

FACULTY OF MEDICINE UNIVERSITY OF NIŠ

Studies of medicine

Course: Pathophysiology

Semester: 5 , 2021/22

Year of studies: 3

THEORETICAL LECTURES IN 5th SEMESTER

Week	Teaching topic	Lecturer	number of classes
1.	Introductory lecture - Subject and tasks of pathophysiology. Etiology, pathogenesis, disease. The concept of homeostasis. General reaction of cells or tissues to injury. Disorders of subcellular structures	Prof. Dr. Vladmila Bojanić	3
2.	General adaptation syndrome. Mechanisms of healing Disorders of consciousness. Terminal states.	Prof. Dr. Vladmila Bojanić	3
3.	Pathophysiology of fatigue. Pathophysiology of aging. Genetic factors. Fever	Prof. Dr. Maja Milojković	3
4.	Mechanical etiological factors (local and general injuries). Noise and vibration as etiologic factors. Kinetosis. The effect of electricity on the human body	Prof. Dr. Boris Đinđić	3
5.	Non-ionizing radiation. The effect of ionizing radiation. Etiopathogenesis of hypoxia.	Prof. Dr. Vladmila Bojanić	3
6.	Pathophysiological effects of high and low barometric pressure. Chemical factors. Biological factors.	Prof. Dr. Vladmila Bojanić	3
7.	Infection. Nonspecific defense Exogenous hypertemia Pathophysiology of pregnancy	Prof. Dr. Maja Milojković	2 1
8.	Etiology and pathogenesis of inflammation. Cellular and vascular changes in inflammation. Mediators of inflammation Characteristics of acute and chronic inflammations. General changes in inflammation	Prof. Dr. Maja Milojković	3
9.	Acid-base imbalances; Biochemical and physiological buffer systems; Osmolality disorders	Prof. Dr. Maja Milojković	3
10.	Hypersensitivity reactions.	Prof. Dr. Maja Milojković	3

	Immunodeficiency. Autoimmunity.		
11.	Hemostasis disorders Pathogenetic aspects of oligoelement metabolism disorders.	Prof. Dr.Maja Milojković	2 1
12.	Etiopathogenesis of hyperlipoproteinemia, Atherosclerosis. Obesity. Starvation. Disorder of protein metabolism.	Asst. Prof. Dr. Jelena Milenković	3
13.	Carbohydrate metabolism disorders. Hyperglycemia. Hypoglycemia. Diabetes mellitus. Pathogenetic aspects of hyper and hypovitaminosis	Asst. Prof. Dr. Dijana Stojanović	2 1
14.	Etiopathogenesis of malignant disease. Functional characteristics of malignant cells. Paraneoplastic syndrome.	Asst. Prof. Dr. Dijana Stojanović	3
15.	White blood cell disorders. Leukocytosis and leukosis	Asst. Prof. Dr. Dijana Stojanović	3

PRACTICAL EXERCISES (5th semester 2021/22)			
Week	Teaching topic	Teacher	Number of classes
1.	Introductory exercise Biological characteristics of experimental animals Methodology of experimental work (observation, experiment, functional diagnostics)	Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović	3
2.	Etiology and pathogenesis of diseases Subject and tasks of pathophysiology. Aging and cell death	Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović	3

3.	<p>Homeostasis Disease model Definition, symptoms and signs of disease</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
4.	<p>Pathophysiology of asphyxia a) asphyxia in a hermetically sealed space b) asphyxia by drowning in fresh water c) asphyxia by drowning in salt water</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
5.	<p>Burns a) assessment of the severity of the burn -determining the depth of the burn -determining the burn surface Hypothermia - stages of hypothermia - model of hypothermia by immersion in cold water</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
6.	<p>Disorders of local circulation a) ischemia b) hyperemia c) embolism d) thrombosis Iatrogenic damages by: antibiotics, corticosteroids and cytostatics. Pathophysiological aspects of addiction Toxic aspects of smoking, alcoholism and substance dependence</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
7.	<p>Shock Definition and etiology of shock Pathogenetic aspects of shock Analysis of severity and stage of shock Criteria for assessing the severity of shock Hypovolemic shock model Cardiogenic shock model Septic shock model A model of neurogenic shock</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3

