function (pathophysiology) of diseased organs (Medical Knowledge)
- To correlate the pathology of disease with its clinical manifestations i.e., to explain the nature of the patient’s complaint (Medical Knowledge and Patient Care)
- To demonstrate the ability to explain basic treatment strategies for common diseases (Medical Knowledge and Patient Care)
- To differentiate between diseases which share common clinical manifestations (Medical Knowledge and Patient Care).
- To learn and demonstrate an ability to communicate effectively with fellow students and other health care professionals about common disease entities (Communication Skills)
- To show evidence of self-directed learning regarding controversial or evolving areas of medical knowledge (Practice Based and Life Long Learning)
- To demonstrate professional demeanor and interactions with fellow students and faculty (Professionalism)
- To prepare students for successful participation in the clinical clerkships (Medical Knowledge, Communication Skills and Patient Care, Professionalism, Practice Based and Life Long Learning)
MECHANISMS OF HUMAN DISEASE is a course of study offered to the second year students in the third and fourth semesters of the medical school curriculum. The course begins with a one week period devoted to general principles and concepts of pathology. The remainder of the course, beginning in October, focuses on systemic or organ pathology, microbiology and virology. The course consists of small group discussions, using the case method approach, lectures, laboratories, clinico-pathologic correlations (CPC’s) and computer programs. Lectures and CPC’s will be presented in lecture hall 390. Small group discussions will take place in the learning clusters. Laboratory sessions will take place in the case method rooms (or lecture hall) and the sit down labs.

PLEASE NOTE: Small group discussions, lectures and laboratories are offered at different times during the week; therefore, you are responsible to check the schedule on the WEB for date, time and location. Variations in the schedule do occur. Check your Group-Wise email regularly for updates.

The MECHANISMS OF HUMAN DISEASE course is designed to expose the student to four learning situations: small group discussion, lecture, laboratory, and self-study.

The purpose of the lecture is to present concepts and facts relating to general and systemic pathology and related topics in clinical medicine, microbiology and virology. Each lecturer provides his/her own handouts that serve as an outline of the lecture and a condensation of important information that must be learned. The lecturer uses audio-visual aids to enhance and reinforce learning. Reading assignments expand upon and enhance the lecture/handouts.

Small group discussions afford students the opportunity for active learning. Students must be prepared for each session by reading each case, defining unknown terms, and reading relevant lecture handouts and chapters from the textbook. This format allows students to engage one another and the faculty facilitator in a discussion about the pathology and the clinico-pathologic correlations concerning each case. Additionally, the student will begin to develop the critical skill of solving a clinical problem.

The laboratories are used to learn the morphologic changes that occur in disease. Whole organs or parts of diseased organs and histologic sections will be used as visual aids to enhance the student’s understanding of a disease and to correlate clinical manifestations with structural changes. Students will be asked to describe the characteristic pathology of each disease as seen in photographs (kodachromes), microscopic sections via the virtual microscope, wet specimens and even x-rays.

Students are expected to read the textbooks and fulfill all educational objectives cited for each lecture, small group and laboratory session.

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