FUNDAMENTALS OF OSTEOPATHIC MEDICINE

Fundamentals of Osteopathic Medicine (FOM) presents the scientific basis of clinical medicine. Students will learn the aspects of biochemistry, anatomy, physiology, histology, embryology, genetics, pharmacology, pathology, microbiology and immunology that are necessary to begin study of the organ and tissue systems of the body.

The FOM course integrates all the basic science fields and categorizes them into the following **subdiscplines**;

- ***Structur****e* pertains to embryology, anatomy and histology
- ***Function*** pertains to the molecular basis of medicine, biochemistry, cell biology, genetics and physiology
- ***Microbiology & Immunology*** pertains to microbiology and immunology
- ***Therapeutics*** pertains to pharmacology
- ***Clinical Sciences*** pertains to pathology and clinical medicine

Fundamentals of Osteopathic Medicine is organized into *Themes*, as listed below with a description of their general objectives.

Theme 1: Introduction to Human Body and Human Development

This theme includes the Fundamentals Intensive Anatomical Tour (F-IAT) and embryology (the processes by which cellular colonies become functioning organ systems).

Theme 2: Molecular Basis of Medicine and Biochemistry

This theme includes an overview of basic metabolism. Students will learn the structure, the major pathways of biosynthesis and the set of reactions of the small molecules of proteins, lipids and carbohydrates, and understand how the body generates and stores energy from these molecules.

Theme 3: Cell Biology and Physiology

Cell Biology

Students will understand the basic organization of the cell and tissues and the function of cellular components.

Cell Physiology

The basic principles of homeostasis (maintaining constant conditions in the internal environment) will be discussed. Students will master the essential tenets of neurophysiology and muscle physiology and understand the organization of the autonomic systems, the synaptic connections and their effects.

Theme 4: Foundation of Therapeutics

Included in this theme is the foundation of pharmacology. Students will begin to learn how drugs affect the body and how the body affects the drugs.

Theme 5: Genetics

This theme introduces medically relevant genetics. Students will understand how genes induce morphology and physiology and can cause disease.

Theme 6: Cell Injury and Immune System

Students will begin to study the various causes and the mechanisms of cell injury, the various forms of immunity, and how the body reacts to cell injury through the process of inflammation.

Theme 7: Diseases of the Immune System

Students will learn the mechanism of how the disorder in our immune system can result in cell injury as well as the therapeutic interventions.

Theme 8: Fundamentals of Infectious diseases, Microbiology and Antimicrobial Therapy

Students will learn a major cause of cell injury, microbial agents. Students will understand the basic mechanisms of disease development due to microbial infection and treatment of microbial infection.

Theme 9: Hematological Oncology and Blood Disorders

Hematopoietic and lymphoid system is the first organ system, which will be introduced in the FOM course in the 3rd block. Students will integrate and apply the basics learned during the first two blocks to understand the disorders and their treatment in this system.

FOM Course Coordinators:
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