8.	<p>Infection Mechanisms of infection</p> <p>Fever Etiopathogenesis of fever Stages of fever Temperature curves. Measurement of skin and central temperature</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
9.	<p>Inflammation Clinical signs of inflammation Vascular changes in the focus of inflammation Local acidosis at site of inflammation The role of inflammatory cells in the inflammatory focus Pathogenetic model of leukocyte migration Phagocytosis; Biological biochemical inflammation syndrome Exudation and transudation</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
10.	<p>Disorders of acid-base balance Acid-base status parameters Metabolic alkalosis and acidosis Respiratory acidosis and alkalosis</p> <p>Osmolality disorders Hyper and hypokalemia</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
11.	<p>The immune system. Humoral and cellular immune response. Disorders of cellular and humoral immunity Parameters of humoral and cellular immunity Allergy diagnostics Sensitization and desensitization methods Anaphylactic shock analysis</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
12.	<p>Hemostasis disorders Haemocoagulation status parameters Hemorrhagic syndromes -Vasculopathies -Thrombocytopathies -Coagulopathies (DIK syndrome) Hypercoagulable states</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3

13.	Etiopathogenesis of obesity Obesity analysis and types of obesity Characteristics of malnutrition Lipid status parameters Primary and secondary hyper and hypolipoproteinemias Dyslipidemias Lipid disorders and atherosclerosis	Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović	3
14.	Protein metabolism disorders Hyperproteinemia Hypoproteinemia Dysproteinemia	Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović	3
15.	Disorders of carbohydrate metabolism Hypoglycemia syndrome Hyperglycemia syndrome	Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović	3

FACULTY OF MEDICINE UNIVERSITY OF NIŠ			
Studies of medicine			
Предмет: Pathophysiology			
Semester: 6th, 2021/22.			
Year of studies: 3 rd			
THEORETICAL LECTURES IN 6th SEMESTER			
Week	Topic	Lecturer	number of classes
1.	Anemia syndrome.	Prof.Dr Vladmila Bojanić	2
2.	Liver dysfunction. Disorders of bilirubin metabolism and pathogenesis of jaundice.	Asst. Prof. Dr. Dijana Stojanović	2
3.	Etiopathogenesis of liver cirrhosis and hepatic coma. Etiopathogenesis of cholelithiasis.	Prof. Dr Maja Milojković	2
4.	Disorders of swallowing and salivary secretion. Disorders of motility and secretion of the stomach and intestines. Symptoms of diseases of the digestive tract. Ulcer disease. Acute intestinal obstruction. Disorders of exocrine function of the pancreas.	Prof. Dr Maja Milojković	2

5.	Nephrolithiasis. Acute and chronic renal failure.	Prof. Dr Maja Milojković	2
6.	Urinary syndrome. Glomerular, tubular and vascular diseases of the kidney.	Asst. Prof. Dr. Dijana Stojanović	2
7.	Etiopathogenesis of ischemic heart disease. Valvular heart disease ..	Prof. Dr. Vladmila Bojanić	2
8.	Pathogenetic mechanisms of heart failure, compensatory mechanisms and development of decompensation. Etiopathogenesis of hypotension and hypertension.	Prof. Dr Vladmila Bojanić	2
9.	Pericardial disorders. Heart rhythm disorders.	Prof. dr.Boris Đinđić	2
10.	Disorders of rhythm and depth of breathing control. Restrictive and obstructive syndrome. Pulmonary hypertension and pulmonary edema ..	Prof. Dr Maja Milojković	2
11.	Respiratory failure. Disorders of adenohipophysis function. ..	Asst. Prof. Dr. Jelena Milenković	2
12.	Thyroid function disorders. Parathyroid gland disorders, calcium and phosphorus imbalance.	Prof. Dr Vladmila Bojanić	2
13.	Disorders of the function of the cortex and marrow of the adrenal gland. Gonadal dysfunction.	Asst. Prof. Dr. Dijana Stojanović	2
14.	Damage to the central and peripheral motor neurons. Circulatory disorders in the CNS..	Asst. Prof. Dr. Jelena Milenković	2
15.	Changes in cerebrospinal fluid as a consequence of CNS damage. Disorders of the blood-brain barrier.	Asst. Prof. Dr. Jelena Milenković	2

