**TOPICS FOR PREPARE FOR III YEAR STUDENTS FACULTY OF MEDICINE – „PATHOMORPHOLOGY”**

**I SEMESTER 2024/2025 YEAR**

1. **Histopathological techniques in pathomorphological diagnostics (Paulina Antosik, PhD)**

***Issues:***

* Rules of conducting classes, credit receival (scoring), health and safety regulations and other regulations.
* Introduction into pathological techniques, types of histopathological procedures (intraoperative, postoperative, autopsy).
* Pre-laboratory and intra-laboratory preparation of a tissue material for histopathological examination.
* Fixing of tissue material (types, pros and cons of fixatives). Selection of suitable fixative for a specific tissue and type of examination.
* Methods for tissue processing.
* Preparation of special tissue material (bones/biopsy) for histopathological examination).
* Basic staining of histopathological slides.
* *Exit test (max 3 points)*
1. **Introduction to Pathology and Adaptive changes (Jakub Jóźwicki, MD, PhD)**

***Issues:***

* *Entrance test (max 3 points)*
* Types of cellular responses to stress and noxious stimuli.
* Adaptive responses to stress: hypertrophy, hyperplasia, atrophy, metaplasia.
* Mechanisms of cell injury and cell death.
* Morphology of cellular and tissue injury.
* Clinico-pathological correlation: examples of cell injury and cell death.
* Apoptosis – causes, mechanisms and examples.
* Autophagocytosis.
* Intracellular accumulations.
* Pathologic calcification.
* Cellular aging.
1. **Cieculatory disorders (Natalia Skoczylas-Makowska, MD, PhD)**

***Issues:***

* *Entrance test (max 3 points)*
* Hyperemia and Congestion.
* Edema.
* Hemorrhage.
* Hemostasis and Thrombosis.
* Embolism.
* Infarction.
* Shock.
1. **Acute inflammation (Radosław Wujec, MD)**

***Issues:***

* *Entrance test (max 3 points)*
* Overview of Inflammation: Definitions and General Features
* Causes of acute Inflammation
* Recognition of Microbes, Damaged Cells and Foregin Bodies
* Reactions of Blood Vessels in Acute Inflammation
* Leukocyte Recruitment and Activation at Sites of Inflammation
* Secondary to Inflammation Tissue Injury
* Impaired Leukocyte Functioning
* Sequelae of Acute Inflammation
* Morphological types of Inflammation
* Mediators of Inflammation
1. ***Chronic Inflammation and Tissue Repair (Kacper Naglik, MD)***

 ***Issues:***

* *Entrance test (max 3 points)*
* Cells and Mediators of Chronic Inflammation
* Granulomatous Inflammation
* Systemic Effects of Inflammation
* Overview of Tissue Repair
* Cell and Tissue Regeneration
* Repair by Scarring
* Factors That Impair Tissue Repair
* Clinical Examples of Abnormal Wound Healing and Scarring
1. **Neoplasms (Jakub Jóźwicki, MD, PhD)**

***Issues:***

* *Entrance test (max 3 points)*
* Nomenclature of Neoplastic Diseases
* Hallmarks of Cancer and Precancerous Lesions
* Intraepithelial metaplasia, dysplasia and neoplasia
* Characteristics of benign and malignant neoplasms
* Locally aggressive neoplasms
* In situ carcinoma
* Microinvasion and Early Carcinoma
* Epidemiology and Etiology of Neoplasms
* Clinical Aspects of Neoplasia
* Pathomorphological Diagnosis of Cancer.
1. **Pathology of the respiratory tract. (Izabela Neska-Długosz, MD)**

***Issues:***

* *Entrance test (max 3 points)*
* Atelectasis
* Acute Respiratory Distress Syndrome
* Obstructive Lung (Airway) Diseases - emphysema, bronchitis, asthma, bronchiectasis.
* Chronic Interstitial (restrictive infiltrative) Lung Diseases - fibrosing, granulomatous and smoking-related diseases, pulmonary eosinophilia.
* Pulmonary diseases of vascular origin (pulmonary embolism, hemorrhage, infarction, pulmonary hypertension, diffuse alveolar hemorrhage syndromes)
* Pulmonary infections.
* Lung tumors
* Pleural Lesions
* Lesions of the Upper Respiratory Tract
* Laryngeal Cancer
* Nasopharyngeal cancer
* Precancerous lesions and neoplasms of respiratory tract (including larynx, trachea, bronchus)
1. **Pathology of heart and vascular diseases (Natalia Skoczylas-Makowska, MD, PhD)**

***Issues:***

* Hypertensive Vascular Disease
* Vascular wall Response to Injury
* Arteriosclerosis
* Atherosclerosis
* Aneurysms and Dissections
* Varicose Veins of the Exteremities
* Heart Failure
* Congenital Heart Disease – exemples, epidemiology, classification
* Ischemic Heart Disease
* Hypertensive Heart Disease
* Infectious Endocarditis
* Rheumatic fever
* Vasculitis
* Disorders of Blood Vessel Hyperreactivity
* Vascular Tumors and Tumor-like conditions – clasification, general features
* Myocarditis
* Pericardial Disease
* Heart failure
* Ischemic Heart Disease
* Carcinoid Heart Disease
* Cardiac Tumors - general
* Non-infectious endocarditis
* Valvular Heart Disease
1. **Childhood diseases (Natalia Skoczylas-Makowska, MD, PhD)**

***Issues:***

* *Entrance test (max 3 points)*
* Congenital Anomalies
* Perinatal Infections
* Prematurity and Fetal Growth Restriction
* Respiratory Distress Syndrome of the Newborn
* Necrotizing Enterocolitis
* Sudden Infant Death Syndrome (SIDS)
* Fetal Hydrops
* Tumors of Infancy and Childhood
1. **Biomarkers in pathomorphological diagnosis (Anna Klimaszewska-Wiśniewska, PhD)**
* *Entrance test (max 3 points)*
* cancer biomarker,
* diagnostic markers,
* prognostic markers, and predictive markers in oncology,
* targeted therapy,
* immunotherapy