PRACTICAL EXERCISES (6th semester 2021/22)

Week	Topic	Teacher	Number of classes
1.	<p>Physiological and pathological leucocytosis. Leukemoid reaction. Model analysis of leukopenia and agranulocytosis. Pathophysiological aspects of acute leukemia. Pathophysiological aspects of chronic lymphatic leukemia. Pathophysiological aspects of chronic myeloid leukemia. - Microscopic exercises.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
2.	<p>Pathogenetic aspects of erythropoiesis. Analysis of anemia syndrome. Hematological parameters of anemia Clinical manifestations of anemia syndrome Aplastic anemia: practice essentials Megaloblastic anemia: practice essentials Anemia due to hemoglobin synthesis disorders: practice essentials Hemolytic anemia: practice essentials, Anemia syndrome due to blood loss.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
3.	<p>Microscopic exercises: Erythropoiesis: practice essentials, Leucopoiesis: practice essentials, Erythrocyte morphology disorders White blood cells morphology disorders</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
4.	<p>Analysis of biliary retention syndrome. Biliary status in obstructive, hemolytic and infectious jaundice. Cholestasis syndrome Analysis of liver cell failure syndrome. Hepatocyte necrosis syndrome.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3

5.	<p>Etiopathogenesis of gastric and intestinal motility disorders. Stomach acid tests. Significance and interpretation of gastrine test. Pancreatic exocrine function tests Digestion and absorption tests. Coprological examination (stool tests)</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
6.	<p>Urinary syndrome Characteristics and types of proteinuria. Analysis of urinary syndrome in renal diseases. Model of kidney functional state analysis. Global and partial renal function. Analysis of the functional state of the kidneys in certain diseases. Renal dysfunction and renal failure.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
7.	<p>Characteristics of a normal ECG. ECG recording (standard, unipolar limb and precordial leads). ECG analysis. Positional and pathological left and right axis Heart rate disorders.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
8.	<p>Cardiac arrhythmias and conduction disorders. ECG characteristics of coronary heart disease. ECG changes in electrolyte imbalance</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
9.	<p>Functional testing of cardiovascular system Hypertension. Hypotension. Pathophysiology of the atherosclerosis</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3

10.	<p>Lung function tests: Spirometry parameters - restrictive syndrome - obstructive syndrome - restrictive-obstructive syndrome. Basic symptoms of the respiratory system diseases. Pathogenetic model of restrictive and obstructive syndrome.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
11.	<p>Functional tests of thyroid disorders. Endocrine disorders- interactive teaching</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
12.	<p>Functional studies of adrenal cortex disorders. Parathyroid glands disorders. Functional tests of gonadal disorders.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	
13.	<p>Diabetes mellitus. Oral Glucose Tolerance Test (OGTT) Cortisone-Glucose Tolerance Test Insulin shock. Ketoacidosis syndrome.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
14.	<p>Etiopathogenesis of edema. Analysis of cardiac edema Analysis of nephrotic syndrome edema Analysis of nephritic edema Analysis edema of liver disease.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3
15.	<p>Characteristics of normal and pathological EEG. Characteristics of normal and pathological EMG. Characteristics of normal and pathological REG. Characteristics of normal and pathological evoked potentials. Biochemical and cytological examinations of cerebrospinal fluid.</p>	<p>Prof.Dr V. Bojanić Prof. Dr.Maja Milojković Prof.Dr B. Đinđić Asst. Prof. D. Stojanović Asst. Prof. J. Milenković T.A. Dr M. Stojanović</p>	